

MOBILE SERVICES AND APPLICATIONS:
AN EMPIRICAL INVESTIGATION FROM THE
SERVICE SUPPLY PERSPECTIVE

APPENDICES

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APPENDICES

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TABLE OF CONTENTS

APPENDIX A. PUBLICATIONS	4
APPENDIX B. LITERATURE REVIEW COMPANION	7
APPENDIX C. INTERVIEW GUIDES	58
APPENDIX D. ETHICAL APPROVAL.....	62
APPENDIX E. PARTICIPANT INFORMATION SHEET	64
APPENDIX F. PROJECT BACKGROUND.....	66
APPENDIX G. STUDY 1: PARTICIPANT BACKGROUND	70
APPENDIX H. STUDY 1: PARTICIPANT RESPONCES	72
APPENDIX I. STUDY 1: DATA CODING (STAGE 2 - INTERMEDIARY)	93
APPENDIX J. STUDY 1: CODES-S1 (STAGE 2).....	105
APPENDIX K. STUDY 1: DATA CODING (STAGE 2 - FINAL)	110
APPENDIX L. STUDY 1: CODES-S1 (STAGE 3).....	125
APPENDIX M. STUDY 1: DATA CODING (STAGE 3).....	131
APPENDIX N. STUDY 1: CODES-S1 (STAGE 4)	194
APPENDIX O. STUDY 1: CODES-S1 (FINAL)	200
APPENDIX P. STUDY 1: ADDITIONAL DATA	209
APPENDIX Q. STUDY 2: INTERVIEW TRANSCRIPTS.....	213
APPENDIX R. STUDY 2: INITIAL CODES	356
APPENDIX S. STUDY 2: CODING REVIEW REPORT	361
APPENDIX T. STUDY 2: CODES-S2 (STAGE 1).....	362
APPENDIX U. STUDY 2: CODEDDATA-S2 ORGANISED BY EMERGING THEME (STAGE 2)	372
APPENDIX V. STUDY 2: CODES-S2 (STAGE 2)	547
APPENDIX W. STUDY 2: “TO USE LATER” DATA (STAGE 2).....	555
APPENDIX X. STUDY 2: CODES-S2 ORGANISED BY BASIC, ORGANISING AND GLOBAL THEME (STAGE 3)	570

APPENDIX Y. STUDY 2: CODEDDATA-S2 ORGANISED BY GLOBAL THEME (STAGE 3)	579
APPENDIX Z. STUDY 2: MEMBER CHECK DATA	716

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APPENDIX B. LITERATURE REVIEW COMPANION

B1 Mobile Technologies for MDS

The most prevalent mobile technologies used to support MDS are briefly reviewed below, as identified in the extant literature. Two categories are considered: (i) device based technologies, including Short Messaging Service (SMS, or “texting”), Near Field Communication (NFC), and positioning technologies (satellite- or mobile network based), and (ii) software based technologies – mobile Internet portals, and mobile applications (“mobile apps”). A comprehensive discussion of the advantages and disadvantages of the technologies facilitating mobile service delivery can be found in (de Reuver et al., 2011).

B1.1 Device Based Technologies

Device based technologies provide functionality that is based on device capabilities and build in features and can be used in the context of a specific MDS, e.g., the ability to identify the device’s geographical location when broadcasting a mobile advertisement

Short Text Messaging

The ubiquitous SMS is a capability built in the GSM wireless standard (Church & de Oliveira, 2013) that provides connectivity within one or more interconnected mobile networks and is available on all current generations of mobile data technologies (2G and above). SMS has emerged as arguably the most accessible and affordable mobile data service: all current generations of mobile data technologies (2G and above) support SMS, and normally mobile network operators offer it a low cost. As an interactive technology SMS is somewhat limited: the flow of messages is structured as a series of responses that follows the script developed for the service. Despite its limitations SMS has been considered as a viable platform for high quality, flexible, and cost-efficient services including among others mLearning (J. Taylor, Sharples, O’Malley, Vavoula, & Waycott, 2006) where a number of SMS-based learning scenarios have been proposed (Petrova, 2007b). More recently learning contexts requiring memorization have attracted specific attention – for example foreign language vocabulary learning (Hayati, Jalilifar, & Mashhadi, 2013; Petrova & Li, 2011), improving medication knowledge in nursing education (Chuang & Tsao, 2013), or revision (Dawood, Muchallil, & Munadi, 2013; Petrova, 2010).

The SMS platform was also used to develop financial services: while early mBanking use scenarios included simple operations such as checking account balance (Petrova & Yu, 2010) mPayment was implemented as an interactive service – for example paying for parking (Petrova, 2007a), or public transport ticketing (Markendahl, 2013).

Developing a service for the SMS platform is subject to significant technological constraints as customer interaction with the service needs to follow a predefined scenario, where customers pick up options from a menu). As a result SMS based services are neither flexible nor content rich, and at present the platform is used predominantly for services that require reliable delivery with limited interaction, e.g., alerting a bank customer about their account balance, sending an authenticating code to allow a customer to complete transaction using Internet banking (Weerasinghe, Rakocevic, & Rajarajan, 2012), or sending an emergence alert to a device whose location has been identified (using LBS) as belonging to a danger zone (Aloudat & Michael, 2011). However SMS-based payment and banking are still considered as viable financial service options in contexts where Internet use is relatively limited, such as in developing countries (Rahman, Azlina, Shajaratuddur Bt Harun, & Bt Yusof, 2013; Thulani, Kosmas, Collins, & Lloyd, 2011).

Near Field Communication

NFC is a high frequency wireless technology that operates at a short range; in order to carry out a transaction the NFC capable mobile device (e.g., NFC phone or tablet) needs either to touch (or to be very close to) an NFC reader (Li, Liu, & Heikkilä, 2014). The ability of the NFC phone and the NFC reader to connect and communicate with each other can be used to support mobile services such as mPayment and mobile ticketing. For example, the device owner can store securely their loyalty and credit cards and use the NFC phone at the shop's NFC terminal, emulating everyday usage of a credit or a loyalty card (W.-D. Chen, Mayes, Lien, & Chiu, 2011). Or, a customer can buy a bus ticket, store key ticket information in the NFC phone, and then redeem the ticket at the bus' NFC reader (Rodrigues et al., 2014). As an NFC phone can act as NFC reader, it may be used to enable peer-to-peer communication and transactions including peer-to-peer mPayment (Coskun, Ozdenizci, & Ok, 2013).

Positioning Technologies

Third party satellite positioning technologies are systems that enable locating people and objects; examples include GPS (USA), GLONASS (Russia), GALILEO (Europe), and COMPASS (China) (Dhar & Varshney, 2011). Most widely used among them is GPS (Global Positioning System) which was initially developed in the USA but is now available globally. As satellite positioning works independently of the mobile telecommunication networks services based on it can only be used on a mobile device with the required functionality (e.g., a GPS enabled mobile phone).

Mobile network-based positioning technologies used for outdoor positioning (e.g., Cell – ID and ECID - Enhanced Cell ID, AOA - Angle of Arrival, and TDOA - Time Difference of Arrival (TDOA) use mobile network data to locate geographic positions. Some outdoor positioning systems (e.g., AOA and TDOA) may be restrictive as they need line-of-sight. Improving positioning accuracy. To improve positioning accuracy, hybrid technologies such as E-OTD (Enhanced Observed Time Difference) and A-GPS (Assisted GPS) that use both satellite and mobile network data may be deployed (Petrova & Wang, 2011). As GPS is normally restricted within buildings, services that need indoor localization location data may use include specialized locating systems that would normally require additional infrastructure or pre-created radio maps (Chon & Cha, 2011).

The positioning information provided by the technologies described above is used by LBS in order to enable a range mobile services and applications that depend on device position intimation , such as location –based advertising, or are enhanced by its availability , e.g., mobile navigation (Dhar & Varshney, 2011; Zhou, 2013)

B1.2 Software Based Technologies

Software based technologies are used to support services that require the use of a mobile (micro) browser, or another software application installed in the customer's smart phone or another mobile device that is running a mobile operating system. Customers use a software based MDS by connecting to MI through their MNO's data communications network (3G or 4G), or to another data communications network, such as Wi-Fi.

Mobile Internet

The term MI refers to the use of the “fixed” or “stationary” Internet when accessed from a mobile device such as a mobile phone, or a laptop. Initially MI played mostly a facilitating role in the process of creating new types of services specifically developed for mobile users (Lehr, 2009) such as downloadable mobile media content (Kaspar, Seidenfaden, Ortelbach, & Hagenhoff, 2006), or mobile TV (Shim, Park, & Shim, 2008).

One of the approaches to making the Internet available to mobile devices was to connect them to the Internet over the MNO's cellular network, for example through a dedicated server running WAP (Wireless Application Protocol). An early development in the area, WAP was used with some success for services such as mLearning (e.g., Motiwala, 2007). However services based on WAP were not particularly successful (Christer Carlsson, Carlsson, Hyvonen, Puuhakainen, & Walden, 2006), especially as wireless broadband network technologies such as WiFi (IEEE 802.11), WiMax (IEEE 802.16) (Lehr, 2009; Roberts & Kempf, 2006), and high speed mobile broadband (3G/4G networks) (Mahanti & Sen, 2014) gained popularity; with these technologies Web sites can be accessed directly using a the smart phone's preinstalled mobile Web browser.

Perhaps the most well-known and widely-studied example of deploying MI as an MDS platform is i-Mode – Japan's NTT DoCoMo's proprietary platform for MI access (Barnes & Huff, 2003). i-Mode users can browse the Internet and shop online, and have access to a number of useful, everyday mobile services such as mPayment and mBanking options, bookings and ticketing (Amoroso & Ogawa, 2011). As described in (Matsuno, 2003) i-Mode represents an ecosystem where mobile operators and mobile content providers (e.g., TV and music companies, banks) cooperate to provide and deliver services launched off the i-Mode portal, and participate in a service revenue sharing model. Mobile content providers cooperate as well with device manufacturers in order to integrate the applications needed for using i-Mode services in the handsets' software. The handsets are built to specifications provided by mobile operators, for example, data compression capabilities. Other attempts to create mCommerce portals and platforms elsewhere were less successful (Weber, Haas, & Scuka, 2011) including DoCoMo's launch of i-Mode in number of European countries (Holroyd, 2005). Since the focus has shifted from the "walled garden" approach adopted by DoCoMo, to mobile ecosystems embracing an open model where users are able to use any smart phone to access a portal, and to access services provided by content providers who are partnering with the mobile operator as well as services offered by third party providers (de Reuver, 2011).

As predicted earlier, for example by Sharma and Kitchens (2004), the continuing convergence of the global network infrastructure is gradually making all Web based services accessible through MI, to a degree that the term itself may become obsolete and no longer recognisable by the general public: as noted by Humphreys, Von Pape, and Karnowski (2013) for users it is the same Internet regardless of how it is accessed. However the Internet is increasingly accessed through mobile devices rather than through stationary computers; for example, the use of the MI by teens and young adults in the USA has surpassed the use of the stationary Internet (Lenhart, Purcell, Smith, & Zickuhr, 2010) thus adding to the building of a critical mass of phones that may affect the growth of the MI market (Funk, 2011).

Mobile Applications

Depending on the mobile technology deployed as well as on the service content an MDS may require the development of appropriate software ("mobile application") that needs to be hosted by the customer's mobile device in order to enable the service. For the service to reach more customers, the application needs to be deployable on a range of diverse mobile operating systems (e.g., iOS, Windows, Android) and devices (e.g., iPhone, Nokia, Android phones), and using different mobile technologies (SMS, 3G/4G, WiFi, Wi-Max) (Tao & Gao, 2014). Leading smart phone and mobile OS developers such as Apple Inc.¹ and Google Inc.² have provided opportunities for individual developers and service producers to innovate and create mobile applications ("apps") and market them (Ye, Kankanhalli, Goh, & Sun, 2011).

Some apps can be used off site, once downloaded, e.g., apps for monitoring weight loss (Pagoto, Schneider, Jovic, DeBiasse, & Mann, 2013), or for language learning (Godwin-Jones, 2011). Other apps, once downloaded become an integral part of the service provided by the

¹ <http://store.apple.com>

² <http://play.google.com>

respective MCSP – for example apps needed to support customers using mBanking (Dohmen, Moormann, & Rosemann, 2009), or apps used to customise mobile marketing and advertising through mobile social media (Kaplan, 2012).

Apps for gaming and social media apps were identified as major smartphone demand drivers in a 2011 Pyramid Research report (Smith, 2011). Subsequently the growth in mobile device sales triggered an increase in apps download; according to Portio Research, the mobile apps market is expected to reach US\$38 billion by 2015³.

An application may be developed in multiple versions in order to take advantage of the performance features and capabilities of each respective platform and made available pre-complied as “native code”. Conversely a Web approach to developing mobile software enables a “once written” application supported by a mobile browser (“mobile Web app” to run across multiple platforms, saving development costs (Charland & Leroux, 2011; Wasserman, 2010). The merging cross-platform development approaches bridge the “native” and “mobile Web” gap (Heitkötter, Hanschke, & Majchrzak, 2013) and enable developing MDS deployable across the heterogeneous mobile technology environment – such as the mobile instant messaging service WhatsApp, which reportedly carries over 60 billion messages per day⁴ and “...is one of the most popular paid for apps across all mobile platforms” (Church & de Oliveira, 2013, p. 352). An example from New Zealand shows how an MCSP handles the diversity of platforms, technologies and approaches highlighted above. One of the country’s banks, WestPac offers: (i) SMS based banking (including a service called “Txt banking” for balance check and funds transfer, and an “account alerts” service), (ii) MI based banking on the mobile-optimised version of the bank’s Web site, and (iii) mobile app based services such as “Impulse Saver” (for iPhone) and “Cash Tank” (for both iPhone and Android phones)⁵.

B1.3 Mobile Technologies for MDS - References

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³ <http://www.portioresearch.com/en/major-reports/current-portfolio/mobile-applications-futures-2013-2017.aspx>

⁴ <http://www.businessinsider.com.au/whatsapp-64-billion-messages-24-hours-2014-4>

⁵ http://www.westpac.co.nz/olcontent/olcontent.nsf/content/mobilebanking_home (as on 15/03/2012)

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B2. Background Literature Review Table

Year	Source ID	Authors and year	Context	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2002	S001	(Aarnio, Enkenberg, Heikkila, & Hirvola, 2002)	GEN	IDT	Segments as in IDT Price		Service use	
2007	S002	(Akesson, 2007)	GEN		Localization, Personalization, Socialization, Convenience		Mobile service value of ubiquitous services	Sweden/1388
2013	S003	(Akter, D'Ambra, & Ray, 2013)	MIN	ECM	(reliability, efficiency, privacy) = System quality (cooperation, confidence, care)=Interaction quality (hedonic, utilitarian) = Information quality Service quality= (System quality, interaction quality, information quality)	Service quality → SAT	Continuance	Bangladesh/305
2013	S004	(Akter, Ray, & D'Ambra, 2013)	MIN	ECM	Perceived SQ, Perceived trust, PU, Confirmation	SAT	CI	Bangladesh/216
2014	S005	(Al-Debei & Al-Lozi, 2014)	GEN	MDS; TRA;	Technological Influences, SI, Informational Influences	Utilitarian Value, Hedonic Value, Uniqueness Value, Epistemic Value, Economic Value	Adoption Intention of MDS	Jordan/267
2012	S006	(Al-Jabri & Sohail, 2012)	MTR	IDT	Trialability (has no significant effect on adoption) Complexity (has no significant effect on adoption) Perceived risk (has a negative impact on adoption)	Relative advantage, Compatibility, and Observability have positive impact on adoption	UA	Saudi Arabia/330
2007	S007	(Amin, 2007)	MTR	TAM	Perceived credibility The amount of information on mobile credit cards	Perceived usefulness Perceived ease of use Perceived credibility The	IU	Malaysia/108

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
						amount of information on mobile credit cards		
2012	S008	(Amoroso & Magnier-Watanabe, 2012)	MTR	TAM	Facilitating conditions Perceived value Perceived security and privacy Social influence Trust Perceived risk Attractiveness of alternatives	Behavioural intention to use, Perceived Ease of Use and Perceived usefulness impact Actual Usage	BI & AU	n/a
2002	S009	(Anckar & D'Incau, 2002)	GEN		One access device (cost savings), Wireless convenience, Familiarity with device; Entertainment needs, Spontaneous needs, Efficiency ambitions, Time-critical arrangements (urgency), Mobility-related needs	Wireless value; Mobile value	Mobility value	Finland/485
2014	S010	(Arvidsson, 2014)	MTR	TAM	Cost, Compatibility, Ease of use, Network externalities, Trust in actors, Perceived security risks, Age, Income, Payment tradition		ATT	Sweden/294
2009	S011	(B. Kim & Han, 2009)	GEN	TRA; TAM; IDT; UTAUT	Interpersonal influences, External Sources' Influences	Utilitarian Value, Hedonic Value, Social Value	Adoption Intention	South Korea/287
2011	S012	(B. Kim & Han, 2011)	GEN	UTAUT	Information quality (Accuracy, completeness, currency, format) System quality (Accessibility, Navigation, Reliability, Timeliness) Perceived fee	Utilitarian value; Hedonic Value	Intention to adopt	South Korea/120
2011	S013	(B. Kim & Oh, 2011)	GEN	UTAUT	Utilitarian value; Hedonic value; Direct experience	Includes IC	BI	South Korea/474
2010	S014	(B. Kim, 2010)	GEN	TPB; ECM	Confirmation (PU, PE, Perceived fee) Interpersonal influence, External sources influence, PBC	SAT SN	CI	South Korea/207

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2012	S015	(B. Kim, 2012)	G E N	TAM; ECM; TRA; TPB	(PE, PEU, Perceived monetary value, Confirmation)→SAT Variety of use	CI; Habit	AU	South Korea/317
2013	S016	(B. Yang, Kim, & Yoo, 2013)	M I N	Theoretical framework of Technology – and emotion-based evaluations	User experience, Credibility, Technology-based evaluations, Emotion-based evaluations	Acceptance of mobile technologies, Attitude toward mobile ads	ATT → response to mobile ads	South Korea/439
2003	S017	(Barkhuus & Dey, 2003)	M I N	Not mentioned	PU; Concerns for privacy			.../16
2005	S018	(Bauer, Reihardt, Barnes, & Neumann, 2005)	M I N	TRA	Customer based acceptance drivers: (innovativeness →Existing knowledge, information seeker → ATT to advertising) ; Innovation based acceptance drivers: ((Perceived Utility information, Perceived Utility Entertainment, Perceived Utility social) → Perceived Utility, Perceived risk) ; Social Norms	ATT toward MM	BI	Germany/1028
2006	S019	(Bell et al., 2006)	M E N	Feeding Yoshi				UK/12
2007	S020	(Bouwman, Carlsson, Molina-Castillo, & Walden, 2007)	G E N	UTAUT	ATT, Barriers (Physical, Cognitive, Economic, Security)	AU, Perceived entertainment value, Perceived flexibility	Future use	Finland/484

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2009	S021	(Bouwman, Carlsson, Walden, & Molina-Castillo, 2009)	G E N	IDT	ATT	AU → (Entertainment value, Flexibility, Status)	Future use	Finland/1372
2012	S022	(Bouwman, López-Nicolás, Molina-Castillo, & Hattum, 2012)	G E N	TAM; IDT	Social influence → (PU, PEU, Attitude towards mobile innovations) Customer segmentation according to a lifestyle model		BI advanced mobile services	The Netherlands/542
2010	S023	(C. Kim, Mirusmonov, & Lee, 2010)	M T R	TAM	Individual differences – Innovativeness, M-payment knowledge System Characteristics – Mobility, Reachability, Compatibility, Convenience	<u>Belief Variables</u> Perceived Ease of Use Perceived Usefulness <u>Dependent variable</u> Intention to use m-payment	IU	Korea/269
2006	S024	(Carlsson, Carlsson, Hyvonen, Puukainen, & Walden, 2006)	G E N	UTAUT	Performance expectancy , Effort expectancy, SI , Facilitating conditions, Mobile device/service anxiety , ATT	BI	AU	Finland/157
2005	S025	(Carlsson, Hyvönen, Repo, & Walden, 2005)	G E N	IDT, TAM, UTAUT	Gender, Age, Education, ATT, Perceives usefulness (PU), Ability to change everyday lifestyle		Adoption and use in the future	Finland/944
2010	S026	(Chandra, Srivastava, & Theng, 2010)	M T R	TAM	Characteristics Mobile Service Provider (Perceived reputation and Perceived Opportunism), Characteristics Mobile Technology (Perceived Environmental Risk and Perceived Structural Assurance), Control Variables (Age, Gender, Mobile Internet & Internet Banking)	Consumer Trust in M-Payment system → (PU, PEU)	Adoption Intention of M-Payment System	Singapore /109
2007	S027	(Chang, Hsieh, Lee, Liao, & Wang, 2007)	M I N	Hybrid	Cost, Complexity of adoption process, Worry of security and privacy issues, Worry of quality of LBS information, Lack of cognition of LBS		Consumer's Adoption of LBS	Taiwan/129

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2013	S028	(Chan-Olmsted, Rim, & Zerba, 2013)	MEN	TAM; IDT	Perceived RE, PU, PEU, News Consumption, Media usage		Adoption of mobile news	USA/376
2005	S029	(Cheong & Park, 2005)	GREN	TAM	Perceived playfulness, Contents quality, Service quality (SQ), Internet experience, Perceived price level, PU, PEU	ATT towards MI	IU MI	South Korea/1279
2013	S030	(Chitungo & Munongo, 2013)	MTR	TAM	Perceived usefulness Perceived ease of use Relative advantages Personal innovativeness and Social norms have significant effect on user's attitude thus influence the intention towards mBanking whilst Perceived risks and Costs deterred the adoption of the service.	Behavioral intention (BI) to adopt mBanking services by rural communities was the dependent variable.	BI	Zimbabwe/275
2010	S031	(Chong, Darmawan, Ooi, & Lin, 2010)	GREN	TAM ; IDT	Perceived Advantages, PEU, PU, Perceived cost, Variety of service, SI, Trialability, SQ, Perceptions on 3G security		IU	Malaysia/278
2010	S032	(Cocosila & Archer, 2010)	MIN	Motivational model; TAM	Perceived overall risk (financial, psychological, privacy)	Intrinsic motivation; extrinsic motivation	BI	USA/52
2010	S033	(Cruz, Neto, Muñoz-Gallego, & Laukkanen, 2010)	MTR	TAM	Perception of cost Risk Low perceived relative advantage and Complexity; were revealed to be the main reasons behind the reluctance to use the service		UA	Brazil/3585
2006	S034	(Cyr, Head, & Ivanov, 2006)	GREN	TAM	Design aesthetics	PU, PEU, PE	mLoyalty	Canada/60
2012	S035	(D. J. Kim & Hwang, 2012)	GREN	Value-based adoption Model	Personal factors (Maturity; Socio-economic status). Control variable – frequent use of MI	Mobile value tendency: Utilitarian vs hedonistic	Perceived SQ (Connection quality, Design quality,	South Korea/719

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
							Information quality)	
2007	S036	(D.-H. Shin, 2007)	G E N	TAM; TRA	Perceived quality, Perceived availability, PU, PE , Social pressure	ATT	BI	South Korea/ 515
2002	S037	(Dahlberg & Mallat, 2002)	M T R	TAM	Price Additional services Relationship costs – (<i>Relationship costs are comprised of three different types of costs. First, direct relationship costs that occur when the customer has to invest on a specific technology to be able to use the payment solution. Second, indirect relationship costs that occur if the offering does not function as promised and finally, psychological costs that materialize when a customer fears that problems will occur in the relationship</i>) Perceived ease of use Network externalities	Attitude towards using Perceived usefulness	BI & AU	Finland/15
2008	S038	(de Vos, Haaker, Teerling, & Kleijnen, 2008)	M I N		Context awareness Product involvement Social Influence Self-expressiveness Moderator - Age		IU	.../403
2014	S039	(Deng, Mo, & Liu, 2014)	G E N	value attitude behavior (VAB), TPB	Perceived value, ATT, PBC,SN, Perceived physical condition, Resistance to change, Technology anxiety, Self-actualization need		BI	China/424
2010	S040	(Deng, Lu, Wang, Zhang, & Wei, 2010)	G E N	TAM	PU, Perceived Service Cost, Perceived Trust (Disposition to Trust, Institution-based trust, Trust in service provider), Perceived Trialability	ATT → Intention	AU	China/382
2008	S041	(Dickinger, Arami, & Meyer, 2008)	G E N	TAM	Social norm, PU, PEU	ATT, PE	BI	Austria/218

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2014	S042	(Dwivedi, Tamilmani, Williams, & Lal, 2014)	G E N	TAM	Personal initiatives and Characteristics, Trust, Context	PEU, PU	IU	India/186
2015	S043	(E. Y. Huang, Lin, & Fan, 2015)	G E N		Efficiency, System Availability, Content, Fulfillment, Privacy, Responsiveness, Compensation, Contact, Billing		Mobile service quality (m-s-qual)	Taiwan/578
2013	S044	(Ervasti, 2013)	G E N		Functional, Personalization, Localization value; Social, Hedonic, Stimulation & epistemic, Growth and self-actualization, Socialization, Traditional, Safety, Benevolence	Service values; Customer values	Value	N/a
2009	S045	(G. Kim, Shin, & Lee, 2009)	M T R	IDT TAM	Structural assurances (in the form of agreements, contracts, regulations, policies, laws, feedback forums, guarantees, escrow services and others enhance initial trust between involved parties in a relationship) Personal propensity to trust (<i>personality</i>) Firm reputation – failed to attract people to mBanking	Perception of initial trust and; Relative benefits (<i>The term relative benefits bears a conceptual resemblance to the term perceived usefulness</i>) was vital in promoting personal intention to make use of related services	IU	South Korea/192
2015	S046	(G.-H. Huang & Korfiatis, 2015)	G E N	Not mentioned	Perceived Diagnosticity, Cognitive Structure, Emotional Responses		ATT	Taiwan/278
2011	S047	(Gao, Krogstie, & Siau, 2011)	G E N	TAM	Context → (PU, PEU); PEU, PU; Trust; Personal characteristics and Initiatives		IU	Norway/25
2014	S048	(Gao, Krogstie, & Siau, 2014)	M I N	TAM	Context, Personal Initiative and characteristics, Trust	PU, PEU	IU	85

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2012	S049	(Garry Wei-Han Tan, Ooi, Sim, & Phusavat, 2012)	M I N	TAM	Individual differences (Gender, Age, Past experience)	PEU, SN, PU,	Intention to adopt mLearning	Malaysia/ 401
2014	S050	(Garry Wei-Han Tan, Ooi, Leong, & Lin, 2014)	M I N	TAM	SI, Personal innovativeness in information technology (PITT), Control Variables (Gender, Age, Academic, Qualification)	PU, PEU	BI	Malaysia/ 220
2009	S051	(Gerpott & Kornmeier, 2009)	M T R	TAM	ATT predictors: Past use, Breadth of use situations, Relative performance , Reference groups (Friends, Media) ; Involvement predictors: Risk, Innovativeness	ATT; Involvement	IU; → Willingness to continue	347/Germany
2009	S052	(Gu, Lee, & Suh, 2009)	M T R		Relative benefits of mBanking, Personal propensity to trust, Structural assurances in mBanking, Firm reputation	Initial trust in mBanking	IU	South Korea/478
2014	S053	(Gurtner, Reinhardt, & Soyez, 2014)	G E N	TAM	Convenience Perceived quality Enjoyment Perceived ease of use Perceived usefulness Moderator - Age	Convenience is more important and ease of use is less important for younger users than for older individuals	IU AU	European country/653
2011	S054	(H. Choi, Kim, & Kim, 2011)	G E N		Extrinsic motivation (post-PU, post monetary value; Intrinsic motivation (post-PEU, post PE); Service type (utility)		Continued AU	South Korea/ 997
2008	S055	(H. Kim, Lee, & Kim, 2008)	G E N	TAM; IDT	Usefulness, Usability, System quality, SI, Ubiquitous Connectivity, Perceived Cost,	Perceived Value	BI	South Korea/3559
2011	S056	(H.-F. Lin, 2011)	M T R	IDT	Innovation attributes Perceived relative advantage Ease of use Compatibility Knowledge-based trust Perceived competence Benevolence Integrity	Perceived relative advantage, Ease of use, Compatibility, Competence and	BI	Taiwan/368

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
						integrity significantly influence attitude, which in turn lead to behavioral intention to adopt (or continue-to-use) mBanking		
2007	S057	(H.-W. Kim, Chan, & Gupta, 2007)	GEN	Value added model	Benefit (PU, PE), Sacrifice (Technicality, Perceived fee)	Perceived value	Adoption	Singapore / 161
2007	S058	(Ha, Yoon, & Choi, 2007)	MEN	TAM	Perceived Ease of use Perceived Attractiveness Flow Experience (the holistic experience that people feel when they act with total involvement) Moderated effects:- gender, age and prior experience	Perceived Enjoyment is the variable with the greatest effect on intention to play Mobile Broadband Wireless Access technology-based (MBWA) games	IU	.../1011
2014	S059	(Hanafizadeh, Behboudi, Koshksaray, & Tabar, 2014)	MTR		PU, PEU, Trust, Perceived Cost of use, Perceived risk, Need for personal interaction, Credibility, COMP with lifestyle and needs		IU	Iran/361
2012	S060	(Head & Ziolkowski, 2012)	GEN	TAM	Perceived Expressiveness, PE, PU, PEU		Attitude	Canada/ 188
2003	S061	(Ho & Kwok, 2003)	GEN	TAM	Amount of general advertisements; Ease to locate useful general advertisements; PU of personalized messages; Privacy infringement from personalization		Intention to switch MDS provider	Hong Kong/205
2006	S062	(Hong & Tam, 2006)	GEN		PU, PEU, Perceived service availability, Perceived monetary value, PE, Need for uniqueness, SI , Gender, Age		BI	Hong Kong/ 1328

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2006	S063	(Hong, Thong, & Tam, 2006)	G E N	ECM, TAM	PE, PEU, Confirmation	SAT	IC	Hong Kong/ 1826
2008	S064	(Hong, Thong, Moon, & Tam, 2008)	G E N	TPB; TAM	Attitudinal beliefs (PU, PEU, PE) Perceived mobility Perceived monetary value Normative beliefs (SI, media influence)	ATT	IC	Hong Kong/811
2011	S065	(Hsu, Wang, & Lin, 2011)	M T R	TAM	Perceived security Perceived cost Perceived ease of use	Perceived Usefulness (PU) Attitude Subjective Norm explained 74% of MFS usage	IU	Taiwan/2 75
2012	S066	(Hung & Jen, 2012)	M I N	TAM	Perceived ease of use Perceived usefulness- can this appear as independent & dependent variable?	Perceived usefulness and Attitude significantly affected the behavioural intention to adopt MHMS	BI	Taiwan/1 70
2007	S067	(I. Lee, Choi, Kim, & Hong, 2007)	G E N	Hofstede's and Hall's models	PU, PE, PEU, Perceived monetary value as influenced by Uncertainty avoidance, Individualism, Contextuality Time perception;	SAT	Continuance intention (CI)	South Korea/35 18 Hong Kong/116 8, Taiwan/4 35
2005	S068	(I. Lee, Kim, & Kim, 2005)	G E N		MDS use context			South Korea/75
2011	S069	(I.-L. Wu, Li, & Fu, 2011)	M I N	TAM, TPB	Perceived service availability (PSA) Personal innovativeness in IT (PIIT)	Attitude as determinant of behavioural intention	BI	Taiwan/1 40

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2012	S070	(Iqbal & Qureshi, 2012)	M I N	TAM	Perceived Usefulness (PU) Perceived ease of use (PEOU) Social Influence (SI) – negative impact on adoption Perceived playfulness – less influence Facilitating Conditions (FC)	Intention to adopt m-learning (IML)	IU	Pakistan/ 300
2011	S071	(Islam, Khan, Ramayah, & Hossain, 2011)	G E N	TAM	Awareness and knowledge, Convenience, Pricing and cost, Perceived risk, Security and privacy, Rich and fast information, Perceived usefulness, SE		Adoption	Bangladesh/100
2008	S072	(J. Choi, Seol, Lee, Cho, & Park, 2008)	G E N		SE as influenced by Information Quality, SQ	PU, PEU	SAT	South Korea/256
2005	S073	(J. Kim & Hwang, 2005)	G E N	AHP	System Quality, Content Quality, Trust (security) Support, Mobility (device), Personalization, Use	mCommerce success factors	Adoption	.../60
2014	S074	(J. Lu, 2014)	G E N TRA	TAM; UTAUT	SI, Personal innovativeness in information technology (PITT)	PU, PEU	MC Continues Intention	USA/376
2008	S075	(J. Lu, Liu, Yu, & Wang, 2008)	G E N	TAM	PU, PEU as influenced by technology, social environment, personal innovativeness with IT, mobile trust, facilitating conditions		Intention to accept	China/ 1432
2005	S076	(J. Lu, Yao, & Yu, 2005)	G E N	TAM	Social influence - SI (Social norm + Image - IMG), Personal innovativeness	PU, PEU	BI	USA/ 388
2003	S077	(J. Lu, Yu, Liu, & Yao, 2003)	G E N	TAM	Individual differences, Technology complexity, Facilitating conditions, Social influences (SN), Wireless trust environment ; Perceived ease of use (PEU)	Intention to accept, based on long-term perceived usefulness (PU), short-term PU and ATT (PEU→ATT)	Intention to use (IU) wireless Internet via mobile devices	N/A
2008	S078	(J. V. Chen & Aritejo, 2008)	G E N		Tangibles, Reliability, Responsiveness, Assurance, Empathy	SERVQUAL for mobile value-added services	Mobile service quality	

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2005	S079	(J.-H. Wu & Wang, 2005)	GEN	TAM IDT	Perceived Risk, Cost, PU, PEU, Compatibility (COMP)	IU	AU	Taiwan/310
2014	S080	(José Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014)	MTR	TAM	(SI,SN)→External Influences	Ease of Use, Trust, Usefulness, ATT, Risk (ATT, Trust)	IU	Spain/2587
2009	S081	(Jung, Perez-Mira, & Wiley-Patton, 2009)	GEN	TAM	Perceived usefulness (PU)	Cognitive concentration (or flow experience) and Content; have a crucial influence on users' beliefs driving behavioural intention	BI	South Korea/208
2005	S082	(K. C. C. Yang, 2005)	GEN	TAM	Innovativeness, Past Adoption Behavior, Knowledge Technology cluster, Age, Gender, Socialization	PU; PEU	ATT	Singapore / 866
2010	S083	(K. C. Lee & Chung, 2009)	MTR	TAM; IDT	System Quality, Information Quality, Interface Design Quality	Trust	SAT	Singapore /681
2010	S084	(K. M. Lee, Yates, Clark, & El Sawy, 2010)	GEN		Presence (physical, social, self), EXP of mobile service/application	User value (Enhanced social interaction, engaging user experience, rich personalization, great efficacy)	Increased use	No data
2010	S085	(K. Yang, 2010)	MTR	UTAUT	Utilitarian Performance Expectancy (facilitate in achieving task performance – flexibility of use, consideration of time and place, personalization, and shopping effectiveness) Hedonic Performance Expectancy (using technology is	Social influences (consumers' opinions) on behavioural intention to use	BI	USA/400

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
					fun) Effort Expectancy (degree of ease of use of the technology – access to mobile site, navigating mobile site functions and features)	mobile shopping services was significant. Facilitating conditions (believe technical infrastructure exists to support the use of technology) Attitude		
2013	S086	(K.-Y. Chen & Chang, 2013)	GEN	UTAUT	Performance expectancy, Effort expectancy, Anxiety, SI	ATT; Facilitating conditions. Moderators: age gender, EXP (experience)	BI	Taiwan/189
2002	S087	(Khalifa & Cheng, 2002)	GEN	TPB	Exposure (Trial, Observation, Communication); Subjective norm (SN); Perceived behavioural control (PBC); Attitude (ATT)		Intention to adopt mCommerce	Hong Kong/202
2008	S088	(Khalifa & Ning Shen, 2008)	GEN	TAM;TPB	PU (Cost, Convenience, Privacy, Efficiency, Security), PEU	SN; SE	Intention to adopt	Hong Kong/202
2005	S089	(Kleijnen, de Ruyter, & Andreassen, 2005)	GEN		Congruence (fit between self image and service image), Situational effect	ATT	Behavioral intention (BI)	European country/ 209
2004	S090	(Kleijnen, de Ruyter, & Wetzel, 2004)	GEN	IDT	Perceived Risk, RE, Comparability, Complexity, Navigation, Communicability, Critical Mass, Payment Option		Adoption	The Netherlands/ 99
2007	S091	(Kleijnen, De Ruyter, & Wetzel, 2007)	GEN	TAM	Time Convenience, User control, Service Compatibility, Risk, Cognitive Effort	Value M-Channel	IU	The Netherlands/375

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2010	S092	(Koenig-Lewis, Palmer, & Moll, 2010)	MTR	TAM IDT	Trust Credibility Perceived risk (had a significant negative effect on intention to adopt) Perceived Costs Perceived ease of use	Perceived usefulness Compatibility ; were found in this study to have a significant effect on behavioral intention	BI	Germany/ 263
2012	S093	(Koenigstorfer & Groeppel-Klein, 2012)	GEN	TAM	Consumer innovativeness; Desire for social contact; Technology optimism; Time taken to use → PEU; Moderators - Gender, age		Preference of MI to other channels	.../190
2008	S094	(Kumar & Lim, 2008)	GEN		Service quality → Perceived value (economic and emotional) Age as a differentiator between two groups	SAT	Loyalty intention	USA/298
2008	S095	(L.-d. Chen, 2008)	MTR	TAM IDT	Perceived Transaction Convenience Perceived Transaction Speed Security Concerns Privacy Concerns	Perceived Ease of Use Perceived Usefulness Perceived Risk Compatibility	IU	USA/229
2005	S096	(Laforet & Li, 2005)	MTR		Main barriers to online banking were; Perception of risks Computer and technological skills and Chinese traditional cash-carry banking culture. Barriers to MTR adoption were; Lack of awareness and Understanding of the benefits provided by MTR.	Security was found to be the most important factor that motivated Chinese consumer adoption of online banking	UA	China/128
2005	S097	(Laukkanen & Lauronen, 2005)	MTR		The results indicate that in the mobile fund transfer service, Safety Convenience; were perceived by the respondents as the most important values.	Location-free access seems to create positive value in the consumption of this service.		.../12
2011	S098	(Leong, Ooi, Chong, & Lin, 2011)	GEN	TAM	Independent variables: Individual characteristics (Age, gender, academic qualification and past adoption behaviour) Intermediate variables:	Consumer Intention to Use (IU)	IU	Malaysia/ 423

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
					Perceived Usefulness (PU)_Perceived Ease of Use (PEOU)			
2012	S099	(Li, Dong, & Chen, 2012)	G E N	Stimuli , TAM, TPB	Media richness; SN; Convenience; SE	Emotion	Consumption experience	China/293
2011	S100	(Liang & Yeh, 2011)	M E N	TAM; TRA	User's Attitude Perceived EOU Perceived Playfulness Subjective norm (SN)	Continuance intention	IC	Taiwan/ 390
2014	S101	(Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014)	M T R	TAM	External influences (social image and subjective norms) Ease of use Attitude Usefulness Trust Risk Moderator - Age	The highest impact on intention was the external influence, based on social image and subjective norms	IU	Spain/201 2
2008	S102	(Lim & Kumar, 2008)	G E N	Not mentioned	SQ	Economic value, Emotional value	SAT → Loyalty	USA/328
2006	S103	(Lin & Wang, 2006)	G E N	TRA	Perceived value, Trust, Habit	SAT	Loyalty	Taiwan/2 55
2010	S104	(Liu & Li, 2010)	G E N	TAM UTAUT	RE, COMP, Complexity, Observability, Use context, PE		MI use	China/736
2011	S105	(Liu & Li, 2011)	M E N	TAM	Perceived usefulness Perceived enjoyment Cognitive concentration	Use context is found to be the strongest predictor of intention to use, even more so than Attitude.	IU	China/267
2010	S106	(Liu, Li, & Carlsson, 2010)	M I N	TAM	Perceived near-term usefulness Personal innovativeness Perceived ease of use	Perceived long-term usefulness contributes to the most influential	BI	China/220

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
						predictor of m-learning adoption		
2008	S107	(López-Nicolás, Molina-Castillo, & Bouwman, 2008)	G E N	TAM; IDT	PU, PEU as influenced by SI, Media influence, Perceived flexibility benefits, Perceived status benefits, Attitude towards mobile innovations		BI	The Netherlands/542
2003	S108	(M. S. Y. Lee, McGoldrick, Keeling, & Doherty, 2003)	M T R	Not mentioned	Perceived innovative attributes (RE, COMP, Trialability, Observability, Complexity, Previous experiences); Risk dimensions (Financial, Performance, Psychological, Time, Social, Physical) influenced by Applied risk dimensions (exclusion, seclusion , intrusion)		Adoption	UK/8
2004	S109	(M.-K. Kim, Park, & Jeong, 2004)	G E N		SQ (Call quality, Value-added services, Customer support) as a predictor of SAT; Switching barrier (loss cost, move-in cost)s predictor of Switching barrier; Interpersonal relationship as a Switching barrier	SAT, Switching barrier	Customer loyalty	South Korea.350
2007	S110	(Mallat, 2007)	M T R	Diffusions of Innovations Theory	Compatibility (high with digital content & services, high with small value purchases at POS, low with high value purchases) Complexity (<i>registration process, management of separate accounts burdensome, data input formats or codes or service numbers</i>) Costs Network externalities (<i>lack of wide merchant adoption, proprietary devices/services</i>) Trust Perceived security risk	Relative advantage (time and place independent payments, queue avoidance, enhanced payment instrument availability, complement to cash)	IU	Finland/39
2008	S111	(Mallat, Rossi, Tuunainen, & Öörni, 2008)	M T R	TAM; IDT	Ease of use (EOU) Usefulness Social Influence Attitude Trust Risk	Prior experience Compatibility; were the strongest predictors for use intention	IU	Finland/362

Year	Source ID	Authors and year	Context	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2009	S112	(Mallat, Rossi, Tuunainen, & Öörni, 2009)	MTR	TAM IDT	Perceived Usefulness - PU (describes the generic efficiency increase due to new technology) Mobility (includes time and place independent, service access, reduced queuing and substituting for other services)	Use context was found to be a significant determinant for consumers' to use the mobile ticketing service Compatibility (of mobile services with users' general habits and their ways to access and use services with the mobile phone can be considered as a precondition for service adoption and therefore independent of use context) Ease of Use (EoU)	IU	Finland/360
2007	S113	(Mallenius, Rossi, & Tuunainen, 2007)	GEN	UTAUT	Benefits: security, usability; Barriers: Anxiety, Training and guidance, price. SN		Adoption and use	Finland/12
2011	S114	(McKenna, Tuunanen, & Gardner, 2011)	MIN	UTAUT	Performance Expectancy, Effort Expectancy, SI, facilitating Conditions, Anxiety, SE	BI	UB	New Zealand/100
2003	S115	(Nysveen & Pedersen, 2003)	MTR	TAM	Perceived ease of use Attitude towards use Perceived usefulness	Perceived Self-expressiveness is an important determinant of the intention to use	IU	Norway/459

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
						mobile parking services		
2005	S116	(Nysveen, Pedersen, & Thorbjørnsen, 2005)	G E N	TAM, TRA, TPB	PU, PEU, Perceived enjoyment (PE), Perceived expressiveness, ATT, Normative pressure, Control , Process characteristics (goal-oriented vs. experience services), Interactivity (person vs. machine interactivity)	ATT	IU	Norway/201
2010	S117	(O'Doherty, Hill, Mackay, & McPherson, 2010)	G E N	Not mentioned	Gender, age, level of education, level of income	Motivation to use???	Use	Australia/6116
2013	S118	(Okazaki & Mendez, 2013)	G E N		Perceived ubiquity (Continuity; Immediacy ; Portability ; Searchability); Flow ; Interactivity (Active Control, 2-way communication, Synchronicity); Focused Attention		Positive affect; continuous usage	European country/570
2014	S119	(Oliveira, Faria, Thomas, & Popović, 2014)	M T R	TTF, UTAUT , Initial Trust Model (ITM)	((Task Characteristics, Technology Characteristic)→ Task Technology Fit)→Performance Expectancy, Effort Expectancy, SI, Facilitating Conditions, ((Film Reputation, Structural Assurance, Personal Propensity to Trust)→Initial Trust	BI	Adoption	Portugal/194
2004	S120	(Pagani, 2004)	G E N	TAM	PEU, Price, PU (PEU,price)	ATT toward using	BI	Italy/100
2006	S121	(Pagani, 2006)	G E N	TAM,T F	Data connectivity, Technology Suitability, Workforce Efficiency, Workforce Efficiency → Workforce Productivity , SAT	Interest and evaluation	Adoption	USA and Europe/1545
2011	S122	(J. Park, Snell, Ha, & Chung, 2011)	G E N	TAM	Basic Benefit, Innovative Benefit	(Utilitarian value, Hedonic Value)→SAT	Future to use	.../204
2007	S123	(Y. Park & Chen, 2007)	G E N	TAM IDT	PU, PEU, Trial-ability, Observability, Comparability, Task , Individual, Organization, Environment , SE	ATT	BI	USA/ 133

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2005	S124	(Pedersen, 2005)	GEN	TPB	Perceived user friendliness, PU, External influence (media, society and profession), Interpersonal influence, Self-control, Self-efficacy (SE), Facilitating conditions	Control, SN, ATT, IU	Actual use (AU)	Europe and North America/ 232
2011	S125	(Pousttchi & Goeke, 2011)	GEN	TAM; TPB	PU, PEU, PE, SN, Technical context, PBC,		IU	Online/18 54
2007	S126	(Pousttchi & Wiedermann, 2007)	MTR	TAM; TTF	PU, PEU, Perceived confidentiality, Perceived trust-worthiness, TTF as a predictor of PU		IU	Germany/ 1104
2005	S127	(Pura, 2005)	MIDN	Multidimensional perceived value and loyalty model	Perceived value dimensions (monetary, convenience, social, emotional, conditional and epistemic value) The three values below had a significant, positive relationship with behavioural intentions Conditional value Convenience value Monetary value	Commitment most influenced behavioural intentions	BI	Finland/2 79
2010	S128	(Püschel, Mazzon, & Hernandez, 2010)	MTR	IDT DTPB	Relative advantage (RA), Compatibility (CO), Image (IM), Results demonstrability (RD), Trialability (TR) (<i>the degree to which an innovation can be tried on a limited basis.</i>) Visibility (VI) (<i>refers to the extent that an innovation can be observed before it is adopted</i>) Perceived ease of use (PEU), Self-efficacy (SE), Resource facilitating condition (RFC), Technology facilitating condition (TFC) and Subjective norm (SN)	Attitudes (AT), Perceived behavioral control (PBC) and Intention (IN)/usage (US)	UA/IC	Brazil/ 666
2009	S129	(Qi, Li, Li, & Shu, 2009)	GEN	TAM; Flow theory	PU, PEU, Flow, Experience (Brand, Mobile voice, Innovation)	ATT	BI	China/ 802

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2013	S130	(Rai, Chen, Pye, & Baird, 2013)	M I N	Not mentioned	Personal innovativeness towards mobile services (PIMS) Perceived health conditions Health care availability Health care utilization Demographics Socioeconomic status	Usage intentions Assimilation Channel preferences	IU	USA/1132
2007	S131	(Rao & Troshani, 2007)	G E N	TAM, IDT, domestication research	User predisposition (knowledge, COMP, PBC, IMG, personal innovativeness, PE); PU, PEU, SI (interpersonal influence and external influence), Facilitating conditions (promotion, perceived security protection, perceived privacy protection) Gender, Age - moderators	ATT	BI	No data
2010	S132	(Rao Hill & Troshani, 2010)	G E N	TAM; TPB	PE, PU, PEU, Control, IMG, Personal Innovativeness, SI (interpersonal and external influence), Security	Intention to adopt	Intention to adopt	Australia/ 593
2010	S133	(Revels, Tojib, & Tsarenko, 2010)	G E N	TAM	PU,PEU,PE, Perceived Cost, Perceived Image	SAT	Usage Intention	Australia/ 151
2010	S134	(Riquelme & Rios, 2010)	M T R	TAM IDT	Perceptions of relative advantage- has a stronger effect on perception of usefulness on male respondents Perception of risk Ease of use - has a stronger influence on female respondents than male Gender- as a moderator	Usefulness Social norms- (or the importance of others in the decision), also influence adoption more strongly among female respondents than male Social risk, in this order, are the factors that influence the intention to adopt MTR services the most.	UA	Singapore /600

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2007	S135	(S. Cho & Sung, 2007)	G E N	TAMAK SI	Mobile and wireless Internet SQ (Responsiveness, Assurance, Empathy, Convenience, Usefulness, Diversity)		SAT (communication /entertainment, finance/economics, location/geography. Information /consulting	South Korea/276
2009	S136	(S. Lee, Shin, & Lee, 2009)	G E N	TAM; TRA; TPB	(Relevance, Timeliness, Reliability, Scope), (Access, Usability, Navigation)	Information Quality, System Quality	Service Usage Change	.../749
2012	S137	(S. Yang, Lu, Gupta, & Cao, 2012)	G E N	TAM	Utilitarian value (PU, perceived mobility), Hedonic value (PE, concentration)	Use context	BI	China/507
2012	S138	(S. Yang, Lu, Gupta, Cao, & Zhang, 2012)	M T R	TAM; IDT	Social influence, Personal traits	Behavioral beliefs (Perceived risk, Perceived fee, COMP, RE)	BI; IC	China/639
2013	S139	(S.-G. Lee, Trimi, & Kim, 2013)	G E N	Hofstede's model; Bass diffusion model -	Innovation factors (PU, PEU; Imitation factors (SN, Word of mouth). Moderators: Collectivism vs individualism, Strong vs weak uncertainty avoidance, Long-term vs short term orientation		Adoption	US and South Korea/lonitudinal
2011	S140	(S.-P. Lin, 2011)	M I N	TAM	Perceived Usefulness Perceived Ease-of-Use External cues to action Innovativeness Provides industry reference for designing comprehensive services and enhancing existing ones to gain competitive advantage	Users' attitude as determinant influencing users' intention of MHS	IU	Taiwan/229

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2003	S141	(Samtani, Leow, Lim, & Goh, 2003)	GEN		Difficulty in establishing connection, Slow loading speed ,High costs of internet-enabled Handsets, High usage costs, Screen limitation, Concerns about security , Concerns about privacy; Access to timely info, Rapid internet connection , Access to personalised info , Low cost of internet-enabled handsets, Fast loading of content, Improved internet-enabled handsets , Low billing cost , Secured internet transactions , Easy to use and navigate websites , Ability to access many websites	Deterrents; Success factors	Adoption	Singapore / 200
2015	S142	(San-Martín, Prodanova, & Jiménez, 2015)	MTR	TAM Uses and Gratifications Theory	Perceived entertainment has higher importance for young adults Subjective norms are crucial for adults Moderator - Age	Satisfaction is a relevant determinant of WOM in both m-buyers groups	Word of Mouth (WOM)	Spain/477
2005	S143	(Scharl, Dickinger, & Murphy, 2005)	MIN	TPB	PU, PEU, Consumer ATT, Peer influence, Message Content, Personalization and Consumer control, Media Device technology, Transmission process, Product fit, Media cost	Consumer attention Consumer intention Consumer behavior	Adoption of technology	Online/416
2010	S144	(Schierz, Schilke, & Wirtz, 2010)	MTR	TAM	Perceived Compatibility Individual mobility Subjective norm Perceived usefulness Perceived ease of use Perceived security	Perceived compatibility has the greatest impact on the intention to use MTR	IU	Germany/ 1447
2010	S145	(Sell, Walden, & Carlsson, 2010)	GEN	Not mentioned	[ranked factors] Skillful, Efficient ,Trendy , Basic, Social; Moderated by Gender, age, socio-economic status, education		Reason to use	Finland/429
2010	S146	(Sheng, Siau, & Nah, 2010)	MIN	Value-focused thinking	To maximize convenience of education, efficiency in learning, effectiveness in learning, usability of mobile education services, security of		mLearning value	USA/33 subjects

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
					student/instructor information, maximize individual privacy. To minimize: cost of education. To ensure: academic honesty.			
2014	S147	(Shieh, Chang, Fu, Lin, & Chen, 2014)	G E N	Not mentioned	Security and privacy, Signal Quality, Comprehensive customer service, Handset prices and transmission fees, Advertising, network Coverage, Transmission speed, service accessibility, Real-timeliness, usefulness		Adoption of mobile services	Taiwan/...
2004	S148	(Siau, Sheng, Nah, & Davis, 2004)	G E N		Reliability, Security, Connectivity, PEU, Functionality, Readability, Usability of Website, Privacy protection, Third-party recognition, Reputation, Brand name of product	Trust	Adoption	USA/18
2014	S149	(Sim, Tan, Wong, Ooi, & Hew, 2014)	M E N	TAM	Personal Innovativeness, Perceived Credibility, Perceived Cost	PU, PEU	Intension to adopt Mobile Music	Malaysia/160
2010	S150	(Singh, Srivastava, & Srivastava, 2010)	M T R	TAM TRA TPB	PU, PEU, SN, Perceived cost, Self-efficacy, Security, Trust		IU	India
2014	S151	(Sohail & Al-Jabri, 2014)	M T R	Not mentioned	Triability, observability, Perceived risk, COMP, Complexity, RE		ATT	Saudi Arabia/...
2004	S152	(Suoranta & Mattila, 2004)	M T R	IDT	Segments of sample per service type		IU; IC	Finland/1253
2007	S153	(Swilley & Goldsmith, 2007)	G E N	TAM	PU, PEU as influenced by involvement with mCommerce as influenced by experience with eCommerce	ATT	BI	USA/296
2014	S154	(Thakur & Srivastava, 2014)	M T R	TAM; UTAUT	(PU, PEU, Facilitating Condition, SI), (Security Risk, Privacy Risk, Monetary Risk), Personal Innovativeness	Adoption Readiness, Perceived Risk	BI	India/1500

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2006	S155	(Thong, Hong, & Tam, 2006)	GEN	ECM; TAM	Confirmation → PE, PEU, PU	SAT	Continued IT Usage Intention	Hong Kong/811
2012	S156	(Tojib & Tsarenko, 2012)	GEN		Service ubiquity ; PEU; PE; Time convenience	Experiential value → SAT	AU	Australia/ 603
2010	S157	(Turel, Serenko, & Bontis, 2010)	GEN	TAM	(Escapism, Enjoyment)→Playfulness Value, Visual/Musical Appeal Value, Social Value, Value of Money	Overall Value of Hedonic Digital Artifact	BI to use in future, BI to positive Word-of-Mouth	.../422
2011	S158	(Vlachos, Giaglis, Lee, & Vrechopoulos, 2011)	GEN		Efficiency quality, Outcome quality, Customer care quality		MI service quality	South Korea/89 12,Hong Kong/182 6, Japan/21 51
2011	S159	(W.-P. Kuo, Hsu, & Huang, 2011)	GEN		Time convenience, Service CVOMP, Observability, Perceived risk	Functional, Hedonic, Social	Value	Taiwan/4 92
2012	S160	(W.-T. Wang & Li, 2012)	GEN	TAM	Usability; Personalization; Identifiability; PE	Brand loyalty, Perceived quality, Brand awareness, Brand associations	Purchase intention	Taiwan/4 97
2009	S161	(Wei, Marthandan, Chong, Ooi, & Arumugam, 2009)	GEN	TAM	PU, PEU, Social influence, Perceived cost, Trust (security and privacy protection)		IU	Malaysia/ 222
2010	S162	(Wessels & Drennan, 2010)	MTR	TAM	Perceived Usefulness Cost (negative effect towards intention to use) Risk (negative effect towards intention to use) Compatibility with their lifestyle	Attitude (<i>mediator</i>) transfers the affects of the consumers' perceptions to their intention to use	IU	Australia/ 314

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
						(dependent variable) M-banking.		
2008	S163	(Y. C. Cho, 2008)	G E N	TRA; Gratification theory	PU , PEU as influenced by external variables (Information factor, price factor, service factor, convenience factor, technology factor, promotional factor, entertainment factor price factor	ATT	m-satisfaction	US/280 Korea/290
2013	S164	(Y. H. Kim, Kim, & Wachter, 2013)	G E N		Perceived value; Engagement motivators (utilitarian, social, hedonistic motivations)	SAT	Mobile engagement intention	USA/297
2002	S165	(Y. Lee, Kim, Lee, & Kim, 2002)	G E N		Functional value, Emotional value, Social value, Monetary value		Satisfaction (SAT); Preferred service	South Korea/987; Japan/3298
2011	S166	(Y. Lu, Yang, Chau, & Cao, 2011)	M T R	IDT	<u>Negative valence</u> Perceived cost Perceived risk <u>Positive valence</u> Relative advantage Compatibility Image	Trust (Initial MTR Trust) in combination with the positive and negative valence determinants directly and indirectly influenced behavioral intention.	BI	China/961
2010	S167	(Y. M. Shin, Lee, Shin, & Lee, 2010)	G E N	TAM	Quality (Access quality, Service variety, Cost rationality), PEU Gender, Age, Occupation, Education	PU of MI	Degree of MI usage	Internet/244
2006	S168	(Y. S. Wang, Lin, & Luarn, 2006)	G E N	TAM, TPB	Perceived credibility, SE, Perceived financial resources, PU , PEU		BI	Taiwan/258 users

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2009	S169	(Y. S. Wang, Wu, & Wang, 2009)	M I N	UTAUT	Performance expectancy, Effort expectancy, SI, Perceived playfulness, Self-management of learning, Gender, Age		BI to use m-learning	Taiwan/330
2009	S170	(Y.-F. Kuo & Yen, 2009)	G E N		PU, PEU, Personal innovativeness, Perceived cost	ATT	BI	Taiwan/269
2009	S171	(Y.-F. Kuo, Yen, Wu, & Deng, 2009)	G E N		SQ, Perceived value	SAT	Post-purchase intention	Taiwan/387
2011	S172	(Ye, Kankanhalli, Goh, & Sun, 2011)	G E N	?	Service Innovativeness, Customer partition		New IT-enable Service Performance	2190 applications
2012	S173	(Yu, 2012)	M T R	UTAUT	Social influence Perceived financial cost Performance expectancy, and Perceived credibility, in their order of influencing Strength Moderators Gender significantly moderated the effects of performance expectancy and perceived financial cost on behavioral intention, and Age considerably moderated the effects of facilitating conditions and perceived self-efficacy on actual adoption behavior.	The behavior was considerably affected by Individual Intention and Facilitating conditions (degree to which an individual believes that an organizational and technical infrastructure exists to support technology use)	BI	Taipei/441
2014	S174	(Yuan, Liu, Yao, & Liu, 2014)	M T R	TAM, TTF, ECM	Perceived task technology fit, PEU, Confirmation, Perceived Risk, Gender	PU, SAT	Continuance intention	China/434
2012	S175	(Zarmpou, Saprikis, Markos, & Vlachopoulou, 2012)	G E N	TAM	External variables: Trust, Innovativeness, Relationship drivers, Functionality	PU; PEU	BI	Greece/445

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2012	S176	(Zhang, Zhu, & Liu, 2012)	G E N	TAM; IDT TPB	Perceived Behavior Control, SN, PU, PEU, Innovativeness, COMP, Culture – Western vs Eastern – a meta-analysis	ATT, PE, Perceived risk, Trust, Perceived cost	BI → AU	58 studies, total sample size 19,334, median sample size 66
2012	S177	(Zhao, Lu, Zhang, & Chau, 2012)	G E N	Delone & McLean	SQ (Interaction, Environment, Outcome), Justice (International Procedural, Distributive)	SAT (Transaction specific; Cumulative)	CI	China/1175
2012	S178	(Zheng, Li, & Jiang, 2012)	G E N	TAM, TPB, IDT	PU, Perceived cost, Perceived entertainment, Trial ability, Its own development of mobile commerce	ATT	BI → AU	China/213
2011	S179	(Zhou & Lu, 2011)	G E N	TAM	Extraversion; Agreeableness; Openness to experience, Conscientiousness; Neuroticism	Trust; PU	BI	China/268
2011	S180	(Zhou, 2011a)	M T R	TAM IDT	Perceived security Perceived ubiquity Perceived Ease of Use	Initial Trust, Perceived usefulness and Perceived cost is a significant determinant of usage intention	IU	China/277
2011	S181	(Zhou, 2011b)	M T R	TAM TRA	Structural assurance (<i>means that there exist legal and technological structures to ensure payment security</i>) Information quality System quality Trust Propensity	Initial trust affects perceived usefulness, and both factors predict the usage intention of MTR.	IU	China/2010

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2011	S182	(Zhou, 2011c)	G E N	ECT; TAM	PU; Expectation confirmation	PEU; SAT; Usage cost	CI Recommendation Complaint	China/269
2011	S183	(Zhou, 2011d)	M I N	Concern for information privacy (CFIP)	Privacy concern four dimensions :- Collection reflects users' concern about the over-collection of their personal information Improper access reflects users' concern about the unauthorized access to their personal information Errors reflects users' concern about information accuracy Secondary use reflects users' concern about information sharing and sale without their consent	Perceived risk will have a negative effect on behavioural intention Trust as users' belief will affect their behavioural intention	BI	China /210
2011	S184	(Zhou, 2011e)	G E N	UTAUT ; Flow Theory	PE, Attention focus; Performance expectancy, effort expectancy, SI facilitating conditions	SAT	Continuance usage	China/437
2012	S185	(Zhou, 2012)	M T R	TAM TRA	Structural assurance Ubiquity Perceived ease of use Personal innovativeness <u>Control variables</u> Gender Age Education level	Trust has a significant effect on flow experience, and both factors determine usage intention, which in turn affects actual usage	IU AU	China/200
2013	S186	(Zhou, 2013a)	M E N	Flow theory TAM	Perceived enjoyment Perceived control Attention focus Perceived access speed Perceived content quality	Flow experience has a significant effect on usage intention Perceived usefulness has a significate effect on usage intention Perceived ease of use has the largest effect on flow	IU	China/230

Year	Source ID	Authors and year	CONTEXT	Model	Independent/moderating variables	Intermediate variables	Dependent variable(s)	Location /Sample size
2013	S187	(Zhou, 2013b)	MTR	Trust and Flow Theory	Structural assurance (there exist technological and legal structures to ensure purchase security) Ubiquitous connection (users can conduct mobile purchase at anytime from anywhere) Contextual offering (mobile service providers can present the personalized information and services to users based on their locations)	Trust (includes three beliefs: ability, integrity, benevolence) Flow Perceived Usefulness; are proposed to mediate the effects of these determinants on purchase intention	IU	China/285
2013	S188	(Zhou, 2013c)	GEN	TAM; ECM	Switching costs; Effort expectancy ; Ubiquitous connection	Flow ; Performance expectancy ; Switching barrier	Continuance usage	China/234
2013	S189	(Zhou, 2013d)	MEN	Flow; TAM; UTAUT	Perceived ease of use Connection quality Content quality	Flow has a strong effect on usage intention Social Influence Usage cost; determine usage intention	IU	China/231 responses
2010	S190	(Zhou, Lu, & Wang, 2010)	MTR	TTF UTAUT	Task characteristics (<i>location sensitiveness e.g. ubiquitous account management, money transfer and remittance, and real-time account information inquiry</i>) Technology characteristics (<i>locability, and mobility e.g. ubiquity, immediacy, and security</i>) Task technology fit	Performance expectancy Task technology fit Social influence Effort expectancy and Facilitating conditions have significant effects on user adoption	UA	China/250
2014	S191	(Zolnowski, Weiß, & Bohmann, 2014)	MTR		Business Model Canvas, Service Business Model Canvas		mPayment adoption	

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APPENDIX C. INTERVIEW GUIDES

C1. Study 1

Table 1. Initial interview questions

	Question Type	Retain/Modify (RETM) or Remove (REM)
Topic 1 Position (10-15 min)		
1.What is the title of your position ?	Background	RETM; new q1
2.How would you describe your current occupation to others?	Background	RETM; new q2
3.How long (years, months) have you been involved in this occupation? a)in this company: b)in other companies:	Background	RETM; new q3 REM REM
4.Please list your top three areas of professional expertise.	Background	RETM; new q4
5.You are currently involved in the development of a mobile business product/service/application/platform. Please describe your role in this development, and your responsibilities in it.	Background	RETM; new q5
6.What motivated you to become involved in this development?	Value judgement	RETM; new q6
7. Do you think that developing a mobile business applications involves innovation? If yes, please describe what aspects of "innovation" you think are most important, and how does innovation may become a viable service and product.	Value judgement	RETM; new q7
Topic 2 Mobile product /service/application/platform (15-20 min)		
8.Which features of the mobile product /service/application/platform you are involved with are new to the market and the environment?	Knowledge	RETM; new q8
9.Which features of the mobile product /service/application/platform you are involved with would be most attractive to the users?	Knowledge	RETM; new q9
10.What do you think would be the main obstacles in bringing this mobile product /service/application/platform to the users ?	Value judgement	RETM; new q10
11.Which features of the mobile product /service/application/platform you are involved with are most likely to contribute to it being profitable to your company?	Knowledge	RETM; new q11
12.Do you think it would be a good idea to provide the mobile product /service/application/platform you are developing free to users, hoping to attract them to it?	Opinion	RETM; new q12
13.Describe the problems are you experiencing in the development of the mobile product /service/application/platform you are involved with?	Knowledge	RETM; new q13
Topic 3 Value proposition (45-50 min)		
14.What do you think are is the most valuable features of this mobile product /service/application/platform from user point of view? (If there are different groups of user, include all).	Value judgement	RETM; new q14

		Question Type	Retain/Modify (RETM) or Remove (REM)
15.	In your opinion, how will the current regulatory environment support the acceptance of the this mobile product /service/application/platform ?	Opinion	RETM; new q15
16.	In your opinion, will the current regulatory environment be an obstacle to the success of this mobile product /service/application/platform ?	Opinion	RETM; new q15
17.	What do you think influences user attitude ?	Value judgement	RETM; new q17
Topic 4 Value chain (15-20 min)			
18.	What factors promote or inhibits mobility related value across a I involved (e. g., application developers, content providers, platform providers, content aggregators, network providers, others)?	Knowledge	REM; replace with new q16
19.	What do you know about the mechanisms creating customer demand across the supply chain?	Knowledge	RETM; new q17
20.	What do you know about the factors influencing customer demand across the supply chain?	Knowledge	RETM; new q17
21.	What knowledge would be most helpful in assisting you to fine tune a mobile service/product/application/platform?	Value judgement	RETM

Table 2. Final interview questions

#	ENGLISH	BULGARIAN
1-4	What is the title of your position? How would you describe your current occupation to others? How long (years, months) have you been involved in this occupation? Please list your top areas of professional expertise (max three)	Каква е вашата позиция ? Как бихте обяснили с какво се занимавате? Откога сте на тази позиция? Избройте (максимум три) областите, в които имате значителен професионален опит.
5	If you are currently involved in the development and/or the implementation of a mobile business , please describe your role in this project. .	Ако в момента участвувате в разработка, свързана с прилагането на мобилни технологии за нови мобилни бизнес продукти, моля опишете вашето участие.
6	What motivated you to become involved in this development	С какво ви привлича разработката?
7	Do you think that developing a mobile business application or service involves innovation? If yes, please elaborate on the aspects you find important	Смятате ли, че разработването на приложения на мобилните технологии изисква иновация? Ако да - какви аспекти по-точно са важни, според вас?.
8	In your opinion, what new features and/or functions can new mobile products offer to the contemporary 'mobile' customer?	Каво е новото, което могат да предложат, според вас, мобилните технологии, на съвременния 'мобилен' потребител?
9	Following up on your answer above, what would be the most attractive features of a new mobile product to its potential 'mobile' customers? Why do you think so?	Кои черти на едно ново приложение на мобилните технологии биха били най-притегателни за потенциалните 'мобилни' потребители? Защо мислите така?
10	What do you think would be the main obstacles in bringing a mobile product to the market?	Кое според вас би било пречка в развитието на нови проложения на мобилните технологии?
11	Do you think that in general new mobile business services and/or applications	Според вас, биха ли били финансово стабилни и приходоносни нови

#	ENGLISH	BULGARIAN
12	could be offered in a viable business model? Please elaborate.	приложения на мобилните технологии? Пояснете.
13	Do you think that if customer had free access to a new mobile business product they would be more likely to start using it? In your opinion are there any other signify cant factors which influence customer decisions?	Според вас, ако потребителите имат свободен и безплатен достъп до ново приложение на мобилните технологии, била ли били те по-склонни да започнат да го използват (или има и други значителни фактори, които биха им повлияли)?
14	In your opinion, what are problems facing those who are involved in the development and/or the implementation of new mobile business services and/or applications?	Кои според вас са най-големите проблеми пред тези, които желаят да разработват нови приложения на мобилните технологии?
15	What do you think will be the most valuable features of a mobile product from a customer perspective? Do you think that different customer groups may have different requirements and expectation, please explain.	Какво според вас търсят да намерят в едно ново приложение, неговите бъдещи 'мобилни' потребителски групи – с различни изисквания и очаквания, какви са те? Пояснете.
16	In your opinion, how does the current regulatory environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?	Според вас, законите и разпоредбите в страната способствуват ли (или не) за свободното развитие и разпространение на нови приложения на мобилните технологии? Как точно?
17	In your opinion, how does the current mobile network market environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?	Според вас, пазарът на мобилни оператори и техните оферти способствуват ли (или не) за свободното развитие и разпространение на нови приложения на мобилните технологии? Как точно?
18	What do you think influences customer attitude towards accepting and using a new mobile business service and/or application?	Какво според вас влияе върху намеренията на потенциалните потребители относно използването на нови приложения на мобилните технологии?
	Further comments if any	Допълнителни коментари

C2. Study 2

Table 1. Interview questions

Questions	Note
Please provide the title of your position; very briefly, describe the main focus of your role in the organization.	Retained from previous version (questions 1 and 2, question numbers were removed).
How long (years, months) have you been involved in this role? In similar roles in this organization or elsewhere?	Retained from previous version (was question 3, question number was removed).
Please summarize the important areas of your professional expertise.	Retained from previous version (was question 4, question number was removed).
<ol style="list-style-type: none"> 1. In your opinion which existing mobile business services are most attractive to customers? Why are they attractive? 2. In your opinion, what new benefits or new use cases can be offered to mobile users today? 3. Do you think that different customer groups may have different requirements and expectation about mobile business services, please explain? 4. Based on an mobile application or a mobile business service that you are familiar with, what do you think are its most valuable features from a customer perspective? 5. How much would free pricing help to accelerate adoption of a 'next-generation' mobile business service? 6. What do you think influences customer attitude towards adopting a new mobile business service? 7. Do you think that developing a mobile business service for customers requires innovation? If yes, please elaborate on the aspects of development that you find important with respect to innovation. 8. What do you think would be the main obstacles, across the industry, in developing and bringing to market a new mobile business service? 9. In your opinion, what is the future of mobile business services? Who will be involved in developing and providing them – network operators, others? Will customers be willing to adopt and use them? 10. In your opinion, what aspects of the New Zealand's regulatory environment are most supportive and what aspects of the New Zealand's regulatory environment are least supportive of developing mobile business services and offering them to customers? 11. In your opinion, which aspects of the New Zealand's mobile network industry structure are most supportive (and least supportive) to the development, implementation and market penetration of new mobile business services? 12. Further comments if any. 	New question. Retained from previous version. Was question 8. Retained from previous version. Was question 14. Retained from previous version. Was question 9. Retained from previous version. Was question 12. Retained from previous version Was question 17 Retained from previous version. Was question 7 Retained from previous version. Combines questions 10 and 13. Retained from previous version Was question 11. Retained from previous version. Was question 15. Retained from previous version Was question 16. Retained from previous version Was question 18.

APPENDIX D. ETHICAL APPROVAL



MEMORANDUM

Auckland University of Technology Ethics Committee (AUTEC)

To: Stephen MacDonell
 From: **Madeline Banda** Executive Secretary, AUTEC
 Date: 18 March 2010
 Subject: Ethics Application Number 10/14 **Mobile services and applications: A balanced adoption model.**

Dear Stephen

Thank you for providing written evidence as requested. I am pleased to advise that it satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC) at their meeting on 8 February 2010 and that the Chair of AUTEC has approved your ethics application. This delegated approval is made in accordance with section 5.3.2.3 of AUTEC's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement at AUTEC's meeting on 12 April 2010.

Your ethics application is approved for a period of three years until 18 March 2013.

I advise that as part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through <http://www.aut.ac.nz/research/research-ethics>. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 18 March 2013;
- A brief report on the status of the project using form EA3, which is available online through <http://www.aut.ac.nz/research/research-ethics>. This report is to be submitted either when the approval expires on 18 March 2013 or on completion of the project, whichever comes sooner;

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are reminded that, as applicant, you are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

Please note that AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this. Also, if your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply within that jurisdiction.

When communicating with us about this application, we ask that you use the application number and study title to enable us to provide you with prompt service. Should you have any further enquiries regarding this matter, you are welcome to contact Charles Grinter, Ethics Coordinator, by email at ethics@aut.ac.nz or by telephone on 921 9999 at extension 8860.

On behalf of the AUTEC and myself, I wish you success with your research and look forward to reading about it in your reports.

Yours sincerely



Madeline Banda
Executive Secretary
Auckland University of Technology Ethics Committee

Cc: Krassie Petrova krassie.petrova@aut.ac.nz

APPENDIX E. PARTICIPANT INFORMATION SHEET

Participant Information Sheet



Date Information Sheet Produced:

25 January 2010

Project Title

Mobile Services and Applications: A Balanced Adoption Model

An Invitation

My name is Krassie Petrova. I am a Senior Research Lecturer at the School of Computing and Mathematical Sciences, currently working on my PhD thesis. I would like to invite you to participate in my research and take part in a one-one to in-depth interview on the topic of adoption of mobile services. Your agreement to participate will be highly appreciated. Your knowledge, experience and expertise will help evaluate and improve the model I am building. Please note that your participation is entirely voluntary and you may withdraw at any time without any adverse consequences.

What is the purpose of this research?

The research is concerned with the investigation of the process of adoption of mobile services. Its main purpose is to create and validate a balanced model for the adoption of mobile services including the perspectives of the stakeholders. The results of the research will be included in my PhD thesis and may also be published in scholarly outlets such as international peer-reviewed academic journals.

How was I chosen for this invitation?

You were chosen as an expert on mobile business applications and services in one of the following industry segments: mobile banking, mobile learning, mobile gaming, mobile payment, location-based services, mobile Internet, mobile technologies, mobile data networks.

What will happen in this research?

The project involves gathering data and analysing them with respect to the validity of the adoption model created as part of the research. Participants will be interviewed and will be given an opportunity to consider the proposed model and evaluate its content, structure and potential from the perspective of their own expertise and knowledge domain. The interviews will be recorded using a digital recorder and later transcribed by my personally.

What are the discomforts and risks?

No risks and discomforts are envisaged. However in your particular organization you may need to obtain the agreement of your senior manager to participate in the research.

How will these discomforts and risks be alleviated?

If the agreement of your senior manager is required, I will provide any additional information he or she may ask for in order to consider the invitation.

What are the benefits?

The research contributes academically to the body of knowledge by building a theory of mobile services and applications adoption and by proposing and validating a framework for evaluating the service value potential of mobile artefacts. From an industry perspective, service providers, application designers and network operators may benefit from the outcomes of the research, which may allow to create a better understanding of user needs and requirements and their significance with respect to service and application design.

How will my privacy be protected?

The identities of the participants will be known to the researchers however the data gathered from participants will not contain any personal details. Furthermore the data will be used in such a way that the identities of the participants and their respective organisations or companies will be protected from disclosure. The individual participants will not know who else is participating in the project. The digital records and the transcriptions will be accessible only to the researchers.

What are the costs of participating in this research?

The in-depth interview will take between 60 and 90 minutes overall but not more than 2 hours.

What opportunity do I have to consider this invitation?

Please respond to my invitation within one week of receiving it. Please also let me know whether further information about the research and the project is needed.

How do I agree to participate in this research?

To indicate that you agree to take part in the research please complete the consent form.

Will I receive feedback on the results of this research?

Once the PhD thesis is successfully completed I will let all participants know and will send them the link where it will be accessible on the Web.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, professor Steve MacDonell, smacdone@aut.ac.nz, 09-921-9073..

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz, 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details:

Krassie Petrova, Senior Research Lecturer, School of Computing and Mathematical Sciences, AUT University.

Email: Krassie.petrova@aut.ac.nz

Phone: 09-921-9999 x. 5045.

Project Supervisor Contact Details:

Professor Steve MacDonell, School of Computing and Mathematical Sciences, AUT University

Email: smacdone@aut.ac.nz

Phone: 09-921-9073

APPENDIX F. PROJECT BACKGROUND

Project Background for Research Assistants

Stakeholder perspectives on the demand for mobile services

Project Aims

The project aims to collect data from stakeholders in the mobile service value chain in Bulgaria and in New Zealand, and collect documentary information about the mobile service landscape. The data and the subsequent analysis will be put together as part of my PhD work.

Background

Business transactions between participants (e.g., customers, businesses) enabled by mobile data networks are commonly referred to as mobile commerce (mCommerce) via a range of related mobile services and applications. mCommerce is defined as ‘A value-added service that enables mobile customers to conduct reliable and secure transactions through specifically-designed mobile applications’. Further, mobile business (mBusiness) services expand mCommerce to include not only transactions between participants but activities such as servicing customers, and collaborating and conducting mobile transactions with business partners based on an appropriate business model. In most mCommerce transactions at present the B2C (business-to-customer) model prevails.

A number of general frameworks and models for the study of mobile services and their adoption have been proposed in prior work drawing on eCommerce adoption studies and often including variables such as usefulness, ease of use, and usability , also customer mobility, location awareness, trust , service cost , and perceived value proposition. The dynamics of the processes of meeting customer needs and preferences (i.e., mobile business service demand) by the gamut of industry players (i.e., mobile business service supply) has not been studied in depth. With customers becoming both better informed and more experienced as technology users, it can be expected that additional factors may emerge from a study of the adoption processes from multiple perspectives and in a contemporary context including customer perceptions about mobile business service value.

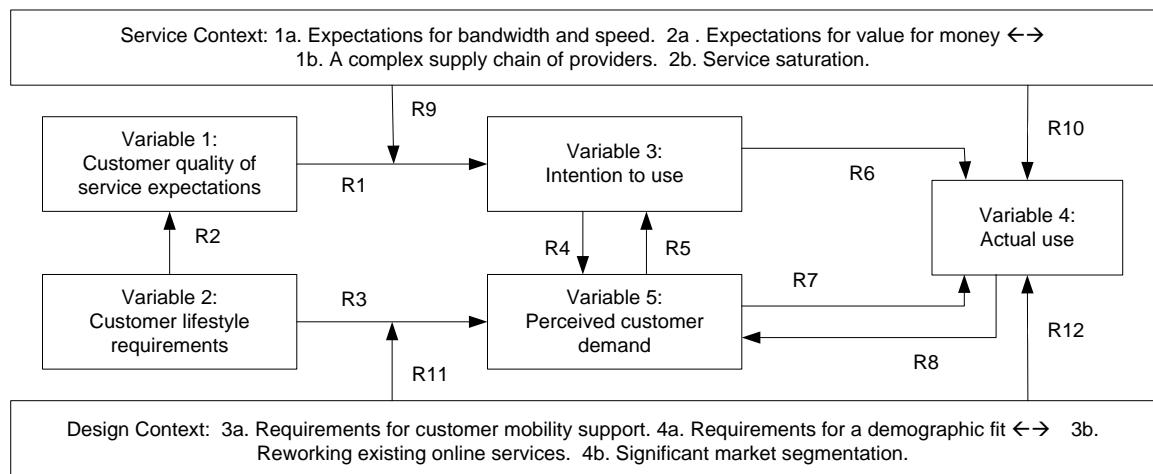
Model

It has been suggested in prior work to include in adoption models variables measuring the benefits of the technology to the customer, as adoption models measuring technology do not measure the

customer value of the technology , and to investigate perceived service value as an adoption factor. The factors influencing the adoption of mobile business services can be grouped as:

- Customer quality of service expectations: Technology factors that relate primarily to the infrastructure and the service architecture (e.g., interoperability of devices and protocols, bandwidth availability, device features and functions, connectivity). The customer may benefit from the advancement of technology, which makes it possible to deliver a mobile business service.
- Customer lifestyle requirements: Consumer factors that relate to how useful and value-adding (needed) a mobile business service is perceived to be (for example, in an investigation of how mobile services could help the elderly). Other factors may include content personalization and localization, service ubiquity, timeliness, convenience, cost, privacy, trust.

Customer quality of service expectations and customer lifestyle requirements are included in the synthesized model as mobile business service adoption antecedents. In this project the explanatory model proposed in the authiors' earlier work is used to investigate further how customer lifestyle requirements and expectations about the quality of a mobile business service affect market demand for such services and contribute to actual mobile service use .The model (below) captures the relationships between supply and demand factors



A balanced explanatory adoption model

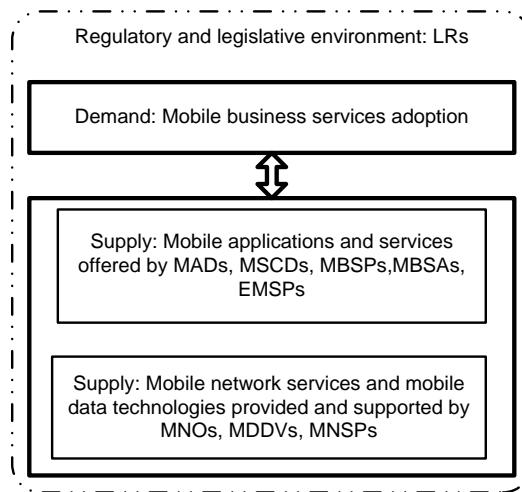
Focus

The project focuses specifically on the variable ‘perceived demand’ (variable 5) and the relationships it is involved in. Variable 5 (perceived customer demand) is a new variable, reflecting [multiple] service provider perceptions about customer behaviour with respect to the adoption of a mobile business service. This is especially important in the light of prior findings which suggest that there may be differences between the intended value proposition and customer

acceptance of the proposition due in part to the difficulties involved in communicating it. Possible variable measures include service provider intentions to invest in developing and maintaining a service based on projections about market demand.

Research design

The research addresses the need to obtain stakeholder input into forming perceptions about service value and service demand by customers, and how stakeholder perceptions about demand relate to customer life style requirements and quality of service expectations. Data will be gathered by applying purposeful sampling to interview in depth selected representatives of the mobile services industry - experts in the respective industry segments. Ethicsl approval has been granted . Participants (interviewees) will represent the main stakeholders in the mobile commerce value chain: mobile business service providers, mobile data service providers, mobile network operators, mobile device and platform providers, mobile application designers, mobile content aggregators (see below). The individual participants are likely to be in the roles of managers, designers and developers.



Participants in the mobile service value chain

The interview instrument to be used for a series of semi structured interviews is designed based on the services science premise that mobile services involve a negotiated exchange between a provider and an adopter (supplier and customer). Therefore each party in the exchange needs knowledge in negotiating the exchange. From this sample, knowledge about service and knowledge about customers will be sought to be obtain information from participants and codified. The information thus produced will be used to test the validity of the two global variables and the relative significance of the customer expectations within each variable. Each group will be interviewed using an interview instrument appropriately calibrated.

Qualitative data analysis will be implemented in order to identify the themes emerging from the interviews and related to the model underpinning the research – with a specific focus on the variable ‘perceived demand’ and the relationships involved in. The analysis will involve extensive reading, interpreting and coding the data in multiple iterations.

APPENDIX G. STUDY 1: PARTICIPANT BACKGROUND

Participant ID	Role/organization	Expertise/ experience
P1R2	<p>Senior lecturer. I develop new learning models (mobile learning). 7 years</p> <p>Старши преподавател. Разработваме нови форму на обучение - вкл. Мобилни апликации за обучение. 7 години.</p>	<p>1.Computer Organization and technology design , Programmable devices 2. e-learning, virtual labs, software tools, training, 3. Investigating the needs of the new generation of learner</p> <p>1. Организация на компютъра, Технология на проектирането (Хардуерен дизайн), Проектиране с програмируема логика, 3. електронно обучение, виртуални лаборатории, софтуерни средства за обучение, изследване на новото поколение обучавани .</p>
P2R4	<p>Mobile service provider/Mobile network provider. Responsible for all mobile and converged: products, services, promotions and campaigns, launched by [company]...and targeting the Business segment. and covering the following activates: Initial service description. Service/solution design and network development design. Business case and financial impact for the organization. MARCOM activities and collateral material. Training. Etc. in this company: app. six years. in other companies: app. three years</p>	<p>1. Product Development . 2. Business customer's relationship management. 3. Business customers profiling and segmentation</p>
P3R8	<p>Chief application Developer (owner/operator) . Specialized software development</p> <p>Главен разработчик на софтуер - частна компания. Поръчки на специализиран софтуер</p>	<p>1.Quality control. 2. Web design. 3. 3G phone apps</p> <p>1. качествен контрол 2. Уеб дизайн 3. Мобилни приложения 3G</p>
P4R9	<p>Mobile service provider/Mobile network provider. To analyze proposals for new services. - Solving problems through coordination and communication. - Making the link between the customers and the developers of the application. - Administering the application</p> <p>Мобилен оператор. Анализирам заданията за нови услуги . Комуникирам проблемите и ги разрешавам. Осъществявам връзката между клиентите и разработчиците на приложението .</p>	<p>1. Software development. 2. Data base administration. 3. Project management</p>
P5R10	<p>Senior service engineer ("service creation'). We create menus and functionality packages for mobile operators</p> <p>Главен инженер-разработчик на сервисни функции. Създаваме</p>	<p>1. databases 2. testing 3. menu development</p> <p>1. бази от данни 2. тестване 3. създаване на менюта</p>

Participant ID	Role/organization	Expertise/ experience
P6R11	менюта или цели функционалности за мобилните оператори.	1. Programming , 2. Specification of business requirements for software projects, 3. Training
P7R12	Senior Developer/Business analyst. At work I use with various Microsoft technologies - SQL Server, Net, SharePoint, Silverlight; Главен програмист-анализатор. На работа използвам Microsoft технологии – SQL Server, .Net, SharePoint, Silverlight;	1. програмиране 2. специфициране на бизнес изисквания към софтуерни проекти 3. преподавател
P8R15	Senior Java software developer . I work at a big international company that develops and supports platforms for gambling games. Старши Java програмист-разработчик . Работя във голяма международна фирма, която разработва и поддържа платформа за хазартни игри.	1. Online gambling platforms.,2. Banking software,3. Mobile games and mobile phone applications 1. платформи за онлайн хазарт; 2. банков софтуер; 3. игри и приложения за мобилни телефони
P9R16	Service provider/mobile network provider: Senior expert for new mobile applications . Working in the field of mobile business products and services: analyzing market needs and tendencies; estimating whether a new product/a service can bring financial profit to the company; analyzing whether a product/service could be launched also in other countries; introducing new products and services – including the creation of a technical and documentation system; sales support; updating.	telecommunications 1. telecommunications, 2. Project management , 3. Macroeconomics
P10R17	Service provider/mobile network provider: Senior specialist for the development of new products . Developing new services for private customers: mobile banking, localization of children, expenses control, mobile e-mail, m-marketing (still only a concept: using the location/ gender/age of a customer, targeted advertisements are sent to their mobile phones. This product has a high success rating, but is very new and is not offered in Bulgaria yet)	1. telecommunications, , 2. Energy resources,
P11R18	Service provider/mobile network provider: Senior expert for new mobile applications. Creating ideas for new products, being responsible for a service from its creation and planning to sale support for merchants; gathering information; working together with other departments, keeping documentation, presenting the product, offering trainings for the merchants.	1.Telcommunication and ICT industry 2. Automotive industry, 3. Energy resources
P12R19	Bank (large). Project manager Responsible for the bank's Mobile application project	Product development, 2. Customer care, 3. Marketing

APPENDIX H. STUDY 1: PARTICIPANT RESPONSES

Table 1. Data cross-reference key

This table shows the location of each data unit in this appendix. For example, DUN 8 can be found in the row labelled P3R8 in the first column of Table 6, Appendix H.

Data coding ID	Particiosant ID	Location in Appendix H	Data coding ID	Particiosant ID	Location in Appendix H
DUN 1	Part. P3R8	Table 5, App. H	DUN 143	Part. P10R17	Table 9, App. H
DUN 2	Part. P5R10	Table 5, App. H	DUN 144	Part. P10R17	Table 9, App. H
DUN 3	Part. P6R11	Table 5, App. H	DUN 145	Part. P10R17	Table 9, App. H
DUN 4	Part. P7R12	Table 5, App. H	DUN 146	Part. P10R17	Table 9, App. H
DUN 5	Part. P7R12	Table 5, App. H	DUN 147	Part. P1R2	Table 10, App. H
DUN 6	Part. P7R12	Table 5, App. H	DUN 148	Part. P4R9	Table 10, App. H
DUN 7	Part. P11R18	Table 5, App. H	DUN 149	Part. P4R9	Table 10, App. H
DUN 8	Part. P3R8	Table 6, App. H	DUN 150	Part. P8R15	Table 10, App. H
DUN 9	Part. P5R10	Table 6, App. H	DUN 151	Part. P9R16	Table 10, App. H
DUN 10	Part. P6R11	Table 6, App. H	DUN 152	Part. P9R16	Table 10, App. H
DUN 11	Part. P7R12	Table 6, App. H	DUN 153	Part. P10R17	Table 10, App. H
DUN 12	Part. P7R12	Table 6, App. H	DUN 154	Part. P1R2	Table 11, App. H
DUN 13	Part. P7R12	Table 6, App. H	DUN 155	Part. P2R4	Table 11, App. H
DUN 14	Part. P3R8	Table 7, App. H	DUN 156	Part. P2R4	Table 11, App. H
DUN 15	Part. P5R10	Table 7, App. H	DUN 157	Part. P2R4	Table 11, App. H
DUN 16	Part. P6R11	Table 7, App. H	DUN 158	Part. P8R15	Table 11, App. H
DUN 17	Part. P6R11	Table 7, App. H	DUN 159	Part. P9R16	Table 11, App. H
DUN 18	Part. P7R12	Table 7, App. H	DUN 160	Part. P9R16	Table 11, App. H
DUN 19	Part. P7R12	Table 7, App. H	DUN 161	Part. P10R17	Table 11, App. H
DUN 20	Part. P7R12	Table 7, App. H	DUN 162	Part. P1R2	Table 12, App. H
DUN 21	Part. P7R12	Table 7, App. H	DUN 163	Part. P2R4	Table 12, App. H
DUN 22	Part. P11R18	Table 7, App. H	DUN 164	Part. P2R4	Table 12, App. H
DUN 23	Part. P11R18	Table 7, App. H	DUN 165	Part. P2R4	Table 12, App. H
DUN 24	Part. P11R18	Table 7, App. H	DUN 166	Part. P4R9	Table 12, App. H
DUN 25	Part. P3R8	Table 8, App. H	DUN 167	Part. P4R9	Table 12, App. H
DUN 26	Part. P5R10	Table 8, App. H	DUN 168	Part. P8R15	Table 12, App. H
DUN 27	Part. P6R11	Table 8, App. H	DUN 169	Part. P8R15	Table 12, App. H
DUN 28	Part. P7R12	Table 8, App. H	DUN 170	Part. P8R15	Table 12, App. H
DUN 29	Part. P7R12	Table 8, App. H	DUN 171	Part. P8R15	Table 12, App. H
DUN 30	Part. P7R12	Table 8, App. H	DUN 172	Part. P9R16	Table 12, App. H
DUN 31	Part. P11R18	Table 8, App. H	DUN 173	Part. P9R16	Table 12, App. H
DUN 32	Part. P3R8	Table 9, App. H	DUN 174	Part. P10R17	Table 12, App. H
DUN 33	Part. P3R8	Table 9, App. H	DUN 175	Part. P2R4	Table 12, App. H
DUN 34	Part. P5R10	Table 9, App. H	DUN 176	Part. P2R4	Table 13, App. H
DUN 35	Part. P6R11	Table 9, App. H	DUN 177	Part. P2R4	Table 13, App. H
DUN 36	Part. P6R11	Table 9, App. H	DUN 178	Part. P2R4	Table 13, App. H

Data coding ID	Particiosant ID	Location in Appendix H	Data coding ID	Particiosant ID	Location in Appendix H
DUN 37	Part. P6R11	Table 9, App. H	DUN 179	Part. P2R4	Table 13, App. H
DUN 38	Part. P6R11	Table 9, App. H	DUN 180	Part. P2R4	Table 13, App. H
DUN 39	Part. P7R12	Table 9, App. H	DUN 181	Part. P2R4	Table 13, App. H
DUN 40	Part. P7R12	Table 9, App. H	DUN 182	Part. P2R4	Table 13, App. H
DUN 41	Part. P3R8	Table 10, App. H	DUN 183	Part. P2R4	Table 13, App. H
DUN 42	Part. P5R10	Table 10, App. H	DUN 184	Part. P2R4	Table 13, App. H
DUN 43	Part. P6R11	Table 10, App. H	DUN 185	Part. P2R4	Table 13, App. H
DUN 44	Part. P7R12	Table 10, App. H	DUN 186	Part. P2R4	Table 13, App. H
DUN 45	Part. P7R12	Table 10, App. H	DUN 187	Part. P2R4	Table 13, App. H
DUN 46	Part. P7R12	Table 10, App. H	DUN 188	Part. P2R4	Table 13, App. H
DUN 47	Part. P11R18	Table 10, App. H	DUN 189	Part. P2R4	Table 13, App. H
DUN 48	Part. P3R8	Table 11, App. H	DUN 190	Part. P2R4	Table 13, App. H
DUN 49	Part. P5R10	Table 11, App. H	DUN 191	Part. P2R4	Table 13, App. H
DUN 50	Part. P6R11	Table 11, App. H	DUN 192	Part. P2R4	Table 13, App. H
DUN 51	Part. P6R11	Table 11, App. H	DUN 193	Part. P2R4	Table 13, App. H
DUN 52	Part. P7R12	Table 11, App. H	DUN 194	Part. P2R4	Table 13, App. H
DUN 53	Part. P7R12	Table 11, App. H	DUN 195	Part. P2R4	Table 13, App. H
DUN 54	Part. P7R12	Table 11, App. H	DUN 196	Part. P2R4	Table 13, App. H
DUN 55	Part. P7R12	Table 11, App. H	DUN 197	Part. P8R15	Table 13, App. H
DUN 56	Part. P7R12	Table 11, App. H	DUN 198	Part. P4R9	Table 11, App. H
DUN 57	Part. P3R8	Table 12, App. H	DUN 199	Part. P1R2	Table 2, App. H
DUN 58	Part. P5R10	Table 12, App. H	DUN 200	Part. P2R4	Table 2, App. H
DUN 59	Part. P5R10	Table 12, App. H	DUN 201	Part. P2R4	Table 2, App. H
DUN 60	Part. P6R11	Table 12, App. H	DUN 202	Part. P2R4	Table 2, App. H
DUN 61	Part. P7R12	Table 12, App. H	DUN 203	Part. P2R4	Table 2, App. H
DUN 62	Part. P7R12	Table 12, App. H	DUN 204	Part. P2R4	Table 2, App. H
DUN 63	Part. P7R12	Table 12, App. H	DUN 205	Part. P2R4	Table 2, App. H
DUN 64	Part. P7R12	Table 13, App. H	DUN 206	Part. P2R4	Table 2, App. H
DUN 65	Part. P7R12	Table 13, App. H	DUN 207	Part. P2R4	Table 2, App. H
DUN 66	Part. P3R8	Table 2, App. H	DUN 208	Part. P4R9	Table 2, App. H
DUN 67	Part. P5R10	Table 2, App. H	DUN 209	Part. P4R9	Table 2, App. H
DUN 68	Part. P5R10	Table 2, App. H	DUN 210	Part. P8R15	Table 2, App. H
DUN 69	Part. P6R11	Table 2, App. H	DUN 211	Part. P9R16	Table 2, App. H
DUN 70	Part. P6R11	Table 2, App. H	DUN 212	Part. P9R16	Table 2, App. H
DUN 71	Part. P6R11	Table 2, App. H	DUN 213	Part. P9R16	Table 2, App. H
DUN 72	Part. P6R11	Table 2, App. H	DUN 214	Part. P9R16	Table 2, App. H
DUN 73	Part. P6R11	Table 2, App. H	DUN 215	Part. P10R17	Table 2, App. H
DUN 74	Part. P7R12	Table 2, App. H	DUN 216	Part. P10R17	Table 2, App. H
DUN 75	Part. P7R12	Table 2, App. H	DUN 217	Part. P10R17	Table 2, App. H
DUN 76	Part. P7R12	Table 2, App. H	DUN 218	Part. P1R2	Table 3, App. H
DUN 77	Part. P7R12	Table 2, App. H	DUN 219	Part. P2R4	Table 3, App. H
DUN 78	Part. P7R12	Table 2, App. H	DUN 220	Part. P2R4	Table 3, App. H
DUN 79	Part. P3R8	Table 3, App. H	DUN 221	Part. P2R4	Table 3, App. H
DUN 80	Part. P5R10	Table 3, App. H	DUN 222	Part. P2R4	Table 3, App. H
DUN 81	Part. P6R11	Table 3, App. H	DUN 223	Part. P2R4	Table 3, App. H
DUN 82	Part. P7R12	Table 3, App. H	DUN 224	Part. P4R9	Table 3, App. H

Data coding ID	Particiosant ID	Location in Appendix H	Data coding ID	Particiosant ID	Location in Appendix H
DUN 83	Part. P7R12	Table 3, App. H	DUN 225	Part. P4R9	Table 3, App. H
DUN 84	Part. P7R12	Table 3, App. H	DUN 226	Part. P4R9	Table 3, App. H
DUN 85	Part. P7R12	Table 3, App. H	DUN 227	Part. P8R15	Table 3, App. H
DUN 86	Part. P7R12	Table 3, App. H	DUN 228	Part. P8R15	Table 3, App. H
DUN 87	Part. P3R8	Table 4, App. H	DUN 229	Part. P9R16	Table 3, App. H
DUN 88	Part. P5R10	Table 4, App. H	DUN 230	Part. P9R16	Table 3, App. H
DUN 89	Part. P6R11	Table 4, App. H	DUN 231	Part. P10R17	Table 3, App. H
DUN 90	Part. P6R11	Table 4, App. H	DUN 232	Part. P1R2	Table 4, App. H
DUN 91	Part. P6R11	Table 4, App. H	DUN 233	Part. P1R2	Table 4, App. H
DUN 92	Part. P7R12	Table 4, App. H	DUN 234	Part. P2R4	Table 4, App. H
DUN 93	Part. P7R12	Table 4, App. H	DUN 235	Part. P2R4	Table 4, App. H
DUN 94	Part. P1R2	Table 5, App. H	DUN 236	Part. P4R9	Table 4, App. H
DUN 95	Part. P1R2	Table 5, App. H	DUN 237	Part. P8R15	Table 4, App. H
DUN 96	Part. P2R4	Table 5, App. H	DUN 238	Part. P8R15	Table 4, App. H
DUN 97	Part. P2R4	Table 5, App. H	DUN 239	Part. P9R16	Table 4, App. H
DUN 98	Part. P2R4	Table 5, App. H	DUN 240	Part. P10R17	Table 4, App. H
DUN 99	Part. P2R4	Table 5, App. H	DUN 241	Part. P10R17	Table 4, App. H
DUN 100	Part. P4R9	Table 5, App. H	DUN 242	Part. P12R19	Table 2, App. H
DUN 101	Part. P4R9	Table 5, App. H	DUN 243	Part. P12R19	Table 2, App. H
DUN 102	Part. P8R15	Table 5, App. H	DUN 244	Part. P12R19	Table 2, App. H
DUN 103	Part. P9R16	Table 5, App. H	DUN 245	Part. P12R19	Table 3, App. H
DUN 104	Part. P10R17	Table 5, App. H	DUN 246	Part. P12R19	Table 3, App. H
DUN 105	Part. P10R17	Table 5, App. H	DUN 247	Part. P12R19	Table 3, App. H
DUN 106	Part. P1R2	Table 6, App. H	DUN 248	Part. P12R19	Table 3, App. H
DUN 107	Part. P2R4	Table 6, App. H	DUN 249	Part. P12R19	Table 3, App. H
DUN 108	Part. P2R4	Table 6, App. H	DUN 250	Part. P12R19	Table 4, App. H
DUN 109	Part. P2R4	Table 6, App. H	DUN 251	Part. P12R19	Table 4, App. H
DUN 110	Part. P2R4	Table 6, App. H	DUN 252	Part. P12R19	Table 5, App. H
DUN 111	Part. P4R9	Table 6, App. H	DUN 253	Part. P12R19	Table 5, App. H
DUN 112	Part. P8R15	Table 6, App. H	DUN 254	Part. P12R19	Table 5, App. H
DUN 113	Part. P8R15	Table 6, App. H	DUN 255	Part. P12R19	Table 6, App. H
DUN 114	Part. P9R16	Table 6, App. H	DUN 256	Part. P12R19	Table 6, App. H
DUN 115	Part. P9R16	Table 6, App. H	DUN 257	Part. P12R19	Table 6, App. H
DUN 116	Part. P10R17	Table 6, App. H	DUN 258	Part. P12R19	Table 7, App. H
DUN 117	Part. P10R17	Table 6, App. H	DUN 259	Part. P12R19	Table 7, App. H
DUN 118	Part. P2R4	Table 7, App. H	DUN 260	Part. P12R19	Table 7, App. H
DUN 119	Part. P2R4	Table 7, App. H	DUN 261	Part. P12R19	Table 7, App. H
DUN 120	Part. P4R9	Table 7, App. H	DUN 262	Part. P12R19	Table 7, App. H
DUN 121	Part. P4R9	Table 7, App. H	DUN 263	Part. P12R19	Table 8, App. H
DUN 122	Part. P8R15	Table 7, App. H	DUN 264	Part. P12R19	Table 8, App. H
DUN 123	Part. P8R15	Table 7, App. H	DUN 265	Part. P12R19	Table 8, App. H
DUN 124	Part. P9R16	Table 7, App. H	DUN 266	Part. P12R19	Table 8, App. H
DUN 125	Part. P10R17	Table 7, App. H	DUN 267	Part. P12R19	Table 8, App. H
DUN 126	Part. P10R17	Table 7, App. H	DUN 268	Part. P12R19	Table 9, App. H
DUN 127	Part. P10R17	Table 7, App. H	DUN 269	Part. P12R19	Table 9, App. H
DUN 128	Part. P1R2	Table 8, App. H	DUN 270	Part. P12R19	Table 9, App. H

Data coding ID	Particiosant ID	Location in Appendix H	Data coding ID	Particiosant ID	Location in Appendix H
DUN 129	Part. P2R4	Table 8, App. H	DUN 271	Part. P12R19	Table 9, App. H
DUN 130	Part. P2R4	Table 8, App. H	DUN 272	Part. P12R19	Table 9, App. H
DUN 131	Part. P4R9	Table 8, App. H	DUN 273	Part. P12R19	Table 9, App. H
DUN 132	Part. P4R9	Table 8, App. H	DUN 274	Part. P12R19	Table 10, App. H
DUN 133	Part. P4R9	Table 8, App. H	DUN 275	Part. P12R19	Table 10, App. H
DUN 134	Part. P8R15	Table 8, App. H	DUN 276	Part. P12R19	Table 11, App. H
DUN 135	Part. P8R15	Table 8, App. H	DUN 277	Part. P12R19	Table 11, App. H
DUN 136	Part. P9R16	Table 8, App. H	DUN 278	Part. P12R19	Table 11, App. H
DUN 137	Part. P9R16	Table 8, App. H	DUN 279	Part. P12R19	Table 12, App. H
DUN 138	Part. P10R17	Table 8, App. H	DUN 280	Part. P12R19	Table 12, App. H
DUN 139	Part. P10R17	Table 8, App. H	DUN 281	Part. P12R19	Table 12, App. H
DUN 140	Part. P10R17	Table 8, App. H	DUN 282	Part. P12R19	Table 12, App. H
DUN 141	Part. P10R17	Table 9, App. H	DUN 283	Part. P12R19	Table 12, App. H
DUN 142	Part. P10R17	Table 9, App. H	DUN 284	Part. P12R19	Table 12, App. H

Table 2. Responses to question 7

Participant ID	Q7. Do you think that developing a mobile business application or service involves innovation? If yes, please elaborate on the aspects you find important
P1R2	Yes. Are important not so much the technological aspects but rather those related to human factors (scenario user interaction) - when it comes to educational administration, educational aspects are also important. Да. Важни са не толкова технологичните аспекти, колкото тези, свързани с човешкия фактор (сценарий на взаимодействие с потребителя), ако става дума за учебно приложение, педагогическите аспекти също са важни.
P2R4	Few aspects, regarding the Bulgarian market: Current market situation – is the market ready for the new product, regarding the technical readiness, user experience, price for the product, value of the new product for the business, current alternatives and etc. Mobile network capabilities – essential factor for each new idea. Internal CRM, CC&B and provisioning systems – flexibility of the “internal systems”, based on the new product need to be bring to the market. Simple user management and effective post-sales support. Compatibility with different business applications and systems. Compatibility with various OS as Android, Windows Mobile, BlackBerry and others. Available sales channels. Appropriate marketing campaign. Current financial situation of the sector.
P3R8	Yes, innovations are always important. I can't say much about the aspects Да, иновациите винаги са необходими. Не мога да преценя за аспектите.
P4R9	Mobile applications not only provide a service to the telecom customers, they are a product themselves and as such must be sold. Therefore, innovations are needed so that the application is attractive for the user. Мобилните приложения не само предоставят услуга на клиентите на телекома, те също са продукт и като такъв трябва да се продават. Следователно иновациите са нужни за да бъде самото приложение привлекателно за клиента.
P5R10	Yes, of course, this is an intensely developing sphere of IT and there is much potential in it – in order to use this potential effectively, there is a constant need of new services. Some of the most important aspects are functionality and interesting, but applicable ideas. Да, естествено, това е доста развиващата се част от ИТ и в нея има много потенциал – за да може да бъде използван ефективно, трябва непрекъснато

Participant ID	Q7. Do you think that developing a mobile business application or service involves innovation? If yes, please elaborate on the aspects you find important
	да се измисля нови неща. Едни от най-важните аспекти са функционалност и интересни, но приложими идеи.
P6R11	<p>Innovation is practically mandatory in the development of software systems from the new generation, as they must both be based on familiar methods, in order for customers not to be unfamiliar with them, but also to bring innovation that facilitates some activity, to contribute to a richer user experience or to correct the mistakes of old systems. In this regard, the mobile technologies should focus most on innovation-related to one special feature - mobility. Because in most cases, the device is everywhere with the user, he should be able to take advantage of it and get the most convenient services and interfaces for their use. In short, innovation is to be found in the GUI portion of applications because of the display limitations, and in the maximized activities and their benefits with minimal effort. Innovations of technical nature include very good support and service distribution while using new technologies for distribution, for example.</p> <p>Иновацията е може да се каже задължителна при разработката на софтуерни системи от нови поколения, тъй като те трябва едновременно да заложат на познати прийоми, за да не са чужди на потребителите, но и да внесат новост, която да улесни някаква дейност, да допринесе с по-богато потребителско изживяване (user experience) или да поправи грешките на стари системи. В това отношение при мобилните технологии трябва да се наблегне най-много на иновациите свързани със отителната характеристика – мобилността. Тъй като устройството е с потребителя навсякъде в повечето случаи, той трябва да може да се възползва от това и да му се предоставят максимално удобни услуги и интерфейси за използването им. Накратко, иновации трябва да се търсят в GUI частта на приложенията, заради ограниченията на дисплеите, и в максимизирането на извършваните действия и ползата от тях с минимални усилия. Иновациите от техническо естество включват предоставянето на много добра поддръжка и разпространение на услугите, използвайки нови технологии за разпространение например.</p>
P7R12	<p>In general, mobile applications are relatively new, but despite this, I have the impression that with time, even there the "saturation" effect is visible – there is a big choice of products to be chosen among (in still relatively small spheres). In order to successfully set a particular product on the market, innovation is of major importance. One of the biggest problems for developers of mobile applications is that they are restricted by the limited resources of the mobile device (or most mobile devices), in comparison with PCs – so, with much less options an application has to be developed that does not defer drastically to those, made for PCs. On the other hand, with smart phones new horizons have opened which are yet to be discovered. In any case, there is a critical need for innovations, so that the product can set foot on this market.</p> <p>Като цяло приложенията за мобилни телефони са относително нови, но въпреки това имам впечатлението, че лека полека и там започва да се усеща ефекта на пренасищането – има голям избор от продукти, от които потребителят може да избира (все още в относително малко сфери). За да се наложи даден продукт иновацията е от водещо значение. Един от сериозните проблеми на разработчиците на приложенията за мобилни телефони е че те страдат от по-ограничените ресурси, в които разполага телефона (или повечето мобилни устройства), сравнено с персоналния компютър – т.е. трябва с много по-малко възможности да се получи приложение, което не отстъпва драстично на тези, правени за компютър. От друга страна, с появата на смартфоните се появиха нови хоризонти, които тепърва ще се откриват. При всяко положение необходимостта от иновации е критична, за да може даден продукт да се наложи на този пазар.</p>
P8R15	Innovation is very important in this sector – single aspects are: the applicability of a product; the effectiveness of the product/service for the user; cost-effectiveness for the operator

Participant ID	Q7. Do you think that developing a mobile business application or service involves innovation? If yes, please elaborate on the aspects you find important
P9R16	Innovation is very important in this sector – single aspects are: Dynamics and flexibility; Need to be well-informed; To be fast when offering a new service; To think creatively – outside the standards
P10R17	Innovation is very important in this sector – single aspects are: The usefulness and effectiveness of the service; Saving money/time; The customer has the choice how to get something done
P11R18	Sure, it does involve innovation. Important aspects are to identify unsatisfied customer need (a market niche) or an area in which new innovative products or services can deliver superior customer value to existing solutions. It is first and foremost important to estimate the potential of your business solution and make sure that the product targets a profitable customer base with high willingness to pay and the one that is strategically relevant for your business. Otherwise, your innovation is doomed to failure
P12R19	New technologies and innovation are essential for mobile business applications and services. In order for the company to provide high standards, price-for-value products and remain attractive for customers and competitive in our business sector, we need to find and develop innovative solutions which add value to existing services. Our new mobile service application for individuals provides direct access to our customers' bank account through a mobile device, which saves them time, makes access to banking operations easier and is available 24/7 in real time.

Table 3: Responses to question 8

Participant ID	Q8. In your opinion, what new features and/or functions can new mobile products offer to the contemporary 'mobile' customer?
P1R2	Accessibility at any time and from anywhere to information resources as well as speed in obtaining information. Достъпност по всяко време и от всяко място до информационни ресурси. Бързина при получаване на информация
P2R4	Provide flexibility to the customers. Provide complete control of the expenses for telecom services. Provide ability the customer business to grow. Bound with the current business processes and innovations on the market. Ability the product features to be extended in future. Product innovation.
P3R8	More entertainment at lower prices, as well as many innovative useful applications. Още повече забавление на по-ниски цени, както и множество иновативни практични приложения
P4R9	In recent years the mobile phone is not only a phone or more precisely, it is at least a telephone. The convenience of online services are the thing that attracts people as a whole. The accessibility of these services without restriction of place and time through the mobile phone is a huge advantage. В последните години мобилният апарат е не само телефон или по-точно, най-малко е телефон. Удобството на он-лайн услугите са нещото, което привлича хората като цяло. Достъпността на тези услуги, без ограничение на място и време, чрез мобилния телефон е огромно предимство.
P5R10	The could offer connection to any kind of other devices – TVs, cars to be operated via mobile phone Може да предлагат свързване на всякакви други техники – телевизори, коли да могат да бъдат управлявани през телефона.
P6R11	Primarily the convenience to be able to do whatever you want, whenever and wherever you want -something very important because it saves time. Главно удобството да можеш да правиш каквото искаш, когато и където искаш – нещо много важно, тъй като се пести време.

Participant ID	Q8. In your opinion, what new features and/or functions can new mobile products offer to the contemporary 'mobile' customer?
P7R12	<p>I personally am a fan of the idea that mobile devices can displace some of the everyday functions that people do in the common old-fashioned way or even using computer. The advantages of the mobile phone compared to the PC is that they are smaller and usually always with you. I would say that a mobile phone can even give an additional option of paying the public services (those services are already being offered but not broadly used). Or, even more trivially – to buy a coffee from the machine, sending an sms to the number given. We could even go further – why not operate devices at home via phone – while on the way back home, to be able to give an instruction to the oven/the air condition to turn on in order not to lose time until you get home.</p> <p>Лично аз съм фен на идеята, че мобилният телефон може да извести част от ежедневните функции, които върши човек по старомодния начин или дори използвайки компютър. Плюсовете на мобилният телефон пред компютъра са, че е малък и обикновено е винаги с вас. Да кажем, мобилният телефон може да предложи на хората още една възможност да си плащат комуналните сметки (вече съществува по един или друг начин, но не е особено използвано). Или, дори и по-тривиалното – да си купят кафе от вендинг машината, изпрашайки СМС на даден номер. Може да отидем и по-далеч – защо да не може човек да командва уредите си в къщи през телефона – прибирайки се към възможността да даде инструкция на печката/климатика да се включи, за да не губи време да чака когато се прибере.</p>
P8R15	New development is attractive for the customer because it offers services/products/applications the user might have never thought of before (or would not think could be helpful/useful) OR services that were available before, but in a different form. E.g. mobile banking, mobile payment of communal services (mai na angliiski komunalnite uslugi ne se narichat taka?), and a system for better control of касовите аппарати на НАП.
P9R16	Mobile phones are becoming more than just a means to make a phone call - it combines the functions also of other devices (video, e-mail, alarm, browsing). The applications of mobile phones are getting wider – it is also a very good means for advertisements.
P10R17	They are a way to save time, are handy and give control
P11R18	Basically almost everything: NFC payment at the POS, NFC ticketing, open doors with NFC, m-parking, identification via NFC mobile phone at the electric vehicle charging station, location based promotions, NFC smart info posters, GPS navigation, money transfer at the example of MPESA in Africa, eHealth solutions, Smart Home (remote access to your home appliances) and Home Surveillance etc.
P12R19	Easy and fast accessibility and support 24 hours a day; easy to use platform; compatibility with other OS and devices, flexibility; wide range of functions e.g. covering the spectrum of the mostly used banking functions (money transfer, internal bank payment, account balance, information on credit cards).

Table 4. Responses to question 9

Participant ID	Q9. Following up on your answer above, what would be the most attractive features of a new mobile product to its potential 'mobile' customers? Why do you think so?
P1R2	<p>Low cost of services. Speed. Customization options. The exact information at the right time.</p> <p>Ниска цена на услугите. Бързина. Възможност за customization . Точната информация в точното време</p>
P2R4	Because they are new for Bulgaria and because they are needed for the business. Also they are bound with the new market trends and business models, used in Bulgaria.

Participant ID	Q9. Following up on your answer above, what would be the most attractive features of a new mobile product to its potential 'mobile' customers? Why do you think so?
P3R8	The price, because of the competition between different channels (operators??) and the economic crisis. Ниската цена, заради големата конкуренция между различните канали и икономическата криза.
P4R9	The possibility of any kind of online services and internet access. Възможността за всяка вид он-лайн услуги и достъп до интернет .
P5R10	Mostly user-friendliness - universal fallacy is that since we live in the technology era, anyone can operate with technology, even more: most young people reduce their computer access and other technologies to the most popular and accessible applications and functions -skype, facebook, etc. Предимно лесно използване – всеобщо заблуждение е, че след като живеем в ерата на технологиите, всеки може да работи с техника, нещо повече дори голяма част от младите хора ограничават своя досег с компютри и други техники до най-разпространените и достъпни приложения и функции – skype, facebook и т.н.
P6R11	First, security, as the majority of users don't easily rely on innovations. Second usability - that is a characteristic of each application. Because games are very common and generally pleasure is sought at any moment, due to the limited free time in everyday life, a demanded feature would also be the entertainment potential of the applications (of course, serious applications should not allow it at all, as this would lead to a counterproductive distrust effect) Първо сигурността, тъй като по-голямата част от потребителите трудно се доверяват на новостите. Второ използваемостта – това е характеристика на всяко едно приложение. Тъй като игрите са много разпространени и като цяло се търси развлечение във всеки един момент, поради ограниченото свободно време в ежедневието, търсена черта би била и развлекателността на приложенията (естествено сериозни приложения не бива да си го позволяват ни най-малко, тъй като това би довело до обратен ефект на недоверие)
P7R12	A mandatory condition for a particular mobile device is for it to be intuitive enough and just for work. Having in mind the limitations of mobile devices (that are being more and more overcome, but still do exist), it is important to know who exactly the users of the product will be and the product/service has to be in precise conformity with their technical knowledge and potentialities. Задължително условие за даден мобилен продукт е то да е достатъчно интуитивно и просто за работа. Предвид ограниченията на мобилните устройства (които все повече се преодоляват, но все пак съществуват) трябва да се има предвид какви ще са точно потребителите на продукта и той да е много точно съобразен с техните технически възможности и познания.
P8R15	In first place, the effectiveness of new development. Cost-effectiveness for the customer (reducing their costs/saving money) Usefulness and convenience (user-friendly products)
P9R16	It is important that new development is targeted to particular groups of customers, not just to the "wide masses" – different groups have different criteria and needs about what would make their work easier.
P10R17	It depends on the customer – whether it is a private or a business client: The factors named in q. 7 and q.8 are relevant for the business clients and for the private ones: if the service is modern and what kind of image of its user it creates
P11R18	Everything which brings superior value at acceptable purchase price and customers are not overwhelmed by the changed way of usage, will be attractive.
P12R19	An easy and quick to use interface allowing customers to use the full range of features and functions of the application while saving them time – because the market offers more and more new services to the 'mobile' customer that are designed to save time and in the same time be as useful as the 'traditional' service. The app has to offer functionality, flexibility and be user-friendly in order to be attractive and competitive on the market

Table 5. Responses to question 10

Participant ID	Q10. What do you think would be the main obstacles in bringing a mobile product to the market?
P1R2	Inertia of older consumers, expressed in fear and caprotiva against innovations and developments. The high cost of services. High system requirements to consumer devices Инерцията на по-възрастните потребители, изразяваща се в страх и съпротива срещу нововъведенията и новостите. Високата цена на услугите. Високи системни изисквания към потребителските апарати
P2R4	They are related with the operator CRM and CC&B and allow the end-customer to be more flexible, managing its mobile services. Based on the new features the business customers could develop new services, based on the mobile technologies. The features by them self are not mobile, they have impact on the mobile services. Currently the "mobile" or the "mobility" became expression with very wide range and covering services and features which are not based on pure GSM or mobile technology.
P3R8	The lack of motivation on part of operators to deploy a particular technology Липсата на мотивация от страна на операторите да внедрят дадена технология.
P4R9	Each new technology requires new hardware development and/or modifying existing software. From this perspective, the lack of investments and a flexible investment policy are the biggest challenges for telecoms. Всяка нова технология изисква съответната хардуер и разработка на нов или промяна на съществуващия софтуер. От тази гледна точка, липсата на достатъчно инвестиции и гъвкава инвестиционна политика са най-големите предизвикателства за телекомите.
P5R10	Limited market for certain applications or the need for technologies that are either not yet invented, or are not applicable or do not meet certain criteria. Ограничена пазар за определени приложения или необходимостта от технологии, които или не са измислили, или не са приложими или не отговарят на определени критерии.
P6R11	Perhaps the limited resources of the devices, and the architecture - although technology is developing very fast, there is still much to be desired. Може би ограничените ресурси на устройствата, както и архитектурата, въпреки че техниката се развива много бързо все пак има още какво да се желае.
P7R12	The biggest obstacle is people's perception of mobile phones – at the moment, for most of the people a phone is just a phone. For some, this also includes e.g. a radio or a MP3 player, but that's how far it goes. People usually are not confident to use mobile devices for more serious stuff, e.g. e-banking or remote desktop. There is not much information about what the level of information and personal data security is when adding data on sites via mobile phones – maybe that is the reason why users are a bit distrustful to this type of applications. Най-сериозната пречка е възприемането на хората на мобилния телефон – за момента за повечето хора мобилния им телефон е просто телефон. За някои това включва да кажем и радио или МП3 плеър, но това е. Хората нямат доверие на това да използват мобилния телефон за по-сериозни неща, като да кажем интернет банкиране или дори приложения за отдалечен достъп до някакви ресурси (remote desktop). Не е и много информацията за това каква е сигурността на това да се въвежда критична информация в сайтове през мобилно устройство, затова може би и самите потребители са малко недоверчиви към този тип приложения.
P8R15	From the operator's point of view – the process from: creating an idea > market-analysis > cost-effectiveness calculation > approval by various departments (e.g. financial dept in the company) to finally introducing the new development to customers might take too long so that the service is no longer that new and thus be "outran" by other companies' services

Participant ID	Q10. What do you think would be the main obstacles in bringing a mobile product to the market?
P9R16	Sometimes the market is not ready to use new development – it is also skeptical, too cost-sensitive, and everyone is comparing themselves to others instead of judging what advantages the service could bring personally to them.
P10R17	Especially the market: sometimes market is not ready to use new development – in this way introducing it does not bring much positive effects and is not profitable. Another possible type of obstacles could be legal/regulatory ones, although I don't have met any yet.
P11R18	Obstacles are: too high investment costs and unsatisfactory return on investment too narrow customer base, unwillingness to change previous routines and customer behavior (traditionalists), bad marketing communication, weak use cases, no superior selling preposition etc.
P12R19	Usually, it is the financial factor that hinders a technological solution to be introduced on the market when it is most attractive. It could happen that their mobile product is no longer attractive or there are too many similar products by the time of its launch. However, also in the case that there is enough budget to finance the development of a certain service, there are a few more steps that need time and planning, e.g. marketing (targeting the user group, introducing the advantages of the application to the customers, system integration, fixing possible problems)

Table. 6. Responses to question 11

Participant ID	Q11. Do you think that in general new mobile business services and/or applications could be offered in a viable business model? Please elaborate.
P1R2	I can not decide Не знам, не мога да каза.
P2R4	Yes, because of Flexibility. Ability customer to be able to control, monitor and act pro-actively. 24/7 service availability and support. Ability to provide SLA, QoS to the customers
P3R8	It depends on the particular offer – its price, the marketing strategy and a number of other factors. Зависи от конкретното предложение – неговата цена, маркетинговата стратегия и редица други фактори.
P4R9	Of course. In my opinion, a forthcoming boom in this direction is to be expected. Разбира се. Според мен предстои бум в тази насока.
P5R10	If the particular application has enough market – yes. Ако даденото приложение има достатъчно голям пазар – да.
P6R11	Given the distribution and use in other countries (in Bulgaria it is still very limited) – rather yes. Имайки предвид разпространението и използването им в други страни (в България все още е много ограничено) – по-скоро да.
P7R12	I rather believe that the investment in mobile applications is still not very profitable. If we look at the history of one of the biggest mobile game companies Gameloft we will see that the company did not succeed in becoming a world leader although it was a pioneer in this field. In order to be successful, the undertaking has to offer something new that is better and more convenient for users than the ways they are currently using – and this is not an easy task. По-скоро вярвам, че все още не е непълно рентабилна инвестицията в мобилните приложения. Ако погледнем историята на една от най-големите фирми за игри за мобилни телефони Gameloft ще видим, че компанията по-скоро не успя да стане световен гигант, макар да бяха един от пионерите в областта. За да е успешно подобно начинание то трябва да предложи нещо, което да е по-добро и удобно за потребителите от начините, които използват към момента, което не е лесна задача.

Participant ID	Q11. Do you think that in general new mobile business services and/or applications could be offered in a viable business model? Please elaborate.
P8R15	They could be profitable, but one must have in mind the need for their constant upgrading/updating. Constant dynamics is needed in this sector in order for it to bring profits.
P9R16	Is [if] new development is very well targeted they could be profitable – otherwise they don't bring much of the profits. The highest profit is made by standard services.
P10R17	They could be profitable, but not all of them are (e.g. sat phone services) – sometimes not much profit is made, but there are other advantages for the company (e.g. better image). Not all new development is created in order to bring financial profits.
P11R18	Yes. Business models are successful as far as the business case brings additional value at low risk for the customer
P12R19	Yes other banks are doing it so we decided to do it as well. Internet banking now works well and customers want it on their mobile phones. There is a cost for us but in the long term it will be recovered

Table 7. Responses to question 12

Participant ID	Q12. Do you think that if customer had free access to a new mobile business product they would be more likely to start using it? In your opinion are there any other significant factors which influence customer decisions?
P1R2	Definitely yes Определено да.
P2R4	Yes, the promotion at the beginning always sale, however we prefer to provide more value instead of price discounts. However the benefit and the product application in the current business needs are essential in regards with the service penetration.
P3R8	The price is a major factor, but not the only one. Whether they would start using it directly depends on their needs and on what the specific application is "giving" them. Nowadays the user has a choice. Цената е основен фактор, но не единствения. Това дали биха започнали да го използват зависи пряко от нуждите им и от това какво им „дава“ конкретното приложение. В днешно време потребителят има богат избор.
P4R9	Цената е основен фактор, но не единствения. Това дали биха започнали да го използват зависи пряко от нуждите им и от това какво им „дава“ конкретното приложение. В днешно време потребителят има богат избор. In my opinion, development of new services is going ahead of demand. This is why I think that not so much the price, but advertisement, ie information about the availability of such a service and how to use it, is determining. Според мен предлагането на нови услуги изпреварват потребителското търсене. За това смятам, че не толкова цената, колкото рекламата, т.е. информацията че има такава услуга и как се ползва, е определяща.
P5R10	Undoubtedly free applications attract the interest of people, but if they are not well-made and sufficiently functional, as is usually the case with free stuff, the user would rather not use that application or would consider buying the paid version, which will have a much better good maintenance. Несъмнено бесплатните приложения привличат интереса на хората, но ако те не са достатъчно добре направени и функционални, както е обикновено с бесплатните неща, потребителят по-скоро няма да ползва даденото приложение или ще се замисли за платената версия, която ще има и доста по-добра поддръжка.
P6R11	Especially in our region – yes because it is "not affordable" for everyone to pay to use something (this is also due to mentality – we are usually dissatisfied). But in any case, this is a proven technique in sales, so there is no reason not to have an effect also on mobile applications.

Participant Q12. Do you think that if customer had free access to a new mobile business product they would be more likely to start using it? In your opinion are there any other significant factors which influence customer decisions?	
	Специално за нашия регион – да, тъй като „не е по джоба“ на всеки да си плаща, за да използва нещо (това е и до менталитет – винаги сме недоволни). Но така или иначе това си е доказан похват в продажбите, така че няма причина да няма ефект и при мобилните приложения
P7R12	<p>Yes, I firmly believe that a given free product can give much more profit with its popularity, than a product that is paid and because of this – less used/less known. What is more, most of the successful paid products very quickly stimulate developers to make a free for use analogue (the successful free Open Office alternative to MS Office package is an example). On the other hand, a number of free products generate big profits just because they are popular (examples: google, facebook, yahoo, etc). The hybrid alternative could also be successful - to some extent for free, and then paid additional services.</p> <p>Да, аз твърдо смяtam, че даден безплатен продукт може да донесе доста повече приходи с масовостта си, отколкото продукт, който е платен и поради тази причина е по-малко използван/известен. Още повече, че повечето успешни платени продукти много бързо стимулират разработчиците да направят тяхен безплатен аналог (пример е офис пакета на Microsoft, който много успешно може да се замени с безплатния Open office). От друга страна редица безплатни услуги генерират много сериозно приходи, само поради това че са много масови (пример: google, facebook, yahoo и прочее).</p> <p>Хиbridния вариант също може да е успешен – безплатно до някакво ниво, а след това платени допълнителни услуги.</p>
P8R15	The free (unpaid) access to new development is definitely a key factor for the users, or the lowest price in comparison to other companies' offers. But some other factors are gaining more and more importance too: Safety of the personal information and the user's data; Effectiveness; Accountability; Depending on quality and need, users would also pay for new development in order to get good quality
P9R16	The price is a key factor, especially in Bulgaria; The service has to be effective; Useful, and modern
P10R17	The free (unpaid) access always plays a role – even if the customer does not necessarily need a service, he might try it because it is for free (private customers). For business clients: the unpaid access is not an important factor, maybe the lower price in comparison to other offers could be defining. Other factors are: Effectiveness and usefulness. User-friendliness.
P11R18	Usually most of the apps are for free or cost no more than 1 or 2 euro. For other apps with health apps, customers are anyway willing to pay more and price is not such a big issue in my opinion. What really matters is the value that the mobile product brings and how desired the solution is
P12R19	Free access is always a good way to make a new product more popular and get feedback from users. Paid services are used by certain target groups which are interested in the product for specific reasons – meaning that customers have already made a well-grounded decision according to their specific needs. Paid services however, could be used by a broader group in which customers would not necessarily use the product only because they need it, but because they would like to try it out. Therefore, free applications are downloaded/purchased by a larger number of people. Even if they do not use the service any longer (because they do not really need it), this initial use could help get more feedback and make changes to the product that meet user's expectations. Other factors which influence customer decisions are: The applicability of the product, added value of the service, popularity, Value for money relation (if paid service), User friendliness and compatibility with other programs/OS/devices

Table 8. Responses to question 13

Participant ID	Q13. In your opinion, what are problems facing those who are involved in the development and/or the implementation of new mobile business services and/or applications?
P1R2	Financing of development, finding contractors for the realization of the project. Финансирането на разработката, намирането на изпълнители за реализация на проекта.
P2R4	for the current development the main obstacles are mainly related with the internal product integration and time-to-market plan. The system integration and the flexible service provisioning are the most common problems in present days.
P3R8	To persuade the operators to start offering their technology. Това да убедят операторите да започнат да предоставят тяхната технология.
P4R9	This question has many aspects. On the one hand, the service offered is very important for the customers. On the other hand, it is important that the application itself has good mobile software performance. Also, how the new application would be involved in the complex structure of a telecom, how much and what will be the cost the development and its implementation. Този въпрос има много аспекти. От една страна е много важна услугата, която се предлага на клиентите . От друга страна е важно самото приложение да притежава добри характеристики на мобилен софтуер. Също така как новото приложение ще се впише в сложната структура на един телеком, колко и какво ще струва разработката и имплементацията.
P5R10	A market they could be offered at ; - Interesting ideas that would motivate people to use new development пазар, на който да могат да ги предложат; достатъчно интересни идеи, които да се харесат на хората достатъчно, че да ги ползват.
P6R11	None I can think of do not know
P7R12	The most serious problems developers of mobile applications are facing, and all pioneers, is that they are entering into a more or less unknown territory. There are no clear criteria exactly what the market wants. The developers have to overcome the limitations of mobile devices. Apart from all of that, they have to have in mind also the possible distrust of potential users. Най-сериозните проблеми пред разработчиците на мобилни приложения, както и пред всички пионери, е това, че навлизат в една малко или много неизследвана територия. Няма ясни критерии какво точно иска пазарът. Разработчиците трябва да се преоборят с ограниченията на мобилните устройства. Освен всичко останало, те трябва да имат предвид и евентуалната недоверчивост на потенциалните им потребители.
P8R15	One of the biggest obstacles is that customers might not always appreciate all advantages a certain product could give them; there are very innovative users, but also many who are conservative and prefer to continue using older, better known options and thus not use all options that new development is offering. From a technical point of view – a problem could appear and thus make it necessary to modify the initial idea. Generally speaking, the chain of creating a new development is sometimes too long.
P9R16	From the developer's point of view: Coordination in the company, technical obstacles, functionality – has to do with investments. Other factors: the service has to be accepted by the customer – if it is not, the advertisement should be modified
P10R17	From the customer's point of view: lack of enough information for new services and products – there are products also in world scale that are barely spread. From the developer's point of view: Lack of information about what the service should include, how it should be organized, how much should it cost (sometimes very difficult to define). Also, a new idea should be approved by many other departments in the company (e.g. finance) or the regulations in the country could be changed during the process of creating a new development and introducing it to the market
P11R18	In my opinion, it is difficult to persuade customers to break with the old routines and influence them towards adopting new innovative products if the need to do so is not urgent

Participant ID	Q13. In your opinion, what are problems facing those who are involved in the development and/or the implementation of new mobile business services and/or applications?
P12R19	At the moment, the market offers an immense number of mobile applications. In the banking sector in Bulgaria, our Bulbank mobile service is among the first ones which makes it especially valuable for customers. However, in cases where a product is similar to other offered by other providers, its competitiveness requires more added value and more specific and eloquent advantages. The developers of a mobile service have to offer far-seeing solutions and be flexible to fit the changing market situation and meet the wide range of customer expectation regarding factors such as money for value, support, availability, technical characteristics, user friendly interface, design. As already mentioned, there is always a risk that the time needed for planning and designing a mobile application is too long and that the service is no longer attractive or needed in the time of its launching and that there are other similar services provided by competitors on the market.

Table 9. Responses to question 14

Participant ID	Q14. What do you think will be the most valuable features of a mobile product from a customer perspective? Do you think that different customer groups may have different requirements and expectation, please explain.
P1R2	Quick access to information. Easy to use. In general, there are 2 basic groups. The representatives of the first are mostly looking for information and would prefer a simple design and presentation of information in its purest form and in the fastest way. Representatives of the second group will look at mobile applications as a new form of entertainment. Will require effective design with lots of extras, more entertaining style of presenting information, more multimedia. Бърз достъп до информация. Easy of use. Най-грубо – 2 основни групи. Първите търсят основно информация. Ще предпочитат симпъл дизайн и представяне на информацията в най-чист вид и по най-бързия начин. Втората група ще гледа на мобилните приложения като на нова форма за забавление. Ще изиска ефектен дизайн с много екстри, по-развлекателен стил на представяне на информацията, повече мултимедия.
P2R4	(e.g. speed, responsiveness, coverage, 24/7 availability, customer support, customer training, etc) of the new development? . – all mentioned in the question. Service design and customer attitude: Depending on the market segment – business or consumer. The business estimates the value first or the service design from “services features” perspective. The consumers are estimation the product based on the commercial effect, based on the fashion, based on the exterior design and cover meet the customer expectations. For the business segment the groups are divided: on industry level; market share in the particular industry; ARPU;
P3R8	Yes, there are and their expectations are different. Those groups can be divided as to age and social status. Да, има и очакванията им са различни. Групите могат да бъдат раздели както по възраст, така и социален статут.
P4R9	Mobile products, services and applications are designed for consumers, and consumers have different needs, desires and requirements depending on the group to which they belong. I would not make an extensive classification, yet I will mention some. Depending on the type of consumer: whether the application is designed for the mobile device or for a system that communicates with others; according to the type of consumer: business and regular, domestic and external, private and foreign, by age, etc. Мобилните продукти, услуги и приложения са предназначени за потребителите, а потребителите имат различни нужди, желания и изисквания в зависимост от групата на която принадлежат. Не бих се наела с пълна класификация, но все пак сте посоча някои. Според типа на

Participant ID	Q14. What do you think will be the most valuable features of a mobile product from a customer perspective? Do you think that different customer groups may have different requirements and expectation, please explain.
	потребителя: дали приложението е предназначено за самия мобилен апарат или е система, която комуникира с други такива; Според вида потребителя: бизнес и обикновен, вътрешен и външен, собствен и чужд; Според възрастта и т.н.
P5R10	<p>Naturally, there are different user groups – it is not a coincidence that there are different tariff plans whose primary objective is a specific group. Different groups can be divided according to different criteria:</p> <ul style="list-style-type: none"> -age; - according to interests; - technological competence; - etc. <p>Естествено, че има различни потребителски групи, не случайно има дори отделни планове, чиято основна цел е специфична група. Различните групи могат да се разделят според различен принцип: според възрастта; според интересите; според компетентността с техника; и т.н.</p>
P6R11	<p>There are always different user groups - as some people like classical music and others like pop-folk, etc, in technology there are also different expectations.</p> <p>Indeed, consumers can be divided into groups of expectations - as I said already, some seek security and usability, other entertainment, facility, etc. Users can be divided according to different criteria because they are people, and people differ in many ways and can also be divided in many ways.</p> <p>Винаги има различни потребителски групи – както едни хора харесват класическа музика, други харесват поп-фолк и т.н., така и при технологиите има различни очаквания. Наистина потребителите могат да се разделят на групи по очакванията си – както казах по-горе едни търсят сигурност и използваемост, други забавления, трети улеснение и т.н. Потребителите могат да се делят по различни критерии тъй като това са хора все пак, а хората се различават по много начини и съответно могат да бъдат и разделени по много начини.</p>
P7R12	<p>Of course, this depends on the application. If it is a game, users and needs are totally different from those of e-banking. This has to be taken into account very well before developers start a new undertaking.</p> <p>Разбира се, това зависи от приложението. Ако става дума за игра, то изискванията и потребителите са едни, ако става дума за мобилно банкиране вече потребителите са от коренно различен тип. Това трябва много добре да се има предвид от разработчиците, преди да започнат ново начинание.</p>
P8R15	<p>Definitely, there are clearly distinctive groups of users: A. Orientated towards innovation and new solutions – they are ready to pay more for a better value; they like to be the first ones to use a certain product and “risk” B. The second group consists of users who would rather test a new development in a free trial first – what would motivate them is either that the service is offered for free or its lowest price on the market.</p> <p>Two groups: Бизнес потребители, които държат на качеството на дадена нова услуга и са готови да платят за нея, стига това да подобри работата им , AND Частни потребители, които по-скоро предпочитат да не плащат, и съответно пробват най-вече бесплатните услуги (e.g. localization of children – internet provided by the business for localizations – less expences)</p> <p>НО и в двата случая има хора, които обичат новите, модерните неща и дори само заради своя имидж пред другите или вкуса си към най-модерното, биха закупили даден нов продукт</p>
P9R16	The service has to be useful; Has to be affordable; There are innovators who are buying a new product instantly because they like to experiment (mostly young people); Private customers Vs. Business customers.)
P10R17	There are a few different groups of users: Customers who are looking for innovative solutions (they want to be the first ones to use a certain service); Customers, whose motivation is to cut down their expenses; Customers who are looking for more security and control; Customers who are e.g. environmentally conscious and are looking for eco-friendly services and products; Customers, for whom the price is not important – they are ready to pay more for safety, stability of the service and IT security of their data
P11R18	The most valuable feature will be to use one single mobile phone for everything: payment, access, ticketing, money transfer, information search

Participant ID	Q14. What do you think will be the most valuable features of a mobile product from a customer perspective? Do you think that different customer groups may have different requirements and expectation, please explain.
P12R19	There is a difference between the requirements and expectations of private users and clients from the business sector. Private users expect from a service to be easy to use, offer them flexibility and handiness and get support in real time. They usually use a mobile product in order to save time and be able to manage operations from their mobile, anytime a day. Private users usually are not ready to pay a considerable price and the cost-value relation is an especially important part of their motivation to purchase the product. Design features are also a part of the motivation of a private user to use a certain mobile application. Business customers, on the other hand, would pay more if the service has a positive financial impact on their business and the improvement in business operations whereas design plays a secondary role, if the application meets technical and functional characteristics and expectations.

Table 10. Responses to question 15

Participant ID	Q15. In your opinion, how does the current regulatory environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?
P1R2	I don't have an opinion Нямам мнение по въпроса.
P2R4	<i>.The participant indicated that they had already addressed this in answers to previous questions]</i>
P3R8	I can't decide Не мога да решавам
P4R9	I can not answer this question in detail. I think that the whole EU attaches an increased role to technological progress. Rather, the legal environment should have a positive and stimulating influence. На този въпрос не мога да отговоря подробно. Според мен в целия ЕС се отдава голяма роля на технологическия прогрес. Ро-скоро би трябвало законовата среда да влияе положително и стимулиращо.
P5R10	I don't know if any legal framework exists do not know
P6R11	In Bulgaria e-commerce, e-government etc are still developing and I am not familiar with laws that govern mobile services in this aspect (of course there is a law for the communications and communication services, but I do not know if it regulates also applications of mobile technologies) Все още в България се развива електронната търговия, електронното правителство и т.н. и не съм запознат със закони, които да уреждат мобилните услуги в този аспект (естествено има закон за съобщенията и комуникационните услуги, но не знам дали урежда подобни приложения на мобилните технологии)
P7R12	I am not very familiar with laws on mobile applications – I don't know if this is actually regulated in some way. Specifically, when talking about gambling, in most countries this is clearly regulated and developers have to conform with the given regulations. I don't think that in Bulgaria the state is regulating how a mobile application will be distributed as long it does not break any fundamental laws (through racism propaganda for example). Не съм особено запознат конкретно със законите в частта им за мобилни приложения, не знам даже дали това е регулирано по някакъв начин. Конкретно, ако става дума за хазарт, в повечето държави това е доста ясно регулирано и разработчиците трябва да се съобразяват с регулатираните в съответните държави. За България по-скоро не мисля, че държавата регулира това как ще се разпространява дадено мобилно приложение, стига то да не нарушава никой от фундаменталните закони (да пропагандира расизъм да кажем).

Participant ID	Q15. In your opinion, how does the current regulatory environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?
P8R15	I haven't had any particular negative experience during my work – laws are constantly changing.
P9R16	They are rather not a problem, another thing is if they're helping new development. There are restrictions for competition (financially), but there is enough advertisement freedom.
P10R17	I haven't had any particular experience.
P11R18	I think that the regulatory environment is relative supportive, except for the area of private data abuse in terms of location based services and private person location information.
P12R19	In Bulgaria, the regulatory environment does not provide much on the sector of mobile business services and applications. This makes it, on one hand, more difficult for companies to license a new product, but, on the other, this also means that because of the lack of detailed provisions, much room is left for new services which are not restricted too much by regulations. From a technical point of view, the lack of much detailed regulation, is an advantage, whereas the legal departments of companies offering mobile solutions may have to struggle with unpredictability of the way licensing institutions apply and interpret the existing broad legal framework.

Table 11. Responses to question 16

Participant ID	Q16. In your opinion, how does the current mobile network market environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?
P1R2	I don't have an opinion Нямам мнение
P2R4	With the current distribution of roles in the mobile industry to support (or not) the acceptance of the new development - the telecom operators should have the leading role having in mind that the connectivity is important, however the system integrator, the hardware vendors, the software developers also need to be in the track, providing new features on the market. Companies as Google and Facebook change fundamentally the perceptions "who own the customers". The telecoms are facing the treat to lose the customers loyalty and become only the transport link to the end-user services.
P3R8	I can't decide Не мога да се произнеса
P4R9	Operators realize that new services may be useful as well as a threat and that is why they need to have a role in these services. Операторите осъзнават, че новите услуги могат да бъдат както полезни за тях така и да отнемат от традиционните дейности, и затова трябва да имат свое място в тях.
P5R10	Not to my knowledge Доколкото зная, не
P6R11	In Bulgaria they rather disturb, as prices are not yet at the level of the market – the study of my colleague from the mobile applications will show it clearly. However, similar services are already offered on our market. В България по-скоро пречат, тъй като цените все още не са на нивото на пазара – проучването на колежката от курса по приложения на мобилните технологии ще го покаже ясно. Иначе вече има подобни услуги на пазара ни
P7R12	This depends again on the market. If we look at Bulgaria, we will notice that operators are rather in the way of mobile applications distribution. Mobile internet prices in many aspects are making the use of applications expensive and thus unattractive. Another example from countries where mobile internet is not as expensive – there was an analogue of the program for internet skype mobile phoning – fringe. Mobile operators were doing their best to destroy the application in the beginning because they were concerned that people would rather use it

Participant ID	Q16. In your opinion, how does the current mobile network market environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?
	instead of telephony in their networks, which would lead to a turn-down in their profits – and to a great extent, they succeeded. And again – if we look at Bulgaria, we will see that internet traffic has the lowest priority in mobile devices in comparison with telephony, for example. Who would want an application that would work only if it had free resources not used for telephony. Това пак зависи конкретно от пазара. Ако погледнем България ще видим, че операторите по-скоро пречат за разпространението на приложенията за мобилните приложения. Цените на мобилния интернет в много отношения правят използването на мобилно приложение доста скъпо и съответно непривлекателно. Друг пример от страни, в които мобилният интернет не е толкова скъп – имаше аналог на програмата за интернет телефония skype за мобилни телефони – fring. Мобилните оператори правеха всички възможно да убият приложението още в зародиш, защото се опасяваха, че хората ще използват него за телефония, вместо техните мрежи, което би довело до спад в техните приходи и до голяма степен успяха. И пак – ако погледнем в България ще видим, че интернет трафикът е с най-нисък приоритет из устройствата на мобилните оператори, сравнено с да кажем телефонията. Кой би искал приложение, което ще работи, само ако да кажем има свободни ресурси, които не са заети за телефония.
P8R15	Because of competition, the market is contributing to the development of new services and thus keeps the need for operators to constantly amend the products they are offering.
P9R16	Yes, because of competition prices are falling down and the operator has to be innovative and constantly work on its services. On the other hand, sometimes operators are competing in small distances (izrazat beshe, che se goniat na kasi razstoyania)
P10R17	Yes, because as companies are striving to be the best, they develop services not orientated mainly towards financial profit, but are important for the image of the company.
P11R1	[the participant found this question sensitive and declined to comment]
P12R19	The Bulgarian mobile market is small in comparison to bigger countries with a larger number of users. In comparison to other markets, new solutions are offered relatively late here. In the same time, this makes room for introducing new services at a cost effective price and there is less competitiveness among mobile operators because the market is neither very big nor diverse. Therefore, it is often easy for the developers of a mobile application to fill a "niche" in the market.

Table 12. Responses to question 17

Participant ID	Q17. What do you think influences customer attitude towards accepting and using a new mobile business service and/or application?
P1R2	The cost of the application. The price of services. System requirements of the application to the user mobile phone Цената на приложението. Цена на услугите. Системните изисквания на приложението към мобилния апарат на потребителя
P2R4	Added value to the business. Better customer experience. Better support. Possibilities the new development to be combined with existing services. - Complexity in customer service management, relationship management.
P3R8	Price and quality. Цената и качеството.
P4R9	Information about the service. Easiness of access to the service/application via mobile application. The price Информацията за услугата. Леснодостъпността на услугата чрез мобилното приложение. Цена

Participant ID	Q17. What do you think influences customer attitude towards accepting and using a new mobile business service and/or application?
P5R10	The necessity of a new service; - How easy it is to use; - Whether the service is for free and if not – whether the user can afford it. необходимостта от нова услуга ; доколко лесно може да се ползва; дали е безплатна и ако не дали потребителят може да си я позволи и т.н.
P6R11	The price, the way of distribution and attracting (marketing), distribution - are distrustful can only be convinced by opinions friends who have good impressions. Цена, начин на разпространение и привличане (маркетинг), разпространение – недоверчивите се обеждават единствено от мнения на приятели, които имат добри впечатления.
P7R12	In general, this is a complicated matter that needs a more thorough marketing analysis among potential users. If I have to express an opinion – it is definitely the price users would pay, in order to use a certain product (not only the buying cost, but also the expences for its future use). And this is if we assume that the product itself is made well – stable, intuitive, fast, with nice design. Като цяло това е сложен въпрос, който сигурно изисква по-дълбок маркетингов анализ сред потенциалните потребители. Ако трябва все пак да изкажа някакво мнение – определено това е цената, която потребителите биха плащали, за да използват даден продукт (не само таксата по закупуване, но и разходите за бъдещото му използване). И това е ако приемем, че самият продукт е достатъчно добре направен – стабилен, интуитивен, бърз, с приятен външен вид.
P8R15	The need for a certain service ; The main-stream opinion in the society about a product; The price; The usefulness/customer-friendliness of the service
P9R16	Becoming aware of the need for a certain service; Implied need through advertisement;
P10R17	To what extent the customer is familiar with the product and the services offered – this is mainly a task of the merchants who have to be able to explain all advantages to the customer so that he does not refrain from buying it.
P11R18	Usability, Peer influence, Image, Price
P12R19	Attractiveness – is the service helpful, does it save time, does it offer easier use in comparison to the ‘traditional’ way to execute operations; does it add value ; is there 24/7 support and availability. Cost-effectiveness – is the price reasonable for the value offered; does the mobile application make business and private operations easier and faster; does it save money.

Table 13. Responses to question 18

Participant ID	Q18. Further comments if any
P1R2	No comments
P2R4	[The continuous use is a sign of increasing demand however not always it brings new subscribers. The increased demand brings more value to the provider and gives ability the service to be improved constantly. From the other hand the increased demand allows the new development to be combined with other services and make different bundles with it. Customers will want to trial and then use our new development --- The better customer adoption and user experience allays brings more benefit and affect the customers satisfaction. However the products features and the product flexibility always prevail vs. the fashion design. [important are] The added value for the business segment and the design for the consumer segment - . Added value – because it has direct impact on the customer.

Participant ID	Q18. Further comments if any
	<p>Perform[ance]s – because it has impact on the customer relationship management. However is the product has any additional bugs the customer are willing to ignore them is the added value has bigger impact for the business.</p>
	<p>Based on the service design, customers will estimate the value from the new development. Also based on the value the customers will estimate the financial impact for their business and the improvement of the current business processes they have.</p>
	<p>Our believes are based on a market researches and face-to-face communication between [the company] and end-customers. Consumption. Number of new customers, using the new service. ARPU – Average revenue per unit. Upsale to existing customers. Churn rate. Media outcome..</p>
	<p><u>[How will you let customers know about the new development?]</u> ---: Corporate web site. Corporate Business Catalog, distributed to all business customers. Direct approach through [company] account managers. Presentation on different conferences and events, related with the specific target groups.</p>
	<p><u>[What other ways of spreading the word about the new development may help customers become aware of it?]</u> ---:</p>
	<p>Target campaigns, focusing the specific segment of the business, where the new product will be estimate appropriate and where the decision makers are. The product needs to be provided first to the market leaders and then the adoption will be very fast.</p>
P3R8	No comments
P4R9	No comments
P5R10	No comments
P6R11	No comments
P7R12	<p>Mobile technologies are a market that may have the potential to develop. If and when this will happen, I can't tell. I suppose, that gradually with distribution of smartphones and them becoming cheaper, mobile technologies will get more attractive for business and users, but this needs time.</p> <p>Мобилните технологии са пазар, който може да има потенциал да се развива. Дали и кога ще стане това, не мога да кажа. Предполагам, че лека полека с навлизането и появяването на смартфоните, мобилните технологии ще стават все по-привлекателни за бизнеса и потребителите, но трябва да мина време.</p>
P8R15	<p>There are some new development services that are not really applicable and are actually useless - there's not much sense in creating them.</p>
P9R16	No comments
P10R17	No comments
P11R18	No comments
P12R19	No comments

APPENDIX I. STUDY 1: DATA CODING (STAGE 2 - INTERMEDIARY)

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	The-matic cluster	DUN
anytime/anywhere services valued	customers value entertainment applications because of their availability anywhere any time/anywhere	anytime/anywhere services valued	customers value entertainment applications because of their availability anywhere any time/anywhere	SER	DUN 91
attractive use scenarios exist	attactive scenarios already identified such as paying bills , paying at vending machines	paying at vending machines	mobile phones can be used to pay at vending machines	SER	DUN 85
		paying bills	mobile phones can be used to pay utilities	SER	DUN 84
cheap applications already available	existing mobile applications are cheap to download	cheap applications already available	existing mobile applications are cheap to download	SUP	DUN 22
connection with other devices valued	connection with other devices valued	connection with other devices valued	connection with other devices valued	SER	DUN 80
				SER	DUN 86
customer market difficult	the customer market is perceived as difficult to penetrate	customer market difficult	the customer market is perceived as difficult to penetrate	INN	DUN 75
		customer market difficult		INN	DUN 78
customer motivation needed to stimulate development	motivated customers needed	customer motivation needed to stimulate development	motivated customers needed	SER	DUN 26
customers conservative	customers generally 'traditionalists'	customers conservative	customers generally 'traditionalists'	INN	DUN 7
				SER	DUN 31
customers distrustful of innovation	customer distrust innovation and new applications	customer distrust new applications	customer distrust new applications	SER	DUN 30
		customers distrust	customers distrust	SER	DUN 89
customers distrustful of phones	phones are not trusted for serious work	innovations phones not trusted for serious work	innovations phones not trusted for serious work	SER	DUN 4

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
customers do not mix entertainment and serious business	customers distrust entertainment if embodied in a serious service	phones are not for serious work	phones are not for serious work	SER	DUN 5
customers prefer well known services	customers prefer old routines	customers do not mix entertainment and serious business	customers distrust entertainment if embodied in a serious service	SER	DUN 91
decision influenced by comparison	customers compare and consider all options they have	customers prefer well known services	customers prefer old routines	SER	DUN 31
		customers consider all options they have	customers consider all options they have	SER	DUN 14
		customers compare new with existing services	customers compare new with existing services	INN	DUN 69
decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	SER	DUN 57
				SER	DUN 59
				SER	DUN 60
				SER	DUN 62
				SUP	DUN 8
decision influenced by cost - not decision influenced by cost ongoing	cost is not an issue with customers	decision influenced by cost - not decision influenced by cost ongoing	cost is not an issue with customers	SUP	DUN 23
	customer attitude is influenced by ongoing service cost	customer attitude is influenced by ongoing service cost	customer attitude is influenced by ongoing service cost	SER	DUN 62
decision influenced by ease of use	customer attitude is influenced by service ease of use	decision influenced by ease of use	customer attitude is influenced by service ease of use	SER	DUN 58
decision influenced by how much the service is needed	customer attitude is influenced by the degree of need for the service	decision influenced by how much the service is needed	customer attitude is influenced by the degree of need for the service	SER	DUN 58
decision influenced by marketing	customer attitude is influenced by the marketing campaign	decision influenced by marketing	customer attitude is influenced by the marketing campaign	SUP	DUN 8
decision influenced by service affordability	customer attitude is influenced by the service affordability	decision influenced by service affordability	customer attitude is influenced by the service affordability	SER	DUN 59
decision influenced by service quality	customer attitude is influenced by service quality	decision influenced by service quality	customer attitude is influenced by service quality	SER	DUN 57

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
decision influenced by service value	customers consider the service value to them	decision influenced by service value	customers consider the service value to them	SER	DUN 14
decision influenced by social norm expectations about quality high	customer attitude influenced by others' opinions customers expect data services to run not worse than voice services difficult to meet customer expectations	decision influenced by social norm expectations about quality high	customer attitude influenced by others' opinions customers expect data services to run not worse than voice services difficult to meet customer expectations	SER	DUN 60
expectations difficult to meet	customers expect nice design customers need choice	expectations difficult to meet	customers expect nice design customers need choice	SUP	DUN 56
expectations for appealing service design	customers expect nice design	expectations for appealing service design	customers expect nice design	SUP	DUN 63
expectations for choice of services	customers need choice	expectations for choice of services	customers need choice	INN	DUN 79
expectations for high service performance quality	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	expectations for an always available service	customers would like to take advantage of the fact that the phone is always with them	SER	DUN 71
		expectations for service not to be delayed expectations for service stability (uninterrupted service)	customer expect services to be fast customers expect services to be stable	SUP	DUN 63
expectations for low service cost	customers need lower prices	expectations for low service cost	customers need lower prices	SUP	DUN 63
expectations for rich experience	need for services that enrich an maximise customer experience	expectations for rich experience	need for services that enrich an maximise customer experience	INN	DUN 79
				INN	DUN 69
				INN	DUN 72
expectations of service value free services attractive if modelled on successful paid ones free services not valued	customers want value free services attractive if modelled on successful paid ones free trial not attractive due to limited	expectations of service value free services attractive if modelled on successful paid ones free services not valued	customers want value successful free services are modelled on successful paid ones free trial not attractive due to limited	SER	DUN 24
				SUP	DUN 19
				SER	DUN 15

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
	functionality/bad workmanship		functionality/bad workmanship		
free services profitable if very popular free services valued	popular free service may also be profitable free applications, trials are valued and used more	free services profitable if very popular free existing applications attractive free trial attractive	popular free service may also be profitable existing mobile applications are free free trial generally found attractive	SUP	DUN 20
				SUP	DUN 15
				SUP	DUN 17
free trial increases popularity	free trial increases popularity	free trial increases popularity	free trial increases popularity	SER	DUN 18
				SUP	DUN 18
future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers	new technologies not yet explored	new technologies (smart phones) not fully explored yet	INN	DUN 77
		smart phones may offer attractive services technology has potential for new services	smart phones may offer attractive services new technologies potential to be explored with new services	SER	DUN 65
				INN	DUN 67
		technologies have a development potential mobile technologies will become more attractive with time	technologies have a development potential mobile technologies will become more attractive with time	UNC	DUN 64
				SUP	DUN 65
high investment cost	mobile business service have low roi and the investment cost is high	mobile services have low roi	mobile services not profitable	SUP	DUN 7
				SUP	DUN 11

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
high service cost due to lack of operator support	operators overprice mobile data services and do not meet customer expectations	mobile services require high investment costs high service cost due to lack of operator support	mobile services require high investment cost operators overprice mobile data services and do not meet customer expectations	SUP	DUN 7
innovation is not successful	pioneering companies not successful	innovation is not successful	pioneering companies not successful	SUP	DUN 13
lack of knowledge about customers	customer market needs are not known and difficult to predict	unknown customer market	market needs not known	UNC	DUN 28
		unpredictable customers	customer attitude is difficult to predict	UNC	DUN 29
	mobile operators are not motivated to support, and do not support mobile business service development , are hostile to it	operators do not support development	operators do not support service and application development	SUP	DUN 49
		operators hostile to development	developers cannot compete with actively hostile operators	SUP	DUN 55
		operators not motivated to support development	some operators not interested	SUP	DUN 1
limitations due to device design	mobile devices have limitations (e.g. display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)	device limitations	mobile devices have limitations	SUP	DUN 25
				SUP	DUN 3
		devices less powerful than pcs	mobile devices have more limitations than pcs	SER	DUN 29
				SER	DUN 93
				SER	DUN 76

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
		devices restrict development	development restricted by mobile technology (devices)	SER	DUN 76
		display limitations innovative interface needed low cost service valued	display limitations need for innovative gui less costly services are more attractive	INN	DUN 72
low cost service valued	less costly services are more attractive	low cost service valued	mobile data traffic has a lower priority in the mobile network compared to voice traffic	SER	DUN 87
low quality of service due to lack of operator support	service quality low as the data network does not prioritise business services	data traffic not a priority for operators	customers may not want a service because of low quality of the underlying data service	SUP	DUN 56
		expectations for quality of service not met by the data network	development of specific services for a small number of customers	SUP	DUN 56
narrow customer base	customer segments based on specific needs are small, specific services are not suitable for the general market.	segment size small		SUP	DUN 7
		service too specific for the general market	applications too specific	SUP	DUN 9
		need for entertainment services	need for entertainment services	SER	DUN 2
need for entertainment services operators a barrier to service	operators acting against mobile business services, for example by keeping high mobile access pricing; which they perceive as competing	operators act against a 'competing' mobile application	need for entertainment services operators acting 'against' a mobile app which they perceived as a competitor to their data services	INN	DUN 79
		operators hinder mobile applications distribution	operators actively do not support mobile application distribution	SUP	DUN 55
				SUP	DUN 52

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
		service cost high because of expensive mi access	applications expensive and thus unattractive due to high mi connectivity cost	SUP	DUN 53
opportunities offered by device design	mobile phone always with customer and smaller than a pc	mobile phones compact	mobile phones smaller than pcs	SER	DUN 83
		phone always with customer	mobile phones always with customers	SER	DUN 83
opportunities to distribute services	new technologies improve service distribution	opportunities to distribute services	new technologies improve service distribution	INN	DUN 73
opportunities to support customers	new technologies improve 'ease of customer support'	opportunities to support customers	new technologies improve 'ease of customer support'	INN	DUN 73
paid service with maintenance valued paid services not too widely used	paid service offers maintenance paid services used less, less popular	paid service with maintenance valued paid services less popular	paid service offers maintenance paid services less popular	SER	DUN 15
		paid services less used	paid services less used	SUP	DUN 18
paying for health related services	customers paying already for some apps (health)	paying for health related services	customers paying already for some apps (health)	SER	DUN 23
regulation not needed	there is no need for additional regulations	regulation not needed	there is no need for additional regulations	REG	DUN 46
regulations exist that are also applicable	many of the existig regulatins also applt - communications, gambling, anti-racist propagand	anti racist propaganda regulations applicable	anti racist propaganda regulations applicable	REG	DUN 46
		communications regulations applicable	communication and communication services regulations applicable	REG	DUN 43
		gambling regulations may apply	gambling regulations applicable	REG	DUN 45
regulations needed - some	regulatory environment does not cover private personal data (including location) abuse	regulations needed - some	regulatory environment does not cover private personal data (including location) abuse	REG	DUN 47

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
regulatory environment - lack of awareness	lack of awareness of the regulatory environment	regulatory environment - lack of awareness	lack of awareness of the regulatory environment	REG	DUN 41
				REG	DUN 42
				REG	DUN 43
				REG	DUN 44
regulatory environment supportive security fears	regulatory environment supportive security fears about compromising customer information including personal infromation	regulatory environment supportive information security fears	regulatory environment supportive customers wary of information security , do not know enough about how it is handled	REG	DUN 47
		personal data security fears	customers wary of personal data security , do not know enough about how it is handled	SER	DUN 6
segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers	SER	DUN 32
		segmentation by specificity of requirements	services matching the needs of a specific group of customers	SER	DUN 34
		segmentation by specificity of requirements	services matching the needs of a specific group of customers	SER	DUN 37
		different user groups segmentation by specificity of requirements	different user groups services matching the needs of a specific group of customers	SER	DUN 39
		segmentation by specificity of requirements	services matching the needs of a specific group of customers	SUP	DUN 39
segmentation by age	age as a factor determining requirements	segmentation by age	age as a factor determining requirements	SER	DUN 40
				SER	DUN 33

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
segmentation by self-efficacy	services need to match the customer level of technical knowledge as technological competence is a factor and customers cannot be assumed to be as technologically savvy	services need to match customer level of technical knowledge	services need to match customer level of technical knowledge	SER	DUN 35
		technological competence	technological competence as a factor	SER	DUN 35
		young customers not technology savvy	young customers are not necessarily technology savvy	SER	DUN 88
segmentation by socio-economic status	business voice services customers are divided in socio economic groups and this will play a role in business data services as well	existing tariff plans	different tariff plans designed for specific targeted customer groups	SUP	DUN 34
		the customer market is divided into groups determined by socio-economic status	socio-economic status as a factor	SER	DUN 33
segmentation is multidimensional service need to be available any time/any place	different ways to form user groups services need to be convenient - anytime/anyplace	segmentation is multidimensional service need to be available any time/any place	different ways to form user groups services need to be convenient - anytime/anyplace	SER	DUN 38
				SER	DUN 71
service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	familiar interface expected	new services need to look familiar	INN	DUN 81
		interface convenient service intuitive	interface needs to be convenient services need to be intuitive to use	SER	DUN 69
				SUP	DUN 71
					DUN 63

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
				SER	DUN
		services used effortlessly	customers want services that can be used effortlessly	INN	DUN 92
		services user-friendly	more user-friendly services are more attractive	SER	DUN 72
service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	service desirable	the service needs to be desirable	SER	DUN 88
		service meeting a potential need	service gives value	SER	DUN 24
		service needs to be functional	services need to be a functional	SER	DUN 14
		service that is really useful	need for really useful applications	SER	DUN 68
		services meeting a real need	customer prefer services that meet a real need	SER	DUN 79
		preferred	potential	SER	DUN 31
		service meeting a potential need	customer needs	SER	DUN 93
service needs to be technologically implementable	new ideas need to be implementable	service needs to be technologically implementable	new ideas need to be implementable	INN	DUN 68
service needs to focus on customer mobility	need for services with a focus on mobility	service needs to focus on customer mobility	need for services with a focus on mobility	INN	DUN 70
service not meeting a need not valued	services that are not meeting a need are perceived as not useful and fail to attract customers	service perceived as not useful is not attractive	weak use cases	SER	DUN 7
		services not meeting an identified need are not attractive	no superior selling proposition	SER	DUN 7
service saturation	customers have choice but of similar mobile services	service saturation	customers have choice but of similar mobile services	SER	DUN 74
service to surpass existing ones	service needs to be better than existing ones and more convenient than existing ones	service to be better than existing ones	need for services as improved versions of existing ones	INN	DUN 69

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
		service to be more convenient than existing ones	the new service must be more convenient than the old one	SER	DUN 13
service with some free functions may be successful services matching personal lifestyle valued	hybrid approach free/paid may be successful services saving time, supporting everyday tasks, replacing the need to use a pc, and also supporting tasks that are not digitally supported otherwise	service with some free functions may be successful time saving valued	hybrid approach free/paid may be successful time saving services	SUP	DUN 21
		services as a replacement of pc based ones	services replacing service now performed using a pc	SER	DUN 82
		services to support everyday tasks	services replacing everyday functions	SER	DUN 82
		services to support everyday tasks not supported digitally at present	services that can replace exiting 'old fashioned' ones	SER	DUN 82
services need to attract customers	servive needss to provide motivation to be used by attracting the customer	services need to be interesting	services need to be interesting	INN	DUN 68
services need to match personal lifestyle	services matching personal lifestyle requirements is needed	services need to be motivating services need to match personal lifestyle	services need to be motivating services matching personal lifestyle requirements is needed	INN SER	DUN 26 DUN 35
services not different from existing ones	new services not too different form existing ones (for pcs)	services not different from existing ones	new services not too different form existing ones (for pcs)	SER	DUN 36 DUN 76
services that are costly are not attractive some free functions valued	services that are costly are not attractive combine free and paid	services that are costly are not attractive some free functions valued	services that are costly are not attractive combine free and paid	SUP SER	DUN 53 DUN 21

Super code label (sorted alphabetically)	Super code definition (repeats or combines code definitions)	Code label	Code definition	Thematic cluster	DUN
successful models exist	successfully used locally and elsewhere successfully used locally and elsewhere successfully used locally and elsewhere	successful elsewhere already	use in other markets	SER	DUN 10
				SUP	DUN 10
		successful locally already	use in local market	SUP	DUN 51
technology limits architecture	architecture for mobile service - limited ways to built	technology limits architecture	architecture for mobile service - limited ways to built	SUP	DUN 3
technology not available yet	technology opportunities/limitations	technology not available yet	technology opportunities/limitations	INN	DUN 2
uncertainty about mnos	uncertainty about the position of mnos with respect to mobile business	uncertainty about mnos	uncertainty about the position of mnos with respect to mobile business	UNC	DUN 48
usability valued	customers value usability	usability valued	customers value usability	SER	DUN 90

APPENDIX J. STUDY 1: CODES-S1 (STAGE 2)

Study 1: Codes-S1 (Stage 2)			
Category	CUSTOMERS: participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics		
	Sub-category	CUSTOMER REQUIREMENTS: <i>participant perceptions and opinions about what customers need to see in a mobile service</i>	
		Super code	service needs to be easy to use
			Codes <i>familiar interface expected</i>
			<i>interface convenient</i>
			<i>service intuitive</i>
			<i>services used effortlessly</i>
			<i>services user-friendly</i>
		Super code	service needs to be meeting a real need
			Codes <i>service needs to be functional</i>
			<i>service desirable</i>
			<i>service giving value</i>
			<i>service meeting a potential need</i>
			<i>services meeting a real need preferred</i>
			<i>service that is really useful</i>
		Super code	service needs to focus on customer mobility
		Super code	customers do not mix entertainment and serious business
		Super code	service need to be available any time/any place
		Super code	services need to match personal lifestyle
	Sub-category	CUSTOMER ATTITUDES: <i>participant perceptions and opinions about the attitude of customers towards services based on mobile technologies</i>	
		Super code	customer market difficult
		Super code	customers conservative
		Super code	customers distrustful of innovation
		Super code	customers distrustful of phones
		Super code	customers prefer well known services
	Sub-category	CUSTOMER DECISION MAKING: <i>participant perceptions and opinions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies</i>	
		Super code	decision influenced by comparison
		Super code	decision influenced by cost
		Super code	decision influenced by cost - not
		Super code	decision influenced by cost ongoing
		Super code	decision influenced by ease of use
		Super code	decision influenced by how much the service is needed
		Super code	decision influenced by marketing
		Super code	decision influenced by service affordability
		Super code	decision influenced by service quality

Study 1: Codes-S1 (Stage 2)				
		Super code	decision influenced by service value	
		Super code	decision influenced by social norm	
	Sub-category	<i>CUSTOMER EXPECTATIONS: participant perceptions and opinions about customer expectations with respect to service and market performance</i>		
		Super code	expectations for choice of services	
		Super code	service to surpass existing ones	
			Codes <i>service better than existing ones</i>	
				<i>service more convenient than existing ones</i>
		Super code	expectations about quality high	
		Super code	expectations difficult to meet	
		Super code	expectations for high service performance quality	
			Codes <i>expectations for an always available service</i>	
				<i>expectations for service not to be delayed</i>
				<i>expectations for service stability (uninterrupted service)</i>
		Super code	expectations for appealing service design	
		Super code	expectations for attractive services	
		Super code	expectations for entertaining services	
		Super code	expectations for low service cost	
		Super code	expectations for rich experience	
		Super code	expectations of service value	
	Sub-category	<i>CUSTOMER SEGMENTATION (customer market segmentation): participant perceptions and opinions about what customer groups exist and how these are formed</i>		
		Super code	segmentation by specificity of requirements	
		Super code	segmentation by age	
		Super code	segmentation by self-efficacy	
		Super code	segmentation by socio-economic status	
		Super code	segmentation is multidimensional	
Category	REGULATORY ENVIRONMENT: participant perceptions and opinions about the regulatory environment			
		Super code	regulations exist that are also applicable	
			Codes <i>anti racist propaganda regulations applicable</i>	
				<i>communications regulations applicable</i>
				<i>gambling regulations may apply</i>
		Super code	regulation not needed	
		Super code	regulations needed - some	
		Super code	regulatory environment - lack of awareness	
		Super code	regulatory environment supportive	
Category	SERVICE SUPPLY AND DEMAND: participant perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space			
	Sub-category	<i>SERVICE DEMAND GENERATOR: participant perceptions and opinions about how customer demand growth can be stimulated</i>		

Study 1: Codes-S1 (Stage 2)

		Super code	free services attractive if modelled on successful paid ones
		Super code	free trial increases popularity
	Sub-category	SERVICE DEMAND INHIBITOR: participant perceptions and opinions about how customer demand growth is inhibited	
		Super code	paid services not so widely used
			Codes <i>paid services less used</i>
			<i>paid services less used</i>
		Super code	services that are costly are not attractive
	Sub-category	SERVICE SATURATION: participant perceptions and opinions about customer choice of similar services	
		Super code	service saturation
	Sub-category	SERVICE VALUE ADDER: participant perceptions and opinions about service features and functions that can make a service attractive and desirable	
		Super code	paid service with maintenance valued
		Super code	usability valued
		Super code	connection with other devices valued
		Super code	free services valued
			Codes <i>free existing applications attractive</i>
			<i>free trial attractive</i>
			<i>free trial increases popularity</i>
		Super code	low cost service valued
		Super code	anytime/anywhere services valued
			Codes <i>free existing applications attractive</i>
			<i>free trial attractive</i>
			<i>free trial increases popularity</i>
		Super code	services matching personal lifestyle valued
			Codes <i>time saving valued</i>
			<i>services as a replacement of PC based ones</i>
			<i>services to support everyday tasks</i>
			<i>services to support everyday tasks not supported digitally at present</i>
		Super code	anytime/anywhere services valued
	Sub-category	SERVICE VALUE DETRCTOR: participant perceptions and opinions about service features and functions that may decrease the attractiveness and the desirability of a service	
		Super code	low quality of service due to lack of operator support
			Codes <i>data traffic not a priority for operators</i>
			<i>expectations for quality of service not met by the data network</i>
		Super code	high service cost due to lack of operator support
		Super code	free services not valued
		Super code	security fears
			Codes <i>information security fears</i>
			<i>personal data security fears</i>
		Super code	service not meeting a need not valued

Study 1: Codes-S1 (Stage 2)

			Codes	<i>service perceived as not useful is not attractive</i>
				<i>services not meeting an identified need are not attractive</i>
		Super code	services not different from existing ones	
	Sub-category	SERVICE VIABLE: participant perceptions and opinions about the existence of scenarios that demonstrate how value can be created		
		Super code	successful models exist	
			Codes	<i>successful elsewhere already</i>
				<i>successful locally already</i>
		Super code	service with some free functions may be successful	
		Super code	free services profitable if very popular	
		Super code	cheap applications already available	
		Super code	attractive use scenarios exist	
			Codes	<i>paying at vending machines</i>
				<i>paying bills</i>
	Sub-category	SERVICE VIABLE NOT: participant perceptions and opinions about issues that may make service not viable		
		Super code	high investment cost	
			Codes	<i>mobile services have low ROI</i>
				<i>mobile services require high investment costs</i>
		Super code	innovation is not successful	
		Super code	narrow customer base	
			Codes	<i>segment size small</i>
				<i>service too specific for the general market</i>
		Super code	operators a barrier to service	
			Codes	<i>operators act against a 'competing' mobile application</i>
				<i>operators hinder mobile applications distribution</i>
				<i>service cost high because of expensive MI access</i>
		Super code	lack of operator support for development	
			Codes	<i>operators do not support development</i>
				<i>operators hostile to development</i>
				<i>operators not motivated to support development</i>
Category	TECHNOLOGY: participant perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations			
	Sub-category	TECHNOLOGY LIMITATIONS: participant perceptions and opinions about mobile technology limitations with respect to mobile services development		
		Super code	limitations due to device design	
			Codes	<i>device limitations</i>
				<i>devices less powerful than PCs</i>
				<i>devices restrict development</i>
				<i>display limitations</i>
				<i>innovative interface needed</i>

Study 1: Codes-S1 (Stage 2)				
		Super code	<i>technology not available yet</i>	
		Super code	<i>technology limits architecture</i>	
		Super code	<i>Service needs to be technologically implementable</i>	
	Sub-category	TECHNOLOGY OPPORTUNITIES: participant perceptions and opinions about mobile technology opportunities with respect to mobile services development		
		Super code	Future opportunities	
		Codes	<i>new technologies not yet explored</i>	
			<i>time needed for technologies to mature</i>	
			<i>technology has potential for new services</i>	
			<i>smart phones have potential for new services</i>	
		Super code	opportunities offered by device design	
		Codes	<i>mobile phones compact</i>	
			<i>phone always with customer</i>	
		Super code	opportunities to distribute services	
		Super code	opportunities to support customers	
Category	UNCERTAINTY: what participants are feeling uncertain about			
	Sub-category	UNCERTAINTY ABOUT CUSTOMERS: Participants uncertain about what customers need, want		
		Super code	<i>lack of knowledge about customers</i>	
		Codes	<i>uncertainty about customer attitude</i>	
			<i>Unknown customer market</i>	
		Super code	<i>customer motivation needed to stimulate development</i>	
	Sub-category	UNCERTAINTY ABOUT MNOs: Uncertainty about the position of MNOs with respect to mobile business		
		Super code	<i>uncertainty about MNOs</i>	

APPENDIX K. STUDY 1: DATA CODING (STAGE 2 - FINAL)

Table 1. Category CUSTOMERS (Data Domain ID)

“Participants’ perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics”

DU N	Code		Super code	
	Label	Definition	Label	Definition
Sub-category Customer attitudes: Perceptions about the attitude of customers towards services based on mobile technologies				
75	customer market difficult	the customer market is perceived as difficult to penetrate	customer market difficult	the customer market is perceived as difficult to penetrate
78	customer market difficult	the customer market is perceived as difficult to penetrate	customer market difficult	the customer market is perceived as difficult to penetrate
7	customers conservative	customers generally 'traditionalists'	customers conservative	customers generally 'traditionalists'
31	customers conservative	customers generally 'traditionalists'	customers conservative	customers generally 'traditionalists'
30	customers distrustful of innovation	customers distrust new applications	customers distrustful of innovation	customer distrust new applications
89	customers distrustful of innovation	customers distrust innovations	customers distrustful of innovation	customers distrust innovations
4	customers distrustful of phones	phones not trusted for serious work	customers distrustful of phones	phones not trusted for serious work
5	customers distrustful of phones	phones are not for serious work	customers distrustful of phones	phones are not for serious work
31	customers prefer well known services	customers prefer old routines	customers prefer well known services	customers prefer old routines
Sub-category Customer decision making: Perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies				
69	decision influenced by comparison	customers compare new with existing services	coding the is domain with definitions	customers compare new with existing services
14	decision influenced by comparison	customers consider all options they have	decision influenced by comparison	customers consider all options they have

DU N	Code		Super code	
	Label	Definition	Label	Definition
8	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost
57	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost
59	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost
60	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost
62	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost
23	decision influenced by cost - not	cost is not an issue with customers	decision influenced by cost - not	cost is not an issue with customers
62	decision influenced by cost ongoing	customer attitude is influenced by ongoing service cost	decision influenced by cost ongoing	customer attitude is influenced by ongoing service cost
58	decision influenced by ease of use	customer attitude is influenced by service ease of use	decision influenced by ease of use	customer attitude is influenced by service ease of use
58	decision influenced by how much the service is needed	customer attitude is influenced by the degree of need for the service	decision influenced by how much the service is needed	customer attitude is influenced by the degree of need for the service
8	decision influenced by marketing	customer attitude is influenced by the marketing campaign	decision influenced by marketing	customer attitude is influenced by the marketing campaign
59	decision influenced by service affordability	customer attitude is influenced by the service affordability	decision influenced by service affordability	customer attitude is influenced by the service affordability
57	decision influenced by service quality	customer attitude is influenced by service quality	decision influenced by service quality	customer attitude is influenced by service quality
14	decision influenced by service value	customers consider the service value to them	decision influenced by service value	customers consider the service value to them
60	decision influenced by social norm	customer attitude influenced by others' opinions	decision influenced by social norm	customer attitude influenced by others' opinions

Sub-category *customer expectations*: Perceptions about customer expectations with respect to service and market performance

79	expectations for choice of services	customers need choice	expectations for choice of services	customers need choice
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DU N	Code		Super code	
	Label	Definition	Label	Definition
13	service to be more convenient than existing ones	the new service must be more convenient than the old one	service to surpass existing ones	service needs to be better than existing ones and more convenient than existing ones
69	service to be better than existing ones	need for services as improved versions of existing ones	service to surpass existing ones	service needs to be better than existing ones and more convenient than existing ones
56	expectations about quality high	customers expect data services to run not worse than voice services	expectations about quality high	customers expect data services to run not worse than voice services
13	expectations difficult to meet	difficult to meet customer expectations	expectations difficult to meet	difficult to meet customer expectations
63	expectations for appealing service design	customers expect nice design	expectations for appealing service design	customers expect nice design
63	expectations for service not to be delayed	customer expect services to be fast	expectations for high service performance quality	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time
63	expectations for service stability (uninterrupted service)	customers expect services to be stable	expectations for high service performance quality	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time
71	expectations for an always available service	customers would like to take advantage of the fact that the phone is always with them	expectations for high service performance quality	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time
79	expectations for low service cost	customers need lower prices	expectations for low service cost	customers need lower prices
69	expectations for rich experience	need for services that enrich and maximise customer experience	expectations for rich experience	need for services that enrich and maximise customer experience
72	expectations for rich experience	need for services that enrich and maximise customer experience	expectations for rich experience	need for services that enrich and maximise customer experience
24	expectations of service value	customers want value	expectations of service value	customers want value
91	customers do not mix entertainment and serious business	customers distrust entertainment if embodied in a serious service	customers do not mix entertainment and serious business	customers distrust entertainment if embodied in a serious service

DU N	Code		Super code	
	Label	Definition	Label	Definition
71	service need to be available any time/any place	services need to be convenient - anytime/anyplace	service need to be available any time/any place	services need to be convenient - anytime/anyplace
81	service need to be available any time/any place	services need to be convenient - anytime/anyplace	service need to be available any time/any place	services need to be convenient - anytime/anyplace
63	service intuitive	services need to be intuitive to use	service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
69	familiar interface expected	new services need to look familiar	service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
71	interface convenient	interface needs to be convenient	service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
72	services used effortlessly	customers want services that can be used effortlessly	service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
88	services user-friendly	more user-friendly services are more attractive	service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
92	service intuitive	service need to be intuitive to use	service needs to be easy to use	the service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
14	service meeting a potential need	service gives value	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable
24	service desirable	the service needs to be desirable	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable
31	services meeting a real need preferred	customer prefer services that meet a real need	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable

DU N	Code		Super code	
	Label	Definition	Label	Definition
68	service needs to be functional	services need to be a functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable
79	service that is really useful	need for really useful applications	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable
93	services meeting a real need preferred	potential customer needs	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable
70	service needs to focus on customer mobility	need for services with a focus on mobility	service needs to focus on customer mobility	need for services with a focus on mobility
35	services need to match personal lifestyle	services matching personal lifestyle requirements is needed	services need to match personal lifestyle	services matching personal lifestyle requirements is needed
36	services need to match personal lifestyle	services matching personal lifestyle requirements is needed	services need to match personal lifestyle	services matching personal lifestyle requirements is needed

Sub-category *Customer segmentation*: perceptions about what customers need to see in a mobile service

32	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers
34	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers
37	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers
39	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers

DU N	Code		Super code	
	Label	Definition	Label	Definition
39	segmentation by specificity of requirements	different user groups	segmentation by specificity of requirements	services matching the needs of a specific group of customers
40	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers
33	segmentation by age	age as a factor determining requirements	segmentation by age	age as a factor determining requirements
35	segmentation by age	age as a factor determining requirements	segmentation by age	age as a factor determining requirements
35	technological competence	technological competence as a factor	segmentation by self-efficacy	services need to match the customer level of technical knowledge as technological competence is a factor and customers cannot be assumed to be all technologically savvy
88	young customers not technology savvy	young customers are not necessarily technology savvy	segmentation by self-efficacy	services need to match the customer level of technical knowledge as technological competence is a factor and customers cannot be assumed to be all technologically savvy
93	services need to match customer level of technical knowledge	services need to match customer level of technical knowledge	segmentation by self-efficacy	services need to match the customer level of technical knowledge as technological competence is a factor and customers cannot be assumed to be all technologically savvy
33	the customer market is divided into groups determined by socio-economic status	socio-economic status as a factor	segmentation by socio-economic status	if voice services customers are divided in socio economic groups and this will play a role in business data services as well
34	existing tariff plans	different tariff plans designed for specific targeted customer groups	segmentation by socio-economic status	if voice services customers are divided in socio economic groups and this will play a role in business data services as well
38	segmentation is multidimensional	different ways to form user groups	segmentation is multidimensional	different ways to form user groups

Table 2. Category REGULATORY ENVIRONMENT (Data Domain ID)

“Particinats’ perceptions and opinions about the regulatory environment”

DU N	Code		Super code	
	Label	Definition	Label	Definition
46	regulation not needed	there is no need for additional regulations	regulation not needed	there is no need for additional regulations
43	communications regulations applicable	communication and communication services regulations applicable	regulations exist that are also applicable	many of the existing regulations also apply to - communications, gambling, anti-racist propaganda
45	gambling regulations may apply	gambling regulations applicable	regulations exist that are also applicable	many of the existing regulations also apply - communications, gambling, anti-racist propaganda
46	anti racist propaganda regulations applicable	anti racist propaganda regulations applicable	regulations exist that are also applicable	many of the existing regulations also apply - communications, gambling, anti-racist propaganda
47	regulations needed - some	regulatory environment does not cover private personal data (including location) abuse	regulations needed - some	regulatory environment does not cover private personal data (including location) abuse
41	regulatory environment - lack of awareness	lack of awareness of the regulatory environment	regulatory environment - lack of awareness	lack of awareness of the regulatory environment
42	regulatory environment - lack of awareness	lack of awareness of the regulatory environment	regulatory environment - lack of awareness	lack of awareness of the regulatory environment
43	regulatory environment - lack of awareness	lack of awareness of the regulatory environment	regulatory environment - lack of awareness	lack of awareness of the regulatory environment
44	regulatory environment - lack of awareness	lack of awareness of the regulatory environment	regulatory environment - lack of awareness	lack of awareness of the regulatory environment
47	regulatory environment supportive	regulatory environment supportive	regulatory environment supportive	regulatory environment supportive

Table 3. Category SERVICE SUPPLY AND DEMAND (Data Domain ID)

“Participants’ perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space”

DU N	Code		Super code	
	Label	Definition	Label	Definition
Sub-category Service demand generator: Participant perceptions and opinions how customer demand growth can be stimulated				
19	free services attractive if modelled on successful paid ones	successful free services are modelled on successful paid ones	free services attractive if modelled on successful paid ones	free services attractive if modelled on successful paid ones
18	free trial increases popularity	free trial increases popularity	free trial increases popularity	free trial increases popularity
79	need for entertainment services	need for entertainment services	need for entertainment services	need for entertainment services
26	services need to be motivating	services need to be motivating	services need to attract customers	service needs to provide motivation to be used by attracting the customer
68	services need to be interesting	services need to be interesting	services need to attract customers	service needs to provide motivation to be used by attracting the customer
Sub-category service demand inhibitor: Participant perceptions and opinions about how customer demand growth is inhibited				
18	paid services less popular	paid services less popular	paid services not too widely used	paid services used less, less popular
18	paid services less used	paid services less used	paid services not too widely used	paid services used less, less popular
53	services that are costly are not attractive	services that are costly are not attractive	services that are costly are not attractive	services that are costly are not attractive
Sub-category service saturation: Customers have choice but of similar mobile services				
74	service saturation	customers have choice but of similar mobile services	service saturation	customers have choice but of similar mobile services
Sub-category service value adder: Service features and functions that can make a service attractive and desirable				
15	paid service with maintenance valued	paid service offers maintenance	paid service with maintenance valued	paid service offers maintenance
21	some free functions valued	combine free and paid	some free functions valued	combine free and paid
90	usability valued	customers value usability	usability valued	customers value usability
91	anytime/anywhere services valued	customers value entertainment applications because of their availability anywhere	anytime/anywhere services valued	customers value entertainment applications because of their availability anywhere

DU N	Code		Super code	
	Label	Definition	Label	Definition
80	connection with other devices valued	connection with other devices valued	connection with other devices valued	connection with other devices valued
86	connection with other devices valued	connection with other devices valued	connection with other devices valued	connection with other devices valued
15	free trial attractive	free trial generally found attractive	free services valued	free applications, trials are valued and used more
16	free trial attractive	free trial generally found attractive	free services valued	free applications, trials are valued and used more
17	free trial attractive	free trial generally found attractive	free services valued	free applications, trials are valued and used more
18	free trial increases popularity	free trial increases popularity	free services valued	free applications, trials are valued and used more
22	free existing applications attractive	existing mobile applications are free	free services valued	free applications, trials are valued and used more
87	low cost service valued	less costly services are more attractive	low cost service valued	less costly services are more attractive
81	time saving valued	time saving services	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a pc, and also supporting tasks that are not digitally supported otherwise
82	services as a replacement of pc based ones	services replacing service now performed using a pc	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a pc, and also supporting tasks that are not digitally supported otherwise
82	services to support everyday tasks	services replacing everyday functions	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a pc, and also supporting tasks that are not digitally supported otherwise
82	services to support everyday tasks not supported digitally at present	services that can replace exiting 'old fashioned' ones	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a pc, and also supporting tasks that are not digitally supported otherwise

Sub-category Service value detractor: service features and functions that may decrease the attractiveness and the desirability of a service

15	free services not valued	free trial not attractive due to limited functionality/bad workmanship	free services not valued	free trial not attractive due to limited functionality/bad workmanship
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DU N	Code		Super code	
	Label	Definition	Label	Definition
50	high service cost due to lack of operator support	operators overprice mobile data services and do not meet customer expectations	high service cost due to lack of operator support	operators overprice mobile data services and do not meet customer expectations
56	data traffic not a priority for operators	mobile data traffic has a lower priority in the mobile network compared to voice traffic	low quality of service due to lack of operator support	service quality low as the data network does not prioritise business services
56	expectations for quality of service not met by the data network	customers may not want a service because of low quality of the underlying data service	low quality of service due to lack of operator support	service quality low as the data network does not prioritise business services
6	information security fears	customers wary of information security , do not know enough about how it is handled	security fears	security fears about compromising customer information including personal information
6	personal data security fears	customers wary of personal data security , do not know enough about how it is handled	security fears	security fears about compromising customer information including personal information
7	service perceived as not useful is not attractive	weak use cases	service not meeting a need not valued	services that are not meeting a need are perceived as not useful and fail to attract customers
7	services not meeting an identified need are not attractive	no superior selling proposition	service not meeting a need not valued	services that are not meeting a need are perceived as not useful and fail to attract customers
76	services not different from existing ones	new services not too different form existing ones (for pcs)	services not different from existing ones	new services not too different form existing ones (for pcs)

Sub-category service viable: There are use scenarios that demonstrate how value can be created

23	paying for health related services	customers paying already for some apps (health)	paying for health related services	customers paying already for some apps (health)
10	successful elsewhere already	use in other markets	successful models exist	successfully used locally and elsewhere
10	successful elsewhere already	use in other markets	successful models exist	successfully used locally and elsewhere
51	successful locally already	use in local market	successful models exist	successfully used locally and elsewhere
20	free services profitable if very popular	popular free service may also be profitable	free services profitable if very popular	popular free service may also be profitable
21	service with some free functions may be successful	hybrid approach free/paid may be successful	service with some free functions may be successful	hybrid approach free/paid may be successful

DU N	Code		Super code	
	Label	Definition	Label	Definition
84	paying bills	mobile phones can be used to pay utilities	attractive use scenarios exist	attractive scenarios already identified such as paying bills , paying at vending machines
85	paying at vending machines	mobile phones can be used to pay at vending machines	attractive use scenarios exist	attractive scenarios already identified such as paying bills , paying at vending machines
22	cheap applications already available	existing mobile applications are cheap to download	cheap applications already available	existing mobile applications are cheap to download

sub category service viable not: there are issues that may make service not viable

7	mobile services have low roi	mobile services not profitable	high investment cost	mobile business service have low roi and the investment cost is high
7	mobile services require high investment costs	mobile services require high investment cost	high investment cost	mobile business service have low roi and the investment cost is high
11	mobile services have low roi	mobile services not profitable	high investment cost	mobile business service have low roi and the investment cost is high
13	innovation is not successful	pioneering companies not successful	innovation is not successful	pioneering companies not successful
1	operators not motivated to support development	some operators not interested	lack of operator support for development	mobile operators are not motivated to support, and do not support mobile business service development , are hostile to it
25	operators not motivated to support development	some operators not interested	lack of operator support for development	mobile operators are not motivated to support, and do not support mobile business service development , are hostile to it
49	operators do not support development	operators do not support service and application development	lack of operator support for development	mobile operators are not motivated to support, and do not support mobile business service development , are hostile to it
55	operators hostile to development	developers cannot compete with actively hostile operators	lack of operator support for development	mobile operators are not motivated to support, and do not support mobile business service development , are hostile to it
2	service too specific for the general market	applications too specific	narrow customer base	customer segments based on specific needs are small, specific services are not suitable for the general market.
7	segment size small	development of specific services for a small number of customers	narrow customer base	customer segments based on specific needs are small, specific services are not suitable for the general market.

DU N	Code		Super code	
	Label	Definition	Label	Definition
9	segment size small	development of specific services for a small number of customers	narrow customer base	customer segments based on specific needs are small, specific services are not suitable for the general market.
52	operators hinder mobile applications distribution	Operators actively do not support mobile application distribution	operators a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing
53	service cost high because of expensive MI access	applications expensive and thus unattractive due to high MI connectivity cost	operators a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing
55	operators act against a 'competing' mobile application	operators acting 'against' a mobile app which they perceived as a competitor to their data services	operators a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing

Table 4. Category TECHNOLOGY (Data Domain ID)

“Participants’ perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations”

DU N	Code			Super code Definition
	Label	Definition	Label	
Sub-category technology limitations: Mobile technology limitations with respect to service development				
3	device limitations	mobile devices have limitations	limitations due to device design	mobile devices have limitations (e.g., display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)
29	device limitations	mobile devices have limitations	limitations due to device design	mobile devices have limitations (e.g., display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)
72	display limitations	display limitations	limitations due to device design	mobile devices have limitations (e.g., display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)
72	innovative interface needed	need for innovative gui	limitations due to device design	mobile devices have limitations (e.g. display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)
76	devices less powerful than pcs	mobile devices have more limitations than pcs	limitations due to device design	mobile devices have limitations (e.g. display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)
76	devices restrict development	development restricted by mobile technology (devices)	limitations due to device design	mobile devices have limitations (e.g. display) , are less powerful than a pc, and restrictive to development (e.g., innovative interface is needed)
93	device limitations	mobile devices have limitations	limitations due to device design	Mobile devices have limitations (e.g. Display) , are less powerful than a PC, and restrictive to development (e.g., innovative interface is needed)

DU N	Code			Super code
	Label	Definition	Label	Definition
83	phone always with customer	mobile phones always with customers	opportunities offered by device design	mobile phone always with customer and smaller than a PC
68	service needs to be technologically implementable	New ideas need to be implementable	service needs to be technologically implementable	New ideas need to be implementable
3	technology limits architecture	architecture for mobile service - limited ways to built	technology limits architecture	architecture for mobile service - limited ways to built
2	technology not available yet	technology opportunities/limitations	technology not available yet	technology opportunities/limitations
Sub-category Technology opportunities: Mobile technology opportunities with respect to service development				
64	technology has potential for new services	technologies have a development potential	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers
65	smart phones have potential for new services	smart phones may offer attractive services	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers
65	time needed for technologies to mature	mobile technologies will become more attractive with time	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers
67	technology has potential for new services	new technologies potential to be explored with new services	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers
77	new technologies not yet explored	new technologies (smart phones) not fully explored yet	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers
83	mobile phones compact	mobile phones smaller than PCs	opportunities offered by device design	mobile phone always with customer and smaller than a PC
73	opportunities to distribute services	new technologies improve service distribution	opportunities to distribute services	new technologies improve service distribution
73	opportunities to support customers	new technologies improve 'ease of customer support'	opportunities to support customers	new technologies improve 'ease of customer support'

Tasble 5. Category INCERTAINTY(Data Domain ID)

“What participants are feeling uncertain about”

DU N	Code		Super code	
	Label	Definition	Label	Definition
Sub-category <i>Uncertainty about customers:</i> Developers uncertain about what customers need, want				
26	customer motivation needed to stimulate development	motivated customers needed	customer motivation needed to stimulate development	motivated customers needed
28	unknown customer market	market needs not known	lack of knowledge about customers	customer market needs are not known and difficult to predict
29	unknown customer market	market needs not known	lack of knowledge about customers	customer market needs are not known and difficult to predict
61	unpredictable customers	customer attitude is difficult to predict	lack of knowledge about customers	customer market needs are not known and difficult to predict
Sub-category <i>Uncertainty about MNOs:</i> Uncertainty about the position of mnos with respect to mobile business				
48	uncertainty about MNOs	uncertainty about the position of mnos with respect to mobile business	uncertainty about MNOs	uncertainty about the position of MNOs with respect to mobile business

APPENDIX L. STUDY 1: CODES-S1 (STAGE 3)

[New codes shown in red. New super codes, with the new underlying codes, shown in purple.]

Study 1: Codes-S1 (Stage 3)			
Category	CUSTOMERS: participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile data services		
	Sub-category	CUSTOMER REQUIREMENTS: participant perceptions and opinions about what customers need to see in a mobile service	
		Super code	service needs to be easy to use
			Codes <i>interface familiar</i>
			<i>interface convenient</i>
			<i>service intuitive</i>
			<i>service used effortlessly</i>
			<i>service user-friendly</i>
		Super code	service needs to be meeting a need
			Codes <i>service functional</i>
			<i>service desirable</i>
			<i>service meeting a potential need</i>
			<i>services meeting a real need</i>
			<i>service useful</i>
		Super code	service needs to focus on customer mobility
			Codes <i>Internet access</i>
		Super code	customers do not mix entertainment and serious business
		Super code	service needs to be convenient
		Super code	service needs to match personal goals
			Codes <i>control over expenses</i>
			<i>future proof</i>
			<i>save money</i>
			<i>cost-effective</i>
			<i>service flexible</i>
	Sub-category	CUSTOMER ATTITUDES: participant perceptions and opinions about the attitude of customers towards services based on mobile technologies	
		Super code	customer market difficult
		Super code	customers conservative
			Codes <i>inertia of older customers</i>
		Super code	customers distrustful of innovation
			Codes <i>customers resist innovation</i>
		Super code	customers distrustful of phones
		Super code	customers prefer well known services
	Sub-category	CUSTOMER DECISION MAKING: participant perceptions and opinions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	
		Super code	decision influenced by comparison
		Super code	decision influenced by cost
		Super code	decision influenced by cost - not

Study 1: Codes-S1 (Stage 3)

		Super code	decision influenced by cost ongoing
		Super code	decision influenced by ease of use
		Super code	decision influenced by how much the service is needed
		Super code	decision influenced by marketing
			Codes <i>creating a need</i>
			<i>how to use a service</i>
			<i>information availability</i>
			<i>informtn availability – not</i>
			<i>information timeliness</i>
		Super code	decision influenced by service affordability
			Codes <i>system requirements</i>
		Super code	decision influenced by service quality
			Codes <i>safety and security</i>
		Super code	decision influenced by added value
		Super code	decision influenced by social norm
		Super code	<i>decision influenced by compatibility</i>
		Super code	<i>decision influenced by cost-effectiveness</i>
	Sub-category	CUSTOMER EXPECTATIONS: participant perceptions and opinions about customer expectations with respect to service and market performance	
		Super code	expectations for choice of services
		Super code	service to surpass existing ones
			Codes <i>service better than existing ones</i>
			<i>service more convenient than existing ones</i>
			<i>better experience</i>
			<i>better support</i>
		Super code	expectations about quality high
		Super code	expectations difficult to meet
		Super code	expectations for high service performance
			Codes <i>expectations for an always available service</i>
			<i>expectations for service not to be delayed</i>
			<i>expectations for service stability (uninterrupted service)</i>
			<i>expectations for service reliability</i>
		Super code	expectations for appealing service design
		Super code	expectations for low service cost
		Super code	expectations for rich experience
		Super code	expectations for service value
		Super code	<i>expectations for support</i>
			Codes <i>expectations for 24/7 support</i>
	Sub-category	CUSTOMER SEGMENTATION (customer market segmentation): participant perceptions and opinions about what customer groups exist and how these are formed	
		Super code	segmentation by specificity of requirements
			Codes <i>eco-friendly</i>
			<i>security</i>
		Super code	segmentation by age
		Super code	segmentation by self-efficacy
		Super code	segmentation by socio-economic status

Study 1: Codes-S1 (Stage 3)

		Super code	segmentation by attitude to innovation	
			Codes <i>first to use</i>	
			<i>try even if not needed</i>	
		Super code	segmentation is multidimensional	
Category	REGULATORY ENVIRONMENT: participant perceptions and opinions about the regulatory environment			
		Super code	regulations exist that are also applicable	
			Codes <i>anti racist propaganda regulations applicable</i>	
			<i>communications regulations applicable</i>	
			<i>gambling regulations may apply</i>	
		Super code	regulation not needed	
		Super code	regulation needed - some	
		Super code	regulatory environment - lack of awareness	
		Super code	regulatory environment supportive	
		Super code	regulatory environment not supportive	
		Super code	regulatory environment changing	
Category	SERVICE SUPPLY AND DEMAND: participant perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space			
	Sub-category	SERVICE DEMAND GENERATOR: participant perceptions and opinions about how customer demand growth can be stimulated		
		Super code	free services attractive if modelled on successful paid ones	
		Super code	free trial increases popularity	
		Super code	need for entertainment services	
		Super code	services that are attractive to customers	
			Codes <i>interesting</i>	
			<i>motivating</i>	
			<i>contemporary/trendy</i>	
		Super code	<i>current use by customers</i>	
			Codes <i>continuous use</i>	
			<i>use by existing customers</i>	
			<i>number of customers</i>	
	Sub-category	SERVICE DEMAND INHIBITOR: participant perceptions and opinions about how customer demand growth is inhibited		
		Super code	paid services not so widely used	
			Codes <i>paid services less used</i>	
			<i>paid services less used</i>	
		Super code	services that are costly are not attractive	
		Super code	service not useful	
	Sub-category	SERVICE MARKET: participant perceptions and opinions about the market for mobile services		
		Super code	service saturation	
		Super code	changing market	
		Super code	not ready for innovation	
		Super code	competition	
			Codes <i>development timeline</i>	
			<i>increased added value</i>	
			<i>MNOs compete</i>	
			<i>similar services</i>	

Study 1: Codes-S1 (Stage 3)				
			<i>MNOs do not compete</i>	
		Super code	<i>environment</i>	
			Codes	<i>easy to identify a niche</i> <i>lagging behind</i>
		Super code	<i>innovativeness</i>	
			Codes	<i>MNOs need to be innovative</i> <i>threat to MNOs</i>
		Super code	<i>roles</i>	
			Codes	<i>all actors need to play</i> <i>MNOs as leaders</i>
	Sub-category	SERVICE VALUE ADDER: participant perceptions and opinions about service features and functions that can make a service attractive and desirable		
		Super code	paid service with maintenance valued	
		Super code	usability valued	
		Super code	connection with other devices valued	
		Super code	free services valued	
			Codes	<i>free existing applications attractive</i> <i>free trial attractive</i> <i>free trial increases popularity</i>
		Super code	low cost service valued	
		Super code	anytime/anywhere services valued	
		Super code	services matching personal lifestyle valued	
			Codes	<i>time saving</i> <i>services as a replacement of PC based ones</i> <i>services to support everyday tasks</i> <i>services to support tasks not supported digitally yet</i> <i>money saving</i> <i>customization</i> <i>Services meeting newly discovered needs</i>
		Super code	<i>customer empowerment</i>	
			Codes	<i>control</i> <i>flexibility</i> <i>meeting specific requirements</i> <i>quick access to information</i> <i>support</i>
		Super code	<i>user experience</i>	
		Super code	<i>first on the market</i>	
	Sub-category	SERVICE VALUE DETRCTOR: participant perceptions and opinions about service features and functions that may decrease the attractiveness and the desirability of a service		
		Super code	low quality of service due to lack of operator support	
			Codes	<i>data traffic not a priority for operators</i> <i>expectations for quality of service not met by the data network</i>
		Super code	high service cost due to lack of operator support	
		Super code	free services not valued	
		Super code	security fears	
			Codes	<i>information security fears</i>

Study 1: Codes-S1 (Stage 3)				
				<i>personal data security fears</i>
		Super code	service not meeting a need not valued	
			Codes	<i>service perceived as not useful is not attractive</i>
				<i>services not meeting an identified need are not attractive</i>
			Codes	<i>supply ahead of demand</i>
		Super code	services not different from existing ones	
		Super code	service not meeting a need not valued	
	Sub-category	SERVICE VIABLE: participant perceptions and opinions about the existence of scenarios that demonstrate how value can be created		
		Super code	successful models exist	
			Codes	<i>successful elsewhere already</i>
				<i>successful locally already</i>
		Super code	service with some free functions may be successful	
		Super code	free services profitable if very popular	
		Super code	cheap applications already available	
		Super code	<i>customer base small and not diverse</i>	
		Super code	attractive use scenarios exist	
			Codes	<i>paying at vending machines</i>
				<i>paying for health related services</i>
				<i>paying bills</i>
				<i>paying at POS</i>
				<i>Internet based services such as mobile banking</i>
	Sub-category	SERVICE VIABLE NOT: participant perceptions and opinions about issues that may make a service not viable		
		Super code	high investment cost	
			Codes	<i>mobile services have low ROI</i>
				<i>mobile services require significant investment</i>
				<i>cost of development</i>
		Super code	innovation is not successful	
		Super code	<i>loosing competitive advantage</i>	
		Super code	narrow customer base	
			Codes	<i>segment size small</i>
				<i>service needs to target a specific segment</i>
				<i>customer market not dynamic enough</i>
		Super code	operators a barrier to service	
			Codes	<i>operators act against a 'competing' mobile application</i>
				<i>operators hinder mobile applications distribution</i>
				<i>service cost high because of expensive MI access</i>
				<i>integration</i>
				<i>standard services (voice) more profitable</i>
		Super code	lack of operator support for development	
			Codes	<i>operators do not support development</i>
				<i>operators hostile to development</i>

Study 1: Codes-S1 (Stage 3)						
				<i>operators not motivated to support development</i>		
		Super code	<i>viability not a primary goal</i>			
Category	TECHNOLOGY: participant perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations					
	Sub-category	LIMITATIONS: participant perceptions and opinions about mobile technology limitations with respect to mobile services development				
		Super code	limitations due to device design			
			Codes	<i>device limitations</i>		
				<i>devices less powerful than PCs</i>		
				<i>devices restrict development</i>		
				<i>display limitations</i>		
				<i>innovative interface needed</i>		
		Super code	<i>technology not available yet</i>			
		Super code	<i>technology limits architecture</i>			
		Super code	<i>Service needs to be technologically implementable</i>			
	Sub-category	OPPORTUNITIES: participant perceptions and opinions about mobile technology opportunities with respect to mobile services development				
		Super code	future opportunities			
			Codes	<i>new technologies not yet explored</i>		
				<i>time needed for technologies to mature</i>		
				<i>technology has potential for new services</i>		
		Super code	opportunities offered by device design			
			Codes	<i>mobile phones compact</i>		
				<i>phone always with customer</i>		
		Super code	opportunities to distribute services			
		Super code	opportunities to support customers			
Category	UNCERTAINTY: what participants are feeling uncertain about					
	Sub-category	UNCERTAINTY ABOUT CUSTOMERS: Participants uncertain about what customers need, want				
		Super code	lack of knowledge about customers			
			Codes	<i>uncertainty about customer attitude</i>		
				<i>unknown customer market</i>		
		Super code	customer motivation needed to stimulate development			
	Sub-category	UNCERTAINTY ABOUT MNOs: Uncertainty about the position of MNOs with respect to mobile business				
		Super code	uncertainty about MNOs			
			Codes	<i>future role</i>		

APPENDIX M. STUDY 1: DATA CODING (STAGE 3)

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
134	customers conservative	customers generally 'traditionalists'	Custo-mers conserva-tive	customers generally 'traditionalists'	customer attitudes	perceptions about the attitude of customers towards services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
94	inertia of older customers	inertia of older customers leads to fear and resistance	customer s conserva-tive	customers generally 'traditionalists'	customer attitudes	perceptions about the attitude of customers towards services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
103	customers distrustful of innovation	customers distrust innovations	customer s distrustfu-l of innovatio-n	customers distrust innovation and new applications	customer attitudes	perceptions about the attitude of customers towards services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
134	customers distrustful of innovation	customers distrust innovations	customer s distrustfu-l of innovatio-n	customers distrust innovation and new applications	customer attitudes	perceptions about the attitude of customers towards services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
94	customers resist innovation	fear of and resistance to innovation	customers distrust innovation	customers distrust innovation and new applications	customer attitudes	perceptions about the attitude of customers towards services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
134	customers prefer well known services	customers prefer old routines	customers prefer well known services	customers prefer old routines	customer attitudes	perceptions about the attitude of customers towards services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
118	decision influenced by added value	customers consider the service value to them	decision influenced by added value	customers consider the service value to them	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
175	decision influenced by added value	customers consider the service value to them	decision influenced by added value	customers consider the service value to them	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
190	decision influenced by added value	customers consider the service value to them	decision influenced by added value	customers consider the service value to them	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
262	decision influenced by added value	customers consider the service value to them	decision influenced by added value	customers consider the service value to them	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
122	decision influenced by comparison	customers consider all options they have	decision influenced by comparison	customers consider all options they have	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
204	decision influenced by compatibility	compatibility with other devices/platforms/OS	decision influenced by compatibility	compatibility with other devices/platforms/OS	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN									
Code			Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition	
247	decision influenced by compatibility with other devices/platforms/OS	compatibility with other devices/platforms/OS	decision influenced by compatibility	compatibility with other devices/platforms/OS	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
262	decision influenced by compatibility with other devices/platforms/OS	compatibility with other devices/platforms/OS	decision influenced by compatibility	compatibility with other devices/platforms/OS	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
95	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
103	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
124	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
162	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
167	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
170	decision influenced by cost	customer attitude is influenced by service cost	decision influenced by cost	customer attitude is influenced by service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
121	decision influenced by cost - not	cost is not an issue with customers	decision influenced by cost - not	cost is not an issue with customers	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
146	decision influenced by cost - not	cost is not an issue with customers	decision influenced by cost - not	cost is not an issue with customers	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
162	decision influenced by cost - ongoing	customer attitude is influenced by ongoing service cost	decision influenced by cost - ongoing	customer attitude is influenced by ongoing service cost	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
262	decision influenced by cost-effectiveness	value for money relation (cost-value relation)	decision influenced by cost-effectiveness	value for money relation (cost-value relation)	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
271	decision influenced by cost-effectiveness	value for money relation (cost-value relation)	decision influenced by cost-effectiveness	value for money relation (cost-value relation)	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
167	decision influenced by ease of use	customer attitude is influenced by service ease of use	decision influenced by ease of use	customer attitude is influenced by service ease of use	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
171	decision influenced by ease of use	customer attitude is influenced by service ease of use	decision influenced by ease of use	customer attitude is influenced by service ease of use	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
262	decision influenced by ease of use	customer attitude is influenced by service ease of use	decision influenced by ease of use	customer attitude is influenced by service ease of use	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
168	decision influenced by how much a service is needed	customer attitude is influenced by the degree of need for the service	decision influenced by how much a service is needed	customer attitude is influenced by the degree of need for the service	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
171	decision influenced by how much a service is needed	customer attitude is influenced by the degree of need for the service	decision influenced by how much a service is needed	customer attitude is influenced by the degree of need for the service	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
262	decision influenced by how much a service is needed	customer attitude is influenced by the degree of need for the service	decision influenced by how much the service is needed	customer attitude is influenced by the degree of need for the service	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
172	creating a need	creating a need	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code			Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
173	creating a need	creating a need	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
174	creating a need	creating a need	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
121	how to use the service	how to use the service	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
121	information availability	information availability	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN									
Code			Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition	
166	information availability	information availability	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
138	information availability - not	information availability - not	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
233	information timeliness	information timeliness	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
137	customer attitude is influenced by the marketing campaign	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics		

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
180	customer attitude is influenced by the marketing campaign	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
205	customer attitude is influenced by the marketing campaign	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
206	customer attitude is influenced by the marketing campaign	decision influenced by marketing	customer attitude is influenced by the marketing campaign	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
95	system requirements	user phone can meet the system requirements	decision influenced by service affordability	customer attitude is influenced by the service affordability	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code			Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
162	system requirements	user phone can meet the system requirements	decision influenced by service affordability	customer attitude is influenced by the service affordability	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
123	decision influenced by service quality	customer attitude is influenced by service quality	decision influenced by service quality	customer attitude is influenced by service quality	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
146	safety and security	safety and security	decision influenced by service quality	customer attitude is influenced by service quality	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
103	decision influenced by social norm	customer attitude influenced by others' opinions	decision influenced by social norm	customer attitude influenced by others' opinions	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
169	decision influenced by social norm	customer attitude influenced by others' opinions	decision influenced by social norm	customer attitude influenced by others' opinions	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
262	decision influenced by social norm	customer attitude influenced by others' opinions	decision influenced by social norm	customer attitude influenced by others' opinions	customer decision making	perceptions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
266		expectations about quality high	customers expect data services to run not worse than voice services	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
186		expectations for appealing service design	customers expect nice design	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
266		expectations for appealing service design	customers expect nice design	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
272		expectations for appealing service design	customers expect nice design	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
266	expectations for an always available service	customers would like to take advantage of the fact that the phone is always with them	expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
270	expectations for an always available service	customers would like to take advantage of the fact that the phone is always with them	expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
281	expectations for an always available service	customers would like to take advantage of the fact that the phone is always with them	expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
245	expectations for service not to be delayed	customer expect services to be fast	expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
123	expectations for service reliability	expectations for service reliability	expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
146	expectations for service stability	customers expect services to be stable	expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
132			expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category		Category		
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
188		expectations for high service performance	customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
271	expectations for low service cost	customers need lower prices	expectations for low service cost	customers need lower prices	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
187	expectations for service value	customers want service to have clear value	expectations for service value	customers want service to have clear value	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
281	expectations for service value	customers want service to have clear value	expectations for service value	customers want service to have clear value	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category		Category		
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
245	expectations for 24/7 support	customers expect 24/7 service support	expectations for support	customers expect support	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
269	expectations for real time support	customers expect real time service support	expectations for support	customers expect support	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
281	expectations for 24/7 support	customers expect 24/7 service support	expectations for support	customers expect support	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
266			expectations for support	customers expect support	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
163	better experience	better experience	service to surpass exisitng ones	Service needs to be better than existing ones and more convenient than existing ones	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
164	better support	better support	service to surpass exisitng ones	Service needs to be better than existing ones and more convenient than existing ones	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
280	service better than existing ones	service to be better than existing ones	service to surpass existing ones	Service needs to be better than existing ones and more convenient than existing ones	customer expectations	perceptions about customer expectations with respect to service and market performance	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
210	service desirable	the service needs to be desirable	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
123	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
124	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
127	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
131	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
210	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
215	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
237	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
249	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
251	service functional	services need to be functional	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
124	service useful	need for really useful applications	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
127	service useful	need for really useful applications	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
215	service useful	need for really useful applications	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
238	service useful	need for really useful applications	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
279	service useful	need for really useful applications	service needs to be meeting a need	service needs to be meeting a real need; such a service is perceived and useful and therefore desirable	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
218	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
225	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
226	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
238	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
244	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
244	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
269	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
270	service needs to be convenient	services need to be convenient -available anytime/anyplace	service needs to be convenient	services need to be convenient - available anytime/anyplace	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
246	interface convenient	services need to be convenient - anytime/anyplace	service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
250	service used effortlessly	customers want services that can be used effortlessly	service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
127	service user-friendly	more user-friendly services are more attractive	service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
251	service user-friendly	more user-friendly services are more attractive	service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
266	service user-friendly	more user-friendly services are more attractive	service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
269		service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
236	Internet access	Internet access	service needs to focus on customer mobility	Need for services with a focus on mobility	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
99		service needs to focus on customer mobility	Need for services with a focus on mobility	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics	
219	control over expenses	control over price and ongoing cost	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
211	future proof	ability to sustain future needs	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
222	future proof	ability to sustain future needs	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
266	future proof	ability to sustain future needs	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
143	save money	save money	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
284	save money	save money	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
237	service cost-effective	reasonable price for the value offered	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
266	service cost-effective	reasonable price for the value offered	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
271	service cost-effective	reasonable price for the value offered	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
282	service cost-effective	reasonable price for the value offered	service needs to match personal goals	services matching personal and lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
185	service flexible	flexibility in terms of how/when the service is used	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
219	service flexible	flexibility in terms of how/when the service is used	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
248	service flexible	flexibility in terms of how/when the service is used	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirement s	perceptions about what customers need to see in a mobile service	customer s	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
251	service flexible	flexibility in terms of how/when the service is used	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
269	service flexible	flexibility in terms of how/when the service is used	service needs to match personal goals	services matching personal lifestyle requirements needed	customer requirements	perceptions about what customers need to see in a mobile service	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
142	first to use	innovative try it just to be the first to use it	segmentation by attitude to innovation	segmentation by attitude to innovation	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
144	try even if not needed	innovative try it even if they do not need it	segmentation by attitude to innovation	segmentation by attitude to innovation	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
145	eco-friendly environmentally conscious customers	environmentally conscious customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
260	security	specific security requirements	segmentation by specificity of requirements	services matching the needs of a specific group of customers	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
239	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
259	segmentation by specificity of requirements	services matching the needs of a specific group of customers	segmentation by specificity of requirements	services matching the needs of a specific group of customers	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
141	segmentation is multidimensional	different ways to form user groups	segmentation is multidimensional	different ways to form user groups	customer segmentation	perceptions about what customer groups exist and how these are formed	customers	participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile business services, and the resulting customer market characteristics
275	subject to interpretation	subject to interpretation	regulations exist that are also applicable	Many of the existing regulations also apply - communications, gambling, anti-racist propaganda	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment
140	changing	changing	regulatory environment changing	the regulatory environment is subject to constant change	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment
150	changing	changing	regulatory environment changing	the regulatory environment is subject to constant change	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment
151	not helpful	not helpful	regulatory environment not supportive	regulatory environment not supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
152	restrictive for competition	the regulatory environment is financially restrictive	regulatory environment not supportive	regulatory environment not supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment
274	scarce	scarce	regulatory environment not supportive	regulatory environment not supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment
274	allows competition	allows competition	regulatory environment supportive	regulatory environment supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment
149			regulatory environment supportive	regulatory environment supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
152		regulatory environment supportive	regulatory environment supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment	Participants' perceptions and opinions about the regulatory environment
275		regulatory environment supportive	regulatory environment supportive	regulatory environment	Participants' perceptions and opinions about the regulatory environment	regulatory environment	Participants' perceptions and opinions about the regulatory environment	Participants' perceptions and opinions about the regulatory environment
179	continuous use	continuous use of service by customers	current use by customers	number of customers and type of use	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
181	continuous use	continuous use of service by customers	current use by customers	number of customers and type of use	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
176	number of customers	number of customers using the service	current use by customers	number of customers and type of use	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
177	number of customers	number of customers using the service	current use by customers	number of customers and type of use	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
178	use by existing customers	new service used by old customers	current use by customers	number of customers and type of use	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
258	free trial increases popularity	free trial increases popularity	free trial increase s popularit y	free trial increases popularity	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
258	free trial increases popularity	free trial increases popularity	free trial increase s popularit y	free trial increases popularity	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
261	free trial increases popularity	free trial increases popularity	free trial increase s popularit y	free trial increases popularity	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
124	contemporary/trendy	services that are contemporary, trendy (image boosting)	services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
223	contemporary/trendy	services that are contemporary, trendy (image boosting)	services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
234	contemporary/trendy	services that are contemporary, trendy (image boosting)	services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
235	contemporary/trendy	services that are contemporary, trendy (image boosting)	services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
241	contemporary/trendy	services that are contemporary, trendy (image boosting)	services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
241	contemporary/trendy	services that are contemporary, trendy (image boosting)	services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
209			services that are attractive to customers	service needs to provide motivation to be used by attracting the customer	service demand generator	customer demand growth can be stimulated	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
197			service not useful	service not useful	service demand inhibitor	customer demand growth is inhibited	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
111		changing market	the market is dynamic	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
		Code		Super code		Sub-category		Category
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
266		changing market	the market is dynamic	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space	
213	development timeline	as competition is high new services need to be offered sooner rather than later	competition	driven by competition	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
265	increased added value	increased added value needed to demonstrate benefits	competition	driven by competition	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
277	MNOs do not compete	MNOs not competitive	competition	driven by competition	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
158	MNOs compete	MNOs need to compete	competition	driven by competition	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
255	similar services	similar services by competitors	competition	driven by competition	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
278	easy to identify a niche	easy to identify a niche	environment		service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
276	lagging behind	lagging behind due to small customer base	environment		service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
159	MNOs need to be innovative	MNOs need to be innovative in order to keep up with other players innovating	innovativeness	innovativeness as a key to success	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
157	innovativeness as a threat to MNOs	telecom operators threatened by new developments	innovativeness	innovativeness as a key to success	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
198	innovativeness as a threat to MNOs	telecom operators threatened by new developments	innovativeness	innovativeness as a key to success	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
212		innovativeness	innovativeness	innovativeness as a key to success	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
214		innovativeness	innovativeness	innovativeness as a key to success	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
243		innovativeness	innovativeness	innovativeness as a key to success	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
104		not ready for innovation	not ready for innovation	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space	
155	all actors need to play	all supply chain participants need to contribute to new developments	roles	the roles of the market players need to change	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
155	MNOs as leaders	telecom operators need to lead new development	roles	the roles of the market players need to change	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
198	MNOs as players		roles		service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
160	similar offerings from operators	operators follow each other too closely	service saturation	customers have choice of similar mobile services	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
217	service saturation	customers have choice of similar mobile services	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space		
253	service saturation	customers have choice of similar mobile services	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space		
263	service saturation	customers have choice of similar mobile services	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space		
267	service saturation	customers have choice of similar mobile services	service market	participant perceptions and opinions about the market for mobile services	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space		
109	anytime/anywhere service valued	customers value applications because of their availability anytime/anywhere, e.g. entertainment	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space		

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
108	control	customer to be able to control, monitor and act	customer empowerment	because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
231	control	customer to be able to control, monitor and act	customer empowerment	because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
107	flexibility	flexibility may make a service viable	customer empowerment	because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
110	meeting specific requirements	meeting specific requirements	customer empowerment	because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
218	quick access to information	quick access to information	customer empowerment	because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
110	support	Ability to provide SLA, QoS to the customers	customer empowerment	because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
264	first on the market	first on the market	first on the market	first on the market	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
122	free services valued	Free applications, trials are valued and used more	free services valued	Free applications, trials are valued and used more	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
125	free services valued	Free applications, trials are valued and used more	free services valued	Free applications, trials are valued and used more	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
261	free services valued	Free applications, trials are valued and used more	free services valued	Free applications, trials are valued and used more	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
232	low cost services valued	less costly services are more attractive	low cost services valued	less costly services are more attractive	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
216	money saving	money saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
216	money saving	money saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
237	money saving	money saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
216	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
216	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
231	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
237	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
244	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
279	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
283	time saving	time saving	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
232	customization	customizable services valued	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
227	services meeting newly discovered needs	services meeting newly discovered needs	services matching personal lifestyle valued	services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
238			usability valued	customers value usability	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
283			usability valued	customers value usability	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
184	user experience	better experience increases customer satisfaction	user experience	better experience increases customer satisfaction	service value adder	service features and functions that can make a service attractive and desirable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
123	information security fears	information security fears	security fears	security fears about compromising customer information including personal information	service value detractor	Service fears and functions that may decrease the attractiveness and the desirability of a service	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
123	personal data security fears	personal data security fears	security fears		service value detractor	Service fears and functions that may decrease the attractiveness and the desirability of a service	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
120	supply ahead of demand	development of new services is going ahead of demand.	service not meeting a need not valued	services that are not meeting a need are perceived as not useful and fail to attract customers	service value detractor	Service fears and functions that may decrease the attractiveness and the desirability of a service	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
256	Internet based services such as mobile banking	Internet based services such as mobile banking	attractive use scenarios exist	attractive scenarios already identified such as paying bills, paying at vending machines	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
228	paying at POS	paying at POS	attractive use scenarios exist	attractive scenarios already identified such as paying bills, paying at vending machines	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
228	paying bills	mobile phones can be used to pay utilities	attractive use scenarios exist	attractive scenarios already identified such as paying bills, paying at vending machines	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
182	value to customer	more demand allows to invest into improvement	increased demand	increased demand brings value both to providers and to customers	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
183	value to customer	more demand allows to invest into new development	increased demand	increased demand brings value both to providers and to customers	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
182	value to provider	more demand means more value to provider	increased demand	increased demand brings value both to providers and to customers	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
277	customer base small and not diverse	customer base small and not diverse	customer base small and not diverse	customer base small and not diverse	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
116	service potentially viable	service potentially viable	service potentially viable	service potentially viable	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
257	service potentially viable	service potentially viable	service potentially viable	service potentially viable	service viable	there are use scenarios that demonstrate how value can be created	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
133	cost of development	cost of development	high investment cost	mobile business service have low ROI and the investment cost is high	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
	Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
101	mobile services require significant investment	mobile services require significant investment	high investment cost	mobile business service have low ROI and the investment cost is high	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
112	mobile services require significant investment	mobile services require significant investment	high investment cost	mobile business service have low ROI and the investment cost is high	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
210	mobile services require significant investment	mobile services require significant investment	high investment cost	mobile business service have low ROI and the investment cost is high	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
100	mobile services require high investment costs	mobile services require high investment costs	high investment cost	mobile business service have low ROI and the investment cost is high	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN							
Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label
102		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
128		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
129		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN							
Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label
130		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
135		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
136		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN							
Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label
136		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
136		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
140		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN							
Code		Super code		Sub-category		Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label
252		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
254		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
267		loosing competitive advantage	loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
114	application s too specific	service needs to target a specific segment	narrow customer base	customer segments based on specific needs are small, specific services are not suitable for the general market.	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
113	customer market not dynamic enough	customer market not dynamic enough	narrow customer base	customer segments based on specific needs are small, specific services are not suitable for the general market.	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
129	integration	system integration	operator s as a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
130	integration	system integration	operator s as a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
133	integration	system integration	operators as a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
115	standard services (voice) more profitable	standard services (voice) more profitable	operators as a barrier to service	operators acting against mobile business services, for example by keeping high MI access pricing; which they perceive as competing	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
116	viability not a primary goal	a service may be not viable but may boost provider's image	viability not a primary goal	a service may be not viable but may boost provider's image	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
117	viability not a primary goal	a service may be not viable but may boost provider's image	viability not a primary goal	a service may be not viable but may boost provider's image	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
161	viability not a primary goal	a service may be not viable but may boost provider's image	viability not a primary goal	a service may be not viable but may boost provider's image	service viable not	There are issues that may make service not viable	service supply and demand	Participants' perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space
201	technology limits architecture	architecture for mobile service - limited ways to built	technology limits architecture	architecture for mobile service - limited ways to built	technology limitations	Mobile technology limitations with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations
224	technology has potential for new services	new technologies potential to be explored with new services	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers	technology opportunities	Mobile technology opportunities with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations
229	technology has potential for new services	new technologies potential to be explored with new services	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers	technology opportunities	Mobile technology opportunities with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
230	technology has potential for new services	new technologies potential to be explored with new services	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers	technology opportunities	Mobile technology opportunities with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations
242	technology has potential for new services	new technologies potential to be explored with new services	future opportunities	new technologies such as smart phones have potential, not explored yet, will become more attractive to customers	technology opportunities	Mobile technology opportunities with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations
96	opportunities to support customers	new technologies improve 'ease of customer support'	opportunities to support customers	new technologies improve 'ease of customer support'	technology opportunities	Mobile technology opportunities with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations
231	mobile phone always with customer	mobile phone always with customer	opportunities offered by device design	mobile phone always with customer and smaller than a PC	technology opportunities	Mobile technology opportunities with respect to service development	technology	Participants' perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations

IS DATA DOMAIN								
Code		Super code		Sub-category			Category	
DUN	Label	Definition	Label	Definition	Label	Definition	Label	Definition
139	unknown customer market	lack of knowledge about customers	Uncertainty about customers	Developers uncertain about what customers need, want.	uncertainty	What participants are feeling uncertain about		
139	unknown customer market	lack of knowledge about customers	Uncertainty about customers	Developers uncertain about what customers need, want.	uncertainty	What participants are feeling uncertain about		
156	unknown customer market	lack of knowledge about customers	Uncertainty about customers	Developers uncertain about what customers need, want.	uncertainty	What participants are feeling uncertain about		
181	unknown customer market	lack of knowledge about customers	Uncertainty about customers	Developers uncertain about what customers need, want.	uncertainty	What participants are feeling uncertain about		
157	future role	future role	uncertainty about MNOs	future role	Uncertainty about MNOs	Uncertainty about the position of MNOs with respect to mobile business	uncertainty	What participants are feeling uncertain about

APPENDIX N. STUDY 1: CODES-S1 (STAGE 4)

Study 1: Codes-S1 (Stage 4)			
Category	CUSTOMERS: participant perceptions and opinions about customer attitudes, behaviours, requirements and expectations with respect to current and future mobile data services		
Sub-category	CUSTOMER REQUIREMENTS: participant perceptions and opinions about what customers need to see in a mobile service		
	Super code	service needs to be easy to use	
		Codes	<i>interface familiar</i>
			<i>interface convenient</i>
			<i>service intuitive</i>
			<i>service used effortlessly</i>
			<i>service user-friendly</i>
	Super code	service needs to be meeting a need	
		Codes	<i>service functional</i>
			<i>service desirable</i>
			<i>service meeting a potential need</i>
			<i>services meeting a real need</i>
			<i>service useful</i>
	Super code	service needs to focus on customer mobility/Internet access	
	Super code	customers do not mix entertainment and serious business	
	Super code	service needs to be convenient	
	Super code	service needs to match personal goals	
		Codes	<i>control over expenses</i>
			<i>future proof</i>
			<i>save money</i>
			<i>cost-effective</i>
			<i>service flexible</i>
	Sub-category	CUSTOMER ATTITUDES: participant perceptions and opinions about the attitude of customers towards services based on mobile technologies	
		Super code	customer market difficult
		Super code	customers conservative/inertia
		Super code	customers distrustful of innovation/conservative
		Super code	customers distrustful of phones
		Super code	customers prefer well known services
	Sub-category	CUSTOMER DECISION MAKING: participant perceptions and opinions about the factors that influence customer decisions about the use and adoption of services based on mobile technologies	
		Super code	decision influenced by comparison
		Super code	decision influenced by cost
		Super code	decision influenced by cost - not
		Super code	decision influenced by cost ongoing
		Super code	decision influenced by ease of use
		Super code	decision influenced by how much the service is needed
		Super code	decision influenced by marketing

Study 1: Codes-S1 (Stage 4)			
		Codes	<i>creating a need</i>
			<i>how to use a service</i>
			<i>information availability</i>
			<i>informtn availability – not</i>
			<i>information timeliness</i>
	Super code		decision influenced by service affordability
	Super code		decision influenced by service quality/safety/security
	Super code		decision influenced by added value
	Super code		decision influenced by social norm
	Super code		decision influenced by compatibility
	Super code		decision influenced by cost-effectiveness
	Sub-category	CUSTOMER EXPECTATIONS: participant perceptions and opinions about customer expectations with respect to service and market performance	
	Super code		expectations for choice of services
	Super code		service to surpass existing ones
		Codes	<i>service better than existing ones</i>
			<i>service more convenient than existing ones</i>
			<i>better experience</i>
			<i>better support</i>
	Super code		expectations about quality high
	Super code		expectations difficult to meet
	Super code		expectations for high service performance
		Codes	<i>expectations for an always available service</i>
			<i>expectations for service not to be delayed</i>
			<i>expectations for service stability (uninterrupted service)</i>
			<i>expectations for service reliability</i>
	Super code		expectations for appealing service design
	Super code		expectations for low service cost
	Super code		expectations for rich experience
	Super code		expectations for service value
	Super code		expectations for support
		Codes	<i>expectations for 24/7 support</i>
			<i>expectations for real time support</i>
	Sub-category	CUSTOMER SEGMENTATION (customer market segmentation): participant perceptions and opinions about what customer groups exist and how these are formed	
	Super code		segmentation by specificity of requirements
		Codes	<i>eco-friendly</i>
			<i>security</i>
	Super code		segmentation by age
	Super code		segmentation by self-efficacy
	Super code		segmentation by socio-economic status
	Super code		segmentation by attitude to innovation
		Codes	<i>first to use</i>
			<i>try even if not needed</i>
	Super code		segmentation is multidimensional
Category	REGULATORY ENVIRONMENT: participant perceptions and opinions about the regulatory environment		

Study 1: Codes-S1 (Stage 4)

		Super code	regulations exist that are also applicable			
			Codes	<i>anti racist propaganda regulations applicable</i>		
				<i>communications regulations applicable</i>		
				<i>gambling regulations may apply</i>		
		Super code	no regulations			
		Super code	regulation needed - some			
		Super code	regulatory environment - lack of awareness			
		Super code	regulatory environment supportive			
		Super code	regulatory environment moderately supportive			
		Super code	regulatory environment changing			
Category	SERVICE SUPPLY AND DEMAND: participant perceptions and opinions about mobile businesses service demand, value to customers, and viability, and the characteristics of the service supply space					
	Sub-category	SERVICE DEMAND GENERATOR: participant perceptions and opinions about how customer demand growth can be stimulated				
		Super code	free services attractive if modelled on successful paid ones			
		Super code	free trial increases popularity			
		Super code	need for entertainment services			
		Super code	services that are attractive to customers			
			Codes	<i>interesting</i>		
				<i>motivating</i>		
				<i>contemporary/trendy</i>		
		Super code	current use by customers			
			Codes	<i>continuous use</i>		
				<i>use by existing customers</i>		
				<i>number of customers</i>		
	Sub-category	SERVICE DEMAND INHIBITOR: participant perceptions and opinions about how customer demand growth is inhibited				
		Super code	paid services not so widely used/less used			
		Super code	services that are costly are not attractive			
		Super code	service not useful			
	Sub-category	SERVICE MARKET: participant perceptions and opinions about the market for mobile services				
		Super code	service saturation			
		Super code	changing market			
		Super code	competition			
			Codes	<i>development timeline</i>		
				<i>increased added value</i>		
				<i>MNOs compete</i>		
				<i>similar services</i>		
				<i>MNOs do not compete</i>		
		Super code	environment			
			Codes	<i>easy to identify a niche</i>		
				<i>lagging behind</i>		
		Super code	players			
			Codes	<i>operators under threat</i>		
				<i>operators need to lead</i>		
				<i>operators need to be creative</i>		
				<i>operators need to be competitive</i>		

Study 1: Codes-S1 (Stage 4)			
			<i>all need to be involved</i>
	Sub-category	SERVICE VALUE ADDER: participant perceptions and opinions about service features and functions that can make a service attractive and desirable	
		Super code	maintenance /support valued
		Super code	usability valued
		Super code	connection with other devices valued
		Super code	free services valued
		Codes	<i>free existing applications attractive</i>
			<i>free trial attractive</i>
			<i>free trial increases popularity</i>
		Super code	low cost service valued
		Super code	anytime/anywhere services valued
		Super code	services matching personal lifestyle valued
		Codes	<i>time saving</i>
			<i>services as a replacement of PC based ones</i>
			<i>services to support everyday tasks</i>
			<i>services to support tasks not supported digitally yet</i>
			<i>money saving</i>
			<i>customization</i>
			<i>services meeting newly discovered needs</i>
		Super code	customer empowerment
		Codes	<i>control</i>
			<i>flexibility</i>
			<i>meeting specific requirements</i>
			<i>quick access to information</i>
			<i>support</i>
		Super code	user experience
		Super code	first on the market
	Sub-category	SERVICE VALUE DETRCTOR: participant perceptions and opinions about service features and functions that may decrease the attractiveness and the desirability of a service	
		Super code	low quality of service due to lack of operator support
		Codes	<i>data traffic not a priority for operators</i>
			<i>expectations for quality of service not met by the data network</i>
		Super code	high service cost due to high data cost
		Super code	free services not valued
		Super code	security fears
		Codes	<i>information security fears</i>
			<i>personal data security fears</i>
		Super code	service not meeting a need not valued
		Codes	<i>service perceived as not useful is not attractive</i>
			<i>services not meeting an identified need are not attractive</i>
			<i>supply ahead of demand</i>
		Super code	services not different from existing ones
		Super code	service not meeting a need not valued

Study 1: Codes-S1 (Stage 4)

	Sub-category	SERVICE VIABLE: participant perceptions and opinions about the existence of scenarios that demonstrate how value can be created		
		Super code	successful models exist	
			Codes	<i>successful elsewhere already</i>
				<i>successful locally already</i>
		Super code	service with some free functions may be successful	
		Super code	free services profitable if very popular	
		Super code	cheap applications already available	
		Super code	attractive use scenarios exist	
			Codes	<i>paying at vending machines</i>
				<i>paying for health related services</i>
				<i>paying bills</i>
				<i>paying at POS</i>
				<i>Internet based services such as mobile banking</i>
		Super code	viability potential	
	Sub-category	SERVICE VIABLE NOT: participant perceptions and opinions about issues that may make a service not viable		
		Super code	high investment cost	
			Codes	<i>mobile services have low ROI</i>
				<i>mobile services require significant investment</i>
				<i>cost of development</i>
		Super code	innovation is not successful	
		Super code	loosing competitive advantage	
		Super code	narrow customer base	
			Codes	<i>segment size small</i>
				<i>service needs to target a specific segment</i>
				<i>customer market not dynamic enough</i>
		Super code	operators a barrier to service	
			Codes	<i>operators act against a 'competing' mobile application</i>
				<i>operators hinder mobile applications distribution</i>
				<i>service cost high because of expensive MI access</i>
				<i>integration</i>
				<i>standard services (voice) more profitable</i>
				<i>in small markets offer cost-effective solutions</i>
		Super code	lack of operator support for development	
			Codes	<i>operators do not support development</i>
				<i>operators hostile to development</i>
				<i>operators not motivated to support development</i>
Category	TECHNOLOGY: participant perceptions and opinions about the opportunities offered by mobile technologies, and about their limitations			
	Sub-category	LIMITATIONS: participant perceptions and opinions about mobile technology limitations with respect to mobile services development		
	Super code	limitations due to device design		

Study 1: Codes-S1 (Stage 4)			
		Codes	<i>device limitations</i>
			<i>devices less powerful than PCs</i>
			<i>devices restrict development</i>
			<i>display limitations</i>
			<i>innovative interface needed</i>
		Super code	technology not available yet
		Super code	technology limits architecture
		Super code	Service needs to be technologically implementable
	Sub-category	<i>OPPORTUNITIES: participant perceptions and opinions about mobile technology opportunities with respect to mobile services development</i>	
		Super code	<i>p</i> otential opportunities
		Codes	<i>new technologies not yet explored</i>
			<i>time needed for technologies to mature</i>
			<i>technology has potential for new services</i>
		Super code	opportunities offered by device design
		Codes	<i>mobile phones compact</i>
			<i>phone always with customer</i>
		Super code	opportunities to distribute services
		Super code	opportunities to support customers
Category	<i>UNCERTAINTY: what participants are feeling uncertain about</i>		
	Sub-category	<i>ABOUT CUSTOMERS: Participants uncertain about what customers need, want</i>	
		Super code	<i>lack of knowledge about customers</i>
		Codes	<i>uncertainty about customer attitude</i>
			<i>unknown customer market</i>
		Super code	customer motivation needed to stimulate development
	Sub-category	<i>ABOUT MNOs: Uncertainty about the position of MNOs with respect to mobile business</i>	
		Super code	uncertainty about MNOs future
	Sub-category	<i>ABOUT TECHNOLOGY: Uncertainty about the further development of mobile technologies</i>	
		Super code	uncertainty about technology

APPENDIX O. STUDY 1: CODES-S1 (FINAL)

O1. Codes-S1 after emerging themes were defined

O2. Emerging themes mapped onto super codes

O1. Codes-S1 after emerging themes were defined

Category CUSTOMERS				
	CUSTOMER REQUIREMENTS	Super code	Service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
1	CUSTO MER REQUI RE-MENTS	Super code	Service needs to be meeting a need	Service needs to be meeting a real need; such a service is perceived as useful and therefore desirable
2		Super code	Service needs to focus on customer mobility	Need for services with a focus on mobility
3		Super code	Customers do not mix entertainment and serious business	Customers distrust entertainment if embodied in a serious service
4		Super code	Service needs to be convenient	Services need to be convenient - available anytime/anyplace
5		Super code	Service needs to match personal goals	Services matching personal and lifestyle requirements needed
6		Super code	Customer market difficult	The customer market is perceived as difficult to penetrate
7	CUSTO MER ATTITU DES	Super code	Customers conservative	Customers generally 'traditionalists'
8		Super code	Customers distrustful of innovation	Customers distrust innovation and new applications
9		Super code	Customers distrustful of phones	Phones not trusted for serious work
10		Super code	Customers prefer well known services	Customers prefer old routines
11		Super code	Decision influenced by comparison	Customers consider all options they have
12	CUSTO MER DECISI ON MAKIN G	Super code	Decision influenced by cost	Customer attitude is influenced by service cost
13		Super code	Decision influenced by cost - not ongoing	Cost is not an issue with customers
14		Super code	Decision influenced by cost ongoing	Customer attitude is influenced by ongoing service cost
15		Super code	Decision influenced by ease of use	Customer attitude is influenced by service ease of use
16		Super code	Decision influenced by how much the service is needed	Customer attitude is influenced by the degree of need for the service
17		Super code	Decision influenced by marketing	Customer attitude is influenced by the marketing campaign
18		Super code	Decision influenced by service affordability	Customer attitude is influenced by the service affordability
19				

20		Super code	Decision influenced by service quality	Customer attitude is influenced by service quality
21		Super code	Decision influenced by added value	Customers consider the service value to them
22		Super code	Decision influenced by social norm	Customer attitude influenced by others' opinions
23		Super code	Decision influenced by compatibility	Compatibility with other devices/platforms/OS
24		Super code	Decision influenced by cost-effectiveness	Tradeoff between cost and value
25	CUSTOMER EXPECTATIONS	Super code	Expectations for choice of services	Customers expect to have choice
26		Super code	Service to surpass existing ones	Service needs to be better than existing ones and more convenient than existing ones
27		Super code	Expectations about quality high	Customers expect data services to run not worse than voice services
28		Super code	Expectations difficult to meet	Difficult to meet customer expectations
29		Super code	Expectations for high service performance	Customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time
30		Super code	Expectations for appealing service design	Customers expect nice design
31		Super code	Expectations for low service cost	Customers need lower prices
32		Super code	Expectations for rich experience	Expectations for services that enrich and maximise customer experience
33		Super code	Expectations for service value	Customers want service to have clear value
34		Super code	Expectations for support	Customers expect support
35	CUSTOMER SEGMENTATION	Super code	Segmentation by specificity of requirements	Services matching the needs of a specific group of customers
36		Super code	Segmentation by age - young customers	Young customers have a specific skill set profile
37		Super code	Segmentation by age	Age as a factor determining requirements
38		Super code	Segmentation by self-efficacy	Services need to match the customer level of technical knowledge as technological competence is a factor and customers cannot be assumed to be all technologically savvy
39		Super code	Segmentation by socio-economic status	Similarly to voice services where customers are divided in socio economic groups this will play a role in mobile data services as well
40		Super code	Segmentation by attitude to innovation	Segmentation by attitude to innovation
41		Super code	Segmentation is multidimensional	Different ways to form user groups
Category REGULATORY ENVIRONMENT				
42		Super code	Regulations exist that are also applicable	Many of the existing regulations also apply - communications, gambling, anti-racist propaganda

43		Super code	No regulations	There is no need for additional regulations
44		Super code	Regulation needed - some	Regulatory environment does not cover private personal data (including location) abuse
45		Super code	Regulatory environment - lack of awareness	Lack of awareness of the regulatory environment
46		Super code	Regulatory environment supportive	Regulatory environment supportive
47		Super code	Regulatory environment moderately supportive	Regulatory environment not supportive
48		Super code	Regulatory environment changing	The regulatory environment is subject to constant change
Category SERVICE SUPPLY AND DEMAND				
49	SERVICE GENERATOR	Super code	Free services attractive if modeled on successful paid	Free services attractive if modelled on successful paid ones
50		Super code	Free trial increases popularity	Free trial increases popularity
51		Super code	Need for entertainment services	Need for entertainment services
52		Super code	Services that are attractive to customers	Service needs to provide motivation to be used by attracting the customer
53		Super code	Current use by customers	Higher number of customers and type of use increase demand
54	SERVICE INHIBITOR	Super code	Paid services less attractive	Paid services used less, less popular
55		Super code	Services not useful	Service not useful
56	SERVICE MARKET	Super code	Service saturation	Customers have choice of similar mobile services
57		Super code	Changing market	The market is dynamic
58		Super code	Competition	Driven by competition
59		Super code	Environment	An environment of niche markets
60		Super code	Players	The roles of the market players need to change
61	SERVICE VALUE ADDER	Super code	Maintenance/support valued	Paid service valued as it offers maintenance and support
62		Super code	Usability valued	Customers value usability
63		Super code	Connection with other devices valued	Connection with other devices valued
64		Super code	Free services valued	Free applications, trials are valued and used more
65		Super code	Low cost services valued	Less costly services are more attractive

				Category TECHNOLOGY
66		Super code	Anytime/anywhere services valued	Customers value applications because of their availability any time/anywhere, e.g. Entertainment
67		Super code	Services matching personal lifestyle valued	Services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise
68		Super code	Customer empowerment	Because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement
69		Super code	User experience	Better experience increases customer satisfaction
70		Super code	First on the market	First on the market
71	SERVICE DETRUCTOR	Super code	Low quality of service due to lack of operator support	Service quality low as the data network does not prioritise mobile data services
72		Super code	High service cost due to high data cost	Operators overprice mobile data services and do not meet customer expectations
73		Super code	Security fears	Security fears about compromising customer information including personal information
74		Super code	Free services not reliable	Free trial not attractive due to limited functionality/bad workmanship
75		Super code	Service not meeting a need not valued	Services that are not meeting a need are perceived as not useful and fail to attract customers
76		Super code	Services not different from existing ones	New services not too different from existing ones (for pcs)
77	SERVICE VIABLE	Super code	Successful models exist	Successfully used locally and elsewhere
78		Super code	Service with some free functions may be successful	Hybrid approach free/paid may be successful
79		Super code	Free services profitable if very popular	Popular free service may also be profitable
80		Super code	Cheap applications already available	Existing mobile applications are cheap to download
81		Super code	Attractive use scenarios exist	Attractive scenarios already identified such as paying bills, paying at vending machines
82		Super code	Viability potential	Service potentially viable
83	SERVICE VIABLE NOT	Super code	High investment cost	Mobile data services have low ROI and the investment cost is high
84		Super code	Loosing competitive advantage	Loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers
85		Super code	Narrow customer base	Customer segments based on specific needs are small, specific services are not suitable for the general market
86		Super code	Operators a barrier to service	Operators acting against mobile data services, for example by keeping high MI access pricing; which they perceive as competing
87		Super code	Lack of operator support for development	Mobile operators are not motivated to support, and do not support mobile data service development, are hostile to it

88	LIMITATIONS	Super code	Limitations due to device design	Mobile devices have limitations (e.g., the display), are less powerful than a PC, and restrictive to development (e.g., innovative interface is needed)
89		Super code	Technology not available yet	Technology not available yet (for new ideas)
90		Super code	Technology limits architecture	Architecture for mobile service - limited ways to built
91		Super code	Service needs to be technologically implementable	New ideas need to be implementable
92	OPPORTUNITIES	Super code	Potential opportunities	New technologies such as smart phones have potential, not explored yet, will become more attractive to customers
93		Super code	Opportunities offered by device design	Mobile phone always with customer and smaller than a PC
94		Super code	Opportunities to distribute services	New technologies improve service distribution
95		Super code	Opportunities to support customers	New technologies improve 'ease of customer support'
Category UNCERTAINTY				
96	ABOUT CUSTOMERS	Super code	Lack of knowledge about customers	Customer market needs are not known and difficult to predict
97		Super code	Customer motivation needed to stimulate development	Motivated customers needed
98	ABOUT MNOs	Super code	Uncertainty about MNOs	Uncertainty about the position of MNOs with respect to mobile business
99	ABOUT TECHNOLOGY	Super code	Uncertainty about technology	Uncertainty about the further development of mobile technology

O2. Emerging themes mapped onto super codes

Themes and super codes		
Theme 1 Theme 2 Theme 3 Theme 4 Theme 5 Theme 6 Theme 7 Theme 8 Theme 9		
Theme 10 Theme 11 Theme 12 Theme 13		
Category CUSTOMERS		
Sub-category CUSTOMER REQUIREMENTS		Super code service needs to be easy to use
		Super code service needs to be meeting a need
		Super code service needs to focus on customer mobility
		Super code customers do not mix entertainment and serious business
		Super code service needs to be convenient
Sub-category CUSTOMER ATTITUDES		Super code service needs to match personal goals
		Super code customer market difficult
		Super code customers conservative
		Super code customers distrustful of innovation
		Super code customers distrustful of phones
		Super code customers prefer well known services

Themes and super codes		
	Theme 1 Theme 2 Theme 3 Theme 4 Theme 5 Theme 6 Theme 7 Theme 8 8 Theme 9 Theme 10 Theme 11 Theme 12 Theme 13	
<i>Sub-category CUSTOMER DECISION MAKING</i>	Super code decision influenced by comparison	
	Super code decision influenced by cost	
	Super code decision influenced by cost - not	
	Super code decision influenced by cost ongoing	
	Super code decision influenced by ease of use	
	Super code decision influenced by how much the service is needed	
	Super code decision influenced by marketing	
	Super code decision influenced by service affordability	
	Super code decision influenced by service quality	
	Super code decision influenced by added value	
	Super code decision influenced by social norm	
	Super code decision influenced by compatibility	
	Super code decision influenced by cost-effectiveness	
	Super code expectations for choice of services	
	Super code service to surpass existing ones	
<i>Sub-category CUSTOMER EXPECTATIONS</i>	Super code expectations about quality high	
	Super code expectations difficult to meet	
	Super code expectations for high service performance	
	Super code expectations for appealing service design	
	Super code expectations for low service cost	
	Super code expectations for rich experience	
	Super code expectations for service value	
	Super code expectations for support	
	Super code segmentation by specificity of requirements	
	Super code segmentation by age	
<i>Sub-category CUSTOMER SEGMENTATION</i>	Super code segmentation by age – young customers	
	Super code segmentation by self-efficacy	
	Super code segmentation by socio-economic status	
	Super code segmentation by attitude to innovation	
	Super code segmentation is multidimensional	
	Category REGULATORY ENVIRONMENT	
	Super code regulations exist that are also applicable	
	Super code no regulations	
	Super code regulation needed - some	
	Super code regulatory environment - lack of awareness	
	Super code regulatory environment supportive	
	Super code regulatory environment moderately supportive	
	Super code regulatory environment changing	

Themes and super codes	
	Category SERVICE SUPPLY AND DEMAND
<i>Sub-category SERVICE DEMAND GENERATOR</i>	Super code free services attractive if modeled on successful paid
	Super code free trial increases popularity
	Super code need for entertainment services
	Super code services that are attractive to customers
	Super code current use by customers
	Super code paid services less attractive
	Super code services not useful
	Super code service saturation
	Super code changing market
	Super code competition
<i>Sub-category SERVICE DEMAND INHIBITOR</i>	Super code environment
	Super code players
	Super code maintenance/support valued
	Super code usability valued
	Super code connection with other devices valued
	Super code free services valued
	Super code low cost services valued
	Super code anytime/anywhere services valued
	Super code services matching personal lifestyle valued
	Super code customer empowerment
<i>Sub-category SERVICE VALUE ADDER</i>	Super code user experience
	Super code first on the market
	Super code low quality of service due to lack of operator support
	Super code high service cost due to high data cost
	Super code security fears
	Super code free services not reliable
	Super code service not meeting a need not valued
	Super code services not different from existing ones
	Super code successful models exist
	Super code service with some free functions may be successful
<i>Sub-category SERVICE VALUE DETRACTOR</i>	Super code free services profitable if very popular
	Super code cheap applications already available
	Super code attractive use scenarios exist
	Super code viability potential
	Super code high investment cost
	Super code loosing competitive advantage

Themes and super codes		
Theme 1 Theme 2 Theme 3 Theme 4 Theme 5 Theme 6 Theme 7 Theme 8 Theme 9 Theme 10 Theme 11 Theme 12 Theme 13		
<i>Sub-category SERVICE VIABLE NOT</i>	Super code	narrow customer base
Category TECHNOLOGY		
<i>Sub-category LIMITATIONS</i>	Super code	limitations due to device design
	Super code	technology not available yet
	Super code	technology limits architecture
	Super code	service needs to be technologically implementable
<i>Sub-category OPPORTUNITIES</i>	Super code	potential opportunities
	Super code	opportunities offered by device design
	Super code	opportunities to distribute services
	Super code	opportunities to support customers
Category UNCERTAINTY		
<i>Sub-category ABOUT CUSTOMERS</i>	Super code	lack of knowledge about customers
<i>Sub-category ABOUT MNOs</i>	Super code	customer motivation needed to stimulate development
<i>Sub-category ABOUT TECHNOLOGY</i>	Super code	uncertainty about MNOs
	Super code	uncertainty about technology

APPENDIX P. STUDY 1: ADDITIONAL DATA

Questions and answers (respondents R05BG1, R07BG2, R13BG3)

Do you think that developing a mobile business application or service involves innovation? If yes, please elaborate on the aspects you find important.

Respondent R05BG1. *It certainly involves some degree of innovation as most developers are striving to create something new. Innovation is always built on top of something old and tweaking what is already there often leads to something new.*

Respondent R07BG2. *Mobile products will not offer any new features/functions (except of location based services) to the customer, but they will make established services much more comfortable/user friendly.*

Respondent R13BG3. *Better results can always be reached and innovations are being made. The important aspects in my opinion are feedback and accuracy, conciseness and clearness of the information provided. [Винаги може да се постигне по-добър резултат и се правят иновации. Важните аспекти според мен са обратната връзка и точността, краткостта и яснотата на представената информация.]*

In your opinion, what new features and/or functions can new mobile products offer to the contemporary 'mobile' customer?

Respondent R05BG1. *We have seen so many new functions embedded in a phone and for sure we will be surprised with even more surprising functions built in. I would not be surprised to see the phone as a remote control, voice translator, voice changer, other functions too.*

Respondent R07BG2. *Mobile products will not offer any new features/functions (except of location based services) to the customer, but they will make established services much more comfortable/user friendly.*

Respondent R13BG3. *Collective and synchronized work in a short period. [Колективна и синхронизирана работа за кратко време.]*

Following up on your answer, what would be most attractive to customers? Why do you think so?

Respondent R05BG1. *I think that a voice translator will be the next big thing, allowing a consumer to speak into the phone where his speech is directly translated into a different language does not seem impossible with the contemporary level of technological development.*

Respondent R07BG2. *Mobile payment, as it provides more comfortable, faster, and safer way of payment.*

Respondent R13BG3. *Defining main information, synchronization and notification beforehand an event occurs. Attention is paid to the most important things which can change and that automatically being reflected, as well as inform users on a given event. [Отделянето на основната информация, синхронизацията и предизвестията за настъпване на дадено събитие. Обръща се внимание на най-важните неща, които да могат да се променят и това автоматически да се отразява, както и да се информират потребителите за дадено събитие].*

What do you think would be the main obstacles in bringing a mobile product to the market?

Questions and answers (respondents R05BG1, R07BG2, R13BG3)

Respondent R05BG1. *Making the product well known takes time and if there is a solid price associated with it, it would certainly present an obstacle. Reasonable pricing might be key (although there is always the magic word "free")*

Respondent R07BG2. *In developed world, where you can find mature financial payment system in place it is difficult to win customers for mobile payment because customers are used to their credit and debit cards.*

Do you think that in general new mobile business services and/or applications could be offered in a viable business model?

Respondent R05BG1. *As I said earlier, as long as the pricing is reasonable and the service/function worth paying for, consumers will want it.*

Respondent R07BG2. *Yes. There are viable business models for all involved value chain players, we only need to find such models.*

Respondent R13BG3. *For a short time, they could be profitable, but not financially stable as far as I am concerned, because there are many factors they depend on: fast change of users' preferences and of mobile technologies. [За кратко време биха били приходоносни, но не и финансово стабилни според мен, понеже има много фактори, от които зависят: бързата смяна на предпочтенията на потребителите и на мобилните технологии.]*

Do you think that if customer had a free access to a new mobile business product it would be a good idea to provide the mobile product they would be more likely to start using it? In your opinion, are there any other significant factors which influence customer decisions?

Respondent R05BG1. *Free has always been the best way to make a product/service popular. However, there is always the danger of not being able to put a price on something at a later stage, once you have released it for free. Word of mouth is always important, getting a lot of positive reviews is important too.*

Respondent R07BG2. *In my opinion a free access to mobile business product is a precondition for its success. Customers do not want to pay for services unfamiliar to them. The access should be free; the money should be made on transaction fees.*

Respondent R13BG3. *Yes, this would be the biggest influence. [Да, това ще окаже най-голямо влияние.]*

In your opinion, what are problems facing those who are involved in the development and/or the implementation of new mobile business services and/or applications?

Respondent R05BG1. *The biggest problems most of the time are not associated with the process of development but with the process of distribution.*

Respondent R07BG2. *Low demand for such services. The market is in the technology push phase.*

Respondent R13BG3. *The rapid change in technology, the time for which the application will be of current interest, will be short. [Бързата смяна на технологиите, времето, за което приложението ще е актуално, ще е кратко].*

What do you think will be the most valuable features of a mobile product from a customer perspective? Do you think that different customer groups may have different requirements and expectations, please explain.

Questions and answers (respondents R05BG1, R07BG2, R13BG3)

Respondent R05BG1. *Different customers groups certainly have different requirements. A good example is the App store for iPhone where everything is divided in categories, so if you are a medical practitioner, you will most likely go to the health category to look for relevant apps. Ranking of the application/service also plays a role.*

Respondent R07BG2. *When talking about mobile products one needs to distinguish between developed and developing countries. In developing countries M-Payment provides possibly the only cash-less payment method. In developed world for the M-Payment to be a success it must offer additional benefit as compared to other payment methods. Furthermore it is essential to distinguish between age groups, young people are generally more appropriate for mobile services, however older people also represent an interesting target group. The ease of use and the convenience should be considered for all age groups. The older users should not be overloaded with additional features; generally they just want to be able to use a basic service.*

Respondent R13BG3. *Easy and fast navigation, to include basic, but also dynamic (updating itself) data. User groups can be divided in different age groups: they are used to different paces of perceiving and considering information; they can be divided also in "technological" groups: some users prefer a simplified phone with basic functions, others – newest technology. [Лесна и бърза навигация; да съдържа основна, но и динамична (обновяваща) се информация. Потребителските групи може да се разделят на възрастови групи: различните възрастови групи са свикнали на различни темпове на възприемане и разглеждане на информацията; могат да се разделят и на "технологични" групи: някои потребители предпочитат по-усложнен телефон, с базови функции, други – най- новите технологии.]*

In your opinion, how does the current regulatory environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?

Respondent R05BG1. *As of now, it does not seem that the regulatory environment has had any influence since one can find various applications. Of course, there are certain rules to be followed but there are always ways to go around.*

Respondent R07BG2. *The majority of countries has a contra productive regulatory environment. Frequently there are several authorities that regulate M-Payment and introduce controversial regulations.*

Respondent R13BG3. *I am not familiar with the details.[Не съм запозната.]*

In your opinion, how does the current mobile network market environment support (or not) the development, implementation and market penetration of new mobile business services and/or applications?

Respondent R05BG1. *The current stage of mobile network market environment supports the infrastructure but soon enough we will need a faster connection, better reception, more powerful devices, etc. Japan and South Korea are years ahead of North America.*

Respondent R07BG2. *Mobile business gains in importance, there is a large number of start-ups globally. The mobile penetration in industrialized countries is over 115%, hence every one has at least one mobile phone. In developing countries the mobile penetration is over 57% and is constantly growing. Hence there are very good conditions for the diffusion of mobile services.*

Respondent R13BG3. *Operators do support last technologies, but using these services is not accessible and profitable for most users, thus users are financially*

Questions and answers (respondents R05BG1, R07BG2, R13BG3)

limited by the operators. [Операторите поддържат последните технологии, но използването на тези услуги не е достъпно и изгодно за голяма част от потребителите, т.е. потребителите финансово са ограничени от операторите.]

What do you think influences customer attitude towards accepting and using a new mobile business service and/or application?

Respondent R05BG1. *The rating, the usefulness and the price.*

Respondent R07BG2. *Attention, Interest, Desire, but much more important is the additional benefit of mobile services.*

Respondent R13BG3. *The financial aspect – if they are profitable or not, and what the usefulness-price relation is. [Финансовата страна- изгодни ли са или не, и колко полезни ще са тези технологии, за тази сума].*

APPENDIX Q. STUDY 2: INTERVIEW TRANSCRIPTS

Contains 13 interview transcripts: NZINT1-NZINT13

Q1. INTNZ1 Interview transcript

1 Q1.Attraction

2 NZINT1

3 From my perspective software always is providing a service whether it is
4 providing it on a mobile platform or whether it is providing it from access to the
5 internet or even if it is just something purchased at a store – carried in a shrink-
6 wrapped box and installed on a computer somewhere or a laptop. It is still is
7 essentially a service that is being rendered by the software, it's the way I view it.

8 So while my work has changed in terms of its subject matter to a certain extent
9 as a result of the mobile initiative developments in the field, I am switching in my
10 career essentially from servicing a corporate software need to serving a
11 personal software need.

12 Researcher

13 Yes, in a way what you have justifiably used the word service and I am very
14 glad what you said it because we should not even be talking about application
15 rather about the service. The end user and the individual user see it as a
16 service not what's written underneath that application code

17 NZINT1

18 I think that the utility piece of software ultimately is measurable in terms of the
19 value it adds to the user. What it is able to accomplish and what it facilitates.

20 Researcher

21 So that is very good lead to the question. What is it in your opinion in the
22 existing services that are most attractive to customers that makes them
23 attractive?

24 NZINT1

25 Well I have in my position of Developer of Mobile Application an interesting
26 perspective on this because we have a port-folio of mobile applications all of
27 which we can monitor the down-loaded usage of. And far and away the most
28 popular application which we are working on is a music player.

29 So it is an entertainment software that has received I believe at this point
30 somewhere 100,000 downloads as compared to our perhaps next most popular
31 software (real estate) which has only a few thousand and it tapers off pretty
32 quickly after that to niche markets and corporate uses.

33 We have a real stage up which has a few hundred downloads and some other
34 personal utility as a tool which only has a few hundreds of downloads, so it is
35 three bits of magnitude difference between these entertainment applications
36 and similar business applications in terms of numbers of potential users. So if
37 you're talking about who has mobile phones now and what they are going to
38 use those smart mobile phones for well some of the first things they are going to
39 use them for – games, movies entertainment service.

40 Researcher

41 What you say is quite interesting . You mentioned the niche your software
42 tries to find and target, what you mean by niche?

43 NZINT1

44 That is correct. There is not a wide interest in a real estate application or
45 perhaps a thing called personal body guard which is another one of our
46 applications. It is for a very specialized group of people who would have such
47 security requirements that they would want to be carrying around a mobile
48 device that would warn them who departed from a business meeting in a
49 certain period of time.

50 Researcher

51 Is it different from software for personal computers ? Or was the personal
52 computer distribution similar to the market that we see now?

53 NZINT1

54 I think you look at software development overall in terms of the numbers of
55 people and the types of applications. I don't have actual statistics on this, but I
56 have heard that the computer gaming industry it has grown to the point where it
57 is now bigger than books and movies combined and is expected to continue to
58 grow.

59 Q2.Benefits

60 NZINT1

61 We attempted to make most often in our application development is being
62 through GPS - location detection. Carrying a computer around that can tell
63 where you are and add information about that through a message or use it to
64 inform you about what is nearby -- is definitely a new capability.

65 The fact that the device itself has a touch screen interface makes it very
66 different user experience from the typical mouse and keyboard kind of
67 interaction. And of course what I think is on the horizon with Iphone4 -- and the
68 theory is that there will be voice commands and voice interaction with these
69 devices.

70 So, I think that we are only just beginning to scratch the surface in terms of
71 what mobile are going to do, what tablets are going to do. The particular
72 application that I intend doing in my research is education and there is high
73 likelihood in my opinion that education is going to be transformed by mobile
74 access to learning with a tablet.

75 Researcher

76 So you are saying that voice interface will be attractive, why will people
77 suddenly have such interest in voice interface?

78 NZINT1

79 It really boils down to people's interest in U-Tube. It turns out that you can
80 make videos or the equivalent of videos by writing things rather than actually
81 speaking them. It gives you tremendous leverage, so much easier to edit a
82 transcript of text, to search that transcript of text, to translate that transcript of
83 text, to transmit that transcript of text.

84 When some of the mobile devices are fully engaged with downloading videos
85 they are using quite a lot of bandwidth, and with people who cannot afford to
86 have a huge data plan they can eventually are not going to be able to take full
87 advantage of that multi- media capability unless the presentation is packaged
88 up in a more efficient way. I think the combination of text and pictures and the

89 text is then converted onto a device to text speech into a voice over, makes for
90 a very compact transmission an MP3 with pictures or a podcast.

91 Q3.Requirements and expectations

92 NZINT1

93 The touch screen interface makes the tactile experience very different. You
94 actually feel like you are in control of the digital media when you can swipe the
95 page. And for some people having that immediacy 'it's at my finger-tips, I can
96 just tap' and to sum it up new information in materials I think makes it
97 extraordinarily engaging - the point where, as I understand it, babies who have
98 been exposed to some of these ipad and touch screen devices now faced with
99 some older non-touch technology will become frustrated – "why doesn't it
100 respond the way everything else in my world does?"

101 I think that we all have that sort of childish inborn desire to have our actions be
102 responded to, and when they are responded to both in terms of something
103 visual and ultimately in terms of something auditory when we can speak to a
104 device and it will speak back to us, I think that it is going to be really quite a
105 different user experience.

106 Q4.Features

107 NZINT1

108 Essentially I could boil it down to one word and that would be 'convenience'.
109 Really what we are talking about here is changing the manifestation of so much
110 of our entertainment and cultural experience into a bit stream. We're turning
111 books into bits, we're turning music into bits, movies – everything that involves
112 communication is now turning into something that can be stored, carried,
113 communicated through one of these mobile devices, so it becomes a portal, too
114 – skype is giving us global phone calls capabilities, Wikipedia means we can
115 look anything up anywhere at any time when all this stuff gets linked into
116 Google Maps we can always find where we are and how we want to get to any
117 place we want to go to. And meanwhile we are being entertained by all of our
118 favourite artists.

119 There are subscriptions plans like **Spotifide** that is been launched in the USA
120 and the application I worked on commercially is a digital music player that is
121 expected to launch a subscription service, would give you 17 million music
122 tracks to take your pick. You can listen to any one at any time with a full search
123 capability, so you can always find that particular song that you'd like to hear and
124 have it immediately screened onto your mobile device and there off you go.

125 The new Amazon Kindle Fire product is a very interesting one in terms of its
126 ability to access everything that Amazon has traditionally offered in terms of
127 printed books and other materials on their Kindle e-readers, but now their
128 expanding that into movies and music. So all of this is again coming back to the
129 idea that where we used to have to go out to obtain to access some of these
130 things, it now comes to us.

131 Researcher

132 Are all these third parties aware of what the customers value?

133 NZINT1

134 It varies. And I think many people in the mobile application development space
135 look at the problems from different perspective. Some of them think it's all

136 about the technology. Some of them know that it has to be the user experience
137 and others are just marketers.

138 And whatever is available, they are going to find someway to pitch it to make it
139 seem like something more exciting and valuable than it is. A particular example
140 that comes to mind in this regard is Apple's latest operating system for their
141 desktops to WIN upgrade to MAC OXX had a whole variety of text to speech
142 voices that are available in it.

143 But they don't really leverage that at all. They market that but then it doesn't
144 actually get utilised by their systems at this stage and you see these kinds of
145 things happen all the time. My boss just bought one of the 7 inch tablets and
146 that's got a properly developed to quite some extent in each DMI port which
147 means that you are able to plug this thing into some high definition television
148 set.

149 Well, you know, that's a real gee-whizz cool piece of technology but it's very
150 likely that only a small part of the audience is ever going to take advantage of it.
151 So what happens is that there is an over-development, over-design and
152 featuritis that creeps into many of these products and services where the
153 customers really would have been much happier if they had something very
154 simple and intuitive, so, well, everyone in the development business is trying to
155 figure out what's the best solution. The tendency is for people to think that
156 more features, more functionality is better when in fact from a users standpoint
157 sometimes it's not.

158 Q5.Pricing

159 NZINT1

160 Pre-pricing I think is a concept that is proven to work. That the company that I
161 would point to specifically would be Drop Box which is extraordinarily successful
162 at this point. They are file synchronisation service that many other people have
163 tried to create [the same type of utility].

164 Their collaborative question-answering service on-line called Quora had a
165 question come up recently – what's the very best answer that anybody's ever
166 given to the question on the Quora service, and was the answer to someone
167 had was written was why is Drop Box succeed like no other. And the person
168 who answered this question better than anybody else of any other question that
169 was asked in Quora basically said they did just precisely what the customer
170 wanted to have done.

171 They wanted the deal to have their files synced between what was on their
172 hard disk and what was in the cloud and they had a 'free' new model so
173 everybody could get set up and start using this service but of course as soon as
174 they used it up to the limit then they realised oh well, I am getting so much value
175 out of this I will happily pay the monthly fee. And so now they have a very well-
176 established clientele.

177 Researcher

178 What is exactly the value of a service that is 'free' ?

179 NZINT1

180 Free is the way you bring people in the door to help them to understand what
181 the value of the service is. And the same thing is really true 7-digital music
182 player which is so popular. It has a preview capability which means that you

183 can still search for any song you want and you can still hear the first thirty
184 seconds to one minute of it – you just don't get to hear the whole song and so
185 that is another way of looking at free. You aren't really giving anything away.
186 You are just not giving everything away.

187 Q6.Attitude

188 NZINT1

189 If I could put that one in one word, I would say "trust". I think so much of this
190 technology is new that people want to get involved in something they know has
191 some kind of reputation in the marketplace. So for entirely new services the
192 trust is established when reviewers in New York Times or something like that,
193 endorse this product being something worth looking at.

194 But then it becomes a question of people being frightened by some of this
195 technology and what are the security implications of it. The latest headlines
196 about all of this violence and other pornographic materials being posted to
197 Facebook – it causes people to sign off their social network. Trust and security
198 I think may be come out even ahead of considerations like price.

199 The fact that things are coming down in price just means that the market is
200 expanding. I think the early adopters would have been just as happy to pay
201 \$1000.00 and \$200.00 for that latest gadget. But when you're talking about
202 broad base appeal what people are going to decide on – Are my friends using
203 it? And is it something that I can actually use without risk.

204 Q7.Innovation

205 NZINT1

206 I think that the notion that app stores have 500,000 applications really means
207 that there are 10 or 12 applications that a whole lot of people are going to use –
208 'angry birds' is on every mobile device there is and another 490,000 apps
209 really are failed experiments and despite in some cases the substantial
210 investments in trying to create something that seems to be the killer app for
211 some particular business niche.

212 The dynamics of this market can wipe you out of business before you know it.
213 And I am sure that there are people who dedicated themselves building
214 applications for the new HP touch pad and writing in web OS and after some
215 weeks after its release to have the product discontinued by Hewlett Packard.
216 Windows, the Phone7 as I understand it – very well engineered and potentially
217 extraordinarily useful mobile operating system has only 1.7% of the market
218 place.

219 Why is that? Well, there's kind of a motion in the development time line so that
220 when Android started two years ago coming up with different mobile releases
221 and then revived them so frequently – if you have a chance to look at the track
222 record of the Android mobile systems upgrades they are given these code
223 names to them that are all different pastries. Like there was doughnut and
224 honeycomb and the latest one is ice cream sandwich.

225 The frequency which they come out with these releases has been really quite
226 breathtaking and for a developer actively participating in that community trying
227 to come up with new ideas that use those very latest features, you are always
228 operating right at the cutting edge of – what if I do something now that uses all
229 this new technology but then that breakthrough doesn't work on all the other
230 devices that are out there on the market.

231 Researcher

232 And there is a dilemma here to develop or not...

233 NZINT1

234 To develop at what level of innovation, how much innovation risk do you want
235 to take becomes part of the decision making process for somebody who is in
236 the business commercially of producing applications.

237 Q8.Obstacles

238 NZINT1

239 The things that hold back really widespread adoption and development of new
240 services I think are less technological than they are social . I think there is in
241 fact an inherited resistance to change and mobile does in fact cause a lot of
242 things to change. And so you will see people - perfectly reasonable, educated,
243 intelligent people having a resistance to the idea of that they would check their
244 email from a mobile device because a mobile device.

245 I am calling it a device because I know that there are phones and tablets and a
246 variety of things that can be moved around. But for a lot of people they're still
247 thinking of it just in terms of a phone and so you don't check your email on a
248 phone you make phone calls on a phone. And so there are these the less
249 technological segment of the population who are still reluctant to take
250 advantage of the fact that their Smart phone can actually run applications.

251 All they use it for is to make telephone calls and so there's a learning process.
252 So how do people learn to something in a new way? Well, I think it boils down
253 to having some models and having some examples and so when you are
254 introducing a new business service you can actually have that service
255 demonstrated.

256 You can give free phones to the early adopters so that they can go out to the
257 streets and show people how things work. Make the demonstrations of the
258 technology so that they humanise it and make it possible for people to envisage
259 themselves doing this rather than having to discover on their own because a lot
260 of people are not going to take that initiative and they not want to download an
261 application just on the chance it would be helpful. Someone's going to have to
262 tell them how useful it is. They are going to have to see it being useful for
263 somebody else before they would even consider the possibility.

264 Q9.Future

265 NZINT1

266 What really drives the mobile business is people wanting to communicate. The
267 statistics that I have heard are the most informative on this relate to the
268 penetration of mobile devices in the developing world. I have heard it said that
269 we are going to reach a point in the not-to-distant future, where there will be
270 more mobile devices than people with shoes on the planet.

271 Now, if you think about that for a minute – why would that situation ever exist?
272 Well, first quite a few people in the developed world that have multiple phones.
273 For those people having to make that choice between having a mobile phone
274 and having a pair of shoes well essentially they are probably living in a place
275 where those two things each give them essentially the same value.

276 How do we get or communicate over a long distance with someone else? With
277 the phone they literally have to have enough electricity to run it and the ability to
278 make that call to find out that information that would otherwise they would have
279 to wear out the pair of shoes walking to that distant town to collect up the
280 information or market their products or whatever it might be. So people are
281 willing to make that trade-off.

282 To exchange in effect shoes for mobile phones when it gives them this global
283 productivity, it gives them this to reach over a distance which its very most
284 inherit – what does mobile mean? It means that we don't have to be physically
285 in the same place. We can have an effect far from the place where we are. So
286 it's going to be people taking advantage of that, that's going to drive mobile
287 business forward. And it's happening in some very unexpected ways. People
288 are going to use that connection at a distance to do some really unexpected
289 kinds of things.

290 Researcher

291 Which we don't know about yet. We are talking about the unexpected.

292 NZINT1

293 There are unintended consequences of this technology that are likely to
294 materialise as literally billions of people suddenly have these capabilities that
295 they didn't have before, to reach out and communicate, I think, new kinds of
296 information. This was what supposedly the Arab Spring was all about is that
297 suddenly all these folks had a window into the world where they could connect
298 with one another.

299 And as a result, for political groups that opposed the regimes. Changed
300 essentially the politics of the countries in which this new form of person to
301 person kind of communication became possible. So it all backs again, boils
302 down to the simple concepts of that people like to talk, and people like it even
303 better if they can talk over a distance.

304 Researcher

305 So the important component is the capability and everything else comes on
306 top of it.

307 NZINT1

308 It all depends on the service that if the devices didn't function in some way that
309 will be a failure but the fact of the matter is in most part they work in
310 extraordinary way.

311 Q10.Regulatory environment

312 NZINT1

313 Frankly, the only government initiative that I have any familiarity with is
314 something called the Mix and Match competition. My firm developed an
315 application and entered it into this contest and while we didn't win we are very
316 familiar with another developer who did win and it was designed to encourage
317 the development of web and mobile applications that used government data –
318 so it was kind of an open data initiative and so because of that experience, I
319 have had to say that New Zealand has been both supportive and innovative in
320 the way in which they have been supportive.

321 Q11.Industry

322 NZINT1

323 Again, within New Zealand the only firms I can speak to specifically are Two
324 Degrees and Acer. Now Two Degrees has expressed interest in having more
325 mobile portal types of applications developed. They already have a website
326 and they want to have the equivalent of that website on a mobile device which
327 given that there are provider of mobile services you would have thought that it
328 would have been the first thing to have happen rather than the website.

329 They sell mobile stuff through the website and once you have already got the
330 mobile device they don't really kind of need you to be able to access to store
331 from a mobile perspective as much as they needed to have the website ready.
332 So to my surprise that development – proposal for that development has
333 languished for some months, I think because they have so much else on their
334 plate, trying to do too many other things as opposed to focusing in on making
335 sure that they have a good act for their own shop, which is interesting.

336 The Acer example – I happen to be a founder and presenter of the Google
337 technology user group in town, and Acer actually brought along some of their
338 prototype systems to show to our group and give us the opportunity to get a us
339 the newest hardware at a discounted price direct from the manufacturer and I
340 think that you can't ask for more. Hewlett Packard did a similar kind of initiative.
341 Here at AUT I was on the team that won the touch pad in the design
342 competition that was held across New Zealand for all the universities. We built
343 a mobile app for showing the AUT campuses

344 Researcher

345 Okay. So the examples includes manufacturers of the devices,

346 NZINT1

347 Tablet manufacturers – relatively newcomers to the market, no own
348 infrastructure

349 Researcher

350 What about the big ones with infrastructure ?

351 NZINT1

352 Vodafone – I had a very nice data plan that perhaps is still the one that they
353 offer but 3 gb per month.

354 Researcher

355 So they support new developers?

356 NZINT1

357 I don't know whether it was either that I was a developer or that I happened to
358 be one of their early subscribers to the service

Q2. NZINT2 Interview transcript

- 1 Q1.Attraction
2 NZINT2
3 I think that, from what I've observed over the years, people seem to get
4 attracted to new stuff and it's not necessarily stuff that's truly useful or will stand
5 the test of time.
6 Let's say for example, let's take the Facebook phenomena. It's my opinion that
7 when people first realised that they could actually locate their friends and the
8 concept of being able to post things and have that broadcasted to their friends,
9 that was a new mechanism and a lot of people jumped on board that and it kind
10 of accelerated that mechanism because everyone was doing it and it became
11 normal almost to be on Facebook.
12 Like a lot of these things, people eventually tire of the gimmick aspect of it and,
13 unless it's producing true value underneath, then people start dropping off those
14 services. An example of one that's producing true value is Google. It's not a
15 gimmick. When Google first came out it was really interesting to be able to put
16 some words in and bang you find exactly what you needed and that was
17 interesting, but what's happened is that it's actually become completely
18 functional and we use it all the time. That one has kind of stuck. A lot of these
19 services are being driven just by the novelty aspect of it.
20 For one person the novelty might last a few years but if you spread that over an
21 entire population, that can span a decade as people adopt it and take it on at
22 different times. An example of that would be say absolute positioning. Now
23 you're having services where someone can locate their friends exactly where
24 they are.
25 People are jumping onto that, they think that's wonderful, but the true
26 implications of the privacy and all the realities of that haven't been fully
27 understood. People haven't had that rejection yet of the technology. The other
28 dynamic, and I find it happens a lot, is you have new technology come in and
29 then you have another wave of parasites that follow after that.
30 An example of that would be say email. Initially it proves to be useful, people
31 use it and adopt it and it becomes a standard and then the parasites like spam
32 and scams and all that come in afterwards and then we are left with the scams.
33 That's happened in another example with Google. Again another functional
34 service but what we're finding now with Google is that search engine
35 optimisation companies are starting to dominate as they fight for rankings in the
36 search results.
37 You're led to this bizarre war almost where people try and modify their
38 algorithms to outwit the latest developments that have been made in the SEOs.
39 Researcher

40 It defeats the purpose. There's a full circle. You've got the people who initially
41 use it just because it's new, then it sticks because it's useful and then the
42 parasites come along. That's a pattern that repeats over and over again.

43 **NZINT2**

44 You can find battles actually everywhere around that. Yeah. But the initial
45 attraction is because it's new and that is what starts them.

46 **Researcher**

47 So in your opinion, people do not think how useful it's going to be ... or they
48 presume it's going to be useful because it's new.

49 **NZINT2**

50 And I think new also carries some kind of fashion or ego facility. Someone
51 might load something new on their phone so they can show their friends and
52 then it becomes a bit of a fashion item almost. There's that whole social buzz to
53 be cool that carries a lot of the new part. For it to jump to being truly useful and
54 stick around, it's got to be functional and integrated. There are not that many
55 services that will stand the test of time like that.

56 **Researcher**

57 Talking about pay services, do you think that people are willing to pay just
58 because it's new without thinking too much about usefulness, functionality and
59 implications?

60 **NZINT2**

61 I think some people would pay. It's going to be a function of how much money
62 they've got and how badly they want to try the new thing really. Just getting off
63 that monetization topic you're leading to there, we are starting to see the
64 internet become monetized and the mobile space becoming monetized in
65 various ways.

66 Even if it's as simple as credit systems that allow you to get new credit on your
67 phone, but as soon as people start paying for things and are recognized, Paypal
68 is well established and I think you'll see that breakdown of the difference
69 between free and paid is not as big a hurdle.

70 It's still not monetized fully, there's a long long way to go, but I think once
71 everyone's got an account online that they can draw money from, possibly they
72 wouldn't mind if they'd spend a few cents on something, just the way they don't
73 mind if they spent a dollar on an application now. It's just a scale.

74 **Researcher**

75 Especially if you can have micropayment managed, as you say Paypal or
76 whatever mechanism which is the payment part of it, if it exists.

77 **NZINT2**

78 Yes. Those systems have their drawbacks but converse to that, free is also not
79 necessarily good quality. People are starting to learn that if they do want quality
80 they do need to pay. It really depends on what markets you're appealing to.

81 **Researcher**

82 Specifically mobile phones are quite useful in that respect because you can pay
83 just by taking from your account.

84 NZINT2

85 That's right. There's a lot of software services that allow you to pay, if you
86 wanted to. The thing is, do people actually install them and the other thing is
87 that the market needs to be using them in order for them to work. You've got to
88 have merchants that are already signed . It's starting to become like that.

89 Q2.Benefits

90 NZINT2

91 I think a lot of the new benefits are based on the various capabilities of the
92 phone. If you look at GEO positioning, by adding that piece of hardware into
93 the phone it opens up a whole lot of potential applications that can hook into
94 that. Things like the camera on the phone and the fact that you can use it to
95 measure the acceleration of the phone and all kinds of bit of equipment in the
96 phone that allow you to collectively develop applications that can find new uses
97 that we didn't have before in all kinds of realms.

98 Researcher

99 Do you think a lot of work is being done exacting this area, like using all the
100 functionalities which are now in the phone?

101 NZINT2

102 Of course there's going to be the general connectivity stuff like the social layer
103 which is just the fact that you've got one person connected to however many
104 people and there are untold applications that you can invent that can link people
105 together. A lot of the space is also just evolving too in the sense that you've got
106 these people providing platforms and they're all fighting one another to try and
107 dominate and get more customers.

108 You've got android that is growing very rapidly, iPhone which is a closed shop,
109 Symbian which used to dominate and is moving out more. You've got J2ME
110 which is actually available on 80% of all phones which is a parallel platform, a
111 Java platform, and it just fits in all these phones but it's a complete dog as well.
112 It's generally a complete mess.

113 There's no coordination between the providers of how these platforms are going
114 to operate, you're just left with all these individual platforms. As a developer, it
115 makes it quite difficult because there's major fragmentation.

116 Researcher

117 OK, that's a word to turn this around because another interviewee talked about
118 it and mentioned there's a major problem here.

119 NZINT2

120 If you wanted to write just some J2ME which is the Java platform. I don't know
121 if you're aware of Java, they have this mantra which they call Right Once Run
122 Anywhere, that was their original vision, and it's the worst fragmented platform
123 there is. You've got to write something like maybe 15 or 20 different versions of
124 an application and it's all running on the same platform.

125 That's not including Android. It does make it really cumbersome. That's one of
126 the things that we're trying to achieve with our platform in a small way, break
127 the fragmentation problem up and also encapsulate that whole process of
128 writing software in a much simpler space so that people can write content and
129 not have to be application developers.

130 Currently you've got the situation where if you want to develop content you put it
131 on a web page and people access it from the web. If you're developing
132 application, then you're at a much more sophisticated level. What we want to
133 do is try and bridge those two because we think that content should be
134 monetized in the same way applications are.

135 Researcher

136 You'd see that actually here we've taken a step back in a way by not separating
137 content from the application, how it hasn't happened yet?

138 NZINT2

139 Yeah.

140 Researcher

141 And it has happened in the other programming areas where systems are ...

142 NZINT2

143 Yeah. But I think you can look at reasons why that is, because the web is
144 actually the only glue that sticks these platforms together. Applications have to
145 run on a platform and so once you've started developing for a particular
146 platform you have natural lock-in with your customers and your own
147 development team on that platform.

148 Anything that has to communicate between platforms has to be done on the
149 web and that's where the web was really good. I don't know if you remember
150 back when Bill Gates tried to own the web and failed. He did attempt to control
151 it like he did the application but there was such a strong force pulling the
152 different platforms together because it was the only unifying force that you could
153 link Macs and PCs and things together.

154 That web protocol which is now 25 years old or whatever, is really old and
155 restricted and that has become a fundamentally limiting factor in mobile phones.

156 Researcher

157 It was never designed to play the role, it was really about sharing information,
158 not for linking and service actually for that matter.

159 NZINT2

160 That's right. But now they've invented Java script and all that so it's starting to
161 be an application again. The other thing with the http protocol which we find ...
162 which our stuff actually avoids http protocol altogether. We've got these little
163 players that sit on the various devices.

164 The problem with http is that it's a kind of request/response based protocol
165 which means that you ask for a page and then the information comes back and
166 you look at that page and you select something and ask for another page.

167 That project just repeats as you look at new pages. With a mobile phone that
168 model breaks down because the connection times are accelerated or
169 exaggerated so instead of taking two seconds to make a connection, it could
170 take ten seconds to make a connection and you're waiting around a lot.

171 On a PC, when you do get your connection, you get a full page of information
172 back. On a mobile phone the screen is so small we get a much more limited
173 amount.

174 Researcher
175 It's so annoying. You use it on a PC naturally must [inaudible 20.47] don't need
176 [inaudible 20.47] as far as you're seeing what you want.
177 NZINT2
178 That's exactly right (R: It's so annoying. You use it on a PC naturally must
179 [inaudible 20.47] don't need [inaudible 20.47] as far as you're seeing what you
180 want. So what we have finally worked out is that people are rewriting these web
181 pages for the mobile anyway because they need to reformat them. We figure if
182 they're rewriting it anyway, we may as well just put it on our own platform that
183 avoids http and it doesn't have these bottlenecks in the network. It's a
184 continuous process.
185 Researcher
186 Actually this is a new benefit which you're talking here about, providing a better
187 service in that respect? Quality of service improved by overcoming some of the
188 limitations?
189 NZINT2
190 Exactly right (R: Actually this is a new benefit which you're talking here about,
191 providing a better service in that respect? Quality of service improved by
192 overcoming some of the limitations?) . Because the web is now trying to jump
193 onto the mobile issue so the mobiles are adopting the web just because that's
194 where all the information is at.
195 What we're trying to do is hit these new emerging economies. People who
196 have never had a computer because they've only had \$2 a day to live on and
197 they buy their first computer which is a mobile phone and they've never been
198 connected to the internet before. That's the scope of 50 million subscriptions
199 now to the 600 million subscriptions in the next few years.
200 Those people have never been exposed to any kind of system or computer
201 before. We want to just hook right in and the first thing that they see is our
202 platform which they can create content on for free, they can earn money from
203 that content if someone looks at it, so it's monetized, and the network basically
204 hosts the content.
205 So it's like a cloud but it's a peer to peer grid, it's a bit more advanced than a
206 cloud because a cloud is really just to service a client again but virtualized. So
207 it serves the traffic but it serves the content also. Yes, they host it on there but
208 it's served from many points.
209 They're still using TCP/IP and so it's kind of torrented towards them, so they're
210 getting it from many nodes from different countries. So they're getting it really
211 fast, they're getting it continuously and they can access it either from a web
212 browser using a javascript player or just brainstorming an application.
213 That way we're looking at bridging the gap between the applications and
214 content, it's really just content web. In our world I could just borrow your mobile
215 phone, log into the website and then just start taking video footage or photos
216 and all those photos are going into my account, it's not installed on this phone,
217 it's stored on the grid. I can use anyone's device and then when I eventually
218 want to access my stuff I can look at it in high res if I used a desktop
219 Researcher

220 So these mobile devices, they are low end devices just for certain connection,
221 used to connect ...

222 NZINT2

223 (R: So these mobile devices, they are low end devices just for certain
224 connection, used to connect ...Yes, they're just access points. They're still
225 ordinary mobile phones but they're constrained, they're really constrained.

226 Researcher

227 And that's what they are but you don't want anything else from them, but you
228 use them to leverage other technologies that you have. Because that's what
229 you have is another technology ...

230 NZINT2

231 Yes, we've basically got a platform that we developed that allows us to get to
232 new opportunities where we otherwise wouldn't and we're also building on our
233 own platform to get into those technologies. We want other people to adopt our
234 platform as well and that's one of the reasons I spoke briefly. I'm working with
235 ... on that to try and get people developing on it.

236 It's still early days for us.

237 We're still exploring with it but I think it's got lots of potential.

238 Researcher

239 After listening to you this time and also the last time, what you're trying to do, as
240 I can see it now, if I can summarise it slightly, you still have the phone's network
241 but you're not concerned with the networks, that's fine. That's OK. But you
242 have certain devices and platforms ...

243 NZINT2

244 (R: But you have certain devices and platforms ...)Different players, yeah, we
245 have different players. We have a player for web, a player for android ... each
246 brand can run our environment like a browser

247 Researcher

248 So you are in the middle here. You are yet another layer here which tries to do
249 some of the things we talked about here to help developers of content
250 specifically and end users.

251 NZINT2

252 (R: So you are in the middle here. You are yet another layer here which tries to
253 do some of the things we talked about here to help developers of content
254 specifically and end users) Yes. We're not quite ready to allow people to start
255 developing our network, it's still launching out, but we are ready enough to
256 launch our own products and use our platform.

257 We're still heading in that direction. The reason we do it is we think there's
258 massive opportunity. There's many millions of dollars to be made out of it.

259 Researcher

260 So you, or somebody else here, has a bright new idea about a new application,
261 they can develop it. If I come from the outside and I have to work with you if
262 you like the idea and you can develop it? Maybe not right no.....

263 NZINT2

264 Today you'd have to work with us but within six months we'll probably start
265 putting releases out.

266 Researcher

267 And to provide an environment for writing applications too.

268 NZINT2

269 That's right. We've got to be just totally focused on revenue until we're strong
270 enough to move onto our next stage, otherwise if we try and eat the chocolate
271 cake all in one go we won't make it.

272 Researcher

273 So you are very much in the middle of this?

274 NZINT2

275 Mmm.

276 Researcher

277 And you're showing that there's a lot of work to be done here because of all the
278 things you've talked about already. You're taking a step but I don't suppose
279 you're the only one ...

280 NZINT2

281 I think we would be unusual though. Most people would focus purely on an
282 application or if they're a telco they'd probably be down here more in the
283 network supply. We're unusual in the sense that we kind of span both these
284 little boxes.

285 Researcher

286 Because you have a bit of an infrastructure, yes.

287 NZINT2

288 Yeah.

289 Researcher

290 But that's a high level infrastructure I would think.

291 NZINT2

292 Yeah.

293 Researcher

294 It's separate from the network anyway.

295 NZINT2

296 Yes. We just hire cloud services.

297 Researcher

298 Because you're trying actually to make the web infrastructure interlinked with
299 the web work together with the mobile infrastructure. So that's how you're
300 trying to create one which uses both.

301 NZINT2

302 (R: Because you're trying actually to make the web infrastructure interlinked
303 with the web work together with the mobile infrastructure. So that's how you're
304 trying to create one which uses both.) Yes, that's right.

305 Researcher

306 OK. It's so simple cannot accommodate everything but just it's in the middle,
307 it's building on top of this existing ...

308 NZINT2

309 Yes.

310 Researcher

311 So that's showing that maybe a bit more infrastructure is still needed here as
312 well because of fragmentation mentioned, for example, because of the
313 limitations of web, because limitations exist in the infrastructures.

314 NZINT2

315 Yeah.

316 Researcher

317 OK. That's a very interesting position here. I still have to talk to some other
318 people whom I would assume will have interesting things to say especially
319 about inventing services such as payment which you mentioned. So they're in
320 the middle as well, right in the middle too.

321 NZINT2

322 Oh cool. Yeah, the payment services are interesting. The way we want to do it
323 is using 0900 numbers, premier calling numbers. There's calling services
324 around the world where you just dial 0900 and load up your account or you can
325 SMS a number and it will load.

326 There's lots of ways you can actually do that, even just from the application.
327 You can actually use the application to dial the SMS number and throw up a
328 dialogue box. You don't even need their permission, in fact it's how a lot of
329 scams operate.

330 We would throw up a dialogue box and say "would you like to charge your
331 account?" and then put in how much money you want in and basically the
332 phone would just dial out and take money from your prepay card or your
333 account and shove it into your virtual account.

334 As long as the numbers are small enough and you're not talking many dollars,
335 then you do have an economy that people can pay for services.

336 Researcher

337 So all this has to be set out with banks and various people. The people
338 involved specifically with setting up that for other ...

339 NZINT2

340 We probably don't see our system necessarily needing to link into banks. It's
341 really just a trading ...

342 Researcher

343 OK, you're thinking about the account with the mobile only ...

344 NZINT2

345 Yeah, just a very small account for paying for content. Ultimately you could
346 transfer some money to the bank if you wanted to but just to be able to pay for
347 content ...

348 Researcher

349 More a micro payment thing?

350 NZINT2

351 Yeah.

352 Researcher

353 Don't you think you have to work with operators in that respect?

354 NZINT2

355 (R: Don't you think you have to work with operators in that respect?) Probably
356 not because people will just buy their prepaid cards independently ...

357 Researcher

358 Yes. If it's prepaid cards it can be used for whatever your phone uses it, but
359 what with subscriber account?

360 NZINT2

361 Well they would get billed for dialing 0900 number but that's not to say the
362 operators aren't potentially great partners.

363 These Vodafone and telcos are potentially banks really if you look at it like
364 that.

365 Researcher

366 It was envisaged maybe about 12 years ago now that they would become
367 banks but they didn't.

368 NZINT2

369 No, but they have the account to the use.

370 Researcher

371 Yes they have.

372 NZINT2

373 (R: It was envisaged maybe about 12 years ago now that they would become
374 banks but they didn't.) So possibly just an opportunity lost really. But they don't
375 need to do all the banking services, they just need to provide payment services.
376 That's eventually going to be performed by a whole host of companies that are
377 jumping into that space now.

378 Researcher

379 Yes because they didn't take the opportunity.

380 NZINT2

381 Yeah. I mean what we see is a whole pile of people that don't have access to
382 hardware and don't have access to proper content because they're looking at it
383 through such small screens, like 100 pixels by 100 pixels, and we figure that by
384 restructuring the information we give them a much better experience.

385 We can get them on to our platform and once they're on our platform we can
386 then offer them other services like financial services in a very simple way that
387 they can pay for things. We want to experiment with that so we're not phased
388 by the fact that other companies will do it because our unique offering is that we
389 can get down to these really cheap devices a little bit before the main players.
390 Everyone's waiting for the iPhone to get cheaper ... we'll just jump on to it.

391 Researcher

392 And not force them to go and pay for more expensive phones.

393 NZINT2

394 Yeah, this is our unique angle really.

395 Researcher

396 But eventually don't you think that the expensive devices will become cheaper
397 and there will be no need for the low end devices ...

398 NZINT2

399 Eventually, yes. How long is that? It might be four years away, but remember
400 those cheaper devices will become cheaper again so instead of being \$20 they
401 might be \$2. We just want to get going. Remember our platform will run on
402 anything so we can develop those other platforms too. I think the space is
403 evolving so quickly you can't really say which way it's going to jump

404 Q3. Requirements and expectations

405 Researcher

406 So you have to write the things nine times if you want to cover the market,
407 otherwise segments may be too small so it's an interesting idea and everything
408 else but no revenue.

409 NZINT2

410 Yeah, it's trying to figure out who your customer is, yeah. What we find
411 challenging is that in emerging markets like India, we don't have the natural
412 culture and understanding of what makes those people tick. What's it like living
413 on \$2 a day? What's important to you? What do you want to see? We're
414 looking at hooking up with marketing companies, there's particularly one in
415 Australia we're thinking of working with, who can guide us on how to market to
416 these people. Barring that, we'll probably learn as we go, as we learn about our
417 channel, what makes it interesting for them and we'll have to just run with things
418 that work for them. Like one of the things we're discovering is we need to put a
419 lot of our text in Hindi, not in English. That's only scratching the surface of it.

420 Researcher

421 Language is a natural segmentation.

422 NZINT2

423 Yeah. I mean what do those people want? Let's say for example, we're talking
424 about the application that lets you load other applications on it, so like an iStore
425 application. We want to put the most popular applications that they can
426 download – we're saying most popular but what's that from?

427 The western world? We already know the segment that we're appealing to is
428 young males that are very poor in India so we can actually almost target things
429 that they would like. That's the ongoing challenge of it, making sure you ...

430 Researcher

431 Do you think it's important to know the different segments?

432 NZINT2

433 Yes, definitely, totally. Yeah, you have to know exactly who your market is so
434 you can ... It's not an easy answer though. It's not like there's a book you can
435 go and buy.

436 Researcher

437 I think you've got to balance between what we just talked about and what you
438 said previously about people being generally attracted by something new. So
439 that would be true across everybody? If it's new, it will be attractive ...

440 NZINT2

441 Not necessarily. I think the young people would probably ... like I don't have a
442 Facebook account. I really don't like it. In no way does that make me not take
443 it seriously as a channel.

444 Researcher

445 So it's moderated by other factors but again not by the usefulness necessarily,
446 maybe by belonging to the segment of age ...

447 NZINT2

448 Age is one. Probably if you're male. I think women use social networking sites
449 more.

450 Researcher

451 That's the common understanding now, yeah.

452 NZINT2

453 Yeah. But generally technology men tend to grab and want more and if they're
454 younger they seem to ...

455 Researcher

456 Yeah. The technology itself is an attraction.

457 NZINT2

458 Yeah.

459 Researcher

460 Alright, so we do have a segmentation in place. Culture is one thing, age is
461 another one as well.

462 NZINT2

463 Yeah.

464 Researcher

465 And that affects the attractiveness I would think.

466 NZINT2

467 Yeah. How I don't know really. That's pretty much the way we're operating is
468 trying to get a technology going, seeing if it works, seeing how many people use
469 it and where it goes. The best way to know if it's going to work is to actually just
470 do it.

471 Researcher

472 Your demands is determined by trial and error, not so much by previous
473 knowledge but by knowledge as you accumulate it as you keep on working?

474 NZINT2

475 Yeah. So we would try a new service and we'll see how that responds and then
476 grow that and modify that or just change it up based on what we think they are.
477 Trying to get that feedback is quite hard on a mobile phone because people
478 don't want to give you their phone number and it's very hard to get someone to
479 enter stuff in using a keypad and to break their usage of it to give you feedback
480 is very hard.

481 Researcher

482 So no data about usage if you have it . Do you have enough data actually?

483 NZINT2

484 Yeah. We can actually see but it still doesn't tell you everything you need to
485 know about a particular service, like what don't they like about it, how could it be
486 improved and all those soft questions. It's very hard to get people to answer
487 that. We've got another company in India that we use for testing.

488 They're on the ground and they can give us some feedback but they're not
489 necessarily from our segment. They're all programmers and a totally different
490 cast that they have there.

491 Researcher

492 [inaudible 40.18] segmentation anywhere.

493 NZINT2

494 Yeah. So we're actually working with developers who aren't even the segment
495 that we're using. It is quite hard doing that but it's so raw, there's so much
496 opportunity, so many people. When we put a new service out on Getcha just to
497 get downloaded, it will be like 100 downloads a day.

498 When we first started one of our channels, for about two months it didn't work
499 but we still were getting 100 people a day downloading it and using it and
500 finding it didn't work and then just moving on and that was carrying on and on
501 while we're trying to fix it up to get it going. The volume of people that were just
502 prepared to ... I'm not saying I wasn't sorry for them that they had a bad
503 experience but there is so much more opportunity.

504 We must've wasted 3,000 people downloading ... it was useful in that it helps
505 us to target. They didn't come back but a lot of it is just trying to figure out what
506 they want and if you get right then the numbers go up and the stats go up.

507 Q4.Features

508 NZINT2

509 It's very hard. There are a lot of technology issues as well. We're just feeling
510 our way as we go. What we'd like to see is that the adoption starts getting into

511 millions. Even though they're really poor, you eventually build up these
512 channels and then you can sell other services. That's our goal. We haven't
513 accomplished that yet. We're still doing it and we're still working from the
514 bottom to go up

515 Researcher

516 So have you identified something which is really valuable by people, something
517 in the model, or something specific as well?

518 NZINT2

519 Yes, the downloading of applications. So they basically download an
520 application that allows them to download other aps. I can't really give you too
521 much detail because they're still in production.

522 Researcher

523 OK. I can call it an enabler because that's what it is. So it is something which
524 provides them with an interface?

525 NZINT2

526 Yes.

527 Researcher

528 That they don't have on their low budget devices? Because they're not that
529 powerful.

530 NZINT2

531 Yes. As far as they're concerned it's just another application, they don't even
532 think of it as another platform. They just see it as another app on their phone
533 but that app allows them to get other aps. So we'll actually like download a
534 centre for them and they can go "I want that one, I want that one" and then it
535 loads up the aps into their inbox and they can use them.

536 Researcher

537 You have found that's a valuable thing because they use it?

538 NZINT2

539 Yeah. Starting to. We're at the starting gates. We're just at the starting point
540 but we've got them downloading it and it's operating. We've got a number of
541 channels that we're trying to establish. All of those are based on our platform.
542 For us, we made the choice of not going into first world, like iPhone android
543 type markets, we wanted to deliberately learn about this new and emerging
544 market.

545 Really there's no road there at all because these people are coming on to
546 devices and the whole platform was being pulled by all these other forces and
547 the J2ME platform itself is a mess. These people are experiencing it for the first
548 time. You can't just go and get a book on how market mobile phones in third
549 world countries. It's like the wild west. Everything we do we have to do here.

550 Researcher

551 Do you think that particular market you're talking about would be less tolerant to
552 technical faults compared to the more sophisticated market?

553 NZINT2

554 Less tolerant?

555 Researcher

556 Because they don't understand and they don't have the background of using
557 computers. I'd say "they always go wrong in my experience" so I'm tolerant and
558 I understand when it doesn't work ...

559 NZINT2

560 But these guys have got much more time than we do. They would muck with
561 something for hours while we'd give up and move on. They've got a device and
562 that device would be used constantly. They would know everything about it,
563 everything it can access and they'd put a lot of time and learning on how to use
564 that device.

565 I think they would have worked every feature out on their phone because
566 they've got so much time and it's such an important thing. It's a very expensive
567 device to them. They earn \$2 a day and it cost them \$20 so it's a substantial
568 chunk of their livelihood.

569 Researcher

570 So because of that they're more likely to keep on trying until they get it right?

571 NZINT2

572 We found that, for example when the systems went down, we know that there's
573 a problem. Now with one of the systems we know that there's an issue that
574 causing it to crash out. We'd see them come back and back and back. We
575 could see it in the logs.

576 We know it's failing and we see them come back and they try, ten minutes later
577 they're trying again, ten minutes later trying again. It went on for days. For me,
578 I would go "doesn't work", bang, I'm out of here. These people are persistent.
579 It's not that much stuff they can get for their cheap phones. In India in particular
580 the networks are really poor so ordinary aps that might work - because you've
581 got two kinds of things, the web type apps and the app apps, right?

582 When I say web aps I mean aps that will take you to a website. It's really just a
583 website on the browser's phone. So that kind of app generally will perform quite
584 badly in India because the networks are really flaky. This is stuff that we've
585 learned as we go. What we're targeting in that ability to work better on those
586 really flaky networks and not relying on that web protocol.

587 Researcher

588 So they can just use web pages?

589 NZINT2

590 People can use web pages on these phones, yeah, but the browsers are pretty
591 restrictive and they're not html 5 so they don't do flash, they don't do java script,
592 they don't do any interactive stuff.

593 Researcher

594 But by using your app ...

595 NZINT2

596 They can get images and video and they can get content streamed faster so
597 they get a more meaningful experience than they would otherwise.

598 Researcher

599 So it seems to me that you have found what will be specifically available to your
600 potential customers in the segment we're discussing here and you're targeting
601 these needs. You've identified their needs.

602 NZINT2

603 Yeah. Basically they've got a very limited computer to access the internet and
604 we put some software on there that makes it capable of operating better, so
605 we're also writing software for that platform targeting particular needs over the
606 top of that. So we think they're going to want to be looking at other applications
607 so we would only put applications in there that we know would run well on poor
608 network environments and on those particular phones that they're like to have.

609 Q5.Pricing

610 NZINT2

611 I mean we think it's \$2-3 a day but it's possible that the people are actually
612 earning a bit more than that.

613 Researcher

614 Could be. Relatively the lowest paid are in India I think.

615 NZINT2

616 500 million of them live on \$3 a day. Unbelievable. It's unbelievable how such
617 a big chunk of the population is ...

618 Researcher

619 That's economical segmentation you've plugged into and found that there is a
620 market there.

621 NZINT2

622 Most of those people aren't yet connected to networks because only 50 million
623 out of the billion have access to the internet on their mobile. That number is
624 going to grow to 500 million in the next few years. That's the wave that's
625 coming and we're just trying to get pitched and set up so when the wave comes
626 we're ready.

627 That's our plan. We'll try and make money like that and start a firm in a foreign
628 country. I don't know how much opportunity is left in Europe like that. It's so
629 competitive and yet the money's all going to India and China. What do you
630 think?

631 Researcher

632 In your case I think, because of the platform infrastructure, it's difficult for others
633 ...

634 NZINT2

635 We do want them to play on our platform but there's loads of places we can go
636 off that. If we want to start going to the security side, we can show that we can
637 create these advance secure models, we can pull back information and share
638 information privately and you can't copy information. There's a whole lot of
639 space we'd go on to. Right now we're just trying to pick the low lying fruit,
640 mostly off the ground.

641 Researcher

642 Not all these areas go according to that ... that's quite OK because we've talked
643 about ...

644 NZINT2

645 That was going to be my question for you, how are you going to make sure you
646 don't take what I say and kind of make your own view out of it?

647 Researcher

648 That will be done. Yeah.

649 Q6.Attitude

650 NZINT2

651 That's a hard question though, what do you think influence customer attitude
652 towards adopting a new mobile?

653 Researcher

654 But you did say at the start that according to your thinking, the fact that it's so
655 new is the most attractive thing anyway, moderated then by certain other things.

656 NZINT2

657 Yes it's new. And for our guys in India, because everything's new, it's more
658 based on can we get it running on their phone. There's a lot of stuff they want
659 to look at but they just can't get it on their phone or it just won't support it.

660 Researcher

661 You're talking here about a new service which is actually doing something
662 useful ...

663 NZINT2

664 It could be a web service, it could be anything. Let's say you own a web service
665 that was using java script, it wouldn't be operational on one of these cheap
666 phones. Not only that, it's the size of the screen, it's too small, it can't be seen
667 properly and you can't navigate properly and it's frustrating. How you input
668 information into it. There are so many factors.

669 Researcher

670 So using an example here, talking about something which actually exists
671 somewhere else for some other people, like better phones, but then you think
672 these people have it as a new thing because they are not able to think
673 otherwise without the new service. So they're now going to be the same as the
674 others in that respect?

675 NZINT2

676 yeah. The moment they can access it, it will be new to them. Everything's new
677 to them. They've never seen anything before.

678 Researcher

679 So it's new for them, yeah.

680 NZINT2

681 The whole social shift that's going to happen in those countries over the next
682 few years is going to be astounding as they come out of not accessing anything

683 to having a phone and being tapped straight into the world. They will try a lot of
684 stuff I think.

685 Researcher

686 When you think about the numbers, it's really impressive ...

687 NZINT2

688 It's massive. I mean I'll just take India, 900 million mobile subscriptions but the
689 world has 5.5 billion mobile subscriptions now. You think there's only 6 billion
690 people. They reckon by 2020 there'll be 10 billion subscriptions, that means
691 some people have more than one subscription obviously but pretty much the
692 whole world is then wired .

693 Researcher

694 Thinking again about that segment you're targeting which is massive in
695 numbers by people who have never seen before and now they are and they'll
696 discover the world. When all of the world has discovered the other one, it's
697 revolutionary times.

698 NZINT2

699 Yes. Change, yeah, huge. I think we'll see all kinds of uprisings. It's started
700 already in Tunisia. Yeah, very interesting.

701 Researcher

702 Yeah, could be.

703 NZINT2

704 I don't know how the Chinese are going to moderate all that stuff on there, you
705 know.

706 Q7.Innovation

707 NZINT2

708 yeah. If we want to compete with major firms, we have to be innovative in order
709 to compete because we couldn't just launch some old service in India and hope
710 to compete. We need to bring something new.

711 Researcher

712 Yeah. Innovation is what you do so you're all for innovation.

713 NZINT2

714 Totally.

715 Researcher

716 Can see that in your own spectrum of what you're doing, not just in the one
717 thing. Not only is technology innovative but the way you're trying to now
718 implement it and to get to the customers is innovative too.

719 NZINT2

720 Yeah. I think the whole space is so new and there's no knowing way of doing it
721 or standard way of doing it. The whole process is innovative. Even just getting
722 the applications on stores, getting them used. Those stores themselves are
723 really new. Like Getcha the one we use is only six years old but it does 12
724 million downloads in a week. If all the mechanisms are ...

725 Researcher

726 However one of the things which hasn't happened is that everybody embraces
727 that and to think about how to innovate, that's why tech innovation companies
728 are not really too much engaged in development of services because that
729 innovation would cost them and you need to set up a department for innovation
730 and start doing it.

731 NZINT2

732 It can be painful, innovation, because you run into issues that you didn't
733 anticipate and it sets you back. Yes, all kinds of dangers.

734 Q8.Obstacles

735 NZINT2

736 No, [we do not have] not too many network operating partners. No, we're very
737 small as well so we're not really partnering like that. It's more, for us, a case of
738 finding the capital to drive the business and investment and where partners or
739 other businesses that in a similar space to us. Like our partners in India, our
740 web developers, and we have those smart partnerships because we're very
741 small. We don't have any major strategic partners.

742 Researcher

743 So the way you've started your development, you do not need any more
744 cooperation than you already have so there aren't many obstacles really about
745 your own innovation?

746 NZINT2

747 That's a good question. We do have a stage that we've recognized that we're
748 going to need some assistance with. If some of these channels start taking off,
749 for us to be successful we need literally millions of people starting to use the
750 services and that needs we're going to be needing to scale up and put more of
751 our nodes out and increase the size of our CDN network so we probably will
752 need to take on more capital and speak to people who want to become involved
753 in the opportunity so there's an ongoing cash flow and entrepreneurial aspect to
754 it.

755 Once we can demonstrate "look it's working but we still need more money to
756 grow it". There's that kind of growing business paying thing. Possibly we'd
757 need partners in trying to identify the segments that we're appealing to the
758 various channels, like more the marketing. We could almost do that in-house, it
759 all depends on how we structure it. Pretty much we've got everything we need.

760 Researcher

761 And that's partially because you're here in the middle of it and you're self-
762 contained to a great extent so that's that way to overcome the supply chain
763 problem with too many things, you doing everything yourselves?

764 NZINT2

765 Yes. When you say the supply chain problem, what do you mean by that?

766 Researcher

767 Because there are so many players here, you have to find a way, if you're one
768 of them, in order to get the revenue you may need to cooperate with more than
769 one of the others. That makes it complex. In your model you don't need that.

770 NZINT2

771 Yeah, we don't. It's kind of tapping into a new market really.

772 Researcher

773 So you have found a way not to need that cooperation too much.

774 NZINT2

775 Right.

776 Researcher

777 For example, the kind of payment thing which is happening where you can have
778 your wallet in your phone but then you need cooperation with banks. You load
779 your cards on your phone, so instead of using your card you use your phone,
780 but then all the banks have issued the cards and they have to be involved in
781 that so you have to cooperate with them if you're doing this. You have to help
782 the retailers also in using that.

783 NZINT2

784 The merchant side, yeah.

785 Researcher

786 So that is a lot.

787 NZINT2

788 Yeah.

789 Researcher

790 But you don't need that.

791 NZINT2

792 No we don't. We would probably hook into some payment services like
793 premium calling services. We don't have to set all that out, we would just hook
794 into the existing infrastructure. So we'll definitely leverage off it.

795 Researcher

796 That becomes a problem if you have too many other players to work with. That
797 slows down the process to make that happen so that may be an obstacle to
798 bringing your good idea to fruition. So that was the question here about the
799 main obstacles around the industry and developing

800 NZINT2

801 So we answered that one?

802 Researcher

803 I think so because from your perspective ... you can talk about general
804 obstacles if you have some. Specific ones are not across the industry.

805 NZINT2

806 Technical obstacles would be definitely fragmentation and that kind of thing.
807 Being able to drive content of the application from a highly constrained device
808 and a device that no one's really that familiar with. There are challenges, lots of
809 technical challenges in making that application work properly. I know you said

810 it's happening slowly but I do think it's happening very fast if you look how fast
811 android is taking over things.

812 The roads aren't well worn because no one's actually really done it for that long.
813 You don't have the staff that are experienced in it. I'll give you an example, for
814 us even, we've run into technical issues and there's no one we can really call,
815 there's no books. If you look at the IT marketplace from a recruitment
816 perspective, there's people on databases, people on programming, all
817 specialized but that's been going for 20 years, now there's this little piece which
818 is this mobile thing and there are very few skills. People are rushing to them but
819 if you try and employ someone who's got five years of mobile development, it's
820 hard.

821 Researcher

822 That would be an expert.

823 NZINT2

824 It would be. So I think finding the right skills would be a problem.

825 Researcher

826 That's an interesting comment. Universities are quite slow in introducing
827 [inaudible 1.09.33] action. That's slow.

828 NZINT2

829 They should because it's clear that that's where it's going. The wave is
830 definitely going to hit.

831 Q9.Future

832 NZINT2

833 I think that most companies will just see it as another channel to get to their
834 customers. You might see the ANZ Bank or something produce a ... in fact, if
835 you look at Mcom for example, they produce mobile applications for banks.
836 Banks can then just buy Mcom's ap and push it out as their own and what
837 they've done basically is outsourced an application developer so they didn't
838 have to do it themselves and created an app from which people can do their
839 banking. It's not a web page any more, it's an app that gives you more security
840 and a more seamless approach.

841 Researcher

842 It's taken more than 15 years to come to NZ. Globally it has happened maybe
843 five years ago let's say so it is slow, it is ...

844 NZINT2

845 OK. Yeah, I suppose it's been around for a while but it's just going through that
846 peak now. The mutant from Apple, that was around 20 years ago and that was
847 a mobile phone, PDA or whatever.

848 We've had mobile feature phones for quite some time but now it's starting to hit
849 critical mass and now developers are jumping into it and so that's a piece that's
850 happening fast – in those last few years you can see them in job ads. They're
851 actually advertising for people.

852 Q10.Regulatory environment

853 NZINT2

854 I think that they would treat mobile business services as just another medium to
855 communicate with their customers.

856 Researcher

857 And they'll be the initiators, not the bottom layer

858 NZINT2

859 So you're only interested in the business services aren't you?

860 Researcher

861 When I call them business services I realized that I should maybe change the
862 word because I'm using it to differentiate between data service which is just the
863 data service technology, then doing something with that service which is the
864 business aspect. I should maybe call them customer services or something.

865 NZINT2

866 I don't think the network operators would provide at all. No. It's really
867 anyone who wants to develop an a service. You get free aps, people can
868 develop their own aps and you get two kinds of aps really – network centric aps
869 and you get stand-alone aps.

870 Network centric ones, like if you look to say a Facebook app – there's a big
871 trend there where people are moving away from web based presentation into
872 app based presentation so they can really get exactly the look they want, that
873 becomes generally a network centric application as it hooks across the network
874 and connects for the data.

875 So the Facebook app you're getting on your phone has to go fetch the data
876 from the server, it's not like a game that's running on your phone. Who would
877 provide them? Anyone who has a webpage and wants to sure up their game is
878 going to want to move to the mobile.

879 Researcher

880 Similar to the banks in that case? Webpage owners having people who are
881 earning something off the web and they want to have this other channel to it.

882 NZINT2

883 It would be businesses really won't it who are trying to connect with their
884 customers. I think you will get some content in going in there but the serious
885 players would need it to be monetized and that monetization hasn't quite
886 happened yet. The problem is that people don't want to have to go through the
887 payment headache to get that tiny piece of information that doesn't computer
888 and that's why it has to be free. They will unlock it. That's one of the things
889 we're trying to do, unlock it in the next stage, not today.

890 Researcher

891 It's going to happen. If the way it's going ...

892 NZINT2

893 It has to. It's been a while though without monetization. The internet's never
894 had monetization other than the fact you've got to pull out your credit card ...

895 Researcher

896 That's why I said that if there was no credit card system that would not happen
897 either or much much slower

898 NZINT2

899 Yeah.

900 Researcher

901 They'll talk about e money and all kinds of other ways to pay but everything
902 which was tried actually disappeared.

903 NZINT2

904 Well Paypal and that kind of thing, so a lot of those kind of virtual ...

905 Researcher

906 That's the other thing which is actually happening too.

907 NZINT2

908 But those ones have problems that you have to have the merchant signed up
909 and everyone's connected to it.

910 Researcher

911 And they also rely on the existing banking system and the relationship with the
912 banks.

913 NZINT2

914 Yeah.

915 Researcher

916 It wouldn't happen immediately because banks wouldn't jump on to that.

917 Alright. I have a question about the regulatory environment. It was suggested
918 by our research in many other areas that the environment in terms of regulation
919 and [inaudible 1.16.51] for example in developing location based services in
920 some countries where legislation was passed about emergency numbers, so
921 they have to be able to supply location and that boosted some development.

922 NZINT2

923 That's a good example. I think for us, the regulation – which would not be in NZ
924 but also in the US, that initial links to our security aspect is that one of the things
925 that we can show is that we can protect people's information and it can't be
926 stolen at all.

927 This evokes a 2004 Telecommunications Act which says that basically the
928 government needs to be able to get access to all information. We actually had
929 a go at that and there's no way of us actually being able to solve that problem.
930 On the one hand the law says you have to allow governments to get access to it
931 and the other thing we're trying to sell is security to firms and go "if you use this
932 ..." ...

933 Researcher

934 But that applies to just about everybody and everything.

935 NZINT2

936 Yeah.

937 Researcher

938 You're not the only ones ...

939 NZINT2

940 No.

941 Researcher

942 Provide security except for if the government wants it.

943 NZINT2

944 But how do you do that? If you can make it with a hole that the government can
945 get to it then there's a hole that hacking can get into it. The easiest thing is to
946 go "this is secure" because there's a fear of absolute information security and
947 that explains how you make a secure model, and then say now there's an
948 implementation that it's secure but now you're breaking the law. There's ways
949 we can get around that, kind of fudge it and do it and say "if the Government
950 can track where this server is" then we'll have to put mechanisms in that
951 basically weaken it.

952 That's an example of regulations ...Because of your particular approach, it is a
953 regulation which actually ...says you're not allowed to do that. It's a paradox.
954 The funny thing is the governments actually need it more than anyone. They
955 need the security, they really need it. We're actually not focusing on the
956 security aspect right now, it's too big to get into it. We're not marketing it ...

957 Researcher

958 It's not what the attraction is.

959 NZINT2

960 No. Because that's not a low lying fruit and we need to stabilize the business
961 and get revenue going and then we can work on the other stuff. That's just an
962 example of regulation.

963 Researcher

964 That's interesting though because I haven't talked about it this way. Everybody
965 is affected by that. Yeah.

966 NZINT2

967 How do you solve that problem? It's a real hard one. You actually do your job
968 and you now solve the problem but you're now breaking the law. You have to
969 find creative ways to go "OK, well we're going to break the law but when they
970 catch us we'll have this thing to say yes they can get in but not through the
971 official way" so it's like a slap on the wrist".

972 Researcher

973 It's an interesting situation.

974 NZINT2

975 It is, and it's not only NZ of course, it's anywhere.

976 Researcher

977 Because these rules of security are in many other countries.

978 NZINT2

979 And I understand why they need them, we need them.

980 Q11.Industry

981 NZINT2

982 The only thing I think they do is shape the traffic maybe to their own interests.
983 They may hold certain services or may delay traffic going to other providers and
984 stuff like that. I don't think people like them very much if they do that.
985 Otherwise I don't think they really get involved much. They provide just the
986 services for tip over ...

987 Researcher

988 What you think is that if they're at a distance here between these two layers, it's
989 actually significantly more than shown here in the picture ...

990 NZINT2

991 Yeah. I don't think that they do really communicate much with application
992 developers at all. Telecom have got three different gateways and two of them
993 are a bit dodgy but do they care really? A lot of the telcos charge ... I know
994 Vodafone uses one gateway if you're on prepaid and it's incredibly slow.

995 Do they care? Do they have a webpage on it? There's not much connection
996 between the developers and ... I don't think anyone really knows, they just use
997 the phone. "Oh I've got a phone" and they just start using it and this is the
998 experience they get. They don't think "hey, Vodafone's giving me a bad data
999 connection". Maybe when it matures they will but right now I don't think they
1000 know. That's my opinion. It wouldn't be a factor for buying a phone. People
1001 will just go and say "I want that phone" and they wouldn't think "what kind of
1002 data services ..."

1003 Researcher

1004 People are still not concerned about that because they're not expecting to use
1005 the phone too much for other things.

1006 NZINT2

1007 Yeah. Like Vodafone don't say "here we go, here are all the first aps" and it
1008 comes preloaded with these aps. They don't have any big channel linking you
1009 into their main part. You think they might ...

1010 Researcher

1011 Vodafone tried to with Vodafone Lite.

1012 NZINT2

1013 Exactly right. Yeah. Not that that's a great service. That's a half baked attempt
1014 really. They could do so much better. People basically just download their own
1015 apps that they want on the phone and they go to a site and start downloading
1016 them.

1017 Researcher

1018 But it could've been different in the past. Let's say operators could've actually
1019 started encouraging this themselves and had all these aps on their phones.

1020 NZINT2

1021 They could've, yes. Yeah. They're corporates and they're so big they don't
1022 even know how the left hand is operating the right hand, do they? They get to
1023 that size and just become these little widgets all just plugged in and making the
1024 business go.

Q3. NZINT3 Interview transcript

1 Q1.Attraction

2 **NZINT3**

3 Yes. So I guess from my person opinion, I think the ones that really work today
 4 and are attractive to customers are things that first and foremost need to be
 5 simple to use. Ease of use is one of the key things.

6 It has to either provide capable benefit or tangible benefits to the end user and
 7 I'm thinking of things like music applications, banking applications, things that
 8 can save people time – for example restaurant applications where you can find
 9 out restaurant ratings and so forth, booking. Those things are great but they
 10 have to be simple to use and actually provide an end benefit for the end
 11 customer.

12 **Researcher**

13 So the customer has to see the benefit clearly?

14 **NZINT3**

15 Correct.

16 **Q2.Benefits**

17 **NZINT3**

18 I think that's a very tough thing that people who are building these applications
 19 need to work out how they drive the penetration to get people to use them the
 20 first time. It's not until you use that particular application the first time that you
 21 actually understand what the benefit is.

22 I think word of mouth plays a really important role in that. "Have you
 23 downloaded this particular application? It does this and this and this". It's that
 24 initial push ...So people saying they like an application or something on
 25 Facebook can make users to download it.

26 **Researcher**

27 Could you think about my question about something else which, especially the
 28 mobile users can offer which is a new benefit or something new .

29 **NZINT3**

30 I can't think of anything specifically off the top of my head but I think where
 31 applications are really going to take off is it's giving time back to people. That's
 32 really, really important. I think for myself, when I used to have to go to the bank,
 33 now I don't have to go to the bank. I used to have to go to a CD shop, I now
 34 don't have to go to a CD shop.

35 It's giving back people time in their lives to do other things. I think that's a key
 36 thing. Thinking about other potential benefits, if it enhances your life in some
 37 way, I think that's also important. I just note in there about some of the gaming
 38 or social media type applications where you used to be sitting on a train or a
 39 bus reading a book or reading a newspaper, now we potentially are doing social
 40 media and we're actually more connected.

41 You're getting a real tangible benefit from being connected to lots of people, to
 42 other organisations that you feel an affinity with. They're the key benefits.

43 **Researcher**

44 You're touching on something which is considered in research as extremely
 45 important and that's a new thing about mobile communications because you
 46 have your phone everywhere where you are. You can update all your books in
 47 here and so you can read one when you're on the train, the one you've chosen,
 48 but you can connect and do many things. So this has not been actually
 49 explored I think thoroughly and still has to be explored in the future. What do
 50 you think? Is there a future in that support of the person who is on the move?

51 **NZINT3**

52 Yes. Definitely. Phones have become an extension of people, it's part of who
 53 they are. I think there's a little bit of a danger there because people do feel
 54 actual that personal communication is probably dwindling. That's what my wife
 55 tells me.

56 I check my phone every morning and check my phone every 10-15 minutes.
 57 The technology and applications are almost resented to some point by some
 58 people.

59 **Researcher**

60 Ok, but that's also interesting because that resentment may sort of carryover to
 61 everything so you resent the fact it detaches you from other people and then
 62 you neglect to see the benefits of new things.

63 **NZINT3**

64 Correct. My wife said "I will never have a mobile phone because I don't want to
 65 be like that". She's extreme.

66 **Researcher**

67 Do you think that that is an increasing trend? That's a personal example but
 68 still?

69 **NZINT3**

70 It's a personal example but even people like my mother, I remember sitting
 71 around when I was down in Christchurch last time and my brother and I and my
 72 father were all on our phones around the dinner table and she said "what's the
 73 world coming to?"

74 We should be having a conversation." In team meetings or meetings at work,
 75 you often see two or three people checking their phones for emails. You end up
 76 becoming detached and not really listening. I know that's not a benefit.

77 And I've even noticed in some meetings now that people area actually asked to
 78 turn off their mobile phone for that particular reason. They're not listening or
 79 they're not concentrating.

80 **Researcher**

81 That's an interesting point. Maybe there is research on that itself, I don't know
 82 the other side of the coin. Let's get back to the next question.

83 ***Q3.Requirements and expectations***

84 **NZINT3**

85 Definitely. I think that it does come down a lot to age and different segments. If
 86 you gave a five year old for example an iPad or an iPhone, it's so intuitive to

87 them and they can use it almost straight away. Whereas, if I gave that same
88 application to my parents, they would struggle with that and probably get
89 frustrated and put it down.

90 If I gave it to my grandfather, he wouldn't even know what it could do. There's
91 definitely a need to segment based on people's previous history with technology
92 in those particular applications. I definitely think they'd have far different
93 expectations of what those applications would deliver. I don't even think my
94 grandfather would even understand what internet banking is, whereas the
95 children would see that as normal.

96 Grandad would see that as very abnormal. There would be specific concerns
97 that my grandfather would have around security and having that information on
98 the air, thinking about banking specific. Even providing information to use
99 applications and things like social networking, he'd be concerned that his
100 photos and so forth are on line.

101 I think the younger generation are probably far more comfortable with that. I
102 think there are three specific segments, there may be more. In my own head, I
103 see the 25s and under, the 25-45 and then 45 and over.

104 **Researcher**

105 That's current, however we all age so eventually ...

106 **NZINT3**

107 That'll change.

108 **Researcher**

109 ... that end will disappear, the middle will go there but the middle will go there
110 with a history.

111 **NZINT3**

112 Yes, at least they'd have some understanding. Because that 25-45 year old
113 age group grew up with technology, they've seen the bad bits of technology as
114 well as good. I think back to the old technology which was a particularly poor
115 experience so we know how bad it can be and we probably put up with a little
116 bit more. Our expectations are lower than the under 25s who have always
117 grown up with much better applications.

118 I also think that expectations around the hardware and the network services ...
119 things like Smartphone penetration, as I've said they're a key part of this in how
120 quickly Smartphone penetration will actually go through. The price of those
121 Smartphones are coming down is obviously going to help. Would my granddad
122 still ever buy one? Probably not. Would my [inaudible 14.13], probably. Would
123 they use all the functionality?

124 Definitely not, they wouldn't even understand to unless somebody sat down and
125 explained it to them one on one. Would they then get social networking
126 applications, I don't think so.

127 **Researcher**

128 So even though Smartphones are coming so fast, in a way they're a bit
129 premature to give the whole population?

130 **NZINT3**

131 I think you need to develop different applications for my grandfather and my
 132 parents because they need to even have a more basic step by step approach.
 133 They don't find it intuitive.

134 **Q4.Features**

135 **NZINT3**

136 I personally think the applications are not quite good enough yet. In my
 137 personal opinion. I'm a BNZ customer and they've launched their Android
 138 application. I've tried to use it. The fact you still have to enter your security
 139 details the same as what you do online to me is a massive hindrance for me to
 140 actually carry security cards, credit cards into the additional information. I was
 141 expecting a far more seamless thing.

142 Because it's my phone and it's locked anyway to get into it, you shouldn't have
 143 to reapply additional security settings. I think they've done it to be consistent
 144 with what's on the website but from a mobile perspective, it's quite clunky. The
 145 interface itself is not quite intuitive enough.

146 **Researcher**

147 Alright. But that's a step in the right direction maybe which has to be resolved.
 148 As the user of that application, you don't find it difficult to you?

149 **NZINT3**

150 You can use it but it is clunky. I've actually provided some feedback on
 151 Facebook BNZ. When they asked for feedback on the application, I provided
 152 that via social media by Facebook, that I thought it was poor and these are the
 153 reasons I thought it was poor. I was giving the application provider feedback
 154 specifically.

155 **Researcher**

156 So from what you're saying, it seems to me that you're expecting the mobile
 157 application to be better than the online one?

158 **NZINT3**

159 Easier to use. Because you're on a smaller screen.

160 **Researcher**

161 Oh yeah. So it doesn't take that into account?

162 **NZINT3**

163 Yeah, obviously with the smaller screen – a lot of people have adapted
 164 obviously M. standards, they've tried to do it but it doesn't particularly work very
 165 well. I think there's a danger because people download an application and then
 166 it doesn't work very well and then they pretty much abandon it.

167 **Researcher**

168 What do you think about mobile payment?

169 **NZINT3**

170 I think it's got massive potential and the way I've seen it working overseas is
 171 fantastic. We're still not there yet. I even noticed in the Rugby World Cup that
 172 Mastercard have got automatic payment on. I just think adoption wise we've
 173 got a wee way to go and New Zealanders aren't used to it yet. I think as an

174 application it's really, really good. Are you talking specifically about payment
175 like technical or are we talking ...

176 **Researcher**

177 Yeah, different technologies, yes.

178 **NZINT3**

179 Or are you talking about actual payment and using the application?

180 **Researcher**

181 Both. I'm talking about it in general.

182 **NZINT3**

183 I personally think the technical element I think means instead of carrying around
184 a wallet, you can carry around a phone to make a payment. I know that I'd use
185 a machine in Australia to buy a coke. I think it was a text message that then
186 gets charged back to your bill.

187 So I think that's definitely got benefits but instead if you can walk up to a
188 machine and swipe it with your phone, that makes it easier to use. I think it has
189 more potential.

190 **Researcher**

191 So that will require to change something.

192 **NZINT3**

193 Correct. But I think we've gone through that in NZ with eftpos. I just think it's an
194 evolution.

195 But obviously that's coming. It's just a chip set into the device. It should be not
196 too far away. Because it's such an easy application to use. I mean if you're
197 buying something from a dairy or a fast food outlet or even a supermarket, over
198 in the UK it's up to 50 pound value or something, you can swipe at a
199 supermarket. That's fantastic to do your shopping. Swipe and all the receipts
200 come back.

201 **Q5.Pricing**

202 **Q6.Attitude**

203 **NZINT3**

204 Yeah. I think that's the ultimate trade off. It's like going to a bank and being
205 charged a fee but doing it online for free. There's always going to be a trade
206 off. So it depends what the cost is I guess. I think the trade off is there.

207 For me, I think if it's priced fairly, people will continue to pay. Potentially your
208 time of going to the bank versus online or on the mobile phone. So time and
209 convenience I guess. Would you pay 50c or \$1 for doing that? It depends what
210 you value your time at and the convenience at.

211 **Q7.Innovation**

212 **NZINT3**

213 I think Android has allowed people to be a bit more innovative and it's a more
214 accessible platform. Apple is a bit more closed. I know that some people, and
215 very smart people, are working on different applications. I can think of one

216 friend specifically who's building an electricity meter application at the moment
217 in the UK. I think having that open source will allow more and more innovation.
218 Being open source I think is the key. If network operators or the over the top
219 players try and do it themselves, I think it's going to be difficult. They have to
220 give it to the masses and that's when you're going to get real innovation. I think
221 Apple's been traditionally seen as the innovators but I think if you give it to the
222 masses, that's when you're going to get real innovation and you take the next
223 giant step. Apple sets the parameters that you can work in, whereas Android
224 doesn't have those.

225 **Researcher**

226 OK, so that's a different innovation . One person's idea but not only because it
227 allows individuals to sequence each other.

228 **NZINT3**

229 Correct. And then you sort of pool together and then people build on other
230 people's ideas and it becomes bigger and bigger and you end up with a much
231 better product.

232 **Researcher**

233 Back to the industry, let's say something innovative comes here, it's still the
234 idea which needs to be implemented. What are the problems with developing
235 the service half, not the application, not the scenario in theory but making it
236 something which works from ...

237 **NZINT3**

238 I think there are two key obstacles. I think the first particular obstacle is
239 ensuring that the applications can work across different networks and different
240 platforms. If you fragmentation between different networks and the way that
241 they operate and interface as well as the different platforms.

242 We've got windows, android, Apple, there's going to be a winner and a loser
243 and that sort of fragmentation is going to be difficult in bringing stuff to market.
244 We often saw in the past that Apple is always first to market and not potentially
245 Android is sort of creeping ahead and now Windows has got their partnership
246 with Nokia so what's happening there. You can't just develop one application,
247 you have to develop three or potentially four applications.

248 **Q8.Obstacles**

249 **NZINT3**

250 Indeed. I think I spoke around segmentation. You can't develop just one
251 application, it almost needs to be three applications to cater for the different
252 markets.

253 **Researcher**

254 So that makes it nine now.

255 **NZINT3**

256 [R. You can't develop just one application, it almost needs to be three
257 applications to cater for the different markets]. Yeah. Exactly. You end up
258 having to develop not just one thing but multiple things. It's consistency. It
259 makes it a lot harder than just developing one application.

260 **Researcher**

261 Do you think that in that respect, the virtual operators could be more interested
262 in developing something compared to network operators?

263 **NZINT3**

264 I think they're only going to develop stuff to do their own platforms.

265 **Q9.Future**

266 **NZINT3**

267 I think a lot of it is going to be over the top in content. Players are going to be
268 the ones developing applications.

269 **Researcher**

270 Like Google, that is not an operator.

271 **NZINT3**

272 Correct. I think that's where the world is going.

273 **Researcher**

274 Both the innovation you mentioned coming from here and needs a next step
275 which is taking it and doing something about it.

276 **NZINT3**

277 Yeah. I just think the network operators have got such ... it's a small thing.
278 This has to be working out a mass level. Obviously you've only got a small set
279 of customers. If it's just developed for Telecom customers, will it be as
280 successful? I can't see it. It needs to be a bit more to all customers.

281 **Researcher**

282 So almost you're saying that by default because here we have the
283 fragmentation

284 **NZINT3**

285 Correct. You need the next over the top and/or content. People and content.
286 Also, think about events companies like Red Bull for instance. That can unite
287 people from all around the world so therefore the network operators it won't
288 work but ...one of the segments ... all these platforms.

289 **Q10.Regulatory environment**

290 **NZINT3**

291 I think the biggest problem we have in NZ is we're very small. Because of that
292 you're probably not going to get a huge amount of NZ specific applications
293 working because we're just too small. That's where the open source might flush
294 that out a little bit.

295 The thing that will fix that obviously is having over the top players that are
296 international over the top players basically providing applications. I don't think a
297 lot of those applications will be specific NZ applications. From my point of view,
298 the biggest thing from an industry perspective is how to encourage these people
299 to set up camp in NZ.

300 Are there any tax incentives for bringing IT/innovation? Could NZ potentially be
301 a hub for this sort of innovation? Are we producing the right sort of graduates to
302 come in with little bits of things that this is what we see as the future.

303 **Q11.Industry**

304 **NZINT3**

305 I don't think so. We're too small a place. Over the top players will kill us. For
306 that reason I think you've got to provide the infrastructure for these guys to
307 thrive on and provide a really solid network platform.

308 If we do that, that's great. Fast network performance which I think Telecom
309 does a good job at, despite all its problems. It's something we have, from the
310 telecommunications perspective, is how do we try and monetise all of this
311 bandwidth.

312 Obviously we're building bigger networks with fatter and fatter pipes to carry
313 more and more and more content but how do we make money and how to we
314 try and get return on our investment?

315 **Researcher**

316 This is the contradiction because you rely on somebody else so they're going to
317 make the money.

318 **NZINT3**

319 Correct.

320 **Researcher**

321 I was going to ask you about that before, the same thing like with the internet
322 may happen.

323 **NZINT3**

324 It's already happened. We're already having this conversation from over the top
325 players, not just from the NZ perspective but International Broadband Forum
326 last year, it was a big talking point. How do we monetise bandwidth?
327 Broadband is exactly the same as mobile broadband. We're building more and
328 more infrastructure but how do we get a return. We can't charge our end
329 customers more for it.

330 **Researcher**

331 No. You're adding value for it.

332 **NZINT3**

333 Correct. Everyone's expecting MFI and cellular phone, they're also getting data
334 plan included. The problem is there's a real cost to providing that infrastructure
335 and it is a massive problem and I don't think that the world understands how we
336 decide what [inaudible 33.31] communications to keep building but at some
337 stage ...

338 **Researcher**

339 It becomes quite clear actually if you simplify it a bit.

340 **NZINT3**

341 I think specific network technology such as mash up, getting Google and
342 applications to try and reduce some of that international bandwidth costs.

343 But also get some money out of it.

344 **Researcher**

345 How can you get money out of it?

346 **NZINT3**

347 We don't know. Big players can say "if you don't do it, Vodafone or 2degrees
348 will do it".

349 **Researcher**

350 It really is a complex situation.

351 **NZINT3**

352 Very much so.

353 **Researcher**

354 And depends on many things. That's very interesting. I'm glad you're talking
355 like that because I've thought about it myself in a way so it's not too difficult to
356 imagine but how to deal with it might be.

357 **NZINT3**

358 How do we fix it? We don't know.

Q4. NZINT4 Interview transcript

1
2 Q1.Attraction
3 NZINT4
4 Uh-huh, which existing mobile business services are most attractive to
5 customers? I think the ones that save customers time, save them money, stuff
6 that's free. (laughter)
7 Researcher
8 That's the ultimate saving?
9 NZINT4
10 Yeah stuff, I think services that reduce the number of devices the customer
11 needs. So a device where applications which allow customers to have their
12 entertainment, allow them to do their work, allow them to find information.
13
14 For example, finding a restaurant, finding where the nearest post office is,
15 locating directions, everything built into a single device. I think a device that
16 supports that kind of functionality is probably where the world's heading to at
17 the moment.
18 Researcher
19 So is the mobile device built like that?
20 NZINT4
21 I think so, I think a mobile device is ultimately going to replace people's
22 computers. I mean if you look at some of the devices today, they've, the phone
23 I'm using today is a Samsung Galaxy S2, it's got a dual-core processor that's
24 far more powerful than the initial desktop I started working with ten years ago,
25 (laughter) ten/twenty years ago. So the capabilities of these devices are
26 amazing and they're just going to get faster, smaller and faster and more
27 powerful.
28 Q2.Benefits
29 NZINT4
30 I don't know, it's limited to imagination isn't it? I mean I think it's, what's the limit
31 to human imagination? I don't think there is a limit and anything that we can
32 think of we can actually do and delivery with the computing capability we have
33 today. New benefits, new use cases? If I could think of those I'd probably be a
34 rich person. (laughter)
35 Researcher
36 Okay, well what you are saying is it's exactly the imagination, so it requires a lot
37 of thinking about what is...
38 NZINT4
39 Correct, what you can use it for. I mean who would have thought five years ago
40 that you'd be using that (unintelligible, 0:04:03.1) navigation device rather than
41 a map book.

42 Q3.Requirements and expectations

43 NZINT4

44 Yeah so I think there are different segments of customer groups. I mean if you
45 look at people using mobile devices today, you've got the younger generation
46 who don't use the devices to talk or SMS any more, they use it for data, they
47 use instant messaging now.

48 They use things like Viber to make their calls so they're using the data network
49 more than they're using the mobile network. So they use it for communicating,
50 they use it for non verbal communicating mainly, the younger generation. They
51 use it for entertainment, they use it for information gathering.

52 I think the business, the older generation tend to use the device as they
53 traditionally use it, it's a phone and I think the business community are starting
54 to use more and more features of it for their, to run their, to simplify their
55 business. Like, for example, running things like email applications on your
56 device so that you've got your email anywhere and everywhere, you're
57 contactable anywhere and everywhere you go. They're putting, they're building
58 smart apps to access their back end systems through the mobile network.

59 Researcher

60 Do you think that in that respect phones are continuing the tradition of personal
61 computers, or are they entirely a new thing?

62 NZINT4

63 They are, they do a lot of the traditional things, but I think they do more. They
64 do more because they're mobile, they are available anywhere. So, for example,
65 a traditional desktop computer, or even a laptop would not have had, it didn't
66 make sense to have a navigation application running on your desktop or laptop
67 because you're not going to carry that around with you, but it makes sense to
68 put it on something like this. So I think, given the fact that it's mobile, it fits in
69 your pocket it's use becomes a lot more.

70 Researcher

71 Okay I'm asking that question because some other respondents have talked to
72 me about exactly older versus younger people but they've indicated that they
73 may have really different requirements , partly because older people would
74 have been exposed to previous generation of technology which was quite
75 advanced still not ancient but now old, while the other...

76 NZINT4

77 Well one of the things that a mobile device like this is limited by is the amount of
78 *real estate on the screen* that you have. However, given it's smaller, the quality
79 of the screens can be so much better. I mean that one has got a NLED type
80 screen, it's got a 8 megapixel camera, it's got a HD video capability to take HD
81 video and playback HD video. Because the screen quality is so much better
82 you can actually put a lot more stuff on it.

83 Q4.Features

84 NZINT4

85 Mobile. Yeah it's available anywhere, it's available anywhere, anytime provided
86 you've got access to the network and that's why you need a decent network.
87 (laughter)

88 Researcher

89 The question is about the people, you mentioned email, now without email on
90 the mobile device you wouldn't be checking your email every minute of the day
91 and this was apparently not necessary before we had mobile phones. Now
92 have we changed our customers with...

93 NZINT4

94 I think we have, I think with the availability of information it allows us to respond
95 much faster, so it allows us to respond to our customers much faster. Our
96 customers know that this technology is available, so our customers demand that
97 we respond much faster.

98

99 So it's a two-way street, our customers want us to respond much faster so we
100 need to respond much faster. I think companies who don't adopt a technology,
101 who basically say, "No I'm working a nine to five job, I'm not going to check my
102 emails after hours, I'm not going to respond." I think will lose out and die in the
103 world we're living in today.

104 Researcher

105 So in that way it's actually, as you say, a two-way street, yes indeed.

106 NZINT4

107 Yeah.

108 Q5.Pricing

109

110 NZINT4

111 I think applications that provide you access to services will be freely available,
112 so if I want to buy a bus ticket, for example, or an airline ticket, the mobile
113 applications that run on my phone will be freely, I can download those free
114 because it's in the interest of the organisation to make those available to me.

115 However, things like if I want to buy music, or I want to buy a movie ticket, for
116 example, obviously I'm going to have to pay for the music because there's a
117 certain amount of intellectual property that companies like the Telcos who need
118 to charge for providing the plumbing. So...

119 Researcher

120 That will be a (unintelligible, 0:11:03.4) indicator of buying tickets, who bears the
121 charge there?

122 NZINT4

123 That's right, who bears the carrier charges? There is the thought that
124 companies like Apple and Google who are starting to corner the smart phone
125 markets will have, at some point, enough of a market share to actually start
126 building their own networks across Wi-Fi and data.

127

128 I mean we're seeing things like Viber doing, allowing you to make voice and
129 SMS voice calls and send SMS's and bypassing the mobile operators. Who's
130 to say someone like Apple doesn't build a worldwide IP network?

131 Researcher

132 That brings me to the initial discussion we had, because if that happens, okay
133 you still have one giant with a mobile data network with everything else on top
134 of it as well. So which hasn't happened with the existing data network owners,
135 they haven't built that thing on top of them, they haven't become...

136 NZINT4

137 But these existing data network owners are also plumbers, right they sell
138 plumbing, they make their money by how much data you send across their
139 pipes.

140 Researcher

141 Okay, alright.

142 NZINT4

143 So it's not in their interest to do that, but someone like Apple or Google have a
144 different driving factor, their aim is to sell the devices and if they provide the
145 network that says, I sell you the device, you buy my device you can call
146 anybody else who's got the same device on this network for free and that's a
147 huge incentive.

148 Researcher

149 Okay, I can see how they think, so it's diverting it from dating the service?

150 NZINT4

151 Yeah so they're not selling the plumbing they're selling the device, that's where
152 they make their money. So it beholds then the Telcos to figure out how they are
153 going to play in this brave new world.

154 Q6.Attitude

155 NZINT4

156 I think there's a certain amount of brand consciousness especially among the
157 younger generation, so yeah I think a lot of people would choose based on
158 brand. But I think if you are a business user you're probably a lot more
159 conscious about quality of service and if you are not a business user, if you are
160 an occasional user you're probably more conscious about pricing. So I think it
161 depends who you are and what...

162 Researcher

163 So you mentioned quality of service, do you mean that individual customers
164 may not be so much concerned with quality of service, or...

165 NZINT4

166 Yeah, so I mean I look as myself as an individual, I'm more concerned about
167 ensuring that I'm on the best network and I want to be able to use my phone
168 anywhere and everywhere.

169

170 I don't want to go somewhere and then find I can't use my phone because I
171 don't have access to a network. I want my email to work all the time, I need to
172 make sure I'm contactable, so I need a reliable network, I need a reliable
173 device, I need a reliable service, so I'm prepared to pay for that.

174 Researcher

175 Okay, so it's the value which you can determine the willingness to pay?

176 NZINT4

177 Yeah when Telecom were having all sorts of problems with their 3G network, if I
178 was a business customer on that network I would not be happy and I would be
179 looking to move, because I can't run my business like that. But if I was a
180 teenager I had a limited amount of pocket money to spend every month, or
181 every week, I'd be very conscious about the price of what I pay for.

182 Researcher

183 Which comes back to the segmentation (unintelligible, 0:15:12.9).

184 NZINT4

185 Correct, or if I was a person, a younger person who probably didn't have a huge
186 amount of commitment and bills to pay at the end of every month and I had a
187 significant amount of surplus money to spend, I'd probably be a lot more brand
188 conscious and I might want to be with the trendy providers. I want the best
189 iPhone and I want to be on the most trendy network provider, for example. So I
190 guess it depends on who you are and...

191 Researcher

192 So it comes back to different people, different values?

193 NZINT4

194 Yeah.

195 Q7.Innovation

196 NZINT4

197 Innovation, I think what drives innovation is the need, someone sees a need
198 and then comes up with an idea to resolve an issue, so a problem and
199 something and you come up with an answer to resolve the problem. I believe
200 that's what drives innovation.

201

202 A really good example is something I read on the BBC News today. In India
203 someone tried to buy a bus ticket to go home for Diwali to go back to his home
204 town for Diwali and he had run around town to the various bus companies to
205 see if he could get a ticket.

206

207 And in the end he couldn't, he couldn't get a bus ticket so he didn't go and he
208 was really upset about this. And he thought, why is it if I want to buy an airline
209 ticket I can go to any number of websites to buy an airline ticket and they will
210 search all the airlines for me to get the best priced airline ticket. I can do that
211 for buying a movie ticket, why can't I do that for a bus ticket?

212

213 So and this thing didn't exist in India, so he and a couple of friends got together,
214 four of them got together, they left their jobs, they built this website. And now
215 they employ four thousand people across India selling bus tickets to integrate
216 into all the bus companies timetables and seating systems. You can now buy a

217 bus ticket and you can choose your seat and fantastic, but that was driven by a
218 need.

219 Researcher

220 Yeah but they were, that was the innovative part of it they realised they could do
221 something about it.

222 NZINT4

223 That's right, they saw a problem and they fixed it, yeah.

224 Researcher

225 Okay, so knowing the need because it's obvious really knowing very well what
226 was needed, not the need, but the problem.

227 NZINT4

228 And I think those are successful innovations. I mean a lot of people come up
229 with a lot of clever ideas but there's just no need for them, or they're too late, or
230 they're too late into the market and in which case they lose out.

231 Q8.Obstacles

232 NZINT4

233 I think, so a lot of people who come up with these mobile services are clever
234 technology people, they're clever technical people, they understand how to
235 solve technical problems. But what they don't understand is how do they solve
236 the business problems, how would they market their products.

237

238 And a lot of these fail because they don't know how to market themselves, they
239 don't know how to market and sell their products. So they don't have the
240 business acumen, so I think a successful solution needs both technical and
241 business acumen.

242 Researcher

243 Well I'm writing it down here because I want to ask one more question on that.
244 Sometimes, innovators are like inventors some technical people as you say who
245 know well the technology and the idea comes because they know what can be
246 done, don't know where to plug it in.

247 NZINT4

248 That's right.

249 Researcher

250 Who is that who is going to find out that and bring the business part to it,
251 because that's when it becomes a miss.

252 NZINT4

253 Yeah and I think that's where you build partnerships, you've got an idea, you
254 find the right partner who can actually sell your idea, who gets your idea and
255 sells it. It might be another (unintelligible, 0:19:43.0) capitalist, it might be, I
256 mean like for example, the example I gave you with the guy from India.

257

258 He saw a need, he understood how to sell it, but he didn't understand the
259 technology, how to build it, so he went to someone who could do the build and
260 understood the technology and he had people who understood how to market.
261 So it took four of them to...

262 Researcher

263 So he was clever enough to get the right people as well?

264 NZINT4

265 Correct, it's not just a single skill set now that you need, gone are the days
266 where someone like Hewlett & Packard who were very clever inventors could sit
267 in their garage, invent something and get it into market.

268

269 Those days are gone I think, you need a significant larger skill set and it's
270 because the world's moving so quickly. If you take too long to get into the
271 market someone else is going to beat you to it.

272 Researcher

273 Yeah, correct. So in a way now if I go back, because of the technology is here
274 we're using it and life is moving faster because of that need to respond faster,
275 business development is moving faster, everything is moving much faster than
276 before. Is there any real place for innovation to start and develop itself?

277 NZINT4

278 I think so, I think there'll always be very clever people, there'll always be
279 problems to solve, there'll always be a need, I mean innovation drives
280 innovation. A new piece of technology comes out and someone sees a new
281 use for it, or it creates a new problem for example, what's a good example?

282 Researcher

283 (unintelligible, 0:21:27.7) involved in creating of problem, an example of creating
284 a problem.

285 NZINT4

286 Yes, a few years ago when you flew in an aeroplane for a long range flight you
287 watched a movie, they showed a movie and everybody watched the same
288 movie on that big screen in front of the plane.

289

290 And then along came the smaller screens and they showed, everybody
291 watched the same movie on the smaller screen in the seat in front of you. And
292 then the invention came for having digital media and someone then thought,
293 well if we've got that digital media why don't I then take that and put that into an
294 aeroplane and let people choose what movies they want to watch? So
295 innovation leads to innovation, so I don't think we'll ever stop innovating
296 because we'll always take technology...

297 Researcher

298 Okay because you see there's a continuous process?

299 NZINT4

300 Yeah.

301 Researcher
302 Alright, that's an interesting point because some people think that innovation
303 just happens like that, right idea but it's grounded in something, that's what
304 you're saying.
305 NZINT4
306 Correct people build, I mean I've been in software development for twenty years
307 and I haven't seen that many changes in the software industry in terms of the
308 way we develop, how we develop, what we can develop. The ideas, it's all fairly
309 stock standard patterns, but what people do with them, how people build on top
310 of ideas is what's creating that innovation.
311 Researcher
312 Okay so it's a new, sort of a new world in that respect?
313 NZINT4
314 That's right, it's taking something and building on it, improving it.
315 Researcher
316 Yeah that's why I asked initially about the mobile technology is building on top
317 of the personal computers and I would think that your example of mobile
318 software as you say is the same, so it means that it is change.
319 NZINT4
320 Yeah it's all, I mean...
321 Q9.Future
322 NZINT4
323 I think both, network operators need to figure out how they're going to keep their
324 business going because I think people like the Apples and the Googles are
325 going to eat into their, eat their lunch. So they've got to figure out how they're
326 going to ensure that they survive in this world, so they're going to have to
327 provide reasons for people not to go onto the other networks.
328
329 So yes I believe that network operators will be doing that and third parties will
330 develop business services. I mean there's always, there's a huge number of
331 clever people out there who will come up with different ideas and...
332 Researcher
333 Yeah, so (unintelligible, 0:24:21.7) that innovation which you talked about is
334 going to have (unintelligible, 0:24:25.5) my scheme which is very simple will
335 happen in the middle?
336 NZINT4
337 Yeah so and I do think network operators will actually, where they'll add value is
338 to provide the glue for these, for the third parties. So the network operators will
339 have the customers, they'll have a customer base, the third parties will need
340 access to the customer base and the network operators will provide that glue to
341 allow these services to be sold through that customer base while taking a cut in
342 the fee or whatever.
343 Researcher

344 So there is a role for them but it's clear, you see it's at least clearly as two
345 different sort of parts of the process and customers, so customers are both, that
346 is the interesting thing.

347 NZINT4

348 Yeah and then the network operator who can provide the most services wins,
349 because I mean... So just selling, just having a network without and depending
350 on everybody else to provide services ain't going to work in the new world.

351 Researcher

352 So they have to expand on that as well?

353 NZINT4

354 Yeah.

355 Q10.Regulatory environment

356 NZINT4

357 I think the way, what the government's done to stifle the larger Telcos to allow
358 the smaller Telcos to operate, things like 2 Degrees something, in the long run
359 is probably not good. Because you're taking investment out of the large Telcos
360 so they're going to invest less, at the end of the day the Telcos have to show a
361 return to their shareholders. And if you're eating into the way they can operate
362 then they've got to cut costs elsewhere, so that cost comes out of capital
363 investment.

364 Researcher

365 Okay, so you think that will be counterproductive in the longer period?

366 NZINT4

367 I think in the long run it'll be counterproductive and it doesn't help the smaller,
368 yes it puts more money in the back pocket for the smaller provider in the short
369 term, but unless the smaller provider actually uses that to invest to do real
370 capital...

371 Researcher

372 And become a bigger...

373 NZINT4

374 It's no use.

375 Researcher

376 So if they stay as a smaller provider they'll...

377 NZINT4

378 Yeah they'll eventually get gobbled up anyway and nobody wins in the long run,
379 so.

380 Researcher

381 Okay, so this is specific here for New Zealand, I can see it very clearly like
382 what's happening with, that's now the first stage when everything's more or less
383 fine.

384 NZINT4

385 Yes and so at the end of the day what the government's trying to do is to ensure
386 the consumer gets the best deal, they might have in the short term but in the
387 long term it might not have helped anybody. Because if shareholders don't see
388 a return they'll just pull their investment out.

389 Q11.Industry

390 NZINT4

391 I think all the network players in New Zealand are incredibly supportive of
392 development and implementation, I mean they have to, I mean if you don't your
393 customers aren't going to stay with you. You need to be seen to be innovative,
394 you need to be seen to be supporting all these applications.

395

396 For example, if one of the network providers decided, "No you can't buy
397 anything from Apple iTunes," everybody on that network will leave. (laughter)
398 Everybody with an Apple iPhone would leave that network, that would be
399 madness.

400 Researcher

401 I can imagine that.

402 NZINT4

403 Yes (laughter) so you can't afford not to be supportive.

404 Researcher

405 Yet I know about at least one company here which has it in its contract
406 something about not using Skype on the phone because you over, bypass their
407 voice service.

408 NZINT4

409 Yeah, so how are they going to monitor and stop that? So you can stop that,
410 you...

411 Researcher

412 Can I guess.

413 NZINT4

414 You can, I mean basically you put probes in the network and you see anybody
415 doing this and you drop their *data rate* (0:29:26.1) which is fine, you can do that.
416 But I would rather see that the networks says, "Use Skype if you want and in
417 fact if you use Skype you can pay us a little extra and we'll ensure you've got a
418 higher quality of service." So...

419 Researcher

420 Okay. (laughter) Alright, I understand.

421 NZINT4

422 If I was a network provider that's what I'd be doing and that's what you need to
423 do to work in this brave new world, you can't stop it, you can't stop it from
424 happening, you've got to join the party.

Q5. INTNZ5 Interview transcript

1

1 Q1.Attraction

2 **NZINT5**

3 I think of our *three reasons*, I think the most attractive one are free of charge,
 4 so that's why actually some of the services are very attractive 'cause it's free, so
 5 people they don't have to pay, that's a bonus. So when you go somewhere and
 6 a companion will give you an application for free, just adding on values.

7 The second one is when it's accessible more quickly, or it's quite easy to
 8 access to all services because it's on your phone or tablet. And I think I've
 9 been specifically I focus now on a third one actually, it's a similar sort of what I
 10 would call seamless, so it's a service or it's something that you use but you
 11 don't really realise that you use it, so...

12 **Researcher**

13 Oh I see.

14 **NZINT5**

15 Or sometimes like the last project that I worked with a museum in France it's a
 16 playful way of learning a piece of art, or an artefact somewhere in a museum,
 17 so it's adding some value. So rather than to read the long description, just take
 18 a picture with your flash card you've got a game and all of a sudden you get a
 19 sense of game and you learn something without realising, so it's called
 20 infotainment, yeah.

21 **Researcher**

22 Yeah,

23 **NZINT5**

24 It used to be called infotainment, now they've changed the name recently.

25 **Researcher**

26 Yeah some of the words are old now but it's alright.

27 **NZINT5**

28 So I would call that seamless, so you don't really see the service and you but
 29 it's something natural, more natural that goes between you and the service
 30 provided. So that's why it's so attractive, it's not complicated, it's very intuitive,
 31 you push here and there and all of a sudden you've got it.

32 **Q2.Benefits**

33 **NZINT5**

34 Well I would say again two things as well. I would talk about immediacy, so it's
 35 really there, right now. So for instance if you've got a service offered online you
 36 need to have access to a computer or something like that, but with mobile
 37 phone or tablets it's in your pocket pretty much.

38 So time efficiency and benefits, there's as well as, not only you benefit yourself
 39 but there's also more and more second effect to that, what I would call the

40 takeaway effect. So ones with services provided you, quite often with mobile
 41 phone services they provide a social media platform so you've got a record
 42 somewhere, or its online somewhere you can engage with *participants* or you
 43 can get with friends.

44 **Researcher**

45 So it's lasting service, continuous?

46 **NZINT5**

47 One of my friends he's got just a year ago he just uploaded an app on his
 48 iPhone and all of a sudden for him it was a way to talk to me as well and he's
 49 like, "I'm like you now I'm trendy I've got a app. It's always, it's also a way to
 50 communicate with others, almost like a gadget."

51 We used to back in time say, I like that song, or I like that painting or whatever,
 52 but now it's I've got that service from that mobile provider. Apps are almost like
 53 collectors, we used to keep our images and stick them in our iPhones, but now
 54 when you collect apps it's creating a sort of social buzz so probably its one of
 55 those benefits as well to be able to engage whenever with others.

56 **Q3.Requirements and expectations**

57 **NZINT5**

58 Oh yeah absolutely. We have a massive fight now for online mobile or security
 59 transactions it's one of the big theme at the moment to secure all those
 60 payments via mobile advices. So banks have got a very, very specific
 61 requirement, businesses as well they want secure for secured information for
 62 their, that's why people will only use Blackberries virtually.

63 **Researcher**

64 Yeah because it's secure.

65 **NZINT5**

66 Yeah it's secure. Some people as well, but there's another phenomenon as
 67 well, some people, some companies prefer the employee to have a mobile
 68 phone or smartphone because they've got an expectation for people to work
 69 24/7 days. So all the seven or eight to five office time actually it's pretty much
 70 over with a smartphone.

71 So you expect people to check the app every so often and to check the emails,
 72 so there are some people they are in that sort of frame. And, for instance, I just
 73 talked to one of my friends he develop some system for a nurse, when they go
 74 to see patient and when they do their injection they develop a special app for
 75 them to clock the time, to understand how many *miles* they've done in terms of
 76 measuring the costs, the efficiency of the travel of a trip to calculate the cost of
 77 the petrol.

78 And so there was a requirement now to be efficient, even a salesman will have
 79 a special app that's where we'd put all the data in and the output you need to
 80 start here and then to go six kilometres away here to see that person seven
 81 kilometres away with a dual location. There's some application made for blind
 82 people actually that need to be very precise to know where they are, what's
 83 going on, or elderly when they take their pills we need to click on that simple
 84 button, but that needs to be connected to the server very quickly as well.

85 And apparently one of my friends are working in a hospital told me as well that
86 New Zealand is one of the pilots for medical information on mobile phone. So
87 when a GP's called for an emergency now he can download on his phone pretty
88 much a profile of the patient in front of him in one or two minutes and to see
89 what sort of allergy he's got before to inject anything, so it's quite handy now as
90 well.

91 So it's very different from kids playing games and learning stuff on the app with
92 Angry Birds. But even Angry Birds is a sort of educative game because you've
93 got gravity, you've got strength, you've got energy but in a fun way.

94 **Researcher**

95 Yeah, okay. So those are really quite different I can see that and there is no
96 way that you can develop one thing for everybody.

97 **NZINT5**

98 No, no you, even well actually the beauty of a mobile phone, last year we
99 worked on with a, how is it called? *ReThink* (grant which was something for
100 people having mental health issues.

101 So we developed a concept of having a special app that will allow people in a
102 specific neighbourhood of Auckland to communicate about their phobia or their
103 nerve racking issues or if they not very, so there was a special application for
104 Ponsonby, for CBD and their requirement are quite different.

105 **Researcher**

106 And why are they different, because of the location?

107 **NZINT5**

108 Because of location, because of what you can do, so they don't offer the same
109 services, they don't offer exactly the same thing. The structure, 80% of the app
110 was pretty much the same, but there's is 20% that is quite flexible according to
111 the needs.

112 **Researcher**

113 So does it depend on who lives and the people ?

114 **NZINT5**

115 Yeah so for instance, the CBD has more Asian population so the way you talk
116 to them, or the way your facilities is not the same than Herne Bay. Even in
117 terms of language how you talk to those guys and thanks to the mobile phone
118 because you've got a GPS system, the mobile can identify which app or which
119 area you've got. So if it's a web base application that can actually redirect you
120 towards that language.

121 **Researcher**

122 To the right one.

123 **NZINT5**

124 And I think that's one of the strengths actually

125 **Researcher**

126 Yeah I agree, well we don't know if it's a strength in the long run because it
127 may, is there a danger of having too many signals?

128 **NZINT5**

129 Well not like I said if you've got a, well it's pretty much what you do with cars as
 130 well to a certain extent, you've got the same engine in a Golf or in Skoda or in
 131 VW or in a, you've got the same engine, but the way the car is built, the quality
 132 of the plastics, the quality of the leather, is it an automatic gear or manual?

133 Everything is tailored to the customer, the colour even of a car, but I would say
 134 85-90% of the car structure is mass produced, but is it a tape stereo, is it a DVD
 135 stereo, do you put screens in the back seats or not? Everything is quite
 136 optional and I think with mobile phone apps or services we can do that now.

137 **Researcher**

138 So that's a good example you're giving, but from what I know about car
 139 manufacturing these are only big companies, there are no small players in that,
 140 do you think that the same might happen in mobile applications?

141 **NZINT5**

142 We are small players but the car is super, super expensive.

143 **Researcher**

144 Oh okay. (laughter) We don't want this for mobile applications.

145 **NZINT5**

146 We are companies it's only fifteen employees but you pay one hundred million a
 147 car or something like that.

148 **Researcher**

149 But for the mass market, are there only big players?

150 **NZINT5**

151 Yeah but we've seen that when Vodafone launch actually 3G in New Zealand I
 152 was part of a team communicating about that, services offered in New Zealand
 153 were not the same in Australia but it's a big Vodafone group. So you've got the
 154 *templates* you've got the branding guidelines, but according to the market you
 155 don't provide the same services, you tick the box or not. So even big
 156 companies you can, well actually no, you're talking about small companies.

157 **Researcher**

158 The big companies have that capability and capacity.

159 **NZINT5**

160 And big companies have agencies as well, so small providers, local providers,
 161 so I think it's a way to generate more work for people, but with a very specific
 162 aim.

163 **Researcher**

164 Okay, alright we'll see how it goes in the future.

165 **NZINT5**

166 Yeah.

167 **Q4.Features**

168 **NZINT5**

169 Something I've done in a test last year to do live video and one of the things
 170 that I've learnt from that, that was a big mistake, people really need to go on the
 171 website to login to get a specific learning, a specific password, to create a
 172 special account number. That account number needs to be actually recorded
 173 within the app.

174 The app needed to be uploaded on the phone, they needed to logon to the app
 175 with a specific learning and password, but it was slightly different from the
 176 previous one. So I think the big thing is to make things simple, very simple,
 177 that's a big feature and one of the things that Apple did well with an iPhone is
 178 the touch screen.

179 So to use real physical property capability of the phone. So for instance we
 180 made (unintelligible, 0:17:55.6) a video where you can just rotate the phone and
 181 do the editing because it's using the phone. I know someone in science, I don't
 182 know I think it's North Shore, did something about tennis elbow, measuring
 183 tennis elbow with a feature of an iPhone and developed a special app to
 184 understand the speed and all these sort of things and the impact. So it's to use
 185 those, I think right now a mobile phone is only used like a computer but we not
 186 use as...

187 *Researcher*

188 I see, special capabilities?

189 *NZINT5*

190 Yeah special capabilities. Like my son has a game to start the game again you
 191 just need to shake the phone, you can't do that with your computer. (laughter)
 192 But when you do that it's very nice, so it's all those sort of things. So it's to find
 193 a new way as well to talk to people, or even one of my research group in France
 194 they use the sound and you needed to blow to go to the next menu. So, and
 195 that's one of the things we don't really use in real life to blow for instance in the
 196 microphone to get, to have access to the next medium.

197 *Q5.Pricing*

198 *NZINT5*

199 Well from my understanding of business, that's not a big factor, price is not a
 200 big factor, if people they like it, they will spend money on it. So free pricing is
 201 not necessarily something that will actually accelerate the adoption of a service.

202 But a reasonable price yeah sure, so if you provide a service for, there are
 203 some apps you can pay five dollars, US dollars. But if they are good apps and
 204 very useful people they can spend money . But paying twenty or thirty dollars
 205 app for your phone is something that starts to be a little bit more difficult.

206 *Researcher*

207 Okay, so your key word is reasonable?

208 *NZINT5*

209 Reasonable.

210 *Q6.Attitude*

211 *NZINT5*

212 Well it depends on the quality of the service to be honest. For instance, you
 213 buy you song for how much? Thirty cents on the iTunes for one song, three

214 minutes, thirty cents, I find that reasonable. When you buy your CD in the shop
215 it's fifteen dollars, twenty dollars.

216 So you can buy at Real Groovy for instance nine dollars, ten dollars CDs, so it's
217 fifteen songs so it's ten cents a song. You need to work out that sort of
218 proportion, but for instance the *tide* (application that I was talking about there is
219 a live version for free and I've got that one because it's good enough for me just
220 to go swimming down the road.

221 But for boating if you want the pro version of that thing, I think the boating
222 version is thirty New Zealand dollars, I think, twenty five. But I think it's very,
223 very useful because you've got everything on that app for when you go sailing,
224 fishing, you've got all the different layers of information. Now speaking about
225 that, you need to make sure that leaving the country of New Zealand you've got
226 the right provider to get reception on the water overseas as well. So you see
227 what I am saying as well?

228 **Researcher**

229 Yeah so it's quality of the service and also quality of the other network?

230 **NZINT5**

231 Yeah I think so.

232 **Researcher**

233 Which are working in this case?

234 **NZINT5**

235 Yeah.

236 **Researcher**

237 Would that be true for other applications as well?

238 **NZINT5**

239 Well Angry Bird there's a lot of people paying for Angry Bird now more and
240 more because we want to play different levels because we've completed all the
241 levels. Another application I know is used by, I think they had an increase of
242 50% last year of the membership, (intelligible, 0:26:39.5).

243 But the more actually they've got the customers the more they stock orders is
244 growing for them so the more the shares on the market is expensive. Well in
245 terms of business models there's a critical mass as well that is important. So to
246 increase your credentials you need to have a good amount of customers and
247 probably for that you need to give it away for free.

248 **Q7.Innovation**

249 **NZINT5**

250 What would be important is quite hard to say.

251 **Researcher**

252 You already gave some examples, that's why I'm asking for others.

253 **NZINT5**

254 There are more and more ... I mentioned already to you a few as well. So the
255 fact that, I know if you do a transaction to make a payment from your phone

256 what you will expect from that service is to confirm that it has been done and
257 well received, but that doesn't exist yet.

258 Because now you just need to check your bank statement for instance when
259 you do that online, but you will expect to get a text message for instance say
260 forty eight hours later, thank you your transaction has been well received by
261 your so and so, that sort of thing.

262 **Researcher**

263 Okay, well that's actually quite complex if you think about it.

264 **NZINT5**

265 No it's quite simple.

266 **Researcher**

267 It may require a second bank involved, I'm not saying it's impossible but...

268 **NZINT5**

269 Because basically that operation will appear on your bank statement if you load
270 on your account. Now just to get a SMS alert from your bank account just to
271 say, well you need to set it up at the beginning any online payment that I will do
272 I will get an automatic receipt.

273 **Researcher**

274 Well something we have on email anyway.

275 **NZINT5**

276 Yeah and a text message, saying yes, Mr So and so has been paid, or you
277 know, sometimes I had unfortunately I had some payment that didn't go through
278 for some reason and, but nobody told me. (laughter) And I have checked
279 myself two days later, that's one of the probably sort of innovation, or...

280 **Researcher**

281 Yeah, so I see it's...

282 **NZINT5**

283 One other thing is, it's existing I don't really use it yet, but *LinkedIn* for instance
284 if you actually read the thing, if I go in a Cafe I can see that some of the people
285 that are part of my network are in the Cafe or in a two kilometres area, so my
286 phone is telling me that, oh Researcher is having a coffee six hundred metres
287 further.

288 We detected that because of a dual location of your phone saying, "Oh , hey
289 Researcher are you free for a coffee I'm just here I'm talking with Jean Pierre
290 whatever, you know. So there was things that can be done , innovation to
291 make those things a little bit more fluid.

292 **Researcher**

293 So all your examples actually include a realistic scenario, nothing new to want
294 to have a coffee with a friend, but the new features of the phone are *involved in*
295 *actually* making it happen?

296 **NZINT5**

297 Yeah.

298 **Q8.Obstacles**

299 **NZINT5**

300 Well that's what we talked before, I think it's, well first of all mainstream habits,
 301 the way the, how can I say this? It's mass behaviour okay, so sometimes a few
 302 things have been invented twenty years too early and they were not very well
 303 received or understood by the public or customers. So we say it's mass
 304 psychology or it's human factor, the main obstacle is the human mind but it will
 305 change. (laughter) So that's one factor, the other one is technology as well.

306 **Researcher**

307 In what respect?

308 **NZINT5**

309 In respect of they are still a few things that we don't know how to handle. For
 310 instance, one of the key features well that was quite dated now five years ago,
 311 but Nokia did a survey and when they said, if there is one thing you want to
 312 improve about your mobile phone, what is it, only one? And statistically
 313 everybody said, I want my mobile phone to be waterproof and apparently there
 314 was a lot of men dropping their mobile phone into the toilet or people in the
 315 water.

316 **Researcher**

317 Even I have seen one like that, I haven't but I saw somebody next to me.

318 **NZINT5**

319 But it's only free phone on the market they are totally waterproof so that thing is
 320 not waterproof at all 'cause it's too complicated and need to many things and
 321 once we've got those things, you can't chose the *skin* any more. So that sort of
 322 a technology glitch and it's quite heavy as well, so...

323 **Researcher**

324 Yeah maybe come in later?

325 **NZINT5**

326 Yeah.

327 **Q9.Future**

328 **NZINT5**

329 I think everybody will be involved with mobile, big car companies now they are
 330 actually, they are organised *the car and all* the technology around
 331 smartphones, you just need to plug your smartphone in the car and you've got
 332 everything. If you go on YouTube and you check what Ford did last year it's
 333 quite impressive.

334 I think everybody because basically, well if you look at the Asia market, Vietnam
 335 and all those, Cambodia, nobody is using computers any more they're all using
 336 a mobile phone. They check the emails, they talk on mobile phone, they do
 337 their banking transaction on mobile.

338 One of my friends is working on a project to teach Pilipinos English via thirty
 339 seconds sound track, like a ring tone. It's only two sentences in English and
 340 people repeat it and they can download as many sentences as they want on
 341 your phone and listen, they repeat and they learn English like that.

342 **Q10.Regulatory environment**

343 **NZINT5**

344 No I'm not sure exactly what's going on in regulations here actually with mobile
345 phone.

346 **Researcher**

347 Okay. We can skip that in that case.

348 **NZINT5**

349 Yeah no, sorry I don't know.

350 **Q11.Industry**

351 **NZINT5**

352 I think they don't support enough that's an issue I've got with New Zealand in
353 general, it's about the cash society and short term, so everybody wants to make
354 profits and I think nobody's really investing enough back into society. So
355 nobody, I faced a few times a question just saying well how much, what will give
356 a profit or how much will you get out of (unintelligible, 0:35:47.6)?

357 Well that's quite different from Europe funding, government funding, or regional
358 funding, or other types of funding. We use taxes, use local taxes to give a way
359 back and try things and not everything works but at least we learn something
360 and we move on, we carry on. And I think New Zealand is too much focused on
361 profits and short term profits rather than long term.

362 **Researcher**

363 I see.

364 **NZINT5**

365 So in my view actually mobile companies here provider, all the big one and
366 even the small one, except 2 Degrees who have just opened up a new way of
367 thinking business, is really we pay far too much here, communication. And with
368 (unintelligible, 0:36:40.8) it's only four point five million people on that market,
369 but I think you can open up, well you can diminish some services and increase
370 others and make a balance like that, but something a little bit more social, or
371 democratic. (laughter)

372 Or to take the risk to say, well actually rather than to get your portion, your bach
373 in the Coromandel, you just get slightly less money and you redistribute that
374 money amongst those people and they pay slightly less money on their
375 communication.

376 But Vodafone, for instance, is a big example of ripping off the people for
377 communication and it's a shame I think. When you look at Broadband in Japan,
378 there are I think twenty gigabytes per seconds transfer and it costs how much?
379 I think ten New Zealand dollars a month or something like that for unlimited
380 data. (laughter) Why we can't do it here?

381 **Researcher**

382 I cannot agree more actually. (laughter)

383 **NZINT5**

384 But, it's involving the Auckland city, it's involving sponsorship from those
385 companies for everybody to work together and saying, well for the sake of the

386 customers, for the sake of the population and enhancing growth or
 387 development, we should all put five here, ten there and yeah and speed up and
 388 get a special funding like that. And I thought that was one of the aim of the
 389 government actually to say, this is a pool of money and you key actor, you add
 390 on the pool of money, but apparently there's no real politics like that here.

391 **Researcher**

392 Okay, so this is about it? (laughter)

393 **NZINT5**

394 Yeah. So mobile network industry in New Zealand, I think are not very
 395 supportive yet and I would say that they probably should look more at the very
 396 long term rather than the short term investment.

397 **Q12.Further comments**

398 **NZINT5**

399 No the only thing that I can add especially knowing where I am now). I still think
 400 that there's not enough communication between the front end and the back end
 401 between programmers and designers and producers. I think we still that what I
 402 would call a creative producer that's someone who is able to understand the
 403 technical aspect, the parameters, but also understanding the needs of the
 404 customer.

405 And more for sort of a model where the engineer and the artist is very much the
 406 same person. Or at least there is one in the team that can do the bridges. But
 407 I've seen a lot of people developing system that exist already, duplicate them
 408 from a geek aspect and I've seen people designing very weak things that has
 409 fantastic system behind and both of us, I think they don't work on the market, or
 410 they don't last very long, so it's a waste of time and energy. And if you look at
 411 the apps market as well, that's another model a different model I think, I've
 412 forgotten how many million apps there are on the market, but quite a few.

413 But it's only 5% of actually unique apps, everything is a duplicate and I find that
 414 strange. And from a customer point of view, for instance, if I need an app
 415 about, I don't know, for instance, the weather, if I go on the iTunes store, Apple
 416 store I will find ten of them for free, I will find twenty five of them for that I have
 417 to pay, already and I don't really know what to do and I'm not sure which one
 418 would be the most reliable one in term of technology or in term of constant
 419 update. I think that's a bit of a trick as well.

420 **Researcher**

421 Yeah.

422 **NZINT5**

423 It's not about developing one service, it's to be able to maintain it in the long
 424 term. For instance, using I can use a specific case study about LinkedIn. When
 425 they launch their first app that was okay, the second one the new update was
 426 constantly crashing.

427 But now we have I think version six of the app within two and a half years or
 428 three years I think, something like that, it will be two years and now it's very
 429 robust, it's very well designed and it's far better than the work site. So
 430 apparently they invested some money in development, but not only the

431 technology development and the reliability, but also in the interface design and
432 now both are working very well together.

433 **Researcher**

434 Okay.

435 **NZINT5**

436 And I think sometimes when we develop products we, services for mobile, we
437 forget about customer, they way they interact with it and sometimes we make it
438 too pretty and it doesn't really work well in the background. (laughter) So
439 probably we say one of the key jobs now is for the information architect, or
440 project manager needs to be, to have a background on both sides I think.

441 **Researcher**

442 Well it's been long proven that software in computers need to have customer
443 requirements so there should be no change here, but it's not currently
444 happening.

445 **NZINT5**

446 Yeah that's a good example, if you look a Photoshop five years ago it was just
447 codes that worked together but customers said, or users said, we need that
448 and that and that to understand. And then they made scripts and all that sort of
449 thing to make it smoother, yeah.

450 **Researcher**

451 So that's what needed to happen in the mobile world you think?

452 **NZINT5**

453 Yeah I think right now, well from what I know especially the smaller providers
454 they do everything from A to Z, they design the interface, they create the codes,
455 the language and quite often they've got a very limited ability to do usability
456 tests or to test simply the app.

457 So they launch the app on the market a better version without testing really and
458 it's crashing and a month later we've got a version one point zero and it's sort of
459 a trial/error rather than saying, well let's test it. Probably what I'm trying to say
460 as well is where we've got less and less time as well to develop those products
461 and I think we should take sometimes more time.

462 **Researcher**

463 Well why you do have less time, is it because technology is changing very fast?

464 **NZINT5**

465 Yeah it's changing too fast, to be honest we don't need to have a new computer
466 on the market every six months. Nokia used to produce twenty five different
467 mobile phones a year, twenty five different models, they're not there anymore
468 but we've got the iPhone 4 that was released, as it was released iPhone 5 that
469 will be released in September. I think it's going too fast it's just a silly game as
470 well.

471 **Researcher**

472 Okay, well maybe that's what's the situation right now.

473 **NZINT5**

474 Yeah but to be able to design a good services for mobile phone, well if
475 technology change so fast, now we're talking about (unknown terminology) but
476 we've been talking about (unknown terminology) for a year and nothing has
477 been really done in that area. That's two people developing things on flash that
478 can be seen on smartphone (unintelligible) iPhone. So that's, it's quite tricky
479 whereas here it's more

Q6. NZINT6 Interview transcript

- 1 Q1.Attraction
- 2 **NZINT6**
- 3 From a mobile services, business services and there's no consumerism
4 involved, this is purely, I just want to clarify, this is more towards business
5 related services?
- 6 **Researcher**
- 7 We could include those, so you tell me.
- 8 **NZINT6**
- 9 Today mobile market is driven by consumerism not so much by business.
- 10 **Researcher**
- 11 Yes but I would talk about consumers yes.
- 12 **NZINT6**
- 13 So though I don't deal with consumers, a lot of what we do is born from
14 consumer pressure in the market, even for the businesses.
- 15 **Researcher**
- 16 Yes because you are, if I may clarify it, if you talk about consumers some where
17 there, there'll be another company providing to them but you provide for this
18 company?
- 19 **NZINT6**
- 20 No I'm a MNO, since I'm a MNO I have business clients that I look after, but my
21 team, there's another group which is retail clients, they deal retail business to
22 clients like yourselves, or individual users, right, or to my children or to your
23 children and whatever else. But you are the ones who are actually driving the
24 need for even business client, "This is what I want in my business service."
- 25 **Researcher**
- 26 Yeah agreed.
- 27 **NZINT6**
- 28 That's what it is, it's not the business people driving the need of you.
- 29 **Researcher**
- 30 That's why I'm investigating really the whole chain because it's complex.
- 31 **NZINT6**
- 32 Yes it is, it's very complex.
- 33 **Researcher**
- 34 Consumers are coming backwards in other words to everybody.
- 35 **NZINT6**
- 36 Yeah that's what it is.
- 37 **Researcher**

38 Yeah, so your thoughts on that will be useful.

39 **NZINT6**

40 So from an attractive perspective, right now the attractive part of it is being able
 41 to utilise, from a business services perceptive, more accessibility to their back
 42 end systems through their mobile devices is something that seems to be highly
 43 attractive to clients. Networking through that, collaborations through that,
 44 services that will help them collaborate, network, utilise their device both for
 45 professional and non professional areas.

46 So they should be in a position to access their social networks while they
 47 access their business networks. So data requirements from a mobile
 48 perspective is highly sought after, high speed data requirements where because
 49 data intensive phones or smartphones these days where there's email
 50 functionality, GPS functionality. So all of these functionalities to be utilised you
 51 need services to be added by MNOs. So applications, provide them, develop
 52 services that MNOs can deliver.

53 **Researcher**

54 I see, I think I understand what you're saying, is it, why is it different from
 55 computers, using just computers not mobile phones?

56 **NZINT6**

57 Because mobility is not there in computers, even laptops are not as mobile.
 58 Devices that are highly computer orientated now, forms with more processing
 59 powers are coming forward, tablets and iPads in the works, so they are easier
 60 to use and they have their own consumer choice. So you prefer, today you
 61 have an iPhone, why do you have an iPhone?

62 **Researcher**

63 (laughter)

64 **NZINT6**

65 Your personal choice. So your personal choice, now if you had to get it as a
 66 business phone I would have got maybe an ordinary four hundred dollar phone
 67 which I may not find it useful. So you are telling your employer, "I don't want
 68 you to give me a phone, I'll bring my phone, I want you to give me access to
 69 your network."

70 **Q2.Benefits**

71 **NZINT6**

72 Not the MNO you see, just a fundamental change is happening in the place that
 73 MNOs are no longer as important, it's the service providers of services like cool
 74 services. So the larger you are like the big worlds of the people like the IBMs
 75 today can become bigger than MNOs if they know how to own aps, application
 76 services, that fundamentally drives everything for the mobile.

77 So the network operator then becomes purely a network operator, so there's a
 78 battle going on between big global systems integrators who are developing
 79 mobile applications, mobile platform applications while the MNOs are also trying
 80 to rapidly do the same thing before the systems integrators can do so that then
 81 the MNOs have still that difference of point on offer.

82 So when you look at it that way the benefits, what the clients are getting is just
 83 phenomenal, today you're getting applications from small companies, both
 84 upcoming small companies who are no longer programming in the standard
 85 client server environment, they are programming on platforms that are
 86 completely new platforms, mobile platforms like androids and apple systems
 87 and things so that they can work in providing services for users one way or the
 88 other.

89 So the operators today, whether they like it or not, these applications are being
 90 provided on through their devices which is not even network dependent. So the
 91 benefits offered to mobile users today is the genuine availability of applications
 92 that can be freely bought by their provider and not controlled by either your
 93 corporate or by your provider MNO.

94 **Researcher**

95 Okay but that has not happened fully yet?

96 **NZINT6**

97 It is happening.

98 **Researcher**

99 It's happening at the moment. If you compare this to the applications which are
 100 in the stores you can find more like that compared to what could still be
 101 developed for that phone, ...

102 **NZINT6**

103 Potentially yes. But if you look at, I'll tell you what I mean. For instance, my
 104 organisation, I have certain IT protocols, IT processes that we maintain
 105 internally. Some of the protocols are that I cannot download this free cloud
 106 based application called Dropbox for cloud storage, personalised cloud storage
 107 application called Dropbox.

108 It is a breach of law, internal laws, privacy, not laws, corporate laws on IT
 109 governance that if I download Dropbox onto my laptop it's illegal. I can
 110 summarily be, not dismissed, I can be brought up to discipline. This device is
 111 my private device provided by my company to use this phone on behalf of work,
 112 or whatever else as a private device, but it's basically even though the company
 113 provide the device, they don't prevent me from using Dropbox on this device.

114 They don't know, the reason is they don't know how to prevent you. The IT
 115 governance is not able to manage mobile devices.

116 **Researcher**

117 At the moment at least.

118 **NZINT6**

119 They cannot, they will not because the mobile devices are far expanding in their
 120 advancement that these guys will not know how to bring in IT governance into
 121 mobile platforms. If they start to bring in IT governance into mobile platforms,
 122 the mobile developers like the Apples and Androids will lose control, so they will
 123 not give mobile operators their basic bottom end how to open and write
 124 (unintelligible, 0:10:32.7), write IT governance, they won't give it to them.

125 **Researcher**

126 Okay that's an interesting perspective as well...

127 **NZINT6**

128 They won't give it because they will lose out on the usability, they want users to
129 use it fully to its maximum possible extent, this device.

130 **Researcher**

131 But that is truly a revolution in the making?

132 **NZINT6**

133 Absolutely a revolution in the making.

134 **Researcher**

135 Not only a second, a repeat of the Internet which is in one way but something
136 even bigger than that.

137 **NZINT6**

138 Yeah my daughter is still not very savvy but my son, give him another three
139 years from now, four years, when he is finished his university, I don't think he'll
140 want anything but a smartphone in his hand for his banking, for his watch, for
141 his business work, everything, he will not want anything more than this one
142 device.

143 **Researcher**

144 Okay. (laughter)

145 **NZINT6**

146 And they're getting used to using it.

147 **Q3.Requirements and expectations**

148 **NZINT6**

149 If you take it now the traditional customer groups are still looking at voice and
150 data as the two basic requirements of a mobile requirement. Some of them are
151 slowly expanding towards being able to use, even if not being able to use a
152 certain amount of business orientated, saying, "Can I access my files in my
153 office, at least to view them, not to work with them but to view them," kind of
154 stuff. "Can I access my network to see what I worked on, my shared folders
155 and any like business , so can I do that?"

156 But now the next level which is the cloud environment that is coming into the IT
157 side of the business is also taking mobiles into a completely different level.
158 Mobiles is a complete revolution that's happening. What's happening is with the
159 hybrid clouds available, my cloud, personal cloud, private cloud and a hybrid
160 cloud, I'm able to access today I don't need any IT governance on my devices, I
161 can access all three seamlessly, I can simultaneously do what I want.

162 So the user groups are changing, fundamentally there's a change in the user
163 group. There's a traditionalist user group that is still looking at voice and things
164 and there's a group that is thinking the only way going forward is devices that's
165 going to set me free from the shackles of all that I have and I need that. It's not
166 any more a question of choice it's a question of I want it, I need it, that's
167 happening. So those are the two basic groups.

168 **Researcher**

169 Okay, I understand. Well what will be the value brought, especially to that
170 second group which you mentioned, because this is going to be the future

171 according to you. So the value, you mention freedom, any other value which is
172 why they will want it?

173 **NZINT6**

174 The valuable, I wouldn't say features...

175 **Q4.Features**

176 **NZINT6**

177 ...to me features are never the value, it's the benefit of the feature that's more
178 valuable. That's the difference in a professional job that I do to a lot of other
179 sales people do, I don't sell features. Feature, for you too, what is the point of
180 having a feature if it is not going to benefit you, anything that you have? So
181 does that value add to you something?

182 So I would rather put it as, what are the benefits, valuable benefits, rather than
183 a feature, that's how I would determine. So from a benefit perspective, today I
184 have mobile banking, what are the new feature that it's going to really, really
185 dramatically change, is me being able to pay mobile payment on the spot
186 instead of using Eftpos, instead of using a credit card.

187 From my account I'm going, I can see my bank balance and when I am buying
188 from the counter I have a bar code scanner I can go to my, which is what is
189 these developments that are going on, there are three or four different things
190 that are happening at the back end. I can use the bar code scanner to scan my
191 item that I'm buying and wherever I'm buying it'll scan, it'll tell me how much
192 money and then it'll tell me what balance I have in my bank and it'll say, "Do you
193 want to purchase these things?"

194 I go and say, "Make payment." So I made payment, the business gets its
195 payment directly, I get a printout at that place saying you made payment, I take
196 that receipt, walk out with my goods. I have no interaction with the local
197 individual there getting tired, pissed-off, bored, waiting in line for four hundred
198 people in front of me, no these are all going to...

199 **Researcher**

200 Basically it's giving the control on the one side and convenience on the other?

201 **NZINT6**

202 Yes, that is not a feature, it's a benefit.

203 **Researcher**

204 Yeah, okay.

205 **NZINT6**

206 So if you look at it from a feature perspective about mobile payment is what the
207 feature is, but what, so I tend to ask in business whether it is a customer or, oh
208 it's a great feature, so I ask, so what? Until I get to a point there is no more "so
209 what", this is why, you know?

210 **Q5.Pricing**

211 **NZINT6**

212 Actually that's where the problem is, another problem. Mobile network
213 operators are trying to recover their cost of investment in their networks that

214 they've built, that's billions of dollars. Their recovery rates are a low slower now
 215 because the usage of this is no more the traditional voice of traditional data.

216 It's the services that other providers like developers who are offering all these
 217 development services of the mobile banking and all these kinds of services,
 218 which today they are making it free to people to popularise it, that's the service
 219 providers. So bank says, "Go down and download my banking things."

220 Where it is going to be is it will come to a point in time where these are
 221 commodity products, mobile services are a commodity products, it'll become
 222 really next to nothing cost, it'll say, "You buy my phone, you buy my device, pay
 223 fifty dollars a month flat, use as much data, as much voice, everything flat."

224 And then based on specialised services you take, depending on whether the
 225 mobile network operator is offering these services, or is an application provider
 226 offering the services, or is the system's company offering the services, you
 227 might have to pick and choose what applications you want and based on the
 228 complexity of what you want you may have to pay for those services.

229 So you are then at your liberty to choose the services you want, from who you
 230 want and pay who then is important, that is how the market is going to drive.
 231 People are not afraid to pay, what people wouldn't want to have is pay a fat bill
 232 for telephone for a mobile company than a fat bill for somebody else, a fat bill.
 233 So I am spending five hundred dollars on this to do the same thing I can do
 234 without having to spend five hundred dollars.

235 So my benefit is not only banking and paying through that, would I pay for that
 236 service? I don't want to pay for that service. A bank wants me to be faster, so
 237 he wants my transaction to go and the supermarket wants me to pay faster,
 238 they can renew the checkout people's costs, timing, all of that. So that level of
 239 time saving is what they're going to get from me by me doing that purchasing.

240 *Researcher*

241 And that is why...

242 *NZINT6*

243 That is what the benefits are, that's why they can give it to me for free. So
 244 these are all, it's a very complex market.

245 *Researcher*

246 Yeah but you seem to be optimistic.

247 *NZINT6*

248 I know what's going on that's all.

249 *Q6.Attitude*

250 *NZINT6*

251 The consumers, a lot of consumers have wants and desires, that comes back to
 252 me the first question for the answer I told you, it's consumers that are driving
 253 the market and not the business. So it's people like me and others and my
 254 children and your children who are all wanting these things to happen.

255 So the more it doesn't happen to them the less they go and buy or interact in
 256 the area they do. So because they're doing it, businesses then are hurting
 257 because they're not getting the money, the revenue pull-throughs. So then they

258 push pressure on their application provider saying, "Come one give me
259 something that I can bring, attract these consumers to come back to me."
260 So then the application provider then says, "Okay I'm doing this, I'll do this."
261 Now the MNO cannot sit quietly, he says, "Before the application provider can
262 come up with something I will go and tie up my bank with these guys." So it's
263 the people like your children and my children that are pushing the market.

264 **Researcher**

265 Okay, because they need?

266 **NZINT6**

267 They need it and they don't know how to ask for it but they tell in no uncertain
268 manner, because at the end of the day consumers are not buying from people
269 that they want to buy if that facility is not there. So their supplier, the vendor,
270 the marketer, everything is losing out, so he's getting driven by the need of the
271 consumer.

272 **Researcher**

273 Okay.

274 **NZINT6**

275 See I'll give you an example, nothing to do with mobile operation.

276 **Researcher**

277 Alright.

278 **NZINT6**

279 You take a traditionalist pubs in many parts of the world. The olden day's pubs
280 never sold anything but beers and no spirits and things in those pubs, but you
281 could go to a bar where there's spirits and beers and everything else.

282 So there's a bunch of ten guys going out to drink in the evening as friends, eight
283 of them, nine of them all drink beers but one person doesn't drink alcohol, I
284 mean beer, he only drink spirits. So he says, "No I don't want to go to this pub
285 because they don't have spirit."

286 These nine guys because they don't care where they drink their beer from, go to
287 that pub, don't go to the pub they'd like to go to because there is no spirit in that
288 pub, so they go to a place where there's spirits and beer available. Now that
289 pub guy has lost business of those nine people when he shouldn't have lost
290 those nine people's business right?

291 **Researcher**

292 Yeah if had changed...

293 **NZINT6**

294 So what is he going to do? Either he is going to continue to stick on to it saying,
295 "I don't want to do it." Or offer specific kinds of spirit to attract that one person
296 so he doesn't lose the nine people. So that's the way the market is driven, so
297 it's essentially the same thing that's happening in the application services,
298 requirements for mobiles, requirements for consumerism and everything else.
299 It's that one person in the big group that is driving the change.

300 **Researcher**

301 Okay, so alright, but it's not new it's (unintelligible, 0:21:46.1).

302 **NZINT6**

303 Yes but that one person is not intentionally doing it, it's the other nine people
304 noticing that and saying, "We also want."

305 **Researcher**

306 Yeah I see what you mean. Yeah but it comes together but good that you
307 mentioned that it's not that new really, it's a process which has been now yeah.

308 **NZINT6**

309 Yeah it's always been there.

310 **Q7.Innovation**

311 **NZINT6**

312 The innovation part is, there are clever people all around, they see a need, they
313 see a gap and then they see more needs and bigger gaps. Before that thought
314 can be given, now they are the people who create mindsets and connections.
315 Then there are people who become visionaries of adapting to that mindset and
316 those visionaries then drive the rest of the market.

317 **Researcher**

318 Okay, so you think it is, there is need for that because it's the driver?

319 **NZINT6**

320 Yeah that's the driver, the driver is now, I mean let me see if I can think of,
321 because you are now asking about innovation I can give you an example. Let's
322 say, take Apple, they saw a gap when they introduced MP3 players and the
323 iPods. He saw a gap between what people wanted to listen to, to what was
324 available in the market and he thought, "Why don't I bring availability of things
325 easier to manage?"

326 **Researcher**

327 To my ear?

328 **NZINT6**

329 Yeah, personalised music system for you, that's what it was. That was a big
330 gap nobody thought of because there was nothing there, but he saw the gap in
331 the market, understood there was a need for the market gap then he created a
332 product to fit that gap.

333 Once that fit was there, initially one or two people started to buy then they saw
334 the convenience of it, they drove the rest of the market. So everything has that,
335 so sometimes a business sees the need for a gap that's why there's for every
336 one new innovation there's a thousand that has failed, because they don't
337 know. Again everything that has been a success has always been consumer
338 orientated which is translated to business.

339 **Q8.Obstacles**

340 **NZINT6**

341 Yeah the obstacles are again what the network operator can provide in terms of
342 their backhaul systems in their networks. The obstacles are mostly technology
343 restrictions, the limited capabilities of what a specific network can do at this

344 point of time, or what a specific device can do at this time. So that's where they
345 are still expanding on to.

346 **Researcher**

347 Will operators be willing to invest in more...

348 **NZINT6**

349 They have to otherwise they are not going to be able to deliver, somebody else
350 will see the gap in the business and another operator will take that advantage, I
351 needed a whiteboard how that works, or I can show you this, let me show you.
352 For instance, you know cell sites?

353 **Researcher**

354 Yeah.

355 **NZINT6**

356 There are cell sites all over put up by one operator. There are also similar cell
357 sites in the same neighbourhood by another operator *out to compete*
358 (0:25:30.3). All cell site are wired to a network, these are wireless, but from the
359 base to this there's a wired system.

360 These are called backhauls, the more and more users get between these cell
361 sites the more bigger pipe you need here. It's not so simple I mean, I'm putting
362 it in very layman terms, there are several controllers that control different things,
363 then the backhaul comes into play. So the more data requirements are there,
364 voice is very minimal requirement, how many hour time you talk it's very little
365 minimal bandwidth requirement, it's the data that requires bigger bandwidth.

366 So today Telecom in this country, as like in the AT&T in the USA and a few
367 others in Telstra in Australia, have a backhaul of one gig pipe, just raw pipe
368 from here to each one. One gig is more than sufficient for each, it probably will
369 become five gigs in another two, three years, six years. Most ones like
370 Vodafone and others have less than 250 meg backhaul. So what happens is
371 when you're using ten services of a particular type on this network on the same
372 device, iPhone, you'll find that you're able to reach Telecom network faster and
373 feedback faster to you, because ten of you are using the one gig haul.

374 The same ten of you are using the 250 meg backhaul that much slower it is
375 because responses. So that's the investment, that is the technology obstacle,
376 so this is one basic problem that we're going to have. Second thing we're going
377 to have is in the radio network controllers that are available to control the
378 network.

379 So they're highly sensitive, they fail often, how stable the network is, radio
380 network controllers are the ones that control the network and they fail often.
381 And they are both in this ground at the stable site and there is key locations in
382 certain areas, because they're exposed all the time to the elements you don't
383 know how soon or how quickly they can degrade.

384 So like in a large, a country this size with so many cell phone users, Telecom
385 when they started the XT two years ago thought they would have enough RNCs
386 and put only one in the South Island and two in the North Island, and they didn't
387 provide for (unintelligible, 0:28:02.1) that's why they had that serious outage in
388 the beginning.

389 **Researcher**

390 The South Island that was it?

391 **NZINT6**

392 No not only South Island, even North Island, I mean south of Taupo everything
393 failed because the North Island one RNC and the South Island RNC both failed.
394 But an RNC approximately costs fifty million dollars, Vodafone on the other
395 hand despite the fact that the other areas were bad they had six RNCs for this
396 place.

397 So quickly Telecom had to reinvest and (unintelligible, 0:28:30.4) so there is
398 different components in the network technology capabilities that keep coming.
399 And in the meanwhile there's companies like Nokia and Alcatels suddenly bring
400 better advanced technology to say, "We can do faster networks," so the
401 backhaul one gig becomes redundant it's too little they need more, so it's a
402 constant game.

403 **Researcher**

404 Yes but it does require a lot of development and innovation in itself, yeah?

405 **NZINT6**

406 Yeah so that's your obstacles.

407 **Q9.Future**

408 **NZINT6**

409 It's actually more than operators the others.

410 **Researcher**

411 Yes so you did answer them but we'll confirm it here, because also it's part of
412 my own research really.

413 **NZINT6**

414 Global operators like AT&T possibly will be part of the growth, people like
415 Telecom and Telstra of these parts of the world will lose out (unintelligible,
416 0:29:34.6). Vodafone is a global operator, Vodafone will survive because they
417 know their survival is not network, it's the business services that they're going to
418 offer.

419 That's why they acquire service companies, developers, development, offer
420 cool services on top to keep stickiness of the client. They know that otherwise
421 the stickiness will go with somebody else. Who all controls the consumer and
422 their business is going to be the king. Operators are not going to be the king
423 unless they also change dramatically.

424 In some countries they are going to be the king because they are changing,
425 most other countries it's going to be large system applications guys or multiple
426 small guys who are service providers of all kinds of services who are going to
427 survive, not survive, who will do better than the operator. The operator will just
428 become a pipe carrier.

429 **Q10.Regulatory environment**

430 **NZINT6**

431 The Commerce Commission here is not doing a good job, their controls are
432 quite slack. First of all they need to make sure that the network operators don't
433 charge as much as they're charging today with the marketplace. To increase

434 usage of the people, increase value, you need to drop prices and these network
435 termination charges between the two (unintelligible, 0:31:11.8) providers, all
436 these things are still not fully addressed not yet (unintelligible, 0:31:19.3).

437 Instead of summarily saying stop it, they're giving them a window of three, five
438 years and things like that. So because the lobby from the operators is strong,
439 the regulatory forces are not changing them much.

440 **Researcher**

441 Oh I see, so you're wanting more change?

442 **NZINT6**

443 There should be changes but it's not offering.

444 **Q11.Industry**

445 **NZINT6**

446 New Zealand is not a place for that, your question number eleven. That
447 aspects of New Zealand's mobile network infrastructure are more supportive to
448 the development (unintelligible, 0:32:00.6) market penetration of new mobiles
449 as a service. Not really. They are not, there are some companies here that
450 offer services, there are lots of innovative software companies seeing potential
451 for growth so they offer it.

452 The moment it gets to be a good piece of the puzzle, global companies are
453 watching out, they buy them out. So a classic case in point is a company called
454 Data Square, which is a New Zealand company offering text services on mobile
455 network, it's a squaring of data through texting on a quick manner, easier to
456 manage, sort of using not the same as Gateways but Data Gateways, which is
457 very unique in itself, Data Square.

458 But they got bought out as soon as the people got to know them, an American
459 company called (unknown name, 0:32:52.8) bought them out, because mobile
460 usage, mobile services, mobile needs are the fastest growing needs in the
461 world.

462 **Researcher**

463 Okay, so we're too small in...

464 **NZINT6**

465 So the network operators here are not doing anything to improve the position,
466 whether it's Vodafone, 2 Degrees, they are not doing anything. It is not in their
467 interest to drop things to make it more innovative for them because then they
468 will lose out.

469 On the other hand there are these small service companies, four or five of them
470 so far in the last few years, who have all been acquired by American companies
471 because what they're offering a service for mobile operations is more global
472 than what is local. And the global guys who innovate for global part don't come
473 and sell here because it is too small a market.

Q7. NZINT7 Interview transcript

1 Q1.Attraction
2
3 NZINT7
4 Okay, well yeah I guess the most interesting thing with mobile service is the
5 implementation of GPS data at the moment. And I think that is really like where new
6 business models are developed and where you can see new opportunities for users that's
7 what it is on the commercial side for, you know, people using location data as a way for
8 marketing, as a way for analysing consumers behaviour.
9
10 And it's a very new research area so there hasn't been that many projects being
11 developed around that. But I think that is probably at the moment something that's
12 increasing quite dramatically.
13 Researcher
14 Yeah thank you for that, that's really interesting to hear, yeah there has been some work
15 but not enough I would agree with that. Well GPS is just one of the things which can be
16 defined as a most important characteristics of the mobile technology or (unintelligible,
17 0:07:37.2) opportunity. What about, are there benefits or new use cases can you see
18 based on this or on other pagers that is question two?
19 NZINT7
20 Yeah well of course another really important feature is the idea of connectivity and so
21 with having the potential to access internet through either wireless networks such as in
22 Wellington. We've got the whole city centre almost being wireless which is really
23 amazing, online for thirty minutes and all you have to go through the data charges of
24 network providers which of course is, can be seen very sceptical because that's quite a
25 big business model behind that.
26
27 But I think the mobile phone is like definitely like a tool it can drive connectivity and
28 social ability, so the potential of being, having access to the Internet wherever you are I
29 think there is like lots of different new opportunities for creative endeavours, is what
30 I'm doing myself or also for like different new services.
31 Q2.Benefits
32
33 NZINT7
34 Well I mean it's a very interesting point actually 'cause there is the sort of terms that we
35 use that can be actually quite critical, like if you talk about the user it almost sounds like
36 a drug user or something. So it's very like some people call them pro the users
37 (0:09:49.1) so like pro the users because users is normally passive (0:09:54.8) but now I
38 think the most important thing with mobile devices is that it's not only a media
39 consumption device but also media production device. So in my case people can make
40 films on mobile phones which of course is a very big difference or potential for a very
41 big different and others there's a different media types.

42

43 So like if you think about the main mass media is only receiving device so in radio
 44 (0:10:22.8) interactive like in the '20s but that changed so radios just receiving, TV is
 45 just receiving, yeah newspaper like a print is mainly just a very static medium so the
 46 mobile's very dynamic but also has the potential for people to feed information into
 47 systems. So like what people are doing now is Twitter, what people are doing with
 48 Facebook and so the people are contributing to sort of (unintelligible, 0:10:48.6) idea of
 49 developing content.

50 Q3.Requirements and expectations

51 NZINT7

52 Of course there's lots of implications that one has to think about for different categories
 53 of people that, you know, related to age groups, financial backgrounds and I think it's
 54 very difficult to generalise mobile media 'cause the way that different people use
 55 mobile technologies I think it's more specific to their local, or like their personal
 56 characteristics.

57 Q4.Features

58 NZINT7

59 Yeah I think it's definitely the connectivity and I think there is lots of potential also to
 60 using if you think about new services such as like augmented (0:12:47.3) reality which
 61 is using a combination of different elements. So it's using the Internet data but it's also
 62 using the camera to identify different elements in our environment as well as the GPS
 63 data. So there is (unintelligible, 0:13:06.4) reality has definitely lots of potential for
 64 thinking about new experiences that can be created for users.

65 Q5.Pricing

66

67 NZINT7

68 Yeah I think of course this depends also on each country in a way 'cause there's
 69 different regulations and different things that have to be taken into consideration. But I
 70 think that once the accessibility to mobile data services will become greater so as you
 71 can see, for instance, in (unintelligible, 0:14:22.8) career I think that's when the people
 72 will take up mobile devices a lot more.

73

74 It's a bit comparable I guess to online with the Internet when you only had a dial up
 75 modem the website didn't look that great. But now with Broadband you can put video,
 76 we can do video conferencing so there is a (unintelligible, 0:14:43.4) for mechanism.
 77 But of yeah as a sort of business model, personally I'm very sceptical of the mobile
 78 networking companies. Actually in the UK they're taking, they used to have for a long
 79 time unlimited data and it driving this model (unintelligible, 0:15:00.3) back because
 80 they fear the loss of their own revenues. People start to use Skype and things like this
 81 so that is, it's yeah. So I think in that respect things like wireless Internet will probably
 82 be like a really great solution.

83 Q6.Attitude

84

85 NZINT7

86 Yeah I think there's need to be definitely some benefit for the customers, for the users
87 which I think is mainly the accessible, making information accessible in different points
88 in time and different locations. But what I see with lots of projects that use sort of
89 crowd sourcing approach like in a more creative practice.

90

91 I think it is where lots of projects underestimate is the need for connecting people in
92 actual environments so that's in my own research that's why I always set up workshops
93 for instance to produce these sort of elements.

94 Q7.Innovation

95

96 NZINT7

97 Yeah, I think the sort of innovation is applied not only in the technology but also the
98 use for the technology can be adopted, or the technology's implemented in different
99 types of projects. So that the environment where the technology is inserted into needs
100 to change a bit to that. So I think they've got some conceptual patterns that have to be
101 changed over time.

102 Researcher

103 So if I go back to my own model innovation (unintelligible, 0:17:52.2) with
104 technologies and also in the upper layer where people are developing services using the
105 technology on both. That leads me to my next question because if this is the case it's
106 actually quite complex, there is technology innovation going on and then there is the
107 other layer of technology use innovation and then customers with their expectations. So
108 that creates a complex picture, there will be...

109 NZINT7

110 Interesting that actually was, some of the interesting things for mobile devices is that the
111 innovation is no longer produced by big enterprises, by big companies, but by what we
112 could call independent creators or rather networks of independent creators and
113 sometimes user communities that's the whole idea of what happened to text messaging,
114 what happened to mobile video. It's not driven by the industry but it's driven by the
115 users of the, the people how have mobile technology.

116 Q8.Obstacles

117 NZINT7

118 Well I think the, what I can see in the industry that they haven't understood fully the
119 potential of mobile media yet and that they think about mobile media as just another
120 mass media. But of course there is some quite interesting shifts in terms of
121 (unintelligible, 0:19:39.9) of technology work.

122

123 So like we were talking before about participatory elements, or we're talking about
124 elements in terms of creativity and these are not things I think that can just be applied
125 into like marketing strategy that is focusing on a one year project. But these are
126 addressing bigger questions where the industry are saying with very short term goals
127 doesn't understand the full potential of mobile.

128 Q9.Future

129 NZINT7

130 Well I'm very interesting at the moment is that there is the technology that used to be
131 behind this mobile device used to be very complex, but at the moment there is you can
132 see also some new applications being developed that allows people to work with mobile
133 technologies in a more easy way, such as like open source softwares. And there is lots
134 of, you know, like login made Internet very accessible, similar elements for mobile
135 devices which are kind of like custom made data frames.

136 Researcher

137 Yes, kits...

138 NZINT7

139 Exactly the sort of development kits and with these sorts of development kits I can see
140 that there is probably great potential to also use mobile devices in more localised
141 settings. Such as whether it's the concerts, whether it's community groups, whether it's
142 educational environment. If this technology becomes more accessible you don't have
143 only the sort of soft tone element from the industry but you can also have some kind of
144 services being developed from a more, I wouldn't want to call it grassroot level, but
145 more from a ground level..

146 Q10.Regulatory environment

147

148 NZINT7

149 I think I don't know enough about it but I just it's a bit of concern for a country that is
150 so, it wants to drive innovation so much that some things, I mean isn't even for mobile
151 Internet access but also for Internet access more generally that New Zealand seems to be
152 a bit behind in totals of bandwidth speeds that you would accept in some other different
153 countries.

154

155 That are comparable that New Zealand wants to compare itself to and I think as New
156 Zealand it's also it's difficult because it's a big country obviously that has lots of rural
157 areas but at least for some of the centres with not too many people I think there's a great
158 chance that they could, if they would allow things like, which I think is a great example
159 of the free wireless zone in Wellington. It is a perfect example of how it can enable
160 some really innovative services to take place and allow new forms of communication to
161 happen. So if that could be like expanded that would be (unintelligible, 0:23:53.3).

162 Q11.Industry

163 NZINT7

164 Well I think New Zealand hasn't quite, has acquire lots of companies and developing
165 like mobile applications so it has a very strong infrastructure for having localised
166 services being developed. But on the other hand the negative side is that I think the data
167 charges are still a bit higher in comparison to international comparison. So that,
168 probably because there's less people the price needs to be higher 'cause less people...

169 Researcher

170 (laughter) That's the excuse.

171 NZINT7

172 Yeah, but I think that is probably one I would say a factor that is hindering innovation is
173 that there, if people could have greater access to the Internet on their mobile devices,
174 whether that's through 3G networks or through wireless networks, then I think

175 innovation could place lots. Innovation could be taken up by more people than just by
176 some of the people that are the forerunner of this technology.

177

178

Q8. NZINT8 Interview transcript

1
 2 ***Q1.Attraction***
 3 **NZINT8**
 4 I think from, our core services, if you look at our core services of voice, text, and
 5 data, the most attractive is data now. And that's really driven by smartphone
 6 adoption in our market.

7 ***Researcher***
 8 Okay, so it's fairly recent, you think, that attractiveness?

9 **NZINT8**
 10 Definitely within the last two to maybe three years, with the introduction of
 11 iPhone in New Zealand maybe four years ago, and then more recently the
 12 Android boom in the last year or so, yep.

13 ***Researcher***
 14 Yep, okay.

15 **NZINT8**
 16 And also, it's attractive from a carrier perspective due to the, I suppose,
 17 stagnant growth of voice and text, I suppose really, or the, yeah.

18 ***Q2.Benefits***
 19 **NZINT8**
 20 So really, I mean, it really, in my opinion, where phones have gone from is, if
 21 you think of a Blackberry from five/six years ago to where it is today, users have
 22 gone beyond email, calendar, and contacts.

23
 24 And really what's sort of driving smartphones today is really the applications,
 25 whether it's consumer or enterprise, is the applications that are really driving the
 26 benefits of smartphones, which I suppose is why you've seen the demise of
 27 Blackberry as you have and the rise of Apple and Samsung, who sort of, in the
 28 Android space, so that's, yeah.

29 ***Q3.Requirements and expectations***
 30 **NZINT8**
 31 It's interesting, because there's that concept of consumerisation of IT that you
 32 hear about a lot now. And really the smartphone is, I suppose, the pinnacle of
 33 that consumerisation of IT. People wanting to use smartphones, happy to bring
 34 their own device into a business.

35
 36 Smartphones are embedded in our lives pretty much. I mean I can't, I nearly
 37 sleep with my phone. So in terms of requirements, I think as a consumer or
 38 customer, I think we all have similar requirements and expectations that apps
 39 will do things for us, entertain us, give us a little bit of improved personal
 40 productivity, for example. But then if you look at it from an enterprise
 41 perspective, as an enterprise, you want to leverage the power of the

42 smartphone and really start driving what we could call enterprise mobility, start
 43 untethering the worker from the office. Yeah, I suppose that's one way of sort of
 44 explaining that. So I think the customer requirement is...

45 **Researcher**

46 Yeah, no, well this is the mobility aspect of this, yeah.

47 **NZINT8**

48 So I think the requirements from a user's perspective I think is pretty standard,
 49 everyone is doing it for the same reasons. Having Facebook on their phone,
 50 having email on their phone, being able to browse the web on their phone, play
 51 Angry Birds, listen to music, all those sort of things I think are generic,
 52 consumer type requirements around a smartphone and data, for example.

53

54 But then you look at the enterprise side, even though the enterprise may or
 55 may not provide the device. I may take my own iPhone into a business, their
 56 requirements are, "Well how do I leverage that to mobilise you and be more
 57 effective, more productive, more efficient?"

58 **Researcher**

59 Yeah, there will be a lot of work in this area in the future, because it doesn't
 60 happen so easily with the, they're not meant to be enterprise devices.

61 **NZINT8**

62 No, but there's a lot of work being put into make them enterprise devices or
 63 make them suitable for enterprise. So things like mobile device management
 64 and other factors, yeah, in terms of addressing security management and so
 65 forth.

66 **Q4.Features**

67 **NZINT8**

68 I think, I'll use the term utility, I suppose really. If, any application, is the utility of
 69 it. I take my own personal experience. The Maxx application to know where
 70 your bus is or, and I mean that's, it's all about utility and that's the really, I think
 71 in terms of valuable, the apps that you keep on your phone are probably the
 72 ones that offer the best level of utility, if that makes sense.

73 **Researcher**

74 Yep it does.

75 **NZINT8**

76 The ones that you, like anything, if you take the App Store, with what, five
 77 hundred to six hundred thousand applications. You tend to buy tens to
 78 hundreds of apps for your phone, and not all of them are on your phone, but the
 79 ones that are on your phone are typically the ones that give you, either, 1) an
 80 emotional connection, or have high utility.

81 **Q5.Pricing**

82 **NZINT8**

83 Yep, I think as a carrier, I don't, I, in my time here, I don't think we've generally
 84 provided anything in terms of free. I think we made it accessible in terms of an
 85 introductory type scenario. If you take data as an example of one of those

86 services that is going to drive the future in terms of mobility and smartphones, in
87 say in that, I think in the prepay space I think we had like an offer of a dollar for
88 ten megs of data, and that's really just to, it's to lower that sort of fear of trying
89 something new.

90

91 I don't know if free, because when you make something free you take all value
92 away from it and therefore people will either say, "Well it's free that means it,
93 either it doesn't work or it's average." But I think if you sort of lower the risk in
94 trying but still maintaining some value, is probably where it sits with us.

95 **Researcher**

96 Okay, that's what you think around the pricing structure generally.

97 **NZINT8**

98 Yeah. I think when you make it free, I think, 1) it gets abused, possibly, and 2)
99 people may not perceive value when it's free. That's probably putting a
100 marketing sort of hat on it.

101 **Researcher**

102 That's different from the previous times when you had the Internet, all these
103 things in the past and the models are different now for pricing.

104 **NZINT8**

105 I think from a, if you take a mobile operator's perspective, I think your cost of
106 infrastructure is too great to give stuff away, I suppose, really.

107 **Q6.Attitude**

108 **NZINT8**

109 I think, there's a lot of word of mouth. I mean if you take applications as an
110 example, I think word of mouth has a lot to do with how an application is
111 propagated, I suppose, amongst consumers. I mean if I go and tell my friend,
112 "Oh this is a great app." They may look to download it. Because with so many
113 apps and so many, and if you take the Android, so many app stores, that, the
114 means of discovery is difficult.

115

116 You've got hundreds of thousand apps, how do you know what's good and
117 what's not? So you tend to rely somewhat on word of mouth to say, okay, well,
118 people tell you what app is, they think is great. Obviously you take a lead from
119 what the App Store people might be saying from an editorial perspective, but
120 also I think, you read blogs, you know the Gizmos, the Engagets, or whatever
121 those blogsy, you choose to read, it may give you hints of what may be a great
122 app or not, so that's something those...

123 **Researcher**

124 Okay, so you, in summary, what you're saying is that most of the customers will
125 have learnt about it, not because they've searched for it, but from social
126 networking, in a way...

127 **NZINT8**

128 Yeah, well in terms of, I don't...

129 **Researcher**

130 (unintelligible, 0:12:43.7) some will get to know it and...

131 **NZINT8**

132 Yeah, well put it this way, I mean I was speaking to Apple just a few days ago
133 about applications and they said, no, your window of opportunity as an app
134 developer to find success is a matter of days or so, maybe weeks at best. So
135 that whole app discovery piece really is, a lot of it is you either market it
136 extremely well, otherwise you rely on people saying this is a great app.

137 **Researcher**

138 True. Yeah that's interesting, because it's something different from any other
139 sort of application development before. We didn't have the means to...

140 **NZINT8**

141 Well that's right, I mean I suppose you kind of think back to the days of the
142 desktop and so forth. There isn't that, there wasn't five hundred thousand
143 desktop applications, and the applications didn't cost you a \$1.49 or \$1.99.

144 **Researcher**

145 It was all different, really, this is quite fascinating.

146 **NZINT8**

147 What did we used to pay for Microsoft Office? A thousand dollars. It's unheard
148 of now, well, not always...

149 **Q7.Innovation**

150 **NZINT8**

151 Yeah, (pause). I mean developing applications is fraught and I think it's a case
152 of learn as you go in terms of what's right and what's wrong. I think a big part of
153 it is, was what I mentioned before, in terms of utility. You've got to think of utility
154 as part of your, I suppose, conceptualisation of the innovation.

155 The user experience, what you think the customer expectation is. I think you
156 have to put these intangibles at the front of thinking about application
157 development and innovation, and park everything else, because I think
158 everything else comes as an outcome of the right thinking up front.

159

160 One of the things I've sort of picked up on is that if your app's not being used on
161 a regular basis, it's going to get deleted off the phone, therefore all the work
162 you've put into innovation and putting that app into the market and getting it out
163 there, becomes null and void, because it disappears.

164

165 So I think you have to think about that utility and that sort of user experience
166 and what the customer's going to get out of it, before you think about maybe
167 cost and ROI and everything else, I think. It's really, you've got to put the right
168 thinking up front, yeah.

169 **Researcher**

170 You need to know really your customers well.

171 **NZINT8**

172 Yes you do, yeah. Or know what your target market is, I suppose really. Who's
173 this for and why do you think they want to use it and use it regularly? If you're
174 not, if that utility isn't there and people don't use it regularly then you basically,
175 your window of opportunity disappears because they'll say, "Oh, I'm making
176 room for something else and you're gone," and the chance of getting it back is
177 very low, I suppose, yep.

178 **Researcher**

179 So these applications are competing with each other, a lot of the time?

180 **NZINT8**

181 Oh absolutely. Absolutely. I mean one example, I had, and speaking with Apple
182 recently was, a customer created a branded engagement type application, but
183 they turned it into a game. So basically it was a series of games within this app
184 and it was designed as a marketing, it was like a marketing tool, campaign to
185 drive that sort of brand engagement.

186

187 But what Apple came back and said in hindsight was, "Do not create games if
188 you're not a gaming company." So if you take from an iPhone, iPad perspective,
189 you look at companies like EA, Electronic Arts, or Firemint, who sort of
190 developed Real Racing 2, for example, HD. You're competing against those
191 games in that game category as, and if you're not heavily invested and heavily
192 invested in the marketing of it, then whatever you spend your money on
193 producing a game to create brand engagement is lost.

194 **Researcher**

195 Yeah, I see what you mean. So even that...

196 **NZINT8**

197 So there's a lot of things to think about and consider...

198 **Researcher**

199 That part of the industry is also segmented, you have to be in this area or in the
200 other area.

201 **NZINT8**

202 In the space we work in here at Vodafone, we have customers who want to look
203 at new ways of creating brand engagement or customer engagement, for
204 example, and a lot of the thinking now is around smartphones and applications.
205 But I think there needs to be more thought into what the application is and how
206 it's going to be used. There's a construct of gamification.

207 **Researcher**

208 Yes, sure, in every aspect, yeah.

209 **NZINT8**

210 Yeah, but there is a difference between gamification and creating a game. So
211 you can have gamification within your application in terms of a sense of gaming
212 in terms of doing things, but you're not actually creating a game, and I think
213 that's two distinct schools of thought.

214 **Researcher**

215 Yeah I think that I understand what you're saying about, I had personal
216 experience with creating an educational game and I think we're using the wrong
217 word, you should not call it a game, because it's exactly what you say.

218 **NZINT8**

219 No, so basically you're using, so basically using gamification in an educational
220 application. So I mean, if you take like a child type scenario, it's like, if you can
221 do three sums, then it reveals or unravels something for you as a token of
222 success in a game, but it's not designed to be a game.

223 **Researcher**

224 This is not a game, yep.

225 **NZINT8**

226 So gamification versus creating a game, yeah.

227 **Q8.Obstacles**

228 **NZINT8**

229 If I could sort speak specifically about an application for example, I think what
230 I've learnt over the past few months is the marketing of an application. How do
231 you actually make people aware of that new application? Short of it being an
232 enterprise application that you're deploying to your staff, as if you're doing a, I
233 suppose, a business to consumer application. So how do those consumers
234 discover your application, is probably the biggest obstacle to success.

235 **Researcher**

236 Okay, so that discovery, which you mentioned before as well.

237 **NZINT8**

238 And I think it's where you've got to ask the question, what is the marketing
239 behind getting the app in front of the people, in front of the consumers?

240 **Researcher**

241 Okay, so once they know about it, then they...

242 **NZINT8**

243 Yeah, if they don't know about it, and again, because of such a large number of
244 apps, and people creating them every day. The number of app developers, it's
245 exploding. I mean that's what the smartphone has done, has made developing
246 applications so easy that you could do it in your bedroom after school, as a kid
247 basically.

248

249 But to be successful, how do you market it, how do you take it to the consumer,
250 how do you get that cut through above everything else that's being launched out
251 there in the marketplace? And that's your biggest obstacle for the success, I
252 think.

253 **Q9.Future**

254 **NZINT8**

255 I think if we take a broad view. I think from a carrier perspective, I think near
256 field communications is the next frontier. Obviously a lot of work being done
257 around near field communications now, so mobile payments by near field. I

258 mean obviously we just had, all of the carriers have announced pilots or
259 projects or the likes.

260

261 Like for example, 2degrees has just partnered up with Snapper, who provide
262 the bus cards and done it, but I mean obviously the adoption and the rest of it's
263 subject to devices and everything else being near field capable and so forth. So
264 that's probably the next probably big, big splash in terms of what's happening.
265 And beyond that, I mean, this is the hard question, is what will be the relevance
266 of the carrier in years to come?

267

268 So this is, I think, more personal observation than actually one that represents
269 our business, but you think about how say three to five years ago you bought
270 your cell phone. You, 1) you decided which network you wanted to go to first,
271 and then you decided which, how much you wanted to spend and then you kind
272 of got the phone to fit around you.

273

274 Today, I think, as a consumer, you go and say, "Well which phone do I want,
275 first, do I want to go to iPhone, do I want to go Galaxy S3, do I want to go
276 HTC?" You have that, now that you have that, I suppose, brand association that
277 who you are with a device, which has probably never been seen before, in
278 terms of that high level attachment.

279 So if you say, "Okay, I want to buy an iPhone." That's natural first conscious
280 decision. It's not, "Which carrier do I want to go to?" So you go, "I want to buy
281 an iPhone." Then you say, "Okay, well what's the best deal I can get on an
282 iPhone?"

283 **Researcher**

284 Here, here, and here.

285 **NZINT8**

286 Right, "What's the best deal I can get on an iPhone?" Then you go, "Okay,
287 because that carrier's offering me the best deal and the service plan is enough
288 for me to do, then I'll just go with that deal." And it becomes, the carrier
289 becomes secondary to the device, which I think it wasn't the case say three to
290 five years ago.

291

292 And I think that's one of the, for me, I think it's one of the biggest challenges as
293 a carrier, is how do you stay relevant? Obviously the Googles and the Apples of
294 this world, would like, well not would like, but probably start seeing the carrier as
295 a dumb pipe to all their rich content and services.

296

297 And I think it's one of the biggest challenges in terms of the future is how does
298 a carrier stay relevant? I mean, again personal observation, not one of the
299 company's, it's like we, the companies believe that their service or their network
300 or the likes is important. I think it is, but I think it's probably maybe not as
301 important as perceived, I suppose really.

302

303 It's, I think there is some brand loyalty to networks, but I think people are more
304 conscious of what phone they have. In a lot of ways it's, if you take iPhone, it's,
305 and likewise with the top end sort of Galaxy S2/S3, it's as much of an
306 aspirational product now. It's like having a nice, dare I say it, for women it's like
307 having a nice handbag or the like. Having a, it's become a status symbol in
308 some ways, as much as anything else, it's aspirational.

309 **Researcher**

310 Yeah, I don't know how much is it in New Zealand, it's a bit different from other
311 countries in the world, but don't have enough data on that, in terms of for the
312 local, our networks here, our operators, because we had only two for quite a
313 long time. So generally the public sort of thinks that they are, the big guys who
314 are trying to get their money out of the public. So that perception helps to
315 choose, not the carrier but the phone, yeah.

316 **NZINT8**

317 The network, but yeah, yeah, absolutely, but see, yeah possibly, yeah.

318 **Researcher**

319 But that might change though, because we have different...

320 **NZINT8**

321 Yeah, I mean, the industry constructs are changing. I mean likewise for
322 Telecom, how they've become now more of a retail business as opposed to a
323 big sort of network business.

324 **Researcher**

325 And that changes the image as well.

326 **NZINT8**

327 Yeah, absolutely.

328 **Researcher**

329 But that's interesting really what you just said (unintelligible, 0:25:32.7).

330 **NZINT8**

331 I think, yeah, that's, I think that challenges the relevance of the carrier, because
332 I mean you look at iTunes and the so forth. You have all your content, all your
333 music, your videos, your movies in the App Store. I mean this thing is entirely
334 Apple, there's no Vodafone on it, other than the connection. I mean even...

335 **Researcher**

336 Still without the connection, it doesn't work. As simple as that.

337 **NZINT8**

338 Yeah it is, that's right, but even like iMessage needs a data connection and so
339 forth to work and, I think Apple probably more so than anyone probably sees a
340 carrier as the pipe. So I mean that's one of our biggest challenges as a carrier,
341 is like how do you stay relevant to a consumer, because basically...

342 **Researcher**

343 Well that's why I put in here are the mobile operators going to get involved into
344 the service provisioning (unintelligible, 0:26:19.1).

345 **NZINT8**

346 Well in that value-added space, yeah. And that's a challenge, yeah.

347 **Q10.Regulatory environment**

348 **NZINT8**

349 I think in the pure business service in terms of like data and voice and
 350 everything else, the regulation has probably made life more difficult for the
 351 carrier, obviously, right. I mean I think, obviously with the mobile termination
 352 rate rulings in the last, what, twelve months, has definitely made our lives a lot
 353 harder. I think in that, that's probably where the impact mostly is.

354 **Researcher**

355 But that will go, it will not go, but companies will adjust.

356 **NZINT8**

357 You will adjust, yeah. I think it's just that adjustment time is quite difficult. I don't
 358 think there's any, in terms of the application space, I mean unless it's sort of
 359 infringing on privacy or security in terms of personal information or bank
 360 information, then it's, that's probably the only space where regulation is
 361 probably required.

362

363 But I mean apps get created all around the world and available anywhere in the
 364 world, so it's probably one that's quite hard to legislate or regulate. You look at
 365 things like PayPal and all that, it's, you have it on your phone, you make
 366 payments on it, but if it doesn't go right, I don't think the New Zealand
 367 Government has, can stop you from using it, for example, or restrict PayPal, for
 368 example. So from an application space I think it's pretty hard to do anything.

369 **Researcher**

370 Yeah, okay. So (unintelligible, 0:28:26.4). Okay, looking at the whole mobile
 371 industry, which elements or aspects of it are supportive for mobile service and
 372 applications, and which are not so? As a whole, because as you say, people will
 373 have different phones, different providers and...

374 **NZINT8**

375 Yeah. I don't think there's anything that is not supportive of development of
 376 applications as such that I can see. I mean we as a business encourage it and
 377 even support it in terms of sometimes co-funding it.

378 **Researcher**

379 Yeah, okay, alright.

380 **NZINT8**

381 How can we make it better? I mean that's a tricky one, I mean you start getting,
 382 you start getting into, you can't give away your crown jewels, you can't make
 383 things free. But the reality is applications use data, but you can't say zero rate
 384 data for applications or things, 1) it's probably technically quite difficult for too
 385 many applications, for example, and the other is you don't want to give away all
 386 your revenue.

387

388 So it's, I suppose it's a fine balance, isn't it, between trying to, I mean we, I think
 389 the industry as a whole is driving smartphone adoption. When you have
 390 smartphones sort of starting at the price point of \$149, for example, I think is
 391 definitely a price when there's a market moment. So your smartphones start at
 392 149 and go up to \$1000 plus, really there's probably not many people who can't
 393 afford to get a smartphone now.

394

395 So I think as an industry and as we're working with device vendors and
 396 everyone else, I think you've made smartphones a reality for pretty much
 397 everybody. Call it democratising...

398 ***Researcher***

399 Yeah, okay, so in other words it's actually supportive in that respect.

400 ***NZINT8***

401 Yeah, so in that case, I think as a whole, the industry is driving the market to
 402 smartphone. Obviously there's net benefits for the carriers to do that, because
 403 you're really looking at this additional revenue that comes say from use of data
 404 for example, which wasn't there when they had voice and text only.

405

406 So there is an upside for carriers, but I think it's, there are also those benefits to
 407 having smartphones where you can actually have access to real time
 408 information through web search and have access to emails and check your
 409 status on Facebook. All those sort of things, it's making it real for more people
 410 and as time goes by that price point will become less and less, and, so.

411

412 ***Q11.Industry***

413 ***NZINT8***

414 Yeah, so I don't think there's anything that the industry isn't doing to sort of
 415 drive this new adoption, the...

416 I think voice has probably peaked and probably sort of levelled off in terms of
 417 growth, in terms of share numbers of, and you really have to find that next
 418 revenue opportunity.

419

420 And also the cost of the voice minute has continued to come down, and
 421 therefore people pretty much are using it as much as they want now. Here you
 422 get that sort of growth and then you sort of level off because the voice minute's
 423 so low, people are using it no matter what they think anymore. Minutes are
 424 bundled into plans now, rather than having to think about how much am I
 425 spending per minute, you're saying, "Well actually I've got a hundred minutes"
 426 or "I've got two hundred minutes a month to use." So I think that's the, so
 427 you're, yeah.

428

429 Voice revenue's sort of tapered off and texts is basically free now, really. I mean
 430 the amount of texts you get is free. So you have to look for that next lift in
 431 revenue, so it's data, and then where do you go beyond that?

432 **Q12.Further comments**

433 **NZINT8**

434 Not really, but I mean have you got some other questions or any thoughts that
435 you want to...

436 **Researcher**

437 No, this was my additional one, because I think there was a recent report on the
438 revenue of mobile network operators, that showed for the first time that the
439 revenue from data is actually exceeding revenue from voice.

440 **NZINT8**

441 Right, yep.

442 **Researcher**

443 Which I haven't read the report, to be honest, I just heard it.

444 **NZINT8**

445 Was that New Zealand or...

446 **Researcher**

447 I heard it on the radio. Yes. Have to find out what it was, but it tied in so very
448 well with what you're saying.

449 **NZINT8**

450 Yeah, yeah, I mean, you know, but...

451 **Researcher**

452 So I'll find the report, for myself, yeah.

453 **NZINT8**

454 Growth is in, the driver is growth in data. I mean if you look at how Telecom has
455 positioned themselves as the smartphone network, you think about how plans
456 these days include data, and everything is smartphone. I mean that really is,
457 probably ties in with what the reports are saying.

458

Q9. NZINT9 Interview transcript

- 1 Q1.Attraction
2 NZINT9
3 So if you're talking about when people, you're talking about consumers, end users,
4 correct?
5 Researcher
6 Yes.
7 NZINT9
8 Okay, 'cause our customers are banks and their customers are consumers. So, it's an
9 important distinction. So we're going to talk about consumers here.
10 Researcher
11 Yes, you are in the middle of the chain, but you still work finally for the consumer, this
12 is correct.
13 NZINT9
14 Yeah exactly, exactly, and I assume that's what this interview is really about, right?
15 Researcher
16 Yes.
17 NZINT9
18 So what are the, you're asking me what specific services are most attractive?
19 Researcher
20 Yes, what do you think?
21 NZINT9
22 Well, I mean in essence, I mean I can tell you what's most attractive, so, I mean in the
23 banking space, the service that is most attractive and most used is checking my balance.
24 So I can tell you very specifically what that is because it makes up over 90% of all our
25 interactions.
26
27 Now there's a couple of reasons why that's the case, 1) is that you always want to check
28 your balance before you do anything else, because whether you're paying a bill or
29 whatever, you want to make sure there's enough money. So checking your balance is
30 the, is a prerequisite to other types of interactions. But the other side of that is that
31 checking your balance is pretty much the first service that people use, because it's low
32 risk. So when they're going through a trajectory of using mobile financial services, they
33 use the lowest risk first.
34
35 And that's the same sort of thing we saw on the Internet, where consumers started off
36 by just looking at their balances, or just looking at their online statements and it
37 migrated to payments or value-added services. In terms of the proposition for why do
38 consumers use mobile in the first place or mobile banking services? There's really two
39 streams of work for us, or two threads there.
40

41 One is around, in essence, convenience, which is really obvious but very much
42 translates directly into time saving. So if I can check my balance on my phone in sixty
43 seconds or less and it takes me two to three minutes to do so online and two to four
44 minutes to do so over the phone, then I'll always go to the mobile device. So there's an
45 immediacy and time saving. So convenience very much translates into time for our
46 customers across our research. And the second thing is allowing things that you
47 couldn't do before.

48 Q2.Benefits

49 NZINT9

50 So the most obvious example in the United States is what's called remote deposit
51 capture, so basically you're taking a photo of a check to enable deposits. So it's
52 something you couldn't do in the physical world, but obviously mobile technologies,
53 whether it be the camera or GPS or whatever, allows you to do new things.

54

55 So we sort of see two streams of work and we call them foundational services and
56 transformational services. So foundational is just basically stuff you've always done but
57 you can do it faster. And then stuff that you couldn't do before but you can now, and
58 that's kind of, depends on, what we call device specialisations.

59

60 So things that, specific capabilities that are in the device like GPS, like NFC, like
61 capture or camera, and so on. We have these two fundamental distinct streams of
62 adoption drivers.

63 Researcher

64 Yes, so the last example you gave with the deposit capture, the check thing, it actually
65 works with the technology as well, because you could do it, I assume, on a PC, but then
66 the bank may not be satisfied that the sender is a real one. Does it use the security of the
67 mobile phone or the personalisation of the mobile phone for that?

68 NZINT9

69 To some extent. So some banks do offer it on the PC, where you can use your scanner.
70 But just the user experience and the, as you were saying, the authentication is quite, a
71 lot easier to authenticate on the device.

72

73 And then you can add additional layers, so we've got a customer who's using GPS
74 coordinates on top of that capture, so basically we know exactly where that photo was
75 taken. If it was taken in your house, then it's lower risk than if it was taken in Nigeria.

76 Researcher

77 Especially Nigeria, yeah.

78 NZINT9

79 So authentication security is a part of it. You're right, there's no reason why you
80 couldn't do things on PC, the fact is that everybody's got a camera here, they know how
81 to use it and so on. So there's a lot of these services that are never going to really hit
82 online or other channels, they're just going to go straight to mobile. And that's going to,
83 as I said, the second stream of adoption.

84 Q3.Requirements and expectations

85

86 NZINT9

87 We're a big believer in segmentation. We use a model in financial services called the
88 mosaic model. I don't know if you know it, but that's what many banks around the
89 world use.

90 Researcher

91 Not familiar in detail, no.

92 NZINT9

93 Okay, I'm happy to send you an email or something if you want.

94 Researcher

95 That would be great, thank you.

96 NZINT9

97 So yeah, anyway, that's kind of, but segmentation is very important. So our view is two
98 fold, one is that the problems for different segments that you're solving are different. So
99 I happen to be quite well paid, so I don't need to check my balance before I check out at
100 a supermarket, because I am, because I don't live week by week.

101

102 Whereas there's a pretty significant segment of this society that, whose value
103 proposition for mobile banking is checking their balance before they buy something.
104 The value proposition for me, is I can maximise my yield from my financial services.
105 So I can make sure that I keep my money in the highest yield accounts for as long as
106 possible.

107

108 So it's quite a different, I'm a different segment and therefore the value's quite
109 different. So we look at it two ways, one is the actual use cases and therefore the
110 services are different per segment. And the other, which is very related, is how you
111 promote it is very different. So...

112 Researcher

113 The second one doesn't really, okay, let me hear you first...

114 NZINT9

115 Yeah, because like for me, if a bank came up to me and promoted mobile banking as
116 the, "Avoid embarrassing situations at the bar with your friends." Well that's not really
117 relevant to me, because again I'm not in that segment. So, whereas if they said to me,
118 "Hey, make sure..." I don't know. They said, "Make sure that you get your maximum
119 yield from your savings accounts."

120

121 Then I go, "Oh yeah that makes sense, that's actually a good proposition." So it affects
122 real use cases in then how you'd promote those services. And what we have seen is that
123 customers who promote services generically, i.e., "Mobile banking is here, mobile
124 banking is awesome," they get very low levels of adoption. Whereas customers who
125 promote services in a segment-centric way, they get very high levels of adoption.

126 Researcher

127 Okay, I was going to comment before you started explaining what that, this is
128 something which in the adoption studies in the academic research, because it's quoted
129 in your paper, is known as service awareness. And what you say, I hear it as you want to
130 make consumers aware of the same thing, but in different ways. So basically the service
131 could be basically the same, however you promote it as meeting different needs. And
132 different...

133 NZINT9

134 Exactly, exactly. Yep and that's exactly our recommendation to banks, and in fact...

135 Q4.Features

136 NZINT9

137 Okay.

138 Researcher

139 You did mention already things which can be done conveniently, like for people
140 anywhere, anytime, as it's known, but what do you think, what are the most valuable
141 features in the mobile services you know about?

142 NZINT9

143 Well I mean if you're talking about functionality, then it's always going to be, as I said,
144 checking your balance, for the reasons that I alluded to. One is people like knowing
145 their balance and secondly people want to know their balance before they do anything
146 else.

147

148 That is the most valuable thing. So I mean I don't know whether you want me to list in
149 order of what's most valuable versus least valuable. The, as I said, the issue, there's two
150 things. Anything that saves them time, so checking your balance on your phone is faster
151 than checking your balance at an ATM or over telephone banking. And the other is,
152 does it allow me to do something new? So mobile check deposits are used by about 20
153 to 25% of customers who are doing mobile banking, to whom it's available.

154 Researcher

155 In the United States?

156 NZINT9

157 In the US, yeah, so it just shows you...

158 Researcher

159 That popular?

160 NZINT9

161 Yeah, it's very, very popular, because, as I said, it's something you can't do elsewhere.
162 So as I said, we look at those categories and if it's something that's new then it will
163 have a very high degree of success. So those are, sorry, something that's new and that
164 has value, that they couldn't do beforehand.

165 Researcher

166 Okay, so that second one, as you discussed, utilises new technology, really. The first
167 one, time saving, again, makes time saving because of the technology. Can I say that
168 both are attractive because of technology, the use of technology makes them attractive?

169 NZINT9

- 170 Well I don't even know if consumers think about technology.
- 171 Researcher
- 172 No they don't really, but what do you think, is it technology actually which does that?
- 173 NZINT9
- 174 I mean loosely speaking that's true, but I'm not convinced. I think it's just much more
175 about the intimacy and the familiarity associated with a device, which you could argue
176 is technology, but actually it's just because it's a device that's in your pocket. It's not
177 'cause of technology, the technology's neither better nor, in the convenience side,
178 neither, it's definitely not better than my computer which I'm using right now. It just
179 happens to be in my pocket and so it feels easier and more accessible.
- 180 Q5.Pricing
- 181 NZINT9
- 182 Well most of our customers offer their services for free.
- 183 Researcher
- 184 Your banks?
- 185 NZINT9
- 186 Yep. Fundamentally because it saves them money. So if you use your mobile phone
187 rather than call the contact centre that saves the bank four dollars, so it's pretty, it's in
188 the bank's interest for you to be doing mobile banking. So for that reason they offer it
189 for free. The, of course sometimes they have to pay data services and text messaging
190 charges and things like that to the mobile operators, so there are...
- 191 Researcher
- 192 (unintelligible, 0:17:14.3)
- 193 NZINT9
- 194 Not necessarily to the bank. Do services adopt, does the fact it's not free make an
195 impact? So let me give you an example, one of our big customers US Bank and the US
196 charges fifty cents per deposit on the mobile phone. And they, without getting into the
197 specifics, there's no material difference in terms of levels of adoption and usage
198 between them and other financial institutions.
- 199 Researcher
- 200 That don't charge?
- 201 NZINT9
- 202 Correct.
- 203 Researcher
- 204 That's very interesting, yeah.
- 205 NZINT9
- 206 But I think for the basics, if you think about the foundational versus transformational, I
207 think for foundational we absolutely do see a difference. So a good example, we've got
208 a couple of customers in Asia who do charge for basic services and they definitely don't
209 see the same level of usage for the foundational stuff, but for the transformation...
- 210 Researcher

211 (unintelligible, 0:18:04.4)

212 NZINT9

213 Exactly, because you could go somewhere, they'll use another channel that is free, so
214 why would you? Whereas things that you can't do elsewhere like check deposits and
215 location based offers and other things, then people are, might be prepared to pay
216 something.

217 Researcher

218 So they, in that second example, they really appreciate the value of what they offered
219 and are prepared to pay for it.

220 NZINT9

221 Yeah.

222 Researcher

223 Now I guess if it's beyond their means they wouldn't be doing it, but fifty cents seems
224 to be reasonable.

225 NZINT9

226 Yeah, exactly. I mean obviously, yeah exactly, I mean any pricing strategy has to be
227 sensible, but yes.

228 Q6.Attitude

229 NZINT9

230 Yeah, I mean we have pretty good data, so if you think about, put it this way, if you
231 think about the reasons why people don't use mobile banking, there's two very obvious
232 primary reasons. One is they don't see value, and the second one is concerns around
233 security or safety. So that's why they don't use it. For the ones that do use it, the biggest
234 factor or source of dissatisfaction is around speed.

235 Researcher

236 Okay.

237 NZINT9

238 Which you could argue is ease of use as well. So basically the people who do use it,
239 basically say, "It's good, but it's not easy or fast enough."

240 Researcher

241 So speed is an expectation for the quality of the service (unintelligible, 0:20:16.2).

242 NZINT9

243 Correct, yep. And as for those who use it and those who don't use it, have very different
244 concerns. They're not concerned about speed, they're concerned about security or the
245 value proposition. Whereas the ones that use it, obviously understand the value
246 proposition. They're not that concerned about security, but actually just want more
247 speed.

248 Researcher

249 Yeah, so do you think that, this is a side question, that at some point these groups will
250 converge, do you attribute the differences in who uses, who doesn't use to any factors in
251 the demographics of the population or, do you think?

252 NZINT9

253 Demographics is one, I mean is part of it, but it's not the only side. I mean it's just back
254 to the segmentation. Very different segment attitudes. Demography's a bit crude, that's
255 why I just need something a big more sophisticated in terms of segmentation model.

256 Researcher

257 The one way to segment consumers, income based is going to stay, so that will not
258 disappear, but the age demographics will change gradually. So in your view age actually
259 doesn't matter, or does it...

260 NZINT9

261 I mean age is a factor, but it's not the dominant factor. So yeah, I mean and as I said,
262 there's very good models in financial services which are not, which are much more
263 sophisticated and valid than just crude demographics.

264 Researcher

265 Okay. Yep, sorry.

266 NZINT9

267 No, no, and so, and I think the other thing that changes consumer perception once they
268 are actually adopted, is around a requirement for availability, reliability, and robustness.
269 So I've talked about speed, but basically they view mobile as a twenty-four by seven
270 channel and they don't really tolerate very well when things are broken in some way.

271

272 And I think the other thing that's unique about mobile compared to other channels
273 today, is the expectation around the user experience and the democracy around that. So I
274 mean if you just look on iTunes or on Google Play, consumers will put comments up
275 and they have very much high expectations.

276

277 So consumers don't have very high expectations when they call a call centre of a bank,
278 but when they download the app of a bank they have very high expectations, and that's
279 very, it's very new for financial institutions. They're not accustomed to being publically
280 assessed, put it that way.

281 Researcher

282 They don't expect to have that much feedback coming onto them.

283 NZINT9

284 Yeah, exactly. And it doesn't just apply to banks, but obviously that's who I'm most
285 familiar with, but that is a new thing for enterprises that all of a sudden they're in
286 public.

287 Q7.Innovation

288 Researcher

289 Okay. All of this to happen, question number seven, I think you, the answer is yes, but
290 would you think innovation is required, innovative services, or innovative approaches to
291 offering them? And your title is innovation, so...

292 NZINT9

293 Yeah, but you see this is, actually it's quite interesting. As I said to you, the biggest
294 factor when we go and test with consumers, "What do you want?" Existing users, they
295 don't ask for new features, they ask for faster and easier.

296

297 So quite interestingly, I think innovation is overplayed. It's an easy thing to throw out,
 298 but actually as I said, if you go and sample a hundred users of mobile banking services,
 299 probably eighty of them will tell you, "I'm happy with what I've got, I just want it to be
 300 easier and faster." Whereas, okay twenty might say, "Yeah, I want new, I want new
 301 feature A or new feature B." Which is fine, I'm not saying it's not valid.

302

303 Clearly we have to keep innovating and that's what I do do, but the reality is, if you
 304 listen to existing users, they just want faster and easier. And I think that's actually
 305 where real innovation will happen, is how do you make banking services easier and
 306 faster?

307 Researcher

308 Well there is a part of the space to improve in the banking services. Banking services
 309 (unintelligible, 0:25:04.4) it's difficult to think about (unintelligible, 0:25:07.2).

310 NZINT9

311 Sure. But there is, so let me give you an example that I'm working on at the moment. So
 312 we've got a customer who wants to do loan extensions via mobile. And the online world
 313 today, you have to fill in a form with eighty-something fields. Like your name, your
 314 address, your social security number. And people within mobile just simply won't do
 315 that and the real question from consumers is, "Why does my bank need all that stuff,
 316 they already have it?"

317

318 And actually there's only three fields that you need to fill in, which is how much, what
 319 are you trying to buy, well how much money do you want to borrow, how much
 320 additional money do you want to borrow, what is it for, and do you understand our
 321 terms, basically. And so it's changing, so again this goes back to speed.

322

323 So there's nothing new about a loan application, but what mobile is going to force is
 324 this efficiency of speed and simplicity. So the innovative, lending money is not
 325 innovative, there's nothing innovative about it, but today if you go to the bank they
 326 make you fill out these ridiculous forms and your question as a consumer is, "This is a
 327 waste of my time, you guys are idiots."

328

329 And so that's I think what's changing. So when I talk about, my view of innovations, is
 330 enabling those things, making existing stuff easier and faster, not kind of coming up
 331 with this kind of weird and wacky stuff. There will be a role for those things, but I think
 332 that's not primary.

333 Researcher

334 These are definitely, well shall I say, grounded approach, back to basics, make what you
 335 have already work better.

336 NZINT9

337 Well banks, back to your point, banking is an established industry. There's reasons, I
 338 mean people will always want to store money, borrow money, save money, and pay for
 339 stuff. That's not going to change. Those needs aren't going to change, they just want it
 340 to be safer, easier, and faster. I mean that's pretty much it. But no one has any, when

341 you think about payments, you don't really think of any other dimension other than
342 easier, faster, or safer, those are the only three dimensions.

343 Q8.Obstacles

344 NZINT9

345 So I'd start off by saying that adoption of mobile financial services is somewhere
346 between five and ten times what anyone expected five years ago. So if you talk about
347 adoption, we really don't have an adoption problem. I think that's my starting point. I
348 mean I can't, there's not a single customer of ours that doesn't tell us, "I can't believe
349 how well it's going," from an adoption perspective.

350

351 So that's my starting point. But having said that, there's two points, which I've kind of
352 made already, one is around the biggest concern for people, there's two concerns that
353 everybody, whoever doesn't use it have, one of them's around security. So mobile
354 banking and payment services need to be perceived as safer than they are perceived
355 today, and that's really a customer education issue.

356

357 And the other is that the value proposition, so a lot of people kind of see, "I don't really,
358 I do online banking today or I'm happy with a call centre, why do I need mobile
359 banking?" And that requires segment-centric approaches, which we've talked about
360 already. So you can't just sort of say, "Mobile banking's here." You've got to say, "This
361 is the specific need for you, Mr Customer, that we are addressing."

362 Researcher

363 Well if you say that there is no adoption problem, what do you attribute to this fast
364 adoption?

365 NZINT9

366 Well the universality of mobile, I mean mobile devices are basically 90% of the
367 population or something like that. I mean that's the first point. So your sample size is
368 enormous. If you think back to 1997, no, what year was it? Yeah '97 when I started, no,
369 '98 when I started doing online banking. Most people didn't have a computer at home.

370

371 So when online banking started, maybe a quarter of homes had a computer in them, let
372 alone an Internet connected computer. So, whereas now, every home's got mobile
373 devices. So you've got your supply side, the devices are there. Consumers are already
374 doing stuff on their phones, Facebook and other things, in particular.

375

376 I mean, I did some interviews when I was in the UK last year and we had almost
377 everybody sort of under sixty had, was doing Facebook on their mobile phones. And I
378 kind of go, "Well you already know how to log in, you already know how to take
379 photos, you already know how to type things in, you already know how to search for
380 friends, all this stuff on your phone, what would stop you doing mobile banking?"

381

382 And the answer was always safety. It was never a usability thing. So the point is that
383 there's already a population of users, particular smartphone users that are already
384 familiar with this technology. So not only is the technology everywhere, not only does

385 everyone have the technology, but everyone's familiar with how to use it. So when they
386 think about mobile banking, they think of it as quite an easy, obvious thing.

387 Researcher

388 Yeah, so actually the smartphone adoption is what triggered that?

389 NZINT9

390 Yeah.

391 Researcher

392 Because without the smartphones we wouldn't have all these things.

393 NZINT9

394 Yeah, the smartphone adoption and then usage. So people, they get their smartphones,
395 they go, even people, I know people who have got their smartphones just 'cause it came
396 free with their plan, and then before you know it they downloaded an application, and
397 then they downloaded another and another, and then they just become active users when
398 they never intended to, they just kind of became...

399 Q9.Future

400 NZINT9

401 Yeah, so, so I guess the first point, which is to do with your question, I don't think
402 network operators have anything to do with content development. So I don't think
403 mobile operators will ever be successful at being brokers of anything. I think they are
404 just a pipe, and a dumb pipe, and every time they try and be something else, they don't
405 do a good job of it.

406

407 So in terms of mobile financial services, it's going to be a battle between financial
408 institutions, who may or may not outsource to solution providers like us. Some will,
409 some won't. So if you think about it in the New Zealand market. ANZ outsources to us,
410 National Bank outsources to us, Westpac to some extent, but ASB does not, nor does
411 BNZ.

412

413 So they'll make their own decisions on a case-by-case basis. So banks will be part of the
414 eco system, but the biggest disruptors will be the likes of Google and Amazon and
415 PayPal, who will, who see banking as an enormous, I mean banking's the world's
416 biggest industry. It's a four trillion dollar a year industry. You don't have to be very
417 smart, if you're sitting in Google's or PayPal's shoes or whatever, to go, "Well we want
418 some of the action." So I think that a lot of the innovations are going to come out of
419 those big competitors. They're not going to be direct competition, but they're going to
420 be tied into it.

421 Researcher

422 But are they going to be competitors to you, to your type of company or to the banks
423 themselves?

424 NZINT9

425 To the banks, yeah, yeah.

426 Researcher

427 But as you say, telcos tried to be, actually there were quite a few predictions ten years
428 ago and more that network operators will become banks, it didn't happen. As you say,
429 they didn't do it correctly, they didn't, they played dumb, they couldn't, and cannot be.
430 Do you see these things that the might of the banks can be threatened by other players,
431 because the real power comes from the real money they still have. Not because of the
432 use of the technology.

433 NZINT9

434 That's true, they do have real money, but the capital requirements to be a banking
435 provider, so that's why I couldn't be a banking provider, but Google has tens of millions
436 of, tens of billions of cash in, so if they needed to set up a bank they could do that.

437

438 Similarly someone like Apple, I mean they just have all the capital structures to
439 basically go and create, get a banking licence and play as a bank. PayPal already has a
440 banking licence in Europe, so they kind of already, they have the capacity to do so just
441 based on their size and scale.

442 Researcher

443 Yes, PayPal set itself a different sort of a function.

444 NZINT9

445 But PayPal, so PayPal's already issuing bank cards. So you can get, you can now in the
446 US get a PayPal card that goes in your wallet to make payments, and the money comes
447 out of your PayPal account. So that's already happening. Google is now issuing cards,
448 the Google wallet cards, the Master Card it branded. So these guys are already playing
449 in this space.

450 Researcher

451 Okay, in that way, yes.

452 NZINT9

453 And Walmart is the biggest prepaid card issuer in the US, so you've got all these pretty
454 big players who just see an opportunity to play in the banking space, and they will
455 succeed, in my view.

456 Researcher

457 So far there has been space for all of them, especially for the prepaid cards by stores like
458 Walmart, but yeah, okay. It will be a major disruption in the future in the whole banking
459 system.

460 NZINT9

461 Absolutely, and some banks will flourish out of that, and some will disappear
462 altogether, that's my view. If you look ten years down the track, there'll be, I'd say
463 more than, this is my prediction, more than half the banks that exist today will not be
464 profitable in ten years' time.

465 Researcher

466 You're speaking globally?

467 NZINT9

468 Yeah.

469 Researcher

470 If you apply it to New Zealand, it means that you'll get, remain with three banks or
471 something like that.

472 NZINT9

473 Yeah, New Zealand's in quite good shape, 'cause the banks are quite healthy and very
474 prudent. So I don't, I see less of an issue in New Zealand, and we're a small country, so
475 it's not, if I look at the US, certain parts of Europe, Asia in particular, quite different.

476 Q10.Regulatory environment

477 NZINT9

478 For us directly, oh well actually, so let me give you an example, so you know the check
479 deposit example I gave you?

480 Researcher

481 Yes.

482 NZINT9

483 On the back of the success of remote check capture in the United States, almost every
484 developed country in the world's reviewing their regulatory things. So they're now
485 saying, "Well this is crazy..." Because every bank, every country in the world wants to
486 eliminate cheques and get them out of circulation, so all of a sudden they say, "Hey,
487 well here's a good way of sort of stimulating that."

488

489 So there's an example of where mobile is actually enforcing, not enforcing, encouraging
490 regulatory change. So that's kind of one area. The biggest area where this will impact is
491 whether the regulators will either encourage or discourage people like Google and
492 PayPal and others from playing in the banking space. That's actually the biggest, real
493 big issue.

494 Researcher

495 But is there, is that international, that all depends on mainly national regulators, we
496 don't have international regulations here.

497 NZINT9

498 No, that doesn't matter, so yeah I mean, so Google will just apply for a banking licence
499 in New Zealand or in Australia or wherever. The question is will the regulators invite
500 that or will they fight it. I think it will depend on each market.

501 Researcher

502 So again, if your predictions are correct, you will have to expect to see interesting things
503 in that direction.

504 NZINT9

505 Absolutely, I do, and I think that it won't happen in the next year or two, but you fast
506 forward ten years it'll be, yeah, many consumers will be comfortable banking with
507 Google or banking with Apple, or banking with whoever, I don't know who of those
508 guys are going to make a serious play.

509

510 You talk to young people and they go, they think of their banks as, well on one hand
511 they still have a special relationship with money, money is special to most people, so

512 there is something unique there. But on the other hand they just think banks are
513 retarded.

514

515 And I look at, and the example I give is Bank of New Zealand spent over a hundred
516 million dollars upgrading all of its branches just in the last few years. I'm a BNZ
517 customer. I paid for that. I don't even use a branch, I never have, or I haven't for ten
518 years. So why am I funding a branch when I don't use one? And consumers, younger
519 consumers they just think that's idiotic. They just go, you know what I mean? Like what
520 do you, and they literally look at you in the eye and they go, "What do you need a
521 branch for?"

522 Researcher

523 They don't know what a branch is, they've never, yeah they're not used to it, yeah. I
524 don't use branches too, but, sort of accepted the need for them.

525 NZINT9

526 No, but I think it's because you grew up in that, but for someone who didn't, for
527 someone who didn't, so you get a twenty-year-old, you go, you've never been to a bank
528 branch and then you look to a bank with branches and you go, "These guys are old and
529 boring, they're the Encyclopaedia Britannica or the Blockbuster or the whatever, they're
530 part of the old history of the world, I want to go where the banking, where banking is
531 going."

532

533 And PayPal in the US, there's already a massive PR campaign around the heart and
534 minds of young people saying, "This is where banking's going, we're taking you there."
535 Whereas Barclays and RVS and Lloyds and whatever, they're still kind of talking about
536 their branches and all these things. Unless PayPal (unintelligible, 0:40:39.7) I'm talking
537 about, PayPal on the other hand is like promoting banking, where it's going and the
538 future of banking.

539

540 And you're an average twenty-year-old and you have to make a decision, on one hand
541 money's special, but on the other hand you go, "Why would I go with those guys?
542 They're old."

543 Researcher

544 Yeah, I understand what you're saying, for the younger generation, for that segment,
545 you did say that age doesn't matter, but it still maybe really matters in how people
546 perceive...

547 NZINT9

548 So age is part of it, but I, as a digital, I guess the biggest thing is whether you're a
549 digital native or not. I do not use physical services, I do not want them, so I'm a digital
550 native. I'd go with, if Google offered me a bank account in New Zealand that was
551 regulated and insured, I'd go bank with Google, no doubt about it.

552 Researcher

553 Yeah, especially if it (unintelligible, 0:41:27.7) maybe.

554 NZINT9

555 Yeah, so I mean they have to be regulated, you have to have the same safeguards that
556 you have for a normal bank. I mean...

557 Researcher

558 Yeah, that's one, yeah. Okay, I haven't thought about that myself to be honest, but what
559 you're saying that makes sense, because my own son who is much, much, much
560 younger than I, of course (laughter), was seriously suggesting using PayPal for
561 something which I didn't even think of (unintelligible, 0:41:57.5). Agree with that,
562 okay, that's interesting.

563 Q11.Industry

564 NZINT9

565 Well I mean clearly they (mobile operators) provide the infrastructure, but no, beyond
566 that, no I don't see any role requirement. All they need to provide is data connectivity.
567 And in fact it might not even be mobile networks. When I was living in Atlanta, you
568 had Ymax network, that wasn't run by a mobile operator. It's entirely feasible that these
569 technological changes will happen without mobile networks.

570 Researcher

571 So who is running the Ymax there?

572 NZINT9

573 I mean obviously it was a telecommunications company but it wasn't a mobile network,
574 I think they were called Clear or something like that.

575 Researcher

576 Okay.

577 NZINT9

578 But it's a good example of where actually if I just, if I was out and about, if I had a
579 tablet, put it that way. If I owned a tablet I'd probably go with the Ymax, 'cause then I
580 wouldn't have to pay, my monthly fee would be 9.99 or whatever, I'd have faster
581 connectivity and I can still use Skype and I can still, so you're going to start, so the
582 tablet movement is going to create this non-dependence, because people are going to
583 start using Wi-Fi at home.

584

585 If you think, I'm in Wellington, I've got Wi-Fi at home, the city is all Wi-Fi'ed, free
586 Wi-Fi in Wellington City. So you kind of go, "Well most of the time I'm already
587 accessible, so why do I need a mobile network?"

588 Researcher

589 Yes, that's very true, and that happens in other cities as well and I'm seeing myself,
590 people, I also have a tablet and a phone, but I don't use a tablet for connecting, it's not
591 connected to a provided, it's for Wi-Fi wherever I can get it, whenever I need it.

592 NZINT9

593 Yeah, so, but I think that as you use your tablet, you'll start thinking, "Why do I have
594 my phone with a provider?" I mean it is an entirely feasible question.

595 Researcher

596 That will be the next step, yeah. Alright, so actually the threat is to providers not from
597 them.

598 NZINT9

599 Well exactly, so I think they've got to become a, one of the biggest challenges they've
 600 got is they try and be, especially New Zealand, both Telecom and Vodafone tried to be
 601 up the value chain and no one wants them up the value chain. They're much better off
 602 being the lowest cost infrastructure provider. Like to me again, they advertise, they
 603 waste all my money. I'm a Telecom customer, and a shareholder for that matter.

604

605 Telecom just wastes all my money as a shareholder and a customer doing other things
 606 other than being the lowest cost infrastructure provider. What I want is a twenty dollar a
 607 month plan, unlimited data, unlimited voice, that's what I want. Everything else is a
 608 waste of my time and money. I don't want anything else. And I think that the telcos, I
 609 mean telcos in the US already realise this. So they've pretty clearly become
 610 infrastructure providers and they don't bother with anything else. I don't think in New
 611 Zealand that's not the case, for whatever reasons.

612 Researcher

613 I would agree with the twenty dollar plan you suggested. (laughter)

614 NZINT9

615 Or whether it's twenty, it doesn't matter, but I don't want, I'm paying, basically, like if
 616 you look at the economics of it, I'm probably paying a hundred dollars a month of
 617 which at least half of it goes into marketing and value-added services I don't want. I'd
 618 just rather your infrastructure, I just rather Telecom was just a reliable, high bandwidth
 619 network, and it was just the core infrastructure.

620

621 I mean the first thing I, when I first got my iPhone the first thing I did is take all the
 622 Telecom apps off it. You know, why do I want the Yahoo, Telecom Xtra Yahoo
 623 application on my phone? I don't, they're providing content, I don't need that from
 624 them, I don't want it. I want to get my content from who I choose to.

625

626 So I think that they spend all this money and energy, and they've got hundreds of
 627 people working in that division for a service no one's interested in. So I think that the
 628 future for telcos, at least in the consumer space, is going to be just being infrastructure
 629 providers.

630 Researcher

631 But the danger, as they see, from talks to them, is that they don't get too much
 632 incentives of investing in the infrastructure, the infrastructure cannot stay as is, or even
 633 grow without investment, it requires (unintelligible, 0:46:58.6) and more investment, so
 634 they do need to have the incentives to do this, otherwise they're not going to do it.

635 NZINT9

636 Yeah, but I don't agree with it, and the reason I don't is because they spend, Telecom
 637 and Vodafone both spend more money on marketing than they do on infrastructure. So
 638 that's a nonsense argument. You can't have an argument saying, "Oh yeah, no, I need
 639 this money for infrastructure," when actually you've spent twice as much on marketing
 640 a service than you have on the infrastructure.

641

642 So if you were spending ten times as much on the infrastructure than you were on
643 marketing, that's a valid argument, because you say, "I've got this core infrastructure,
644 that's where all my money's going." But when all your money's going into marketing,
645 having an argument that you need it for infrastructure makes no sense.

646 Researcher

647 That's a good point you're making, I haven't thought about it this way myself.

648 NZINT9

649 Well you imagine if the New Zealand Government, let's say for a roading project spent
650 twice as much promoting the new road as it did building it, most people would think it's
651 not a very wise use of money.

652 Researcher

653 It does spend a lot of money on marketing. I do hate these brochures which come to me
654 in the mail, the glossy ones which don't tell me anything actually. But that's from the
655 government about the road infrastructure and what have they done, what they haven't
656 done.

657 NZINT9

658 Yeah. So that's annoying, imagine if you're, I mean, 'cause I'm guessing in terms of
659 road investment, it would be 2% of the capital cost would be allocated to marketing.
660 Whereas in telcos, it's a hundred times that.

661 Researcher

662 I agree (unintelligible, 0:48:31.2).

663 NZINT9

664 Again it goes back to my comment about BNZ, they spent over a hundred million
665 dollars upgrading their branch infrastructure, for something I don't want, but I have to
666 pay for because I'm a customer. So stop building things I don't want and just give me
667 the things I do want.

668

669 And that's where I think the power of the Googles and the Apples and the whatever,
670 they spend their money on things that consumers want, because they are consumer-
671 centric organisations.

672 Researcher

673 And they are, they are indeed, and they're actually very instrumental in shaping
674 consumers' expectations, requirements, and attitudes, so if they go with it, yeah.

675 NZINT9

676 But that's what comes with the territory. You deliver people what they want, therefore
677 they listen to you and therefore you can guide their, if you don't give people want they
678 want and therefore you don't listen to them.

679

680 I mean, as I said, BNZ doesn't give me what I want, therefore I actually don't really
681 care, I have no loyalty to BNZ, therefore they have no real ability to shape my
682 requirements. Whereas if I had lots of loyalty to BNZ then they would have an
683 opportunity to shape my requirements about what to expect from a bank. So it's a
684 vicious, it's a virtuous or vicious cycle.

685 Researcher

686 Yeah, I can see that. So interesting expectations for the future you have outlined here.

687 NZINT9

688 And they're not mine, they're consumer expectations, that's the thing.

689

690

Q10. NZINT10 Interview transcript

1 Q1.Attraction

2 NZINT10

3 So in my opinion, the services that are out there are things that make our life
4 easier. So services that we need to do to support our lives, whether it be
5 banking, or paying for parking, or getting funny cat videos, are available on any
6 device we want.

7

8 So akin to ubiquitous computing, so it doesn't matter if it's a mobile device, or if
9 it's a laptop, or a tablet, or whatever. So why they're attractive is because I think
10 it's enhancing the quality of life, whether it be actual day-to-day life needs, like
11 banking and things like that. Or whether it be the social quality of life.

12 Researcher

13 I may ask you just one additional question, because it's very interesting what
14 you say, your opinion, is it formed because you know your customers or how
15 do, why do you think so?

16 NZINT10

17 Yeah, so my opinion, it's based on me, basically what, so what I use mobile
18 devices for.

19 Q2.Benefits

20 NZINT10

21 Can we offer to mobile users today? Um, (pause). There's two parts to it. One is
22 what we can do on mobile devices. And the other is the accessibility of those
23 mobile devices. So the accessibility is how much we pay to use the devices,
24 areas that they work in. Can we be in the middle of the Southern Alps and still
25 be using our mobile device?

26

27 And so there is always evolution around there about making mobile devices
28 useable. Useable in an Internet environment versus useable in their own right. I
29 mean if you're at the top of Mt Cook, you can pay, you can play Candy Crush
30 on your phone, because it's localised on your phone. But you might not be able
31 to Facebook, "I'm on the top of Mt Cook." So that's the accessibility side of
32 things. In terms of the what we do on our devices, I don't think we know what
33 we don't know.

34

35 So we can work out easy ways to do things, so we know what we do nowadays,
36 we know that we bank, we know that we pay for things, we know that we want
37 to communicate with other people, so sending messages, so text and pictures
38 to other people. And so we can improve the way we do that, so whether it be an
39 application that's more intuitive to use or more pleasurable to use. But I know
40 that there will be stuff we don't realise is important to us until we actually get it.
41 So mobile banking would be a key example. We were school, ten/fifteen years
42 ago we were schooled in the thought we had to go into a branch in order to
43 interact with our bank. And now, certainly amongst the people I know and work
44 with, we would be talking weeks or months since we last physically went into a

45 bank to interact with the bank. So either we will self-service what we do on the
46 mobile device or we will have an interaction channel through the mobile device.
47 So like Kiwibank's got that chat to my personal banker type feature. So I don't
48 know what we don't know. I don't have that creativity side of things.

49 Researcher

50 Alright, okay. But you do think that there is a need for some creativity, because
51 somebody has to come up with the idea?

52 NZINT10

53 Yes, exactly. Got to come up with a, "Hey, what if we could do this on a mobile
54 device?" I mean, what if I could get my son's school agenda on my mobile
55 device so that I could say, "It's eleven o'clock, he must be at the school library."
56 Probably we can already do that, but I haven't actually looked at it, but yeah.

57 Researcher

58 Maybe it's already possible, yeah.

59 NZINT10

60 Yeah, exactly. Can I get a push notification, "We're walking to the library now."

61 Q3.Requirements and expectations

62 NZINT10

63 Yes, absolutely. So the obvious classification is based on generation. For
64 example, someone of my generation, so in their forties, who hasn't necessarily
65 grown up with technology but certainly has, technology has been available
66 throughout most of our lives, would have different, possibly not so much
67 different needs, but different adoption willingness and concerns or lack of
68 concerns about mobile technology.

69

70 To someone, say, who's, I think they're calling it the I Generation, which I think
71 my son's at the bottom end of, so that's the people doing their Bachelor's now,
72 that sort of group. And then another generation being, so my parents'
73 generation where technology was not introduced in their lifetime and they're
74 coming up to speed now.

75

76 So if I think of things in sort of my generation, it's those life enhancing tools that
77 we can do through a mobile device. So I can pay someone when I'm sitting at
78 dinner with them, I don't have to remember to go home and pay them. With my
79 mother's generation, a lot of it is about communication. So maintaining those
80 communication ties that they probably had anyway, but doing it through the
81 mobile medium. So instead of writing a letter to their sister-in-law who lives in
82 England, being able to face time on a mobile device. So if I had to pick one
83 thing that the main requirement for them would be the communications. For the
84 younger generation, I have no idea. (laughter)

85 Researcher

86 (laughter) They're still...

87 NZINT10

88 Yep. As a pure entertainment, if I look, if I observed what my son does on a
89 mobile device, it's pure entertainment.

90 Researcher

91 Yes, but who knows, they will grow up a bit, your son will grow up...

92 NZINT10

93 Yeah, exactly. I'm going to a talk at school tonight, what kids do on their digital
94 devices, so that'll be quite interesting.

95 Researcher

96 Okay. (laughter) Maybe some parents will come with ideas.

97 NZINT10

98 Mm. So yeah, so there are definitely different groups that have different
99 requirements. And that's just, the generational thing is just one classification.
100 Then there's another classification could be the accessibility side of things. I
101 would imagine that a group in New Zealand, which has got pretty much, 3G
102 mobile access nationwide, would possibly have different needs to say an
103 African nation that's got basic sort of texting services.

104 Q4.Features

105 NZINT10

106 Okay, so, I think the first thing that comes to mind is the real time transactions
107 of mobile applications. So either I can, say a financial transaction, I can do it on
108 my terms, done and dusted, don't need to think about it when I get home. I can
109 basically accomplish that task whenever I, when I want to do it or when I need
110 to do it. So at my convenience. Yeah, so the convenience of the self-service
111 model, I think is one of the most valuable features.

112 Researcher

113 Okay, that convenience is related to the mobile phones, but it's not only on
114 them, it's actually because a service has developed to be like that.

115 NZINT10

116 That's right, it could be, it's not a mobile phone specific, a mobile phone specific
117 thing. So something that was specific to a mobile phone, again, I would think, I
118 think I would struggle to say something specific to a mobile phone, in that I
119 would expect to be able to do on a mobile phone what I could do on other types
120 of devices.

121

122 But the mobile phone overlays the, it's a complete wireless device. So it doesn't
123 matter whether I'm down at the bach in the Coromandel, or sitting in my lounge
124 room because I can't be bothered walking through to the office, or at the top of
125 Mt Cook. So the mobile device allows me to have that location independence.

126 Q5.Pricing

127 NZINT10

128 I think it would assist it in that it removes one of the barriers, but only one of the
129 barriers, because then there's also the, "Well if it's free, how is it being paid for,
130 so am I paying for it in another way?" So are there, does the free then introduce
131 some adoption restrictors as a result. So it removes one and introduces others.

132

133 I mean we see the feedback at work all the time, people want a hundred gig a
134 month at 4G speeds and to pay nothing for it. So there is definitely an appetite
135 for more bandwidth for less money. But if it, I certainly would have the question
136 in my mind, how am I paying for something that's free, because you're paying
137 for it somehow.

138 Q6.Attitude

139 NZINT10

140 Obviously how it fits into the customers' needs, so what their requirements are.
141 So, "Do I have a need that this service meets?" that influences them towards
142 adoption. I believe there's also a certain amount of social influence and stigma
143 in that, "Everyone else I know is using this and says it's fantastic." Or,
144 "Everyone else I know is using this and I should get on board too." So for
145 example, me when I signed up to Facebook, I resisted for years and years, and
146 eventually I was like, "Look, all of my friends are on Facebook, there must be
147 something good in it."

148

149 And then you become a Facebook addict and you realise it's as bad as Candy
150 Crush. But then there's the other side of it, which is people saying, "Hey I use
151 this service," you know, Viber, "I use Viber, because it means I don't have to
152 pay for pxts and if someone doesn't have iMessage." And you go, "Oh, actually
153 that makes sense," I have my need to send pictures to someone and I also
154 have a desire not to spend money in that process, and so you adopt the Viber
155 service to fulfil that need.

156 Researcher

157 So this is a driving force?

158 NZINT10

159 Yes. So yeah, so you've got to, I think fundamentally you've got to have the
160 need, how does this fit into your need, otherwise I think you just fall into the
161 don't adopt. And so your need could be something I want to do or the
162 perception of something I should do. So the need to be part of the herd. And
163 then your social circle sort of recommendations.

164 Q7.Innovation

165 NZINT10

166 Innovation's about new ideas. Yeah. So, I think a lot of creativity is the
167 collaboration and distilling of ideas, because people will come up with problems,
168 not realising it's a problem, but people will, just through conversation, will say, "I
169 wish I could..." Or, "Wouldn't it be nice to..." And then innovation is just the
170 understanding, saying, "Oh that sounds like a problem that could be solved."

171

172 And then the distilling of that into an idea that someone can implement. That's
173 what, and it's the, the innovators are the people that can do that problem
174 recognition and say, "Yes, that sounds like a problem." And then the second
175 part of it is, "Can we do something about that problem?" Because people are
176 talking, we don't realise, all the time we're talking about problems we've got.
177 We're talking about experience in life, but if we look back at them we go, "Okay

178 they could actually be problems we could solve, or experiences we can
179 improve."

180 Researcher

181 Yep, okay, and you need somebody to recognise the problem?

182 NZINT10

183 Exactly, to then say, "Oh that's an idea." And then you can then carry forward
184 with the idea.

185 Researcher

186 "There is my opportunity to do it."

187 NZINT10

188 Yep, exactly.

189 Q8.Obstacles

190 NZINT10

191 Um, (pause). I'm tempted to say device, or device variety, because there are so
192 many mobile devices out there. So do you choose that you are going to
193 implement your service, can you make it device agnostic or can you develop a
194 device specific version that makes it accessible to everyone. I mean I think of
195 some of the, my father's just come off a Windows mobile phone, and I think
196 there was some apps I thought might be useful for him, but they were only
197 developed on Android and iPhone, so effectively that service was not available
198 to him because of the platform he was on.

199

200 But I think we've got sufficient technology now that that wouldn't actually be an
201 obstacle. So I think then we're talking more the softer obstacles, which goes
202 back to the attitude towards adoption about people's willingness to make use of
203 that mobile service. So it's not automatically a build it and they will come. We've
204 got to be, we've got to provide something that influences people to pull them in
205 towards us.

206 Q9.Future

207 NZINT10

208 That's the million dollar question. So we've, yeah, because network operators
209 have got a vested interest in people using mobile services, because of the
210 pricing structure we've got now, effectively. You pay for data. So I mean, you
211 look at Spark introducing Lightbox, which is very bandwidth hungry. You've just
212 got to question their motives, going, "Oh, great, we've got this new content
213 service from Spark and they're not charging me to use it." Back to our no free
214 lunch.

215

216 "But I now suddenly need to upgrade from my thirty gig broadband plan to a
217 hundred gig broadband plan, because I'm using another seventy gig worth of
218 content. So I don't know who the winner is going to be. I think network operators
219 will definitely be part of evolving the services, but then there will be simply the
220 companies that have a good idea.

221

222 So do they go out to market themselves with their idea or do they partner with
223 someone to do that? It will be very interesting in ten years to see what it's like. I
224 mean Spark's turning into a, or Vodafone tried it with the Sky partnership years
225 ago. They tried to turn into a full service, content, because content is the where
226 we're going. I mean everyone's got mobile devices, everyone's got bandwidth,
227 you pick and choose. My friends ask me, in New Zealand, what Internet
228 provider should I go with?

229

230 And I'll go, I'll list the first five, they're all as bad or as good as each other. There
231 is no difference. But it's the what you can then do with that. So it's the content
232 that's the important...

233 Researcher

234 (unintelligible, 0:20:49.4) yeah.

235 NZINT10

236 I mean it's quite, it's probably, a hundred years ago we had books, printing
237 presses were steam powered and, it wasn't difficult to print books, but if they
238 were full of rubbish, people wouldn't actually buy them. So you had to work out
239 the good content to put in those books and they're the ones you printed and
240 then they're the ones that people bought, yep.

241 Researcher

242 So nothing has changed in that respect?

243 NZINT10

244 No, it's just the medium's changed and that's it, yeah.

245 Q10.Regulatory environment

246 NZINT10

247 Okay, so from what I know about the regulatory environment, most of it is
248 around accessibility and delivery. So for example, making sure that, the
249 Commerce Commissioner making sure that all mobile telcos have similar
250 bandwidth spectrum and things like that. I don't know how much regulation
251 there is around content.

252

253 I mean for example, why don't we have Netflix in New Zealand, why is it only
254 just coming now? Is that because Netflix didn't see a market in New Zealand, or
255 is that because there were regulatory bodies that stopped them coming in? And
256 I don't know what the answer to that is. So how they, so how the regulatory
257 bodies can be most supportive, I think, is enabling all of that to be accessible,
258 and then the consumers then decide what they want to use, which then
259 effectively picks the winners and losers.

260

261 So the consumers end up winning because they have access to everything and
262 then they say, "Okay, here is the model, here is the service that I'm going to use
263 because it goes back to meeting my needs, or because everyone is using it,
264 therefore I should jump on the, I want to jump on the same bandwagon."

265 Q11.Industry

266 NZINT10

267 What's most supportive is the cutthroat nature, because everyone's trying to
268 outdo each other. I mean we released the new mobile plans recently, and I'm
269 just, I'm waiting for Spark and Vodafone to follow, because they'll go, "Oh shit,
270 we can't be out priced by 2degrees." So we're constantly trying to better the
271 rivals.

272

273 So I think that supports the development and implementation of services,
274 because they're constantly trying to get better and better and better. No one's
275 resting on their laurels. When we had a monopoly and a duopoly, people rested
276 on their laurels. So the existence of the three players. And least supportive
277 would be what I know from insider knowledge, the difficulty of releasing new
278 products based on our internal systems, and I know the other two telcos are the
279 same, because it's the actual implementation of the technology has got barriers,
280 whether they be business barriers or technical barriers.

281 Researcher

282 That comment is really striking. I did the same series of interviews in a different
283 country (unintelligible, 0:24:31.0) Bulgaria, and that came out of my
284 respondents from the industry as one of the major reasons. So it's not different
285 there from here, and otherwise the countries are different, and many other
286 things are different.

287 NZINT10

288 But it's the actual...

289 Researcher

290 But apparently this is how telcos work.

291 NZINT10

292 And is that technology projects, is it technology limitations, I don't think there's
293 technology limitations, because I mean we've got so much tech out there. I think
294 it is, I honestly think it is business limitations. So whether it be, you've got to
295 jump through eighteen thousand hoops in order to get some money to pay a
296 developer who can then write the code, or...

297 Researcher

298 Yep, that's a business process development.

299 NZINT10

300 Yep, or is it because everyone's got different ideas and so you develop
301 eighteen versions of the one product, rather than just one version of the one
302 product, or is it a case of people only have a very conceptual idea and it's not
303 until we actually work through the technology side of it, they go, "Oh okay,
304 actually this is what I mean." And then so it takes you a little while to then say,
305 "Yes this is the idea I was trying to articulate."

306 Researcher

307 Yep that, I can see what you mean here. And it's the same, as you say, so
308 would you have any further comments to add to what you've discussed here?

309 NZINT10

310 I'm going to be fascinated to see what mobility's like say when my son finishes
311 school, because I just see the rate of change since I got my first mobile device
312 back in 1997, it's a little bit freaky. It's kind of, it's empowering because you go,
313 it just, there are some things, it just makes my life so much easier. But then the
314 other day I had my mobile phone stolen.

315 Researcher

316 Oh.

317 NZINT10

318 I know. I felt like my, a) my arm had been cut off, how can I communicate with
319 people? And you've suddenly got to go, okay, go back to old school, who's
320 phone numbers do I know in my head, has someone got another phone I can
321 use or a landline I can use?

322

323 Then there's the what data is on my mobile phone, am I more interested in
324 preserving my data and remotely wiping my phone, or finding the perpetrators
325 and catching them, and having to make that decision. Yeah. So it's, so when
326 I've got it and I'm using it, my mobile phone's fantastic. When I don't have it,
327 you just, life seems harder.

328

329

330

Q11. NZINT11 Interview transcript

Q1.Attraction

NZINT11

I believe the drivers of attractiveness for mobile apps are similar to other new or disruptive technologies. Those that replace a preexisting non-mobile or offline use case but save time or money. New use cases not available offline before that enable a richer life experience for the consumer, for example they can do something enjoyable that they have not done before. Many examples exist.

Researcher

Interesting examples exist yes.

NZINT11

Here's a selection of apps and mobile business services on my iPhone today: Email. By far and away the number one mobile app is the one with value is exclusively and strongly in time saving . Such as you can check your email in-between meetings or doing other things.

Mobile banking apps save time and money because access to info is more timely). Various Mobile banking apps as they save time and money). Facebook, Linkedin are a combination of time saving and a richer experience. Youtube, iTunes, Spotify, other media because of richer experience), Trademe and various other mobile-ified versions of web apps because they save time, casual games because of richer life experience.

Q2.Benefits

NZINT11

If I knew the use-cases specifically, I would be launching the product already!

Researcher

Yes...

NZINT11

But in general, I think the time-saving/money-saving categories of mobile apps that replace pre-existing offline or desktop use cases are running out. With the possible exception of two sectors which are digital laggards, such as government and healthcare.

So I would expect to see more government services becoming available online right now the only think I can do online with Auckland City council is pay for a parking fine or pay my rates. Similarly healthcare. With natural privacy concerns the only things I do on my mobile today are book a 15 minute appointment with my GP. That may save the GP time and money, but does nothing for me as the patient if I have to travel 30 minutes to see the GP, then wait 15 minutes, then travel 15 minutes back what a waste of time. Instead, we should expect to see GP appointments or short consulting sessions be delivered via a mobile video call .

For 5 minutes of my time and 5 minutes of the GP's time, perhaps with the integration of fitbit. About government who are traditionally in charge of roading

and other services I expect to see more around managing traffic , for example congestion pricing or discounts off car registration for driving off peak, where topark apps, realtime feedback on important issues , edemocracy.

Q3.Requirements and expectations

NZINT11

Yes, of course. Digital services, and particularly mobile services, are all about micro-segmentation. For example looking at media category there might be ekc TV shows produced for broadcast every year because that is how many broadcast dollars eks users there are.

But the number of movies mighty be more like 10 times or 100 times because of individual viewing and by continuing the analogy, there might be 100000 times more apps because each matches a particular customer profile better than the last. Additionally, the economics of app development unlike media are scalable – they benefit form re-usability and standards so that mobile app number 100000 will cost less to build than app 10000 and less than 100 and so on.

Researcher

Still requirements differ.

NZINT11

So overall the answer is strongly .Yes different requirements and expectations on the demand side, also fuelled by the capability to cater to those differences at lower and lower cost on the supply side.

Q4.Features

NZINT11

For the time-saving and money-saving mobile business services, their most valuable feature is simply being mobile. That may sound trivial, but is in fact massively important. Mobile enables people to use the in-between times while waiting for others, travelling, and so on.

This well exemplified by mobile email. It does everything that desktop email does, but because it is mobile the benefits grow to anytime, anywhere, low start-up time, not just software and system startup but cognitively, a lot less overhead to pick up your phone from your pocket and glance at your inbox rather than the desktop example which involves travel to desk, unlock computer, clear away any windows from last time, click inbox, etc.

Low processing time, a continuation of the above , mobile interfaces and use cases tend to encourage quick or simple responses and interactions.

Researcher

Is mobility support important?

NZINT11

For the more interesting enrichment services, the features become more specific to the use case and application. I will take an example , mobile media .

Some of the key features of my favourite streaming media subscription service are that it plays nice and integrates with my home audio, car audio, and so on

Q5.Pricing

NZINT11

Greatly. And sometimes free pricing is not enough. You may need to stimulate early adoption not just through give-aways but bundling with another in-use service or other incentives to try it out. Metcalfes law, value increases exponentially with number of users) and also Hall Varians characteristics of a digital good difficult for the user to value the good without actually consuming it. At the same time low incremental cost for the supplier to give the good away for free.

Q6.Attitude

NZINT11

A complex question and again, if I knew the answer precisely, I would be a rich man . I think adoption follows a model or curve. Many frameworks exist, I like those from christian , the Innovator's dilemma. During the early lifecycle of the product first adopters tend to be technical, niche, they are likely attracted to specs or functionality e.g. solving a very specific problem.

For example Hadoop solved specific problems in handling big unstructured data without investing in complex schemas upfront , that is what drove early adoption.

Researcher

Yes I am familiar with the theory

NZINT11

But in later stages when crossing the chasm the core features that drove early adoption may be taken for granted or even fall away. Trial during the growth stage is fuelled more by social factors such as word of mouth, e.g. my friends use uber so I might try it out. Adoption following trial is probably driven by did it do what I expected or did it do better than the alternative I might have used

Q7.Innovation

NZINT11

Yes, particularly the next generation richness of experience category of services now that the low-hanging fruits of do on your mobile what you did on your desktop are done. Innovation is difficult to codify almost by definition.

Some of the areas that are most important and most difficult for a developer to tackle are: focus on solving a big problem for a known customer , solve it quickly and elegantly, so that you can test the proof of concept with realworld adopters and refine from the top

Researcher

The difficulty is finding the right match of the first two perhaps...

NZINT11

Yes , too many mobile apps either try to solve many small problems at once with a cornucopia of features, or do not make a bold choice about their

customer segment . Something for everyone rather than the number one app for user eks.

Q8.Obstacles

NZINT11

As I already said the apps are not targeting the right customer with the right solution and it is not good enough. Almost all fall into the trap of getting stuck when they have some traction, but are unable to change and refine elegantly either their architecture is complex and stagnant, or their user base expectations are not managed to enable and support change. For example Facebook faces a global backlash whenever they change the colour of a widget on their main page.

Q9.Future

NZINT11

Although I work for a telco, I regret to answer that the future developers almost certainly not be telcos. I would love to be proven wrong but in general telcos lack the capabilities to develop innovative software, and the focus on small segments required to succeed in the model I outline above.

I do think the question of whether the future mobile business industry structure will be concentrated as it is today with apple, google, facebook or become more fragmented, for example think of many small apps each commanding a decent market share is important, and probably will be determined by the openness of technical standards and APIs.

Q10.Regulatory environment

NZINT11

New Zealands regulatory environment is quite restrictive for many industries, think electricity, health, etc but currently it is not too restrictive for apps. We do need to be very careful in balancing the need for consumers right to privacy with the ability for small developers to innovate without unduly high compliance costs.

Also, NZ needs to stay aligned to global developments in the area of identification and authentication, and tax and payments. These are two areas where some governments have made a poor design choice, and stifled innovation for their constituents by not enabling them to participate in global modalities.

Q11.Industry

NZINT11

As I mentioned before, I don't think mobile network operators have a big role to play in mobile service development. The network operators role should stop at the pipe, and possibly some value-added services provided alongside it such as user authentication, location, payments.

To the extent that you are asking about the mobile operator industry structure, I think we have extremely high mobile penetration, good coverage, and high speeds . We have adequate interconnection between NZ networks and to the global internet. We could do more to open APIs and interconnection for authentication, location and payments between carriers, between banks and carriers, between apps and carriers. And all should be subject to the privacy and global standards considerations.

Researcher

Could you expand on the topic of how industry players are involved?

NZINT11

If this question is asking about the mobile app ecosystem over and above the role of the carriers, I am less experienced in this area but would guess that New Zealand's small size means that while we have good local software companies we are likely to be a net importer of mobile services .

Hence the need to ensure our consumer market and local regulations facilitate easy import of services from overseas, while safeguarding the rights of New Zealand consumers and also helping local developers to export overseas.

Q12. NZINT12 Interview transcript

1 Q1. Attraction

2 Researcher

3 Yeah, exactly. In your opinion, which existing mobile services are most
4 attractive to customers and why are they attractive?

5 NZINT12

6 Okay, I suppose it's difficult to generalise about other customers, but certainly
7 my perception would be that it's got to be things where mobility's got some
8 particular meaning, and I think that can mean one or two things. So, one
9 example I think that's very good in terms of why it works as a mobile application
10 is Air New Zealand's mobile app. And the reason it's useful is that you are
11 literally moving, I mean you are going to be mobile.

12 So when it's telling you about traffic, when it's telling you about checking online,
13 when it's telling you to go to the gate, it's actually all about movement and I
14 think that's a good example.

15

16 So things that are better than doing it on the desktop are things where you
17 definitely are going to be moving. I think the other ones are much more general,
18 they tend to be just things where sometimes it's convenient to do it on a mobile,
19 sometimes it's convenient to do it on a desktop. I mean mobile banking would
20 be an example of that where sometimes you want to do it anywhere anytime,
21 and sometimes you don't.

22

23 So I think the most useful ones, so yeah, most attractive? I think most attractive
24 are ones that really leverage mobility in some way, as opposed to just be
25 occasionally convenient. So I think 90% of mobile apps are occasionally
26 convenient. Maybe 10% of mobile apps are really about moving. I mean Google
27 Maps on a mobile device would be another obvious example. So anything
28 where a movement is intrinsic I think is, are the ones are really attractive.

29 Q2. Benefits

30 NZINT12

31 Yeah, I think what drives mobile services is not necessarily the business use
32 case so much as what's now possible in terms of the devices and the
33 connectivity. So for example, yeah, we reached a point where devices became
34 very powerful, certainly in New Zealand, we were still at a point where data was
35 expensive, so people might not use things even though they could be done.

36 Now we're at the stage where data's kind of affordable, so we have the devices
37 and we have the data. So I think in terms of the business use cases, they tend
38 to be slowed down by other things.

39 So the use cases have been there for a long time. Like finding things on a map,
40 for example, we've been able to do for a long, long time, but it's only relatively
41 recently that people have had affordable devices and connectivity to do that.

42 So I think it's more about affordability rather than the fact that we can't imagine
43 what those use cases will be. I mean there's lots of things that we can imagine
44 being able to do.

45 The question is how practical and affordable are those things in practice. And I
 46 think that's kind of a slightly slower thing, thinking about, "Hey wouldn't that be a
 47 really good idea." I mean, I think business use cases have often run ahead of
 48 the technology and affordability.

49 I mean years ago I think British Airways was one of the first companies to have
 50 WAP interface, and they worked out that in order to find out your average sort of
 51 flight detail using the old WAP, it would take you about twenty-five connections
 52 and cost you a fortune in data.

53 So the use case was fine, but the support for it wasn't really there. So I think
 54 that tends to be the case that we've got plenty of ideas about business use
 55 case, but we have to kind of wait for the practicality of them to catch up.

56 Researcher

57 Yeah that's also quite interesting again, so it's not all the imagination, it has to
 58 be supported by the technology, which reasonably enough. I mean it has to be
 59 affordable I think.

60 NZINT12

61 Well you want enough people to be able to afford to do it. I think that's the
 62 trouble. Otherwise you can't get critical mass. If only a hundred people can
 63 afford to use it, there's no point.

64 Q3.Requirements and expectations

65 NZINT12

66 Yeah, I think that's actually one of the fundamental things about systems
 67 analysis is that there are always different roles. There are different actors. And I
 68 think that there's no reason why we should think that mobile services would be
 69 any different. So if you think about mobile services, they tend to be, they're
 70 services that tend to be consumer based, so that, in a sense, reduces the
 71 number of potential actors, in the sense that some systems you're looking
 72 about, you've got internal users, external users. That might still be the case with
 73 mobile systems, but perhaps on the other hand you're looking at like occasional
 74 users or people who use stuff all the time. So I think, yes it's very important to
 75 think about what your different personas might be with mobile apps, 'cause not
 76 all the customers are going to be the same. They won't have the same
 77 requirements and they won't have the same, if you like, well buy-in, I suppose,
 78 is another issue. To what extent are people committed to the application and
 79 how important it is to them? Is it something they use once in a blue moon, or
 80 something they use every day, all the time? Is it Facebook, or is it, I don't know,
 81 something that you use once a year like your tax.

82 Researcher

83 Well it does seem that in different countries there are different examples, but
 84 here in New Zealand, I think, on my perspective, the way I see it, the mobile
 85 apps are just targeting everybody who cares to use them without thinking about
 86 any differentiation. So it happens afterwards that it becomes clear that certain...

87 NZINT12

88 Yeah, I think that's probably true, yeah.

89 Q4.Features

90 NZINT12

91 Yeah, so I mean, if I'm looking at the ones I'm familiar with and what the most
92 valuable features are, I mean obviously...

93 Researcher

94 From a customer perspective...

95 NZINT12

96 Timeliness is really important. So going back to my example of the Air New
97 Zealand app, it's a completely useless application if it's not on time. So if it tells
98 you that you're boarding now, but actually you boarded ten minutes ago and
99 you've missed the plane, it's utterly useless.

100 So I mean I guess timeliness is really, really important. I think the other thing
101 that I've noticed about mobile apps from a banking perspective, is they're
102 actually easier to use than the desktop versions. They're probably less secure
103 as a result, but they're easier to use. So when you log into the mobile apps,
104 you're already halfway there. Whereas if you go on the desktop apps, they
105 make you sort of give you your mother's maiden name and (unintelligible,
106 0:08:20.8).

107 Researcher

108 Okay, well that's quite an interesting observation, because everybody talks
109 about the limitations of the mobile device compared to a desktop, now,
110 apparently designers have found a way, actually they make it an advantage
111 rather than...

112 NZINT12

113 Well it's interesting, isn't it, because I mean mobile banking is an example
114 where they've tried to make it very easy to do mobile banking so that it is easier
115 than doing it on the desktop. Now whether they've compromised security or not
116 is an interesting question, because nobody really knows about how many levels
117 of security are actually making any difference in banking.

118 Researcher

119 Well I guess they rely to an extent on the security of the data communication
120 channel itself, because mobile data is normally encrypted anyway.

121 NZINT12

122 Yeah, I think, I was thinking more along the line of what they make you type in.
123 So for example, if I want to go onto the web and look at my bank account, I
124 have to give three pieces of information. If I want to do it online, I only have to
125 give one. That's the difference. Now am I compromising my security? Possibly if
126 someone steals my phone.

127 Researcher

128 Yes, but that's the risk with all...

129 NZINT12

130 I'm much more likely to have my phone stolen than someone breaking into my
131 house and taking my computer.

132 Researcher

133 That's correct. 'Cause you simply lose it even, the phone.

134 NZINT12

135 Yeah, exactly, yeah. So it, I don't know whether it really is less secure, because
136 there's still a layer, right, they've still got to know my pin. But other things are
137 embedded in my phone.

138 Q5.Pricing

139 NZINT12

140 Yeah, well I think it's compulsory, isn't it, now. 'Cause nobody wants to pay for
141 anything anymore. I mean everybody assumes everything is free. You cannot
142 sell a new service, I don't think. I don't think it's possible now to sell a service. I
143 mean, actually I'm always mystified by the financial models of the industry these
144 days. I mean obviously there's advertising which has a decreasing return on it.

145 The other thing that people of course use is, this bit's free and you pay for the
146 next bit. Or the alternative is it's free up to a point and then you have to start
147 paying. And then of course the amount you pay is really, really sensitive. And I
148 think, WhatsApp for example have a pay model, but the amount you pay is very
149 tiny, so that's fine, but then you've got to have a massive user base in order to
150 make it worthwhile.

151 Researcher

152 Well but that's the, that's a free pricing model to attract a lot and then the
153 revenue is coming in small portions but is, the volume matters.

154 NZINT12

155 But for corporations, I mean it's just, they have to give it away, they don't have
156 any choice, it's like everything else. We know that IT's a commodity and has
157 been for years and there's an expectation that they will do the same thing and
158 they all end up back where they started.

159 So it's just a cost, it's not a benefit, but of course if they don't do it they're in
160 that competition problem where everybody else does it. So yeah, they have to
161 give it away. It costs them money, but it's a competition issue. I don't think you
162 can sell services, really.

163 Researcher

164 Yeah that's interesting thing. I'll just, aside from what you're talking about, it
165 appears that Freeview, which is a service, have dropped out of their, a set of
166 channels, quite a few valuable ones. So Freeview still exists as a free service,
167 but it's less valuable. So maybe a similar phenomenon will be observed later, I
168 assume that there will be a complementary service in which you pay. So we
169 pay.

170 NZINT12

171 I think, well I think the thing with Freeview is that of course it's financed entirely
172 by adverts and that's why there are so many bloody adverts in Freeview. But
173 the channels that have died have been the ones that people aren't interested in,
174 and therefore the advertising revenue can't be made.

175 So if you look at the ones that have disappeared, an uninteresting sports
176 channel that nobody was interested in. A couple of Chinese channels, well
177 there's plenty of Chinese channels. The good channels that run on Freeview,
178 like Prime for example, I don't think have any problem generating advertising
179 income.

180 Researcher

181 So I was thinking about the analogy with mobile apps, so that's a natural way of
182 calibrating them to...

183 NZINT12

184 Yeah, I think it will be political suicide for a government to not support Freeview
185 in some way. I mean if you tell a population that they have to pay for television
186 when they haven't paid for it, it's difficult. Of course, it's not a law that doesn't
187 work.

188 In the UK it's worked for years 'cause people have a TV licence, but it's always
189 been that way and they're, and also people know they get quality. They don't
190 have to watch terrible adverts and they get TV, they get radio and it's good stuff,
191 they don't get crap like we get in New Zealand.

192 Researcher

193 Yeah, but we don't have a licence, as you say.

194 NZINT12

195 But we don't have to pay for it, but of course we're paying for it through the
196 advertising. So you have to pay for it somehow. (laughter)

197 Researcher

198 That's what I was thinking about mobile services as well that they may repeat
199 the same sort of cycle and go from totally free to less valuable, free but less
200 valuable, starting with valuable and free, but then diluting.

201 NZINT12

202 Well I suppose it depends on the service, 'cause if you take banking for
203 example, I mean you're paying for it one way or another. Yes, you're not paying
204 directly for your mobile banking service, but one way or another they're making
205 money out of you.

206 If you take Air New Zealand, I mean that's all about customer retention isn't it,
207 they make money out of you already and they want to stop you going
208 somewhere else. And you pay more for an Air New Zealand ticket than anybody
209 else pretty much, so it's part of that premium, isn't it?

210 Researcher

211 So yeah, okay, there is nothing free, actually, yes.

212 NZINT12

213 Nothing is free, no. No that's true, nothing is free.

214 Q6.Attitude

215 NZINT12

216 Yeah, um, I think it's just the same, it's the same old TAM model, isn't it, really,
217 it's easy to use, usefulness, ease of use, all that, I suppose. People, I mean you
218 can't have a mobile app that's difficult to use, because there's so many and
219 there's so much competition.

220 But of course it's also got to be useful and helpful. I mean no one's going to
221 use an app that isn't helpful, 'cause we're talking here about, we're not talking
222 about entertainment, are we, we're talking about business services. So clearly
223 there has to be a useful business process that you engage in as a result and for
224 most of us there aren't many, are there?

225 I mean if you think about what kind of business services would we do on a
226 mobile? Well obviously we've got banking and we've got travel...

227 Researcher

228 Or ticketing.

229 NZINT12

230 Yeah, I suppose that's part of travel, I suppose, isn't it, really. Maybe you've
231 got...

232 Researcher

233 Different payment services which are now starting to become popular. Using
234 Mobile Wallet.

235 NZINT12

236 Oh yeah, yeah, that's true, yes it's not something that I've got the remotest
237 interest in, but yes I can see that that's another possibility that people might find
238 useful, yeah, yeah. I mean I've only just got a Paywave card which I didn't really
239 want.

240 Researcher

241 So you as a customer yourself are not (unintelligible, 0:16:00.0) (laughter) some
242 of them.

243 NZINT12

244 No, I mean I'm a bit of a luddite personally, in the sense that I don't, I'm always
245 behind the curve with things. I want to see whether it's worth bothering before I
246 get, do it. And I don't really see the point of Mobile Wallet. I mean I still use cash
247 a lot and I'm quite happy using cash. I'm not sure I see the point in waving my
248 phone about instead of paying in some other perfectly adequate way.

249 Researcher

250 Yeah. Okay, this is your personal opinion, so (laughter)...

251 NZINT12

252 (laughter) Yeah.

253 Researcher

254 It would matter if I was profiling my respondents as persons.

255 NZINT12

256 But in fact it's not relevant. (laughter)

257 Researcher

258 But, no, no, it, but it is an example still of differentiation between people.

259 NZINT12

260 Well I guess the point, to some extent, is that if you're offering a business
261 service that kind of replaces an alternative, you do have to convince people that
262 it's better. So in what way is waving my phone better than waving my card or
263 getting out my card and putting it in a machine or taking out some cash? That
264 there are always issues there, aren't there?

265 Q7.Innovation

266 NZINT12

267 I don't think they have to be innovative at all, actually. I think, 'cause if you think
268 about most business services, what you're talking about is, you've got lots of
269 companies that are in the same space and a lot of the time all they're doing is
270 equalling each other.

271 So they're not being innovative at all. What they're doing is they're saying,
272 "Okay, Bank A has a mobile solution that does X, we're Bank B so we better
273 have a mobile solution that does X." So I don't think innovation is necessarily
274 important when we're talking about business services. What we're, what's
275 probably more important than innovation is usefulness and usability for the
276 customers that you have.

277 'Cause a lot of it's not about attracting new customers, it's about retaining the
278 ones that you've got. So, I mean that doesn't mean that innovation isn't
279 important in certain places, 'cause clearly we never move forward if someone
280 doesn't innovate.

281 Researcher

282 Yeah, well somebody did invent mobile banking to start with.

283 NZINT12

284 Exactly, so someone's got to make that first start. So if we move on to the next
285 bit, on, so where there is innovation, aspects of development are important. I
286 think it's really difficult, because a lot of the success for mobile applications, I'm
287 not necessarily thinking business ones, but if you look at...

288 Researcher

289 Yeah, we can expand to, and just any application that are customer orientated.

290 NZINT12

291 Well if you think of things like Snapchat. I mean I would never have thought
292 Snapchat would take off if someone had explained it to me to start with. And
293 then it came out and I couldn't see the point of it, and then my kids insisted that
294 I did it and now I think it's great.

295 So I think, to some extent, innovation does require someone to just come up
296 with some insane idea and then we just suck it and see, because it's ever so
297 hard to anticipate the value of an application.

298 And again, like if you look at Flappy Birds, I mean who would have known that
299 that particular game would be so incredibly successful. Now I've been told it's
300 because you can use it with one hand on the New York Subway.

301 But we know, I think that, yeah, innovation does require someone to come up
302 with just ideas that might seem to be completely off the wall. I don't think you
303 get these ideas by talking to your customers and having focus groups and all
304 that kind of traditional stuff like you would normally for business apps.

305 I think these things can come out of just kind of real blue sky insanity and then
306 you never know whether it will work or not.

307 Researcher

308 So you're, there are two schools when you look into entrepreneurship and one
309 says that people are born entrepreneurs and you think that people are born
310 innovators, it will have to come, we cannot learn to be innovator.

311 NZINT12

312 Well I don't know. I...

313 Researcher

314 Some people are born, you know?

315 NZINT12

316 Some people are more imaginative than others, and clearly if you think about
317 the guys that came up with Snapchat, I mean they may have been drunk, I don't
318 know. It's kind of like, there's that movie, was it 'The Interns' where the, that
319 comedy, Will Ferrell and they go to Google and they, and they're sort of, they
320 have to come up with this app and they're just kind of basically recycling old
321 ideas.

322 But it is kind of interesting, because it's kind of, what's the difference between
323 just recycling what everybody else had done and finding that bizarre little niche
324 that suddenly captures the imagination of millions, it's a bit of a mystery. I'm not
325 sure you can actually analyse how people become entrepreneurs in that way.

326 Researcher

327 I don't know myself the answer.

328 NZINT12

329 If you look at Xero, what makes Xero successful?

330 Researcher

331 The reason I have this question actually in my questionnaire is that there is a
332 whole theory about innovativeness, and in many companies that head of
333 innovation, for example, title like that, so it means that it's something which
334 according to that corporation or business or company, it's something which
335 exists and it is manageable.

336 NZINT12

337 I mean IBM have been doing that for decades, haven't they? They're a
338 company that lives, well I guess for many reasons, but generating patents is like
339 something that IBM has been doing as a corporate process for many, many
340 years.

341 So clearly it's possible to manage innovation in that way. I just think that maybe
342 when you're, when we're talking specifically about like mobile apps, it's a much
343 weirder environment where maybe innovation is harder to do because, IBM can
344 innovate by generating a new, say, forward memory, which they've done many
345 times, because they know what it is they're trying to achieve.

346 When you're trying to come up with some new mobile app it's a lot fuzzier, isn't
347 it, in terms of success.

348 Q8.Obstacles

349 NZINT12

350 I think there's a lot of difficulties now, because you have to decide what
351 platforms you'll support and how you'll support them. So you might start with,
352 these days a lot of people are perhaps increasingly using HTML5 on the basis
353 that it's kind of widely supported. But an HTML5 app is only as good as a native
354 app for quite boring things.

355 So if you want to do something that's really interesting innovative, you probably
356 have to start thinking about well we should use something that generates
357 something more native. And then there's a sort of halfway house which is like
358 the *Rab* (0:23:41.5) tools where you code it using a programming language and
359 it spits out iOS, and it spits out Android, or you actually you have to hand build it
360 from scratch on a platform and of course it's, all of those three options are
361 perfectly valid, but you get different costs and benefits out of them.

362 So I think that's, it's difficult to make those decisions in some cases because it's
363 not like there's one way of doing it that's obviously better than the others.
364 There's lots of factors. The other thing I guess is that it's quite hard to test this
365 stuff. It's quite hard to, if you come up with a wonderfully innovative mobile app
366 that, for example, uses location, and you want to test it on Android. You can't
367 even test it on the emulator anymore, you have to do it on a device, and then
368 you have to fake your location.

369 And of course you can do all of these things, but none of it's, none of it really,
370 really tells you what it will actually be like when the customers are out there in
371 their millions trying to use the damn thing. So I think there are major challenges
372 to getting something of quality and reliability through the whole development
373 process, so that you know that when it arrives in the hands of the customers it's
374 actually going to work.

375 Q9.Future

376 NZINT12

377 I suspect that there'll be a lot more of this kind of disruptive model like Uber.
378 Like Uber is the classic example of you've got a system that's been around for
379 years and then suddenly someone comes up with a mobile app that is very
380 disruptive to that model. And of course there's lots and lots and lots of aspects
381 of the economy that have been carrying on in one way for a very long time and
382 then suddenly someone's going to come in with a mobile business app that
383 disrupts that specific market in some way. And I think given, well I was going to
384 say the success of Uber, but clearly they're facing a lot of issues, but given the
385 apparent success of that idea that you can come in and just completely disrupt
386 a particular market by using a mobile app I think that that's going to happen
387 more and more.

388 Q10.Regulatory environment

389 NZINT12

390 That's a really interesting question. My, I mean I'm not really an expert on the
391 regulatory environment, but what I sort of have sensed for a, I mean I've been
392 receiving, I've been a member of (unknown terminology, 0:27:00.8) or Massey's
393 a member of (unknown terminology, 0:27:02.6) for years.

394 And so I've been kind of following with interest the debates that have taken
395 place over the last ten years or so about the government's attitude towards
396 regulation of broadband, both fixed and wireless, and competition and
397 unbundling and all of those things.

398 So it's been really, really interesting and the impression I've got from that is that
399 the New Zealand regulatory environment has reluctantly been opening itself up
400 to enable things to happen. So I think it's become more supportive, but it's had
401 to do that because members of the industry or certain parts of the industry have

402 forced them to do that that they've gradually had, I mean with great resistance
403 from Telecom, for example.

404 So yeah, so I think it's gradually become more conducive to competition,
405 innovation and so on, but it's not been an easy process, and it's still an ongoing
406 issue, I think.

407 Q11.Industry

408 NZINT12

409 Oh Spark, yeah, of course, yeah.

410 Researcher

411 Yeah.

412 NZINT12

413 Mm.

414 Researcher

415 They are all with regards to services, the mobile services (unintelligible,
416 0:28:42.0).

417 NZINT12

418 Well I suppose it's fairly straightforward, isn't it, I mean you've still got what's left
419 of the incumbent and it's still the case that even though everything's been split
420 up, Chorus is still the rump of that centralised infrastructure ownership. So
421 they've always been the drag, if you like, on everybody else.

422 And then of course the other major players which these days would be
423 Vodafone, 2degrees, I suppose, in the mobile space, have been trying against
424 that to do more in the market. But of course it is a problem, because those other
425 players want to do that on the back of someone else's infrastructure. Someone
426 else has put all the money into building the physical infrastructure. They bung
427 up a few masts and sell a few phones and say, "Oh we want this full market."

428 And of course, you can see why those who've been involved in building up a
429 national government funded infrastructure for decades were not very happy
430 about doing that. But as we know, it's very clear that if you don't have
431 competition, you don't get the services, you don't get the prices.

432 But then eventually you do get to the point where everybody wants everything
433 for free and then the quality goes down because there's no investment.

434 So it's that classic sort of capitalist problem that you have, isn't it? To what,
435 what's the tipping point for regulation and quality and so on, and all of those
436 things that have to be managed to some extent? One of the things I was
437 reading about recently was about the level of intervention that's required for
438 successful broadband in a country.

439 And the general consensus is that what they call medium intervention is the
440 best model which is, the government has to take some responsibility, but it can't
441 control everything. And there's very few countries that have high intervention.
442 Norway and North Korea are a couple of examples.

443 There are a few that have low intervention like the US where it's all about big
444 companies making profits and their broadband's very poor as a result. But the
445 medium intervention model is something that New Zealand's moved towards.

446 So we've moved from a low intervention model where the government kind of
447 let their incumbent get on with it, to a more medium intervention model where
448 we've had forced unbundling and things like that. So I think that's been an
449 interesting process.

450 Researcher

451 So medium intervention is aiming at keeping some kind of a balance across...

452 NZINT12

453 Yeah, basically. You can't leave it to the market and you can't just have a thing
454 where the government tells you, you've got to have some kind of balance in
455 order to get things happening, but then that's kind of like, it's the old, it's the
456 same argument we've had about economies for hundreds of years, isn't it?

457 Researcher

458 No different in that respect.

459 NZINT12

460 Yeah.

461 Researcher

462 The only difference I can see perhaps is that mobile services are not something
463 that is vital, we can live without them. We've lived without them. So my question
464 is really, is what people want, what customers want, is that going to be a force
465 at all in that play between government and free competition and free markets, or
466 how much will customer demand, how much will that have a role?

467 NZINT12

468 It's an interesting question.

469 Researcher

470 In this particular case, because if it was for food, we know that people want to
471 eat, so that will be important.

472 NZINT12

473 Yeah, I mean most of the things that we want now we don't need. I mean lots of
474 things that we have we could live without. We could live without cars, for
475 example, but life would be much harder. We could live without mobile software
476 but actually we've got used to it now, so for example, we don't get lost as much
477 as we used to.

478 We don't wait around trying to meet someone who doesn't turn up like we used
479 to. Yes we could live without that, but actually we'd rather not, because we
480 might not need it but actually it does make our lives better in many ways, you
481 know what I mean?

482 Just, things that are convenient and helpful and efficient do improve our lives
483 even if it's only in a trivial way. As you say, where are we in Maslow's Hierarchy,
484 I've got no idea.

485 But somewhere along the line it helps us to self-actualise, I think, because we
486 don't waste time on ridiculous things that we used to waste time on like getting
487 lost or failing to meet someone, at that trivial level, we don't waste time waiting
488 for the bank to open or running out of cash at the weekend like we used to. And

489 all of those things, yeah we could live without them, but, you know, I'd rather
490 not.

491 Researcher

492 So it is a slightly different level of usefulness, not so much direct but something
493 which, as you say, makes our life better?

494 NZINT12

495 Yeah, well, I think, yeah we're past the point where we need stuff, so it's all
496 about life being more pleasurable, isn't it, at the end of the day. It's more
497 pleasurable to be able to do tedious things like banking very, very quickly and
498 conveniently. It's more pleasurable to be able to find a friend quickly. You know,
499 Tinder. (laughter) Not sure if that's pleasurable or not, but all of these things are
500 about, it's things that we want in our lives, we don't need them.

501

502

503

Q13. NZINT13 Interview transcript

1 Q1.Attraction
2 NZINT13
3 ...access to information [recording problem, no sound]
4 Researcher
5 Yeah, okay, sorry for that....
6 Q2.Benefits
7 NZINT13
8 If you think of mobile banking, it's really just a, at this point in time it's really just
9 a channel, it's just a way of accessing an account. The phone really doesn't
10 hold a lot of information on it, or hardly anything. So it's not, the value still isn't
11 on the phone necessarily, it's still held elsewhere.
12 Researcher
13 Yes and the customers need just to be aware of that, the risk is not too high for
14 them.
15 NZINT13
16 Yeah, it's not to say there's no risk there, but there's a lot of smart minds that
17 have thought about a lot of different ways of protecting it and making sure that
18 they're, the access to the accounts is safe.
19 Researcher
20 All the experience with online banking helps as well, because there is
21 knowledge about...
22 NZINT13
23 Yeah, there are some new challenges with mobile banking in that space, but a
24 lot of the principles still apply, or there's a lot of overlap between mobile banking
25 and Internet banking. [A definite benefit] would be the option of peer-to-peer
26 payment
27 Q3.Requirements and expectations
28
29 NZINT13
30 [customers are] using mobile services as persona, or business, globally and in
31 the region – need access to them.
32
33 One of the things that is specific to mobile application delivery, is instant
34 customer feedback. And so I think that's, it's very important and a very useful
35 tool in content or application providers being able to get response and
36 feedback to the services and the, that they've put out.
37
38 So not just the ratings, which are important, but also the comments that people
39 fill in. You, it's not something that you then have to go necessarily and spend,
40 have a research company and have that expense of trying to gather that

41 feedback. It's something that customers are willing to give freely based on their
42 unique experiences of your, of what you provided.

43 Researcher

44 This is really part of what current science is working on, where they're saying
45 that, okay, whoever does the service takes it to the customer, but the value
46 created is by all of them, customer co-creating value with the others, and that's
47 why we need to have them all in the picture.

48 NZINT13

49 And it's something that through the software development industry's learnt for
50 quite sometime and is one of the drivers for introducing things like the agile
51 software development methodology, is that feedback cycle and that feedback
52 loop is very important in terms of, and getting that feedback early is very
53 important in getting the quality application out.

54

55 The other thing that's probably happened in the mobile space recently, or we're
56 seeing is changing is that the aesthetics of the, and it's not just the content
57 that's provided, it's the way that the content is provided. So people would, if
58 something was provided and it was just, the content was accurate but the
59 website wasn't styled correctly or it wasn't aesthetically pleasing, people
60 wouldn't necessarily think too much of it, it's just the way it is.

61

62 And so, and customers of the mobile, if you're looking at a, if you're looking for
63 something, an application which is running on your mobile, or you're wanting it
64 to run on your iPad, we're finding customers are more and more looking for it to
65 be, it needs to be sharp, it needs to be pixel perfect, that user experience is
66 becoming very, very important to the ratings that we're getting back on the site
67 as well, and that ease of use.

68 Researcher

69 And this is because of the amount in the past, what you have already seen and
70 used as customers so that's how we want more.

71 NZINT13

72 Certainly, as you said, customers' expectations are changing.

73 Q4.Features

74

75 NZINT13

76 Services on location, an aspect of mobility [lack of sound]...also smart
77 technology but depends on age [lack of sound] . . . Yeah, I mean you, yeah
78 you, certainly people, familiarity with technology and being intimidated by it
79 would, some of the older generation would be intimidated by the newer
80 technology. It's like getting a new DVD player and having a ten-year-old come
81 round to program it so that it can look at the channels kind of is the, would be a,
82 would be something my parents would say.

83

84 That they always need a ten-year-old to come round and look at the, and help
85 them deal with the new technology, because it's not something that they've
86 grown up with, and they're not, they don't have a level of comfort in using it.

87 Researcher

88 Yeah, true, but can they learn, what do you think can make customers learn?

89 NZINT13

90 Yeah, absolutely, customers can learn, but I guess it's whether they have the
91 will to.

92 Q5.Pricing

93 NZINT13

94 Cost is factor...If they get pinged through the mobile operator for accessing that
95 service then...But it's interesting that one of the things that you see in say the
96 online market or the Internet market here is that you're charged a premium for
97 accessing international data as opposed to national data.

98

99 So maybe that's something that can be considered here in the mobile space in
100 terms of is it, is that model appropriate for the mobile network operators to
101 provide data in a similar sort of pricing scheme. But making it cost effective for
102 people to be able to use their mobiles abroad. I mean the thing is at the
103 moment, and it's, it drives culture and it drives, people find ways around the
104 regulation.

105

106 And so what you'll find, or what you find now is that if I, if someone was going
107 overseas, they just go and get a SIM card from the country that they're in and
108 sort of work around it. And ultimately the telecommunications providers here are
109 losing out, because they're not then providing that service at all.

110

111 Q6.Attitude

112 NZINT13

113 Certainly I think we are seeing that, is that they [customers], they are becoming
114 more demanding and because there's a number of, there's a number of service
115 providers providing similar services and it's very, it can be quite easy to switch.

116

117 And so having that polished user experience is a, having a pleasurable
118 experience for someone to use is a differentiator between someone choosing
119 their service over something which might be functionally quite similar but not as
120 well polished. Services need to be customer driven.

121 Q7.Innovation

122 NZINT13

123 I think as, if, it's like anything, adoption takes a little bit of time. New technology
124 takes people, even credit cards, for example, would have taken some time to
125 get used to. So it's really, some of the things it's just going, people will adopted
126 it, it's just getting that level of reassurance that it's safe and that their money
127 isn't being able to be accessed from, by other people, is very important.

- 128 Researcher
129 Okay, well if I go stand back and I just said how your company sits between the
130 banks and the technology, because you link to the providers. If we think about
131 other services, mobile payment in shops, payment, just payment, is it
132 comparable to mobile banking or is it still too early for it to happen?
133 Just pay for your goods from this one at the point of sale.
134 NZINT13
135 At the point of sale with your phone?
136 Researcher
137 Yeah.
138 NZINT13
139 I think we're very, very close to having that now. As, effectively, with a credit
140 card, the credit card really is, and your pin number, is something that just
141 identifies you and so that the, when the teller has some, knows who you are
142 and knows which account to charge the goods to.
143
144 And the mobile phone has come, is something which is personal and it's
145 certainly, I can see that it's not that far away that it will be used as your
146 identifier, so that someone can charge something against your account.
147 Researcher
148 Yeah, it hasn't happened (unintelligible, 0:04:48.2).
149 NZINT13
150 Yeah, I think we're very, very close to seeing that. I mean there's already
151 technology trials out in the market as well. I don't think it's...
152 Q8.Obstacles
153
154 NZINT13
155 I think that there's an awful lot of interest in this. Not just from within the banking
156 sector, but also technology companies. And it's a fairly, it's a fairly large pie and
157 to have a, to get a, there's a lot of companies that are looking to have a slice of
158 that.
159
160 And one of the things that we'll probably end up finding is that there's going to
161 be lots of different competing technologies which do similar things, and it could
162 take a little while for the best players, or maybe not necessarily the best, but
163 some larger players to grow, to get a level of adoption. It'll be like the VHS and
164 Betamax kind of thing, where you had lots of different technologies.
165 Researcher
166 Yes, good example, yeah.
167 NZINT13
168 And it'll take a while for a dominant player to emerge from that.

169 Q9.Future

170 Researcher

171 When you say technology companies, what kind of companies do you mean?
172 That links very well to my next question, which is number nine, in the future, I
173 was asking here what about the role of network operators, because it's not until,
174 yeah, in the past it was thought that they will be playing (unintelligible,
175 0:06:34.5) and maybe try to catch up and take advantage of technology which
176 they own to a significant extent, but it hasn't happened exactly like that.

177 NZINT13

178 No they've really kind of missed the boat there.

179 Researcher

180 Again, I would say. They missed the Internet.

181

182 (general laughter)

183 NZINT13

184 So yeah, effectively they're providing that service and that channel and, but
185 what's at the end of the channel is something which is more, it's more customer
186 driven. So I guess originally when you went to, you bought a phone, you bought
187 it off the phone, the telecom provider and that was it.

188

189 Now, although the telecom provider's providing your service, you might buy the
190 device from any store you like. And so the telecom providers aren't necessarily
191 in control over the devices which are using their network, and so the customer
192 now has a lot more choice over what they were going to use to...

193 Researcher

194 Yeah, well still even that doesn't explain why a bit more development was not
195 done by them initially, but that has happened.

196 NZINT13

197 It doesn't, yeah I mean, I think, I'm sure they tried. I guess it's...

198 Researcher

199 Tried to beat, yeah.

200 NZINT13

201 But a lot of it's, a lot of it again comes down to trust, who are you going to trust
202 with your money? Are you going to trust the bank who looks, who specialises in
203 looking after money, or are you going to trust a telecom provider?

204 Researcher

205 Okay, that may be a point. I wouldn't trust my... (laughter)

206 NZINT13

207 It's an opinion, but ultimately when you're dealing with funds you need to build
208 confidence that your funds are going to be well looked after and they're going to
209 be secure, because it's something which is valuable, it's important to you.

210 Q10.Regulatory environment

211 NZINT13

212 Well I guess, I'm not sure that I'm really qualified to answer the question, but...

213 Researcher

214 Well just your opinion.

215 NZINT13

216 Um, (pause). I think, one of the challenges, I guess, with mobile banking now is
217 that we're living in a global economy and people move around and travel a lot,
218 and they expect the same, they expect to do the same things abroad as in a
219 mobile channel as they would as if they were at home.

220

221 And telecom providers have a lot to answer for in sort of having, making that
222 prohibitive for people because of the expensive roaming charges. And you've,
223 what you've, I think what you've, what you've seen, especially in the European
224 markets now is that there's an EU cap on roaming charges now, to give, to sort
225 of be able to provide the platform so that people can use their mobile abroad,
226 with a premium but it's not cost prohibitive to use.

227

228 And although I think there probably has been some focus on that in New
229 Zealand, from New Zealand telecommunication providers. I think there's
230 probably a long way to go as well in terms of making that...

231 Researcher

232 We'll have to see.

233 NZINT13

234 It's not insignificant, no, you're absolutely right.

235 Researcher

236 And it doesn't seem to be going down.

237 NZINT13

238 Well I think, the difference between New Zealand and overseas is that there's
239 probably a lot more competition and it's a bigger market, and here, although we
240 have, we have limited competition and it's, and that's what's keeping the price
241 up.

242 Q11.Industry

243 Researcher

244 So if we look at it in a broader perspective, what do you, follows on what you
245 said for financial services but may be applicable to others, is that because
246 telecommunications providers, network operators (unintelligible, 0:08:46.1),
247 that's not their business to provide service of the other type, they need to
248 provide a service which is to access a network, and can they do that well or
249 whatever they do?

250 NZINT13

251 Well again it's not, there's a lot of competition in that market now as well. So it
252 used to be where there was, maybe where there was a sole network operator,
253 they don't have the dominance now that they used to have because there's a lot
254 of competition in the market for providing that service.

255 Researcher

256 And you said already that it is, that's not supportive really, but maybe there is
257 something which could be supportive? For example, you mentioned how banks
258 once upon a time came together and put the accounts coding in order so it can
259 be used across the banks. That was an initiative which everybody benefits from,
260 and they agreed to do it, but something, a similar example I cannot see here.

261 NZINT13

262 Yeah, ultimately, from a mobile banking perspective, the amount of information
263 that we have to transfer backwards and forwards between the phone and the
264 backend is still relatively limited, it's fairly small. With other types of mobile
265 services, they would have much higher demands for data.

266

267 And so the cost of getting their data to the phone is really going to help, going to
268 be one of those things which drives whether those services take off or not,
269 because if it's going to cost people a lot of money, even though the service itself
270 may be free or relatively cheap...

271 Q12.Further comments

272 NZINT13

273 I think in looking forward it's, we're probably just on the tip of the iceberg in
274 terms of some of the features and functionality that you, that we'll ultimately be
275 using. One of the key, I think, it's an area which rewards people for being
276 innovative, and with marketplaces like Google, like Google Play, or even though
277 the iPhone channels are more restrictive, they still provide an incentive for
278 people to go and provide, sorry, they still provide an incentive for people to write
279 applications for mobile.

280 Researcher

281 To think about something, yeah.

282 NZINT13

283 So if you think about it, in an online space, there's not a lot of reward or can, not
284 essentially a reward for developers for developing applications. And in the
285 mobile space, if you publish the right application and you get a lot of hits and a
286 lot of downloads, it can be quite rewarding. And so you've got a lot of, and it's
287 very, quite simple, it's quite simple to do these days.

288

289 And so you've got a lot of young minds, real sharp minds that are thinking about
290 how they can, how they want to work and how they want to do things. And if
291 they have a good idea for themselves, then it's like, it's not necessarily too hard
292 for them to deliver something which also has the benefits for other people.

293

294 And so I think we're seeing a lot of innovation in the mobile space, which is
295 driven by people's, the ease of publishing an application, because anyone can

296 do it. And so I think we're going to continue to see lots of innovation in the
297 mobile space because of it.

298 Researcher

299 It's customer driven actually in fact, because these people are customers. And
300 some of them happen to be able to write code too, so.

301 NZINT13

302 Yep, and if you want, if they, if you want something you can go and build it or
303 develop it and do it yourself. And also, one of the things that's another enabler
304 of that is that through public, rather than, it used to be that even in the Internet
305 space people would provide, they'd provide a website and then be able to just
306 access that business through the website.

307

308 What they're doing now is they might be providing an API or a set of web
309 services that you can use, and so rather than publishing the actual end product
310 on the site, they're publishing a facility or a service, and now people are finding
311 new and innovative ways of using those, tying those services together to form
312 some quite interesting and competitive products, yeah.

313 Researcher

314 Going to the mobile cloud computing. But this is really very new, I mean not so
315 much new, but not really explored well, so we can expect a lot...

316 NZINT13

317 I think we can expect a lot more and you'll see things, the landscape now
318 compared to twelve months ago is significantly different.

319

320

APPENDIX R. STUDY 2: INITIAL CODES

CATEGORY	CODE LABEL	CODE DESCRIPTION
CUSTOMER REQUIREMENTS	Service needs to be easy to use	The service needs to have a familiar interface, to be usable effortlessly, through a convenient and user-friendly interface
	Service needs to be meeting a need	Service needs to be meeting a real need; such a service is perceived as useful and therefore desirable
	Service needs to focus on customer mobility	Need for services with a focus on mobility
	Customers do not mix entertainment and serious business	Customers distrust entertainment if embodied in a serious service
	Service needs to be convenient	Services need to be convenient - available anytime/anyplace
	Service needs to match personal goals	Services matching personal and lifestyle requirements needed
CUSTOMER ATTITUDES	Customer market difficult	The customer market is perceived as difficult to penetrate
	Customers conservative	Customers generally 'traditionalists'
	Customers distrustful of innovation	Customers distrust innovation and new applications
	Customers distrustful of phones	Phones not trusted for serious work
	Customers prefer well known services	Customers prefer old routines
CUSTOMER DECISION MAKING	Decision influenced by comparison	Customers consider all options they have
	Decision influenced by cost	Customer attitude is influenced by service cost
	Decision influenced by cost - not	Cost is not an issue with customers
	Decision influenced by cost ongoing	Customer attitude is influenced by ongoing service cost
	Decision influenced by ease of use	Customer attitude is influenced by service ease of use
	Decision influenced by how much the service is needed	Customer attitude is influenced by the degree of need for the service
	Decision influenced by marketing	Customer attitude is influenced by the marketing campaign
	Decision influenced by service affordability	Customer attitude is influenced by the service affordability
	Decision influenced by service quality	Customer attitude is influenced by service quality
	Decision influenced by added value	Customers consider the service value to them
	Decision influenced by social norm	Customer attitude influenced by others' opinions
	Decision influenced by compatibility	Compatibility with other devices/platforms/OS
	Decision influenced by cost-effectiveness	Tradeoff between cost and value

CATEGORY	CODE LABEL	CODE DESCRIPTION
CUSTOMER EXPECTATIONS	Expectations for choice of services	Customers expect to have choice
	Service to surpass existing ones	Service needs to be better than existing ones and more convenient than existing ones
	Expectations about quality high	Customers expect data services to run not worse than voice services
	Expectations difficult to meet	Difficult to meet customer expectations
	Expectations for high service performance	Customers expect the service to have the quality they expect from the phone usage - always available, connection stable, low response time
	Expectations for appealing service design	Customers expect nice design
	Expectations for low service cost	Customers need lower prices
	Expectations for rich experience	Expectations for services that enrich and maximise customer experience
	Expectations for service value	Customers want service to have clear value
CUSTOMER SEGMENTATION	Expectations for support	Customers expect support
	Segmentation by specificity of requirements	Services matching the needs of a specific group of customers
	Segmentation by age - young customers	Young customers have a specific skill set profile
	Segmentation by age	Age as a factor determining requirements
	Segmentation by self-efficacy	Services need to match the customer level of technical knowledge as technological competence is a factor and customers cannot be assumed to be all technologically savvy
	Segmentation by socio-economic status	Similarly to voice services where customers are divided in socio economic groups this will play a role in mobile data services as well
	Segmentation by attitude to innovation	Segmentation by attitude to innovation
REGULATORY ENVIRONMENT	Segmentation is multidimensional	Different ways to form user groups
	Regulations exist that are also applicable	Many of the existing regulations also apply - communications, gambling, anti-racist propaganda
	No regulations	There is no need for additional regulations
	Regulation needed - some	Regulatory environment does not cover private personal data (including location) abuse
	Regulatory environment - lack of awareness	Lack of awareness of the regulatory environment
	Regulatory environment supportive	Regulatory environment supportive
	Regulatory environment moderately supportive	Regulatory environment not supportive

CATEGORY	CODE LABEL	CODE DESCRIPTION
	Regulatory environment changing	The regulatory environment is subject to constant change
SERVICE DEMAND GENERATOR	Free services attractive if modeled on successful paid	Free services attractive if modelled on successful paid ones
	Free trial increases popularity	Free trial increases popularity
	Need for entertainment services	Need for entertainment services
	Services that are attractive to customers	Service needs to provide motivation to be used by attracting the customer
	Current use by customers	Higher number of customers and type of use increase demand
SERVICE DEMAND INHIBITOR	Paid services less attractive	Paid services used less, less popular
	Services not useful	Service not useful
SERVICE MARKET	Service saturation	Customers have choice of similar mobile services
	Changing market	The market is dynamic
	Competition	Driven by competition
	Environment	An environment of niche markets
	Players	The roles of the market players need to change
SERVICE VALUE ADDER	Maintenance/support valued	Paid service valued as it offers maintenance and support
	Usability valued	Customers value usability
	Connection with other devices valued	Connection with other devices valued
	Free services valued	Free applications, trials are valued and used more
	Low cost services valued	Less costly services are more attractive
	Anytime/anywhere services valued	Customers value applications because of their availability any time/anywhere, e.g. Entertainment
	Services matching personal lifestyle valued	Services saving time, supporting everyday tasks, replacing the need to use a PC, and also supporting tasks that are not digitally supported otherwise
	Customer empowerment	Because of anytime/anywhere availability - flexibility, customer control plus support, quality of service and service level agreement
	User experience	Better experience increases customer satisfaction
	First on the market	First on the market
SERVICE VALUE DETRUCTOR	Low quality of service due to lack of operator support	Service quality low as the data network does not prioritise mobile data services
	High service cost due to high data cost	Operators overprice mobile data services and do not meet customer expectations
	Security fears	Security fears about compromising customer information including personal information

CATEGORY	CODE LABEL	CODE DESCRIPTION
	Free services not reliable	Free trial not attractive due to limited functionality/bad workmanship
	Service not meeting a need not valued	Services that are not meeting a need are perceived as not useful and fail to attract customers
	Services not different from existing ones	New services not too different from existing ones (for pcs)
SERVICE VIABLE	Successful models exist	Successfully used locally and elsewhere
	Service with some free functions may be successful	Hybrid approach free/paid may be successful
	Free services profitable if very popular	Popular free service may also be profitable
	Cheap applications already available	Existing mobile applications are cheap to download
	Attractive use scenarios exist	Attractive scenarios already identified such as paying bills, paying at vending machines
	Viability potential	Service potentially viable
SERVICE VIABLE NOT	High investment cost	Mobile data services have low ROI and the investment cost is high
	Loosing competitive advantage	Loosing to the competition because of the long internal and also complex external chain, and investment needs, technology barriers
	Narrow customer base	Customer segments based on specific needs are small, specific services are not suitable for the general market
	Operators a barrier to service	Operators acting against mobile data services, for example by keeping high MI access pricing; which they perceive as competing
	Lack of operator support for development	Mobile operators are not motivated to support, and do not support mobile data service development, are hostile to it
TECHNOLOGY LIMITATIONS	Limitations due to device design	Mobile devices have limitations (e.g., the display), are less powerful than a PC, and restrictive to development (e.g., innovative interface is needed)
	Technology not available yet	Technology not available yet (for new ideas)
	Technology limits architecture	Architecture for mobile service - limited ways to built
	Service needs to be technologically implementable	New ideas need to be implementable
TECHNOLOGY OPPORTUNITIES	Potential opportunities	New technologies such as smart phones have potential, not explored yet, will become more attractive to customers
	Opportunities offered by device design	Mobile phone always with customer and smaller than a PC
	Opportunities to distribute services	New technologies improve service distribution
	Opportunities to support customers	New technologies improve 'ease of customer support'
UNCERTAINTY	Lack of knowledge about customers	Customer market needs are not known and difficult to predict

CATEG ORY	CODE LABEL	CODE DESCRIPTION
NTY ABOUT CUSTO MERS	Customer motivation needed to stimulate development	Motivated customers needed
UNCER TAIN TY ABOUT MNOs	Uncertainty about MNOs	Uncertainty about the position of MNOs with respect to mobile business
UNCER TAIN- TY ABOUT TECHN OLO- GY	Uncertainty about technology	Uncertainty about the further development of mobile technology

APPENDIX S. STUDY 2: CODING REVIEW REPORT



Coding Review Report for Krassie Petrova

Reviewer: Dr Lyn Lavery, Director, Academic Consulting Ltd
Date: 23rd June, 2015

Before presenting the comments from my review, it should be noted that while I have expertise in the area of qualitative data analysis, the particular approach taken for this piece of work is not one I am familiar with. However, the data analysis section of the thesis was written up in more than enough depth to understand the analysis technique utilised, and I am very familiar with the majority of the authors cited in this section (e.g., Braun & Clarke, Miles & Huberman, Saldana, Bryman).

Also note that the comments below use the term 'node'. This is the technical term used by NVivo to describe the containers at which data is coded.

My observations from reviewing the NVivo project provided are as follows:

- There appeared to be a clear and logical progression between each phase of the coding process.
- For each of the folders containing coding (B2 – B6) a random 10% of the nodes were opened, and the text checked as to whether it was appropriate for the theme at which it was coded. In nearly all cases, there was a clear match between the text and the theme it related to. In a small proportion of instances the match was less clear, however as the reviewer was reading the text out of context (i.e. coding removes the text from the interview it occurs in), it was felt that there was not enough of a discrepancy to be of concern.
- Descriptions were not always included for the nodes in some of the later coding folders. I believe that where descriptions were missing these were in fact included in the earlier iterations of the coding. However, given the complex nature of this coding it may have been better to ensure that these were included in all folders.

APPENDIX T. STUDY 2: CODES-S2 (STAGE 1)

Category name and code label ⁶	Description
Customer attitudes S2 Final	Summary of topics: Customers are perceived as both (i) Conservative, and (ii) Interested in innovation if it matches their requirements and meets their expectations.
Conservative	Customers tend to be conservative in the way they use new technology and somewhat distrustful of innovation
Interested	Customers are interested in new services; like these existing ones that suit their needs such as mobile banking and services that offer connectivity with others.
Customer decision making S2 Final	Summary of topics: The factors playing a role when a customer decides to try and/or use a service include: (i) how much value the service provides for the money paid, and how much the service is needed; (ii) Is the customer aware of the service, is it recommended, and provided by a trustworthy provider, is it safe to use; (iii) is the service affordable; (iv) is the service of the expected high quality to be worth the money paid
Added value as a factor	Customers adopt (and pay for) services perceived as providing a benefit ("value for money")
Affordability as a factor	Customers adopt services they can afford to buy (subscribe to) and/or use
Awareness as a factor	Customers adopt services they have some knowledge or understanding about, the challenge is to have them try a service for the first time.
Choice as a factor	Customers have options when making a decision to use a service.
Ease of use as a factor	Customers adopt services that are easy to use
Need for service as a factor	Customers adopt services that meet a need they have become aware of.
Privacy as a factor	Customers adopt services they perceive as safe to use (protecting their personal information)
Quality as a factor	Services adopt and pay for services perceived as performing at a high service quality level (available, reliable, fast, fully functional)

⁶ Category names and descriptions shown in **bold**. Nested code labels in *italics*. Nested codes labels are self describing.

Category name and code label ⁶	Description
Social norm as a factor	Customers adopt services recommended and/or used by friends and/or by members of their extended social circles
Trust as a factor	Customers adopt services perceived as trustworthy (recommended by a trustworthy recommender; provided by a trustworthy provider)
Customer expectations S2 Final	Summary of topics: Customers expect services to : (i) Bring clear value, (ii) Provide an enjoyable experience, (iii) Perform at very high standard, (iv) Be of higher quality compared to services offered via alternative channels
Rich experience	Customers expect and prefer services designed to provide pleasant and enriching experience
Service choice	Customers prefer to have choice of service channel and of service provider
Service quality	Customers expect high service performance in terms of speed, reliability, and always/anywhere availability. Even more so as services become more part of every day life.
Service superiority	Customers expect services to surpass existing non-mobile alternatives
Service value	Customers expect services to bring real and measurable value not just features (to conceptualise innovation in an efficient service)
Customer input S2 Final	Summary of topics: Customers are perceived as (i) Source of valuable feedback, (ii) Drivers of service development, (iii) Service co-creators empowered by the technology
Co-creators	Customers empowered to develop and deliver content and become service co-creators facilitated by technology
Drivers	New service development is driven by perceived customer demand as providers use technology opportunities to meet customer requirements, expectations, preferences
Feedback	Service providers value and rely on customer feedback that is facilitated by technology
Customer requirements S2 Final	Summary of topics: Customers require services that are: (i) needed and convenient; (ii) easy to use; (iii) supporting their everyday life, and/or their mobile lifestyle
Convenient services	Customer requires services that are convenient to use and make life easier
Easy to use services	Customers require services that are easy to use
Lifestyle supporting services	Customers require services that meet their personal goals and suit their lifestyle
Mobility supporting services	Customers require services that support mobility

Category name and code label ⁶	Description
Needed services	Customers require services that meet their needs (helpful, rather than just useful)
Customer segmentation S2 Final	Summary of topics: Multidimensional segmentation resulting in microsegments. Main segmentation factors are (i) demographics , (ii) specificity of requirements, (iii) socio economic status.
Demographics	Age influences requirements and expectations; providers perceive differences between younger and older customers. Gender is not very pronounced as a segmenting factor
Micro segmentation	As a result of main factor interplay the resulting segments are relatively small (niche?)
Requirement specific	Specific requirements related to: (i) personal characteristics (socio economic and demographic) which means that services need to be developed with different personas in mind, even for the same service such as banking; (ii) Occupation; (iii) Personal preferences based on earlier experience
Socio-economic status	Status has a two fold influence: (i) mostly different status leads to different service needs; (ii) status may determine level of access to any service (but this is not too relevant to New Zealand)
Regulatory environment S2 Final	Summary of topics: (i) Accessibility - while aimed first of all at giving customers choice and options regulations are seen as affecting negatively large MNOs and infrastructure owners; this may lead to a negative impact overall on the industry (lack of incentives to invest, capital decrease); (ii) Customer protection - regulations needed, need to be aligned with global trends, without heavy compliance costs locally; (iii) Regulations needed to support service import.
Broadband	Regulations (bandwidth) aim to provide best deal for customers
Content	The New Zealand regulatory environment is not restrictive for content development
High compliance costs	Small developers may have high compliance costs (with customer privacy rights)
International	Regulations need to facilitate import of services and global providers setting camp here
Roaming	Regulations need to facilitate affordable access to local services through roaming
ROI and income	Large MNOs affected negatively in terms of return on investment and income

Category name and code label ⁶	Description
Security	Regulations (security and privacy) aim to protect customers and customer rights
Service importer	It is likely that in the future NZ customers will use imported services
Service demand generator S2 Final	<p>Summary of topics: Possible demand generators are: (i) mobile phone penetration, (ii) entertainment needs. To prosper services need (iii) encouraging environment, (iv) appropriate pricing models (free trials)</p>
Current use by customers	Important to reach a critical mass - need for marketing and/or other ways to increase customer awareness,
Entertainment	There is a confirmed need for entertainment services
Environment encouraging	Service use can be encouraged by creating a conducive environment: e.g., affordable use of phones overseas, free wireless zones in rural communities, service co-participants ready (e.g., merchants)
Free trial increases popularity	Free services are a way to attract more customers and create the critical mass needed before collecting revenue
Mobile device penetration	Mobile device ownership has reached extremely high levels and may become a service driver as people want to use their devices
Service demand inhibitor S2 Final	<p>Summary of topics: Possible service demand inhibitors are (i) services not seen as useful and/or meeting a need, not continuing to meet the need; (ii) not seen as safe to use as safe to use</p>
Not right	To be tried and later adopted services need to be seen at least as useful, or better - meeting an identified need, with a cost trade off
Security fears	A primary factor stopping customers from adopting a service - fear about how safe is the service to use (i.e., using it will not cause harm to the customer)
Stagnant	Services that do not change "well" to meet changing customer requirements are not going to be used.
Service value adder S2 Final	<p>Summary of topics: (i) Lifestyle oriented; (ii) simple, seamless, integrated; (iii) offered at no cost ; (iv) use the unique features of mobile technology</p>
No cost	Free services meet customer expectations to be provided some services for free - ate least for services that are part of a larger , not-for-free service system such as mobile banking

Category name and code label ⁶	Description
Simplicity	Most attractive to customers are services that are simple to use and perform their functions seamlessly
Supporting lifestyle	Lifestyle supporting services save time and money, enable communication and staying connected (a new need?), enhance experience, "embed" easily in everyday life; Support also business/work and personal lifestyle as the boundaries between time spent working and not-working start blurring
Uniqueness	Services that cannot be performed using a non mobile device such as authentication through GPS/data network
Service value detractor S2 Final	Summary of topics: (i) Free services may not be attractive to cautious customers who perceive them as less valuable compared to paid ones, and also hidden cost laden; (ii) data network service quality/cost makes using services not attractive
Data network	Data network services provided by MNOs both inadequate, and costly.
Free - caution	Free services regarded with caution because of perceptions about hidden cost, inadequate quality, lack of value
Service viable S2 Final	Summary of topics: Service viability is affected by (i) Developing a significant customer base; (ii) Offering incentives to customers including merchants adopting mobile payment; (iii) Pricing services to be affordable and aligning them with market segments.
Customer base	As applications are cheap there is a need for a large customer base in order to make some profit
Incentives needed	Bundling and other incentives to motivate customers
Mobile payment	Mobile payment enables adoption of other mobile services
Priced	Service viability depends on the pricing model and the trade-off offered to customers.
Responsive	Services and applications need to be aligned with market segments
Rewarding	Mobile application development is relatively cheap and also scalable and therefore cost effective
Service not viable S2 Final	Summary of topics: (i) Inadequate business model , in a way the mobile channel is not yet well understood ; (ii) Technology moving faster than businesses can cope with; (iii)

Category name and code label ⁶	Description
Business model	Businesses develop their models too slow while innovative applications and services that disrupt the market or develop unrealistic models
Dynamic technology development	Technology is moving forward at a very fast pace and the future is not easily seen especially by small players
Free services get abused	Free services exhaust resources and inhibit investment, which affects quality negatively
Mobile not understood	The potential of and the opportunities offered by the mobile channel are not yet fully understood
1Technology limitations S2 Final	Summary of topics: Identified limitations include (i) inherent device limitations, (ii) application layer protocol (HTTP) limitations, (iii) backhaul limitations
Backhaul	Date network infrastructure may not be adequate, expanding but may be slow
Device	Mobile devices still have inherent limitations (screen size, OS)
Web protocol	The fats transition to the mobile Internet meant using the existing Web but HTTP is inherently slow for mobile devices
Technology opportunities S2 Final	Summary of topics: (i) current and future functionality including GPS, NFS, camera, other specific capabilities; (ii) advanced application development environment
Develop and customise	It is now easier to develop and customise applications
Location detection and tracking	Geo positioning as a built in capability supports various LBS
NFC	NFS already used for payment
Overtaking functions	of other devices and media
Specific capabilities	Current and future mobile devices - with in built capabilities to support new services
Uncertainty S2 Final	Summary of topics: Perceptions of uncertainty about: (i) innovation in services/technology, and (ii) customer preferences; (iii) Changing role of MNOs
Difficult to predict	Uncertainty about changing customer preferences and needs makes customer behaviour difficult to predict
Innovation	Innovative development is on a "test" it basis, no clear roadmap; not all consider it needed (in other codes - it is not more important than need for services)
MNOs	MNOs may be limited to a data carrier role only; or may become retailers rather than stand alone network operators

Category name and code label ⁶	Description
Service development and provision S2 Final	Summary of topics: (i) The main players have different attitudes towards customers and to service development; some synergies exist but more are possible; (ii) Innovation in services not straightforward any more, emerging economies next easy to reach market
MNOs vs services	MNOs not particularly supportive to application and service developers and perceive them as a threat
Open source	Massive open source development is the future not top players such as telcos and device vendors
Incentives	Device and platform vendors provide incentives for developing apps/services for their platforms
Different perspectives	Service providers not attentive to customer expectations and needs and have different perspectives on how services need to be provided
MNOs need to invest	In order to benefit from service us MNOs will need to develop further their data services in order to support data intensive mobile services
Cheap smart phones	Cheap smart phones use through services and apps benefits MNOs
MNOs vs customers	MNOs not interested in customers once they have them
Platform fragmentation	Platform fragmentation is an impediment to service provision
Customer oriented	The two big device platform vendors are strongly customer oriented
Innovate	Service developers are looking for new market opportunities
<i>Emerging economies are attractive as a market for new services</i>	
<i>Innovative services are needed for emerging markets, targeting specific market characteristics</i>	
<i>Apps are a type of service</i>	
Work with MNOs	MNOs can become partners in service development
<i>MNOs have a role as co-funders of service and application development</i>	

Category name and code label ⁶	Description
<i>MNOs interested in partnerships recognising the importance of services</i>	
Competition S2 Final	Summary of topics: (i) Strongest competition is amongst MNOs; (ii) To a lesser degree amongst service providers (have many opportunities), and device vendors (have established a global "near duopoly"); (iii) some competition between device vendors and banks, between MNOs and (static) wireless network providers
Between WiFi providers and MNOs	Wi Fi providers a threat as customers may switch to their networks
Between device vendors and banks	The big two device providers may want to become banks
Amongst device vendors	Device vendors are competing to establish their own technology and lock in service developers, providers and customers
<i>Competition to establish vendor's platform to lock in customers</i>	
<i>Device vendors have different platforms - strong platform fragmentation</i>	
<i>Competition to establish vendor technology for popular services</i>	
Amongst MNOs	MNOs are competing to stay relevant on the market and to ensure profit to shareholders
<i>Old players lose on investment while new players do not invest in infrastructure</i>	
<i>ROI eroded due to changes in the roles of the players</i>	
<i>Customers chose device rather than network provider and MNOs have to consider all choices customers make</i>	
<i>14 Service developers and providers push MNOs down to a carrier role</i>	
<i>Operators face the challenge to be stay relevant</i>	

Category name and code label ⁶	Description
<i>Competition to retain a position is cutthroat</i>	
<i>Competition is limited as country size cannot allow for too many operators</i>	
<i>Amongst service developers cum service providers</i>	Service developers/ providers compete to provide an identified valuable service; the app and service market is difficult to compete in.
<i>To be successful you need to be the first on the market</i>	
<i>Want to provide the same, most needed or most valuable service</i>	
<i>The challenge is to reach the customer</i>	
<i>Mobile needs fastest growing</i>	
<i>Service developers and providers have different perspectives on how to develop successful services</i>	
<i>Service gamification as an attempt to attract customers</i>	
Controlling influences S2 Final	Summary of topics: (i) MNOs control pricing, have opportunities to play new roles; (ii) Device vendors rule the market as their product drives it; want to keep apps and service development to themselves as service demand drives in turn smart phone adoption
Data plans	To ensure revenue MNOs control prices through bundling (plans)
Secondary channel	Mobile banking is more like a secondary channel rather than a truly innovative service
Banks slow	Customers expect service providers to respond quickly but banks are not used to it
Control device vendors	Device vendors in a very strong position as smart phones are driving the service market
<i>Smart phone benefits can be made visible through applications and services only</i>	
<i>Smart phones are the market drivers</i>	

Category name and code label ⁶	Description
<i>Device and platform vendors limit the ability of other parties to control how the device operates and protect their own apps</i>	
Future MNOs	In addition to being data carriers MNOs can play a role as service developers (or may not) and provide enabling services
<i>MNOs will continue as data carriers</i>	
<i>MNOs can provide authentication services</i>	
<i>MNOs can provide payment services</i>	

APPENDIX U. STUDY 2: CODED DATA-S2 ORGANISED BY EMERGING THEME (STAGE 2)

- U1. Emerging theme data: “Customer role”, “Customer segmentation”, “MNOs under pressure”, “Regulation mix”, “Active Vendors”**
- U2. Emerging theme data: “Future MNOs”, “Motivating customers”, “Simple to use”, “Services”, “Services difficult”**
- U3. Emerging theme data: “Awareness”, “Mobile lifestyle”, “Unique mobile services”, “Rich experience”, “Service benefits”**
- U4. Emerging theme data: “Free vs paid”, “Innovativeness”, “Performance quality”**

U1 Emerging Theme Data: “Customer role”, “Customer segmentation”, “MNOs under pressure”, “Regulation mix”, “Active Vendors”

12/09/2015 15:10

Coding Summary By Node

dataround2

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
Node				
Nodes\\3. THEMES\\A. Emerging themes\\Theme Customer role				
Yes	Document	0.1249	10	
<hr/>				
1 Well I have in my position of Developer of Mobile Application an interesting perspective on this because we have a port-folio of mobile applications all of which we can monitor the down-loaded usage of. And far and away the most popular application which we are working on is a music player.				
<hr/>				
2 So it is an entertainment software that has received I believe at this point somewhere 100,000 downloads as compared to our perhaps next most popular software (real estate) which has only a few thousand and it tapers off pretty quickly after that to niche markets and corporate uses.				
<hr/>				
3 We have a real stage up which has a few hundred downloads and some other personal utility as a tool which only has a few hundreds of downloads, so it is three bits of magnitude difference between these entertainment applications and similar business applications in terms of numbers of potential users. So if you're talking about who has mobile phones now and what they are going to use those smart mobile phones for well some of the first things they are going to use them for – games, movies entertainment service.				

4

. And meanwhile we are being entertained by all of our favourite artists.

There are subscriptions plans like Spotify that has been launched in the USA and the application I worked on commercially is a digital music player that is expected to launch a subscription service, would give you 17 million music tracks to take your pick. You can listen to any one at any time with a full search capability, so you can always find that particular song that you'd like to hear and have it immediately screened onto your mobile device and there off you go.

5

If I could put that one in one word, I would say "trust". I think so much of this technology is new that people want to get involved in something they know has some kind of reputation in the

6

But then it becomes a question of people being frightened by some of this technology

7

I think the early adopters would have been just as happy to pay \$1000.00 and \$200.00 for that latest gadget.

8

I think there is in fact an inherited resistance to change and mobile does in fact cause a lot of things to change. And so you will see people - perfectly reasonable, educated, intelligent people having a resistance to the idea of that they would check their email from a mobile device because a mobile device.

Reports\\Coding Summary By Node Report

Page 1 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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9

I am calling it a device because I know that there are phones and tablets and a variety of things that can be moved around. But for a lot of people they're still thinking of it just in terms of a phone and so you don't check your email on a phone you make phone calls on a phone

10

And so there are these the less technological segment of the population who are still reluctant to take advantage of the fact that their Smart phone can actually run applications.

Internals\\STUDY2DATA\\NZInt10

Yes	0.0093	2
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1

For the younger generation, I have no idea. (laughter)

2

Yep. As a pure entertainment, if I look, if I observed what my son does on a mobile device, it's pure entertainment.

Internals\\STUDY2DATA\\NZInt11

Yes	0.0153	2
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1

If I knew the use-cases specifically, I would be launching the product already!

2

A complex question and again, if I knew the answer precisely, I would be a rich man

Internals\\STUDY2DATA\\NZInt12

Yes	0.0212	2
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1

So I think that's, it's difficult to make those decisions in some cases because it's not like there's one way of doing it that's obviously better than the others. There's lots of factors.

2

And of course you can do all of these things, but none of it's, none of it really, really tells you what it will actually be like when the customers are out there in their millions trying to use the damn thing. So I think there are major challenges to getting something of quality and reliability through the whole development process, so that you know that when it arrives in the hands of the customers it's actually going to work.

[Internals\\STUDY2DATA\\NZInt13](#)

Yes	0.1047	9
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1

One of the things that is specific to mobile application delivery, is instant customer feedback. And so I think that's, it's very important and a very useful tool in content or application providers being able to get response and feedback to the services and the, that they've put out

Reports\\Coding Summary By Node Report Page 2 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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2

So not just the ratings, which are important, but also the comments that people fill in. You, it's not something that you then have to go necessarily and spend, have a research company and have that expense of trying to gather that feedback. It's something that customers are willing to give freely based on their unique experiences of your, of what you provided.

3

And it's something that through the software development industry's learnt for quite sometime and is one of the drivers for introducing things like the agile software development methodology, is that feedback cycle and that feedback loop is very important in terms of, and getting that feedback early is very important in getting the quality application out.

4

customers' expectations are changing.

5

Services need to be customer driven.

6

And so you've got a lot of young minds, real sharp minds that are thinking about how they can, how they want to work and how they want to do things. And if they have a good idea for themselves, then it's like, it's not necessarily too hard for them to deliver something which also has the benefits for other people

7

And so I think we're seeing a lot of innovation in the mobile space, which is driven by people's, the ease of publishing an application, because anyone can do it. And so I think we're going to continue to see lots of innovation in the mobile space because of it.

8

customers.

9

, if they, if you want something you can go and build it or develop it and do it yourself

Internals\\STUDY2DATA\\NZInt2

Yes	0.0543	13
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1

the initial attraction is because it's new and that is what starts them.

2

That's one of the things that we're trying to achieve with our platform in a small way, break the fragmentation problem up and also encapsulate that whole process of writing software in a much simpler space so that people can write content and not have to be application developers.

3

Currently you've got the situation where if you want to develop content you put it on a web page and people access it from the web. If you're developing application, then you're at a much more sophisticated level. What we want to do is try and bridge those two because we think that content should be monetized in the same way applications are

4

Yeah, it's trying to figure out who your customer is, yeah. What we find challenging is that in emerging markets like India, we don't have the natural culture and understanding of what makes those people tick.

Reports\\Coding Summary By Node Report

Page 3 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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5

What's important to you? What do you want to see?

6

we'll probably learn as we go, as we learn about our channel, what makes it interesting for them and we'll have to just run with things that work for them. Like one of the things we're discovering is we need to put a lot of our text in Hindi, not in English.

7

what you said previously about people being generally attracted by something new. So that would be true across everybody? If it's new, it will be attractive ...

NZINT2

Not necessarily. I think the young people would probably ... like I don't have a Facebook account. I really don't like it. In no way does that make me not take it seriously as a channel.

8

Yeah. How I don't know really.

9

Trying to get that feedback is quite hard on a mobile phone because people don't want to give you their phone number and it's very hard to get someone to enter stuff in using a keypad and to break their usage of it to give you feedback is very hard.

10

data about usage

11

We can actually see but it still doesn't tell you everything you need to know about a particular service, like what don't they like about it, how could it be improved and all those soft questions. It's very hard to get people to answer that. We've got another company in India that we use for testing.

They're on the ground and they can give us some feedback but they're not necessarily from our segment. They're all programmers and a totally different cast that they have there.

12

it was useful in that it helps us to target. They didn't come back but a lot of it is just trying to figure out what they want and if you get right then the numbers go up and the stats go up

13

and you get two kinds of aps really – network centric aps and you get stand-alone aps.

Network centric ones, like if you look to say a Facebook app – there's a big trend there where people are moving away from web based presentation into app based presentation so they can really get exactly the look they want, that becomes generally a network centric application as it hooks across the network and connects for the data

Internals\\STUDY2DATA\\NZInt3

Yes	0.0504	5
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1

The technology and applications are almost resented to some point by some people.

2

It's a personal example but even people like my mother, I remember sitting around when I was down in Christchurch last time and my brother and I and my father were all on our phones around the dinner table and she said "what's the world coming to?"

We should be having a conversation.

Reports\\Coding Summary By Node Report

Page 4 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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3

clunky. I've actually provided some feedback on Facebook BNZ. When they asked for feedback on the application, I provided that via social media by Facebook, that I thought it was poor and these are the reasons I thought it was poor. I was giving the application provider feedback specifically.

4

mobile payment

5

it's got massive potential and the way I've seen it working overseas is fantastic. We're still not there yet. I even noticed in the Rugby World Cup that Mastercard have got automatic payment on. I just think adoption wise we've got a wee way to go and New Zealanders aren't used to it yet.

Internals\\STUDY2DATA\\NZInt4

Yes	0.0316	4
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1

I don't know, it's limited to imagination isn't it? I mean I think it's, what's the limit to human imagination? I don't think there is a limit and anything that we can think of we can actually do and delivery with the computing capability we have today

2

New benefits, new use cases? If I could think of those I'd probably be a rich person.

3

the older generation tend to use the device as they traditionally use it, it's a phone

4

I think we have, I think with the availability of information it allows us to respond much faster, so it allows us to respond to our customers much faster. Our customers know that this technology is available, so our customers demand that we respond much faster.

[Internals\\STUDY2DATA\\NZint5](#)

Yes	0.0249	2
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1

Well Angry Bird there's a lot of people paying for Angry Bird now more and more because we want to play different levels because we've completed all the levels. Another application I know is used by, I think they had an increase of 50% last year of the membership, (intelligible, 0:26:39.5).

2

I think it's, well first of all mainstream habits, the way the, how can I say this? It's mass behaviour okay, so sometimes a few things have been invented twenty years too early and they were not very well received or understood by the public or customers. So we say it's mass psychology or it's human factor, the main obstacle is the human mind but it will change

[Internals\\STUDY2DATA\\NZInt6](#)

Yes	0.1142	13
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1

Today mobile market is driven by consumerism not so much by business.

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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2

, a lot of what we do is born from consumer pressure in the market, even for the businesses.

3

, but my team, there's another group which is retail clients, they deal retail business to clients like yourselves, or individual users, right, or to my children or to your children and whatever else. But you are the ones who are actually driving the need for even business client, "This is what I want in my business service."

4

If you take it now the traditional customer groups are still looking at voice and data as the two basic requirements of a mobile requirement.

5

traditional customer

6

Some of them are slowly expanding towards being able to use, even if not being able to use a certain amount of business orientated, saying, "Can I access my files in my office, at least to view them, not to work with them but to view them," kind of stuff. "Can I access my network to see what I worked on, my shared folders and any like business , so can I do that?"

7

So the user groups are changing, fundamentally there's a change in the user group. There's a traditionalist user group that is still looking at voice and things

8

So the user groups are changing, fundamentally there's a change in the user group.

9

and there's a group that is thinking the only way going forward is devices that's going to set me free from the shackles of all that I have and I need that. It's not any more a question of choice it's a question of I want it, I need it, that's happening.

10

The consumers, a lot of consumers have wants and desires, that comes back to me the first question for the answer I told you, it's consumers that are driving the market and not the business.

11

They need it and they don't know how to ask for it but they tell in no uncertain manner, because at the end of the day consumers are not buying from people that they want to buy if that facility is not there. So their supplier, the vendor, the marketer, everything is losing out, so he's getting driven by the need of the consumer.

12

So there's a bunch of ten guys going out to drink in the evening as friends, eight of them, nine of them all drink beers but one person doesn't drink alcohol, I mean beer, he only drink spirits. So he says, "No I don't want to go to this pub because they don't have spirit."

These nine guys because they don't care where they drink their beer from, go to that pub, don't go to the pub they'd like to go to because there is no spirit in that pub, so they go to a place where there's spirits and beer available. Now that pub guy has lost business of those nine people when he shouldn't have lost those nine people's business right?

13

So what is he going to do? Either he is going to continue to stick on to it saying, "I don't want to do it." Or offer specific kinds of spirit to attract that one person so he doesn't lose the nine people. So that's the way the market is driven, so it's essentially the same thing that's happening in the application services, requirements for mobiles, requirements for consumerism and everything else. It's that one person in the big group that is driving the change.

Reports\\Coding Summary By Node Report

Page 6 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
<u>Internals\\STUDY2DATA\\NZInt7</u>				
Yes		0.1846	5	

1

I think the mobile phone is like definitely like a tool it can drive connectivity and social ability, so the potential of being, having access to the Internet wherever you are I think there is like lots of different new opportunities for creative endeavours, is what I'm doing myself or also for like different new services.

2

Well I mean it's a very interesting point actually 'cause there is the sort of terms that we use that can be actually quite critical, like if you talk about the user it almost sounds like a drug user or something. So it's very like some people call them pro the users (0:09:49.1) so like pro the users because users is normally passive (0:09:54.8) but now I think the most important thing with mobile devices is that it's not only a media consumption device but also media production device. So in my case people can make films on mobile phones which of course is a very big difference or potential for a very big different and others there's a different media types

3

Interesting that actually was, some of the interesting things for mobile devices is that the innovation is no longer produced by big enterprises, by big companies, but by what we could call independent creators or rather networks of independent creators and sometimes user communities that's the whole idea of what happened to text messaging, what happened to mobile video. It's not driven by the industry but it's driven by the users of the, the people how have mobile technology

4

Exactly the sort of development kits and with these sorts of development kits I can see that there is probably great potential to also use mobile devices in more localised settings. Such as whether it's the concerts, whether it's community groups, whether it's educational environment.

5

If this technology becomes more accessible you don't have only the sort of soft tone element from the industry but you can also have some kind of services being developed from a more, I wouldn't want to call it grassroot level, but more from a ground level

Internals\\STUDY2DATA\\NZInt8

Yes	0.0321	2
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1

It's interesting, because there's that concept of consumerisation of IT that you hear about a lot now. And really the smartphone is, I suppose, the pinnacle of that consumerisation of IT. People wanting to use smartphones, happy to bring their own device into a business.

2

Yep, I think as a carrier, I don't, I, in my time here, I don't think we've generally provided anything in terms of free. I think we made it accessible in terms of an introductory type scenario. If you take data as an example of one of those services that is going to drive the future in terms of mobility and smartphones, in say in that, I think in the prepay space I think we had like an offer of a dollar for ten megs of data, and that's really just to, it's to lower that sort of fear of trying something new.

[Internals\\STUDY2DATA\\NZInt9](#)

Yes 0.0208 5

1

And I think the other thing that's unique about mobile

2

is

[Reports\\Coding Summary By Node Report](#)

Page 7 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Count
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3

the democracy around that. So I mean if you just look on iTunes or on Google Play, consumers will put comments up and they have very much high expectations.

4

So I'd start off by saying that adoption of mobile financial services is somewhere between five and ten times what anyone expected five years ago. So if you talk about adoption, we really don't have an adoption problem. I think that's my starting point. I mean I can't, there's not a single customer of ours that doesn't tell us, "I can't believe how well it's going," from an adoption

5

So age is part of it, but I, as a digital, I guess the biggest thing is whether you're a digital native or not. I do not use physical services, I do not want them, so I'm a digital native.

Nodes\\3. THEMES\\A. Emerging themes\\Theme Customer segmentation

Document

Internals\\STUDY2DATA\\NZInt1

Yes 0.0487 3

1

So it is an entertainment software that has received I believe at this point somewhere 100,000 downloads as compared to our perhaps next most popular software (real estate) which has only a few thousand and it tapers off pretty quickly after that to niche markets and corporate uses.

2

That is correct. There is not a wide interest in a real estate application or perhaps a thing called personal body guard which is another one of our applications. It is for a very specialized group of people who would have such security requirements that they would want to be carrying around a mobile device that would warn them who departed from a business meeting in a certain period

3

I think that the notion that app stores have 500,000 applications really means that there are 10 or 12 applications that a whole lot of people are going to use – ‘angry birds’ is on every mobile device there is and another 490,000 apps really are failed experiments and despite in some cases the substantial investments in trying to create something that seems to be the killer app for

Internals\\STUDY2DATA\\NZInt10

Yes 0.0742 7

1

And the other is

2

how much we pay to use the devices,

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number
				3
			the obvious classification is based on generation. For example, someone of my generation, so in their forties, who hasn't necessarily grown up with technology but certainly has, technology has been available throughout most of our lives, would have different, possibly not so much different needs, but different adoption willingness and concerns or lack of concerns about mobile	
			To someone, say, who's, I think they're calling it the I Generation, which I think my son's at the bottom end of, so that's the people doing their Bachelor's now, that sort of group. And then another generation being, so my parents' generation where technology was not introduced in their lifetime and they're coming up to speed now	
				4
			With my mother's generation, a lot of it is about communication. So maintaining those communication ties that they probably had anyway, but doing it through the mobile medium	
				5
			there are definitely different groups that have different requirements.	
				6
			the generational thing is just one classification	
				7
			Then there's another classification could be the accessibility side of things. I would imagine that a group in New Zealand, which has got pretty much, 3G mobile access nationwide, would possibly have different needs to say an African nation that's got basic sort of texting services.	
Internals\\STUDY2DATA\\NZInt11				
Yes	0.1072	8		
				1

But in general, I think the time-saving/money-saving categories of mobile apps that replace pre-existing offline or desktop use cases are running out. With the possible exception of two sectors which are digital laggards, such as government and healthcare

2

Digital services, and particularly mobile services, are all about micro-segmentation

3

there might be 100000 times more apps because each matches a particular customer profile better than the last.

4

overall the answer is strongly .Yes different requirements and expectations on the demand side

5

Yes different requirements and expectations on the demand side, also fuelled by the capability to cater to those differences at lower and lower cost on the supply side.

6

Yes, particularly the next generation richness of experience category of services now that the low-hanging fruits of do on your mobile what you did on your desktop are done.

7

too many mobile apps either try to solve many small problems at once with a cornucopia of features, or do not make a bold choice about their customer segment . Something for everyone rather than the number one app for user eks

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number
				8

the focus on small segments required to succeed in the model I outline above.

Internals\\STUDY2DATA\\NZInt12

Yes	0.0665	5
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1

it's difficult to generalise about other customers

2

So for example, yeah, we reached a point where devices became very powerful, certainly in New Zealand, we were still at a point where data was expensive, so people might not use things even though they could be done.

Now we're at the stage where data's kind of affordable, so we have the devices and we have the data. So I think in terms of the business use cases, they tend to be slowed down by other things. So the use cases have been there for a long time. Like finding things on a map, for example, we've been able to do for a long, long time, but it's only relatively recently that people have had affordable devices and connectivity to do that.

So I think it's more about affordability rather than the fact that we can't imagine what those use cases will be. I mean there's lots of things that we can imagine being able to do.

3

Well you want enough people to be able to afford to do it. I think that's the trouble. Otherwise you can't get critical mass. If only a hundred people can afford to use it, there's no point.

4

mobile services, they tend to be, they're services that tend to be consumer based, so that, in a sense, reduces the number of potential actors, in the sense that some systems you're looking about, you've got internal users, external users. That might still be the case with mobile systems, but perhaps on the other hand you're looking at like occasional users or people who use stuff all the time. So I think, yes it's very important to think about what your different personas might be with mobile apps, 'cause not all the customers are going to be the same

5

They won't have the same requirements and they won't have the same, if you like, well buy-in, I suppose, is another issue. To what extent are people committed to the application and how important it is to them? Is it something they use once in a blue moon, or something they use every day, all the time?

Internals\\STUDY2DATA\\NZInt13

Yes 0.0658 9

1

[customers are] using mobile services as persona,

2

smart technology but depends on age

3

certainly people, familiarity with technology and being intimidated by it would, some of the older generation would be intimidated by the newer technology.

4

It's like getting a new DVD player and having a ten-year-old come round to program it

Reports\\Coding Summary By Node Report

Page 10 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
				5

That they always need a ten-year-old to come round

6

and help them deal with the new technology, because it's not something that they've grown up with, and

7

they don't have a level of comfort in using it.

8

Yeah, ultimately, from a mobile banking perspective, the amount of information that we have to transfer backwards and forwards between the phone and the backend is still relatively limited, it's fairly small. With other types of mobile services, they would have much higher demands for data.

And so the cost of getting their data to the phone is really going to help, going to be one of those things which drives whether those services take off or not,

9

because if it's going to cost people a lot of money, even though the service itself may be free or relatively cheap...

Internals\\STUDY2DATA\\NZInt2

Yes 0.0176 7

1

.

2

Do you think it's important to know the different segments?

NZINT2

Yes, definitely, totally. Yeah, you have to know exactly who your market is

3

Age is one

4

Probably if you're male. I think women use social networking sites more.

5

generally technology men tend to grab and want more and if they're younger they seem to

6

That's economical segmentation you've plugged into and found that there is a market there.

NZINT2

Most of those people aren't yet connected to networks because only 50 million out of the billion have access to the internet on their mobile. That number is going to grow to 500 million in the next few years. That's the wave that's coming and we're just trying to get pitched and set up so when the wave comes we're ready.

Reports\\Coding Summary By Node Report

Page 11 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Count
-----------	----------------	----------	-----------------------------	--------------------

7

And for our guys in India, because everything's new, it's more based on can we get it running on their phone. There's a lot of stuff they want to look at but they just can't get it on their phone or it just won't support it.

[Internals\\STUDY2DATA\\NZInt3](#)

Yes	0.1496	8
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1

I think that it does come down a lot to age and different segments. If you gave a five year old for example an iPad or an iPhone, it's so intuitive to them and they can use it almost straight away. Whereas, if I gave that same application to my parents, they would struggle with that and probably get frustrated and put it down.

If I gave it to my grandfather, he wouldn't even know what it could do. There's definitely a need to segment based on people's previous history with technology in those particular applications. I definitely think they'd have far different expectations of what those applications would deliver. I don't even think my grandfather would even understand what internet banking is, whereas the children would see that as normal.

2

There would be specific concerns that my grandfather would have around security and having that information on the air, thinking about banking specific. Even providing information to use applications and things like social networking, he'd be concerned that his photos and so forth are on line.

I think the younger generation are probably far more comfortable with that.

3

I think there are three specific segments, there may be more. In my own head, I see the 25s and under, the 25-45 and then 45 and over.

4

Yes, at least they'd have some understanding. Because that 25-45 year old age group grew up with technology, they've seen the bad bits of technology as well as good. I think back to the old technology which was a particularly poor experience so we know how bad it can be and we probably put up with a little bit more. Our expectations are lower than the under 25s who have always grown up with much better applications

5

Would my granddad still ever buy one? Probably not. Would my [inaudible 14.13], probably. Would they use all the functionality?

Definitely not, they wouldn't even understand to unless somebody sat down and explained it to them one on one. Would they then get social networking applications, I don't think so.

6

I think you need to develop different applications for my grandfather and my parents because they need to even have a more basic step by step approach. They don't find it intuitive.

7

I think that's the ultimate trade off. It's like going to a bank and being charged a fee but doing it online for free. There's always going to be a trade off. So it depends what the cost is I guess. I think the trade off is there.

For me, I think if it's priced fairly, people will continue to pay. Potentially your time of going to the bank versus online or on the mobile phone. So time and convenience I guess. Would you pay 50c or \$1 for doing that? It depends what you value your time at and the convenience at

8

Indeed. I think I spoke around segmentation. You can't develop just one application, it almost needs to be three applications to cater for the different markets.

Reports\\Coding Summary By Node Report

Page 12 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number
<u>Internals\\STUDY2DATA\\NZInt4</u>				
Yes		0.0683	6	

1

there are different segments of customer groups.

2

if you look at people using mobile devices today, you've got the younger generation who don't use the devices to talk or SMS any more, they use it for data, they use instant messaging now. They use things like Viber to make their calls so they're using the data network more than they're using the mobile network. So they use it for communicating, they use it for non verbal communicating mainly, the younger generation. They use it for entertainment, they use it for information gathering.

3

I think there's a certain amount of brand consciousness especially among the younger generation

4

if you are an occasional user you're probably more conscious about pricing.

5

Yeah when Telecom were having all sorts of problems with their 3G network, if I was a business customer on that network I would not be happy and I would be looking to move, because I can't run my business like that. But if I was a teenager I had a limited amount of pocket money to spend every month, or every week, I'd be very conscious about the price of what I pay for.

6

a younger person who probably didn't have a huge amount of commitment and bills to pay at the end of every month and I had a significant amount of surplus money to spend, I'd probably be a lot more brand conscious and I might want to be with the trendy providers. I want the best iPhone and I want to be on the most trendy network provider, for example. So I guess it depends

Internals\\STUDY2DATA\\NZint5

Yes	0.0562	6
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1

So those are really quite different I can see that and there is no way that you can develop one thing for everybody.

2

NZINT5

No, no you, even well actually the beauty of a mobile phone, last year we worked on with a, how is it called? ReThink (grant which was something for people having mental health issues. So we developed a concept of having a special app that will allow people in a specific neighbourhood of Auckland to communicate about their phobia or their nerve racking issues or if they not very, so there was a special application for Ponsonby, for CBD and their requirement are quite different.

Researcher

And why are they different, because of the location?

NZINT5

Because of location, because of what you can do, so they don't offer the same services, they don't offer exactly the same thing. The structure, 80% of the app was pretty much the same, but there's is 20% that is quite flexible according to the needs.

3

Well from my understanding of business, that's not a big factor, price is not a big factor, if people they like it, they will spend money on it.

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number
				4
			So free pricing is not necessarily something that will actually accelerate the adoption of a service.	
				5
			But a reasonable price yeah sure, so if you provide a service for, there are some apps you can pay five dollars, US dollars. But if they are good apps and very useful people they can spend money	
				6
			But paying twenty or thirty dollars app for your phone is something that starts to be a little bit more difficult.	
Internals\\STUDY2DATA\\NZInt6				
Yes	0.003	1		
				1
			So it's the people like your children and my children that are pushing the market.	
Internals\\STUDY2DATA\\NZInt7				
Yes	0.0903	5		
				1
			Of course there's lots of implications that one has to think about for different categories of people that, you know, related to age groups, financial backgrounds and I think it's very difficult to generalise mobile media 'cause the way that different people use mobile technologies I think it's more specific to their local, or like their personal characteristics.	
				2

Of course there's lots of implications that one has to think about for different categories of people that, you know, related to age groups, financial backgrounds and I think it's very difficult to generalise mobile media 'cause the way that different people use mobile technologies I think it's more specific to their local, or like their personal characteristics.

3

Of course there's lots of implications that one has to think about for different categories of people that, you know, related to age groups, financial backgrounds and I think it's very difficult to generalise mobile media 'cause the way that different people use mobile technologies I think it's more specific to their local, or like their personal characteristics.

4

But I think that once the accessibility to mobile data services will become greater so as you can see, for instance, in (unintelligible, 0:14:22.8) career I think that's when the people will take up mobile devices a lot more

5

I think that is probably one I would say a factor that is hindering innovation is that there, if people could have greater access to the Internet on their mobile devices, whether that's through 3G networks or through wireless networks, then I think innovation could place lots. Innovation could be taken up by more people than just by some of the people that are the forerunner of this

Reports\\Coding Summary By Node Report

Page 14 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
Internals\\STUDY2DATA\\NZInt8				
Yes	0.0083	1		

1

So really, I mean, it really, in my opinion, where phones have gone from is, if you think of a Blackberry from five/six years ago to where it is today, users have gone beyond email, calendar, and

Internals\\STUDY2DATA\\NZInt9

Yes	0.1025	15
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1

We're a big believer in segmentation. We use a model in financial services called the mosaic model. I don't know if you know it, but that's what many banks around the world use.

2

So yeah, anyway, that's kind of, but segmentation is very important. So our view is two fold, one is that the problems for different segments that you're solving are different. So I happen to be quite well paid, so I don't need to check my balance before I check out at a supermarket, because I am, because I don't live week by week.

3

Whereas there's a pretty significant segment of this society that, whose value proposition for mobile banking is checking their balance before they buy something. The value proposition for me, is I can maximise my yield from my financial services. So I can make sure that I keep my money in the highest yield accounts for as long as possible.

So it's quite a different, I'm a different segment and therefore the value's quite different. So we look at it two ways, one is the actual use cases and therefore the services are different per segment. And the other, which is very related, is how you promote it is very different. So

4

Yeah, because like for me, if a bank came up to me and promoted mobile banking as the, "Avoid embarrassing situations at the bar with your friends." Well that's not really relevant to me, because again I'm not in that segment. So, whereas if they said to me, "Hey, make sure..." I don't know. They said, "Make sure that you get your maximum yield from your savings accounts."

Then I go, "Oh yeah that makes sense, that's actually a good proposition." So it affects real use cases in then how you'd promote those services. And what we have seen is that customers who promote services generically, i.e., "Mobile banking is here, mobile banking is awesome," they get very low levels of adoption. Whereas customers who promote services in a segment-centric way, they get very high levels of adoption.

5

Researcher

6

Now I guess if it's beyond their means they wouldn't be doing it, but fifty cents seems to be reasonable.

NZINT9

Yeah, exactly. I mean obviously, yeah exactly, I mean any pricing strategy has to be sensible, but yes.

7

Demographics is one, I mean is part of it, but it's not the only side. I mean it's just back to the segmentation. Very different segment attitudes. Demography's a bit crude, that's why I just need something a big more sophisticated in terms of segmentation model.

8

I mean age is a factor, but it's not the dominant factor. So yeah, I mean and as I said, there's very good models in financial services which are not, which are much more sophisticated and valid than just crude demographics.

9

And that requires segment-centric approaches, which we've talked about already. So you can't just sort of say, "Mobile banking's here." You've got to say, "This is the specific need for you, Mr Customer, that we are addressing.

Reports\\Coding Summary By Node Report

Page 15 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
-----------	----------------	----------	-----------------------------	-----------

10

You talk to young people and they go, they think of their banks as, well on one hand they still have a special relationship with money, money is special to most people, so there is something unique there. But on the other hand they just think banks are retarded.

11

And I look at, and the example I give is Bank of New Zealand spent over a hundred million dollars upgrading all of its branches just in the last few years.

12

And consumers, younger consumers they just think that's idiotic.

13

they literally look at you in the eye and they go, "What do you need a branch for?

14

so you get a twenty-year-old, you go, you've never been to a bank branch and then you look to a bank with branches and you go, "These guys are old and boring, they're the Encyclopaedia Britannica or the Blockbuster or the whatever, they're part of the old history of the world, I want to go where the banking, where banking is going.

15

And you're an average twenty-year-old and you have to make a decision, on one hand money's special, but on the other hand you go, "Why would I go with those guys? They're old

Nodes\\3. THEMES\\A. Emerging themes\\Theme MNOs under pressure

Document

Internals\\STUDY2DATA\\NZInt10

Yes	0.066	3
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1

So we've, yeah, because network operators have got a vested interest in people using mobile services, because of the pricing structure we've got now, effectively. You pay for data. So I mean, you look at Spark introducing Lightbox, which is very bandwidth hungry. You've just got to question their motives, going, "Oh, great, we've got this new content service from Spark and they're not charging me to use it." Back to our no free lunch.

"But I now suddenly need to upgrade from my thirty gig broadband plan to a hundred gig broadband plan, because I'm using another seventy gig worth of content.

2

What's most supportive is the cutthroat nature, because everyone's trying to outdo each other. I mean we released the new mobile plans recently, and I'm just, I'm waiting for Spark and Vodafone to follow, because they'll go, "Oh shit, we can't be out priced by 2degrees." So we're constantly trying to better the rivals.

3

So I think that supports the development and implementation of services, because they're constantly trying to get better and better and better. No one's resting on their laurels. When we had a monopoly and a duopoly, people rested on their laurels. So the existence of the three players

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
Internals\\STUDY2DATA\\NZInt12				
Yes		0.0364	4	

1

Well I suppose it's fairly straightforward, isn't it, I mean you've still got what's left of the incumbent and it's still the case that even though everything's been split up, Chorus is still the rump of that centralised infrastructure ownership. So they've always been the drag, if you like, on everybody else.

2

And then of course the other major players which these days would be Vodafone, 2degrees, I suppose, in the mobile space, have been trying against that to do more in the market. But of course it is a problem, because those other players want to do that on the back of someone else's infrastructure. Someone else has put all the money into building the physical infrastructure. They bung up a few masts and sell a few phones and say, "Oh we want this full market."

3

And of course, you can see why those who've been involved in building up a national government funded infrastructure for decades were not very happy about doing that

4

But as we know, it's very clear that if you don't have competition, you don't get the services, you don't get the prices.

Internals\\STUDY2DATA\\NZInt13

Yes	0.0574	3	
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1

So I guess originally when you went to, you bought a phone, you bought it off the phone, the telecom provider and that was it.

Now, although the telecom provider's providing your service, you might buy the device from any store you like. And so the telecom providers aren't necessarily in control over the devices which are using their network, and so the customer now has a lot more choice over what they were going to use to...

2

Well I think, the difference between New Zealand and overseas is that there's probably a lot more competition and it's a bigger market, and here, although we have, we have limited competition and it's, and that's what's keeping the price up

3

Well again it's not, there's a lot of competition in that market now as well. So it used to be where there was, maybe where there was a sole network operator, they don't have the dominance now that they used to have because there's a lot of competition in the market for providing that service

[Internals\\STUDY2DATA\\NZInt2](#)

Yes	0.0225	4
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1

I don't think the network operators would provide at all. No. It's really anyone who wants to develop an a service. You get free aps, people can develop their own aps

2

The only thing I think they do is shape the traffic maybe to their own interests. They may hold certain services or may delay traffic going to other providers and stuff like that. I don't think people like them very much if they do that.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Count
				3

Yeah. I don't think that they do really communicate much with application developers at all. Telecom have got three different gateways and two of them are a bit dodgy but do they care really? A lot of the telcos charge ... I know Vodafone uses one gateway if you're on prepaid and it's incredibly slow.

Do they care? Do they have a webpage on it? There's not much connection between the developers and ...

4

But it could've been different in the past. Let's say operators could've actually started encouraging this themselves and had all these aps on their phones.

NZINT2

They could've, yes. Yeah. They're corporates and they're so big they don't even know how the left hand is operating the right hand, do they? They get to that size and just become these little widgets all just plugged in and making the business go

Internals\\STUDY2DATA\\NZInt3

Yes	0.0659	7
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1

We're too small a place. Over the top players will kill us.

2

It's something we have, from the telecommunications perspective, is how do we try and monetise all of this bandwidth.

Obviously we're building bigger networks with fatter and fatter pipes to carry more and more and more content but how do we make money and how do we try and get return on our investment?

3

not just from the NZ perspective but International Broadband Forum last year, it was a big talking point. How do we monetise bandwidth? Broadband is exactly the same as mobile broadband. We're building more and more infrastructure but how do we get a return. We can't charge our end customers more for it.

4

Everyone's expecting MFI and cellular phone, they're also getting data plan included. The problem is there's a real cost to providing that infrastructure and it is a massive problem and I don't think that the world understands how we decide what [inaudible 33.31] communications to keep building but at some stage

5

I think specific network technology such as mash up, getting Google and applications to try and reduce some of that international bandwidth costs.

But also get some money out of it.

6

How

7

We don't know. Big players can say "if you don't do it, Vodafone or 2degrees will do it"

[Internals\\STUDY2DATA\\NZInt4](#)

Yes	0.0926	10
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1

That's right, who bears the carrier charges? There is the thought that companies like Apple and Google who are starting to corner the smart phone markets will have, at some point, enough of a market share to actually start building their own networks across Wi-Fi and data

[Reports\\Coding Summary By Node Report](#)

Page 18 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
-----------	----------------	----------	-----------------------------	-----------

2

I mean we're seeing things like Viber doing, allowing you to make voice and SMS voice calls and send SMS's and bypassing the mobile operators. Who's to say someone like Apple doesn't build a worldwide IP network?

3

but someone like Apple or Google have a different driving factor, their aim is to sell the devices and if they provide the network that says, I sell you the device, you buy my device you can call anybody else who's got the same device on this network for free and that's a huge incentive

4

Yeah so they're not selling the plumbing they're selling the device, that's where they make their money. So it beholds then the Telcos to figure out how they are going to play in this brave new
world.

5

I think both, network operators need to figure out how they're going to keep their business going because I think people like the Apples and the Googles are going to eat into their, eat their
business.

6

I think both, network operators need to figure out

7

how they're going to ensure that they survive in this world, so they're going to have to provide reasons for people not to go onto the other networks.

So yes I believe that network operators will be doing that and third parties will develop business services.

8

Yeah and then the network operator who can provide the most services wins, because I mean...

9

So just selling, just having a network without and depending on everybody else to provide services ain't going to work in the new world.

10

You can, I mean basically you put probes in the network and you see anybody doing this and you drop their data rate (0:29:26.1) which is fine, you can do that. But I would rather see that the networks says, "Use Skype if you want and in fact if you use Skype you can pay us a little extra and we'll ensure you've got a higher quality of service." So.

Internals\\STUDY2DATA\\NZint5

Yes 0.0544 5

1

Yeah but we've seen that when Vodafone launch actually 3G in New Zealand I was part of a team communicating about that, services offered in New Zealand were not the same in Australia but it's a big Vodafone group. So you've got the templates you've got the branding guidelines, but according to the market you don't provide the same services, you tick the box or not. So even big companies you can, well actually no, you're talking about small companies

2

I think they don't support enough that's an issue I've got with New Zealand in general, it's about the cash society and short term

3

So in my view actually mobile companies here provider, all the big one and even the small one, except 2 Degrees who have just opened up a new way of thinking business, is really we pay far too much here, communication. And with (unintelligible, 0:36:40.8) it's only four point five million people on that market

Reports\\Coding Summary By Node Report

Page 19 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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4

But Vodafone, for instance, is a big example of ripping off the people for communication and it's a shame I think. When you look at Broadband in Japan, there are I think twenty gigabytes per seconds transfer and it costs how much? I think ten New Zealand dollars a month or something like that for unlimited data. (laughter) Why we can't do it here

5

Yeah. So mobile network industry in New Zealand, I think are not very supportive yet and I would say that they probably should look more at the very long term rather than the short term

Internals\\STUDY2DATA\\NZInt6

Yes 0.1717 15

1

it's the service providers of services like cool services. So the larger you are like the big worlds of the people like the IBMs today can become bigger than MNOs if they know how to own aps, application services, that fundamentally drives everything for the mobile.

2

So the network operator then becomes purely a network operator, so there's a battle going on between big global systems integrators who are developing mobile applications, mobile platform applications while the MNOs are also trying to rapidly do the same thing before the systems integrators can do so that then the MNOs have still that difference of point on offer.

3

So the operators today, whether they like it or not, these applications are being provided on through their devices which is not even network dependent. So the benefits offered to mobile users today is the genuine availability of applications that can be freely bought by their provider and not controlled by either your corporate or by your provider MNO

4

Actually that's where the problem is, another problem. Mobile network operators are trying to recover their cost of investment in their networks that they've built, that's billions of dollars. Their recovery rates are a low slower now because the usage of this is no more the traditional voice of traditional data

5

Where it is going to be is it will come to a point in time where these are commodity products, mobile services are a commodity products, it'll become really next to nothing cost, it'll say, "You buy my phone, you buy my device, pay fifty dollars a month flat, use as much data, as much voice, everything flat."

6

backhaul systems in their networks.

7

So that's where they are still expanding on to.

8

They have to otherwise they are not going to be able to deliver, somebody else will see the gap in the business and another operator will take that advantage

9

There are cell sites all over put up by one operator. There are also similar cell sites in the same neighbourhood by another operator out to compete (0:25:30.3).

Reports\\Coding Summary By Node Report

Page 20 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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10

No not only South Island, even North Island, I mean south of Taupo everything failed because the North Island one RNC and the South Island RNC both failed. But an RNC approximately costs fifty million dollars, Vodafone on the other hand despite the fact that the other areas were bad they had six RNCs for this place.

So quickly Telecom had to reinvest and (unintelligible, 0:28:30.4) so there is different components in the network technology capabilities that keep coming. And in the meanwhile there's companies like Nokia and Alcatels suddenly bring better advanced technology to say, "We can do faster networks," so the backhaul one gig becomes redundant it's too little they need more, so it's a constant game

11

Global operators like AT&T possibly will be part of the growth, people like Telecom and Telstra of these parts of the world will lose out (unintelligible, 0:29:34.6).

12

Vodafone is a global operator, Vodafone will survive because they know their survival is not network, it's the business services that they're going to offer.

That's why they acquire service companies, developers, development, offer cool services on top to keep stickiness of the client. They know that otherwise the stickiness will go with somebody else. Who all controls the consumer and their business is going to be the king. Operators are not going to be the king unless they also change dramatically.

In some countries they are going to be the king because they are changing

13

New Zealand is not a place for that, your question number eleven. That aspects of New Zealand's mobile network infrastructure are more supportive to the development (unintelligible, 0:32:00.6) market penetration of new mobiles as a service. Not really

14

They are not, there are some companies here that offer services, there are lots of innovative software companies seeing potential for growth so they offer it.

The moment it gets to be a good piece of the puzzle, global companies are watching out, they buy them out. So a classic case in point is a company called Data Square, which is a New Zealand company offering text services on mobile network, it's a squaring of data through texting on a quick manner, easier to manage, sort of using not the same as Gateways but Data Gateways, which is very unique in itself, Data Square.

15

So the network operators here are not doing anything to improve the position, whether it's Vodafone, 2 Degrees, they are not doing anything. It is not in their interest to drop things to make it more innovative for them because then they will lose out.

[Internals\\STUDY2DATA\\NZInt7](#)

Yes	0.1057	4
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1

another really important feature is the idea of connectivity and so with having the potential to access internet through either wireless networks such as in Wellington. We've got the whole city centre almost being wireless which is really amazing, online for thirty minutes and all you have to go through the data charges of network providers which of course is, can be seen very sceptical because that's quite a big business model behind that.

2

But of yeah as a sort of business model, personally I'm very sceptical of the mobile networking companies. Actually in the UK they're taking, they used to have for a long time unlimited data and it driving this model (unintelligible, 0:15:00.3) back because they fear the loss of their own revenues. People start to use Skype and things like this so that is, it's yeah.

3

So I think in that respect things like wireless Internet will probably be like a really great solution

4

But on the other hand the negative side is that I think the data charges are still a bit higher in comparison to international comparison. So that, probably because there's less people the price needs to be higher 'cause less people..

Reports\\Coding Summary By Node Report Page 21 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
Internals\\STUDY2DATA\\NZInt8				
Yes		0.1515	12	

1

I think from a, if you take a mobile operator's perspective, I think your cost of infrastructure is too great to give stuff away, I suppose, really.

2

And beyond that, I mean, this is the hard question, is what will be the relevance of the carrier in years to come?

3

think about how say three to five years ago you bought your cell phone. You, 1) you decided which network you wanted to go to first, and then you decided which, how much you wanted to spend and then you kind of got the phone to fit around you.

Today, I think, as a consumer, you go and say, "Well which phone do I want, first, do I want to go to iPhone, do I want to go Galaxy S3, do I want to go HTC?" You have that, now that you have that, I suppose, brand association that who you are with a device, which has probably never been seen before, in terms of that high level attachment.

So if you say, "Okay, I want to buy an iPhone." That's natural first conscious decision. It's not, "Which carrier do I want to go to?" So you go, "I want to buy an iPhone." Then you say, "Okay, well what's the best deal I can get on an iPhone?"

4

Right, "What's the best deal I can get on an iPhone?" Then you go, "Okay, because that carrier's offering me the best deal and the service plan is enough for me to do, then I'll just go with that deal." And it becomes, the carrier becomes secondary to the device, which I think it wasn't the case say three to five years ago

5

And I think that's one of the, for me, I think it's one of the biggest challenges as a carrier, is how do you stay relevant?

6

Obviously the Googles and the Apples of this world, would like, well not would like, but probably start seeing the carrier as a dumb pipe to all their rich content and services

7

And I think it's one of the biggest challenges in terms of the future is how does a carrier stay relevant? I mean, again personal observation, not one of the company's, it's like we, the companies believe that their service or their network or the likes is important. I think it is, but I think it's probably maybe not as important as perceived, I suppose really

8

I think, yeah, that's, I think that challenges the relevance of the carrier, because I mean you look at iTunes and the so forth

9

You have all your content, all your music, your videos, your movies in the App Store. I mean this thing is entirely Apple, there's no Vodafone on it, other than the connection

10

that's one of our biggest challenges as a carrier, is like how do you stay relevant to a consumer

11

How can we make it better? I mean that's a tricky one, I mean you start getting, you start getting into, you can't give away your crown jewels, you can't make things free. But the reality is applications use data, but you can't say zero rate data for applications or things, 1) it's probably technically quite difficult for too many applications, for example, and the other is you don't want

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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12

Yeah, so I don't think there's anything that the industry isn't doing to sort of drive this new adoption, the...

I think voice has probably peaked and probably sort of levelled off in terms of growth, in terms of share numbers of, and you really have to find that next revenue opportunity.

And also the cost of the voice minute has continued to come down, and therefore people pretty much are using it as much as they want now. Here you get that sort of growth and then you sort of level off because the voice minute's so low, people are using it no matter what they think anymore. Minutes are bundled into plans now, rather than having to think about how much am I spending per minute, you're saying, "Well actually I've got a hundred minutes" or "I've got two hundred minutes a month to use."

[Internals\\STUDY2DATA\\NZInt9](#)

Yes	0.0258	3
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1

All they need to provide is data connectivity. And in fact it might not even be mobile networks. When I was living in Atlanta, you had Ymax network, that wasn't run by a mobile operator. It's entirely feasible that these technological changes will happen without mobile networks.

2

If I owned a tablet I'd probably go with the Ymax, 'cause then I wouldn't have to pay, my monthly fee would be 9.99 or whatever, I'd have faster connectivity and I can still use Skype and I can still, so you're going to start, so the tablet movement is going to create this non-dependence, because people are going to start using Wi-Fi at home.

If you think, I'm in Wellington, I've got Wi-Fi at home, the city is all Wi-Fi'ed, free Wi-Fi in Wellington City. So you kind of go, "Well most of the time I'm already accessible, so why do I need a mobile network

3

Yeah, so, but I think that as you use your tablet, you'll start thinking, "Why do I have my phone with a provider?" I mean it is an entirely feasible question

[Nodes\\3. THEMES\\A. Emerging themes\\Theme Regulation mix](#)

Document

[Internals\\STUDY2DATA\\NZInt1](#)

Yes 0.0353 4

1

and what are the security implications of it. The latest headlines about all of this violence and other pornographic materials being posted to Facebook – it causes people to sign off their social

2

But when you're talking about broad base appeal what people are going to decide on –

3

is it something that I can actually use without risk.

Reports\\Coding Summary By Node Report

Page 23 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
				4

My firm developed an application and entered it into this contest and while we didn't win we are very familiar with another developer who did win and it was designed to encourage the development of web and mobile applications that used government data – so it was kind of an open data initiative and so because of that experience, I have had to say that New Zealand has been both supportive and innovative in the way in which they have been supportive

[Internals\\STUDY2DATA\\NZInt10](#)

Yes 0.0429 3

1

the regulatory environment, most of it is around accessibility and delivery. So for example, making sure that, the Commerce Commissioner making sure that all mobile telcos have similar bandwidth spectrum and things like that.

2

I don't know how much regulation there is around content.

3

I mean for example, why don't we have Netflix in New Zealand, why is it only just coming now? Is that because Netflix didn't see a market in New Zealand, or is that because there were regulatory bodies that stopped them coming in? And I don't know what the answer to that is. So how they, so how the regulatory bodies can be most supportive, I think, is enabling all of that to be accessible, and then the consumers then decide what they want to use, which then effectively picks the winners and losers

[Internals\\STUDY2DATA\\NZInt11](#)

Yes	0.1246	8
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1

New Zealands regulatory environment is quite restrictive for many industries, think electricity, health, etc but currently it is not too restrictive for apps

2

We do need to be very careful in balancing the need for consumers right to privacy with the ability for small developers to innovate without unduly high compliance costs

3

Also, NZ needs to stay aligned to global developments in the area of Identifcaion and authentication, and tax and payments. These are two areas where some governments have made a poor design choice, and stifled innovation for their constituents by not enabling them to participate in global modalities.

4

As I mentioned before, I don't think mobile network operators have a big role to play in mobile service development. The network operators role should stop at the pipe,

5

If this question is asking about the mobile app ecosystem over and above the role of the carriers, I am less experienced in this area but would guess that New Zealand's small size means that while we have good local software companies we are likely to be a net importer of mobile services .

6

Hence the need to ensure our consumer market and local regulations facilitate easy import of services from overseas

7

Hence the need to ensure our consumer market and local regulations

[Reports\\Coding Summary By Node Report](#) Page 24 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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8

while safeguarding the rights of New Zealand consumers and also helping local developers to export overseas.

[Internals\\STUDY2DATA\\NZInt12](#)

Yes	0.0602	6
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1

And so I've been kind of following with interest the debates that have taken place over the last ten years or so about the government's attitude towards regulation of broadband, both fixed and wireless, and competition and unbundling and all of those things

2

So it's been really, really interesting and the impression I've got from that is that the New Zealand regulatory environment has reluctantly been opening itself up to enable things to happen. So I think it's become more supportive, but it's had to do that because members of the industry or certain parts of the industry have forced them to do that that they've gradually had, I mean with great resistance from Telecom, for example

3

So yeah, so I think it's gradually become more conducive to competition, innovation and so on, but it's not been an easy process, and it's still an ongoing issue, I think

4

One of the things I was reading about recently was about the level of intervention that's required for successful broadband in a country.

And the general consensus is that what they call medium intervention is the best model which is, the government has to take some responsibility, but it can't control everything.

5

the medium intervention model is something that New Zealand's moved towards.

So we've moved from a low intervention model where the government kind of let their incumbent get on with it, to a more medium intervention model where we've had forced unbundling and things like that.

6

You can't leave it to the market and you can't just have a thing where the government tells you, you've got to have some kind of balance in order to get things happening, but then that's kind of like, it's the old, it's the same argument we've had about economies for hundreds of years, isn't it?

[Internals\\STUDY2DATA\\NZInt13](#)

Yes	0.0573	3
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1

to use their mobiles abroad. I mean the thing is at the moment, and it's, it drives culture and it drives, people find ways around the regulation.

2

And so what you'll find, or what you find now is that if I, if someone was going overseas, they just go and get a SIM card from the country that they're in and sort of work around it. And ultimately the telecommunications providers here are losing out, because they're not then providing that service at all.

Aggregate	Classification	Coverage	Number Of Coding References	Reference
				3
				And you've, what you've, I think what you've, what you've seen, especially in the European markets now is that there's an EU cap on roaming charges now, to give, to sort of be able to provide the platform so that people can use their mobile abroad, with a premium but it's not cost prohibitive to use.
				And although I think there probably has been some focus on that in New Zealand, from New Zealand telecommunication providers. I think there's probably a long way to go as well in terms of making that...
Internals\\STUDY2DATA\\NZInt2				
Yes	0.031	4		
				1
				People are jumping onto that, they think that's wonderful, but the true implications of the privacy and all the realities of that haven't been fully understood. People haven't had that rejection yet of the technology
				2
				This evokes a 2004 Telecommunications Act which says that basically the government needs to be able to get access to all information. We actually had a go at that and there's no way of us actually being able to solve that problem. On the one hand the law says you have to allow governments to get access to it and the other thing we're trying to sell is security to firms and go "if
				3
				But how do you do that? If you can make it with a hole that the government can get to it then there's a hole that hacking can get into it. The easiest thing is to go "this is secure" because there's a fear of absolute information security and that explains how you make a secure model, and then say now there's an implementation that it's secure but now you're breaking the law. There's ways we can get around that, kind of fudge it and do it and say "if the Government can track where this server is" then we'll have to put mechanisms in that basically weaken it.
				That's an example of regulations ...Because of your particular approach, it is a regulation which actually ...says you're not allowed to do that. It's a paradox
				4
				How do you solve that problem? It's a real hard one. You actually do your job and you now solve the problem but you're now breaking the law. You have to find creative ways to go "OK, well we're going to break the law but when they catch us we'll have this thing to say yes they can get in but not through the official way" so it's like a slap on the wrist".

Internals\\STUDY2DATA\\NZInt3

Yes 0.0378 2

1

I think the biggest problem we have in NZ is we're very small. Because of that you're probably not going to get a huge amount of NZ specific applications working because we're just too small. That's where the open source might flush that out a little bit.

2

The thing that will fix that obviously is having over the top players that are international over the top players basically providing applications. I don't think a lot of those applications will be specific NZ applications. From my point of view, the biggest thing from an industry perspective is how to encourage these people to set up camp in NZ.

Are there any tax incentives for bringing IT/innovation? Could NZ potentially be a hub for this sort of innovation?

Reports\\Coding Summary By Node Report

Page 26 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
Internals\\STUDY2DATA\\NZInt4				
Yes		0.0507	5	

1

I think the way, what the government's done to stifle the larger Telcos to allow the smaller Telcos to operate, things like 2 Degrees something, in the long run is probably not good. Because you're taking investment out of the large Telcos so they're going to invest less, at the end of the day the Telcos have to show a return to their shareholders. And if you're eating into the way they can operate then they've got to cut costs elsewhere, so that cost comes out of capital investment

2

I think in the long run it'll be counterproductive and it doesn't help the smaller, yes it puts more money in the back pocket for the smaller provider in the short term, but unless the smaller provider actually uses that to invest to do real capital

3

Yeah they'll eventually get gobbled up anyway and nobody wins in the long run, so

4

Yes and so at the end of the day what the government's trying to do is to ensure the consumer gets the best deal

5

Yes and so at the end of the day what the government's trying to do is to ensure the consumer gets the best deal, they might have in the short term but in the long term it might not have helped anybody. Because if shareholders don't see a return they'll just pull their investment out.

Internals\\STUDY2DATA\\NZint5

Yes 0.0412 3

1

Oh yeah absolutely. We have a massive fight now for online mobile or security transactions it's one of the big theme at the moment to secure all those payments via mobile advices. So banks have got a very, very specific requirement, businesses as well they want secure for secured information for their, that's why people will only use Blackberries virtually

2

Now speaking about that, you need to make sure that leaving the country of New Zealand you've got the right provider to get reception on the water overseas as well. So you see what I am

3

But, it's involving the Auckland city, it's involving sponsorship from those companies for everybody to work together and saying, well for the sake of the customers, for the sake of the population and enhancing growth or development, we should all put five here, ten there and yeah and speed up and get a special funding like that. And I thought that was one of the aim of the government actually to say, this is a pool of money and you key actor, you add on the pool of money, but apparently there's no real politics like that here.

Internals\\STUDY2DATA\\NZInt6

Yes	0.0335	3		
		1		
Not the MNO you see, just a fundamental change is happening in the place that MNOs are no longer as important				
Reports\\Coding Summary By Node Report Page 27 of 34				
12/09/2015 15:10				
Aggregate	Classification	Coverage	Number Of Coding References	Reference
				2
Commerce Commission here is not doing a good job, their controls are quite slack. First of all they need to make sure that the network operators don't charge as much as they're charging today with the marketplace. To increase usage of the people, increase value, you need to drop prices and these network termination charges between the two (unintelligible, 0:31:11.8) providers, all these things are still not fully addressed not yet (unintelligible, 0:31:19.3).				
Instead of summarily saying stop it, they're giving them a window of three, five years and things like that. So because the lobby from the operators is strong, the regulatory forces are not changing them much.				
				3
And the global guys who innovate for global part don't come and sell here because it is too small a market				
Internals\\STUDY2DATA\\NZInt8				
Yes	0.0559	4		
				1
Yeah, I mean, the industry constructs are changing. I mean likewise for Telecom, how they've become now more of a retail business as opposed to a big sort of network business.				
				2

I think in the pure business service in terms of like data and voice and everything else, the regulation has probably made life more difficult for the carrier, obviously, right. I mean I think, obviously with the mobile termination rate rulings in the last, what, twelve months, has definitely made our lives a lot harder. I think in that, that's probably where the impact mostly is.

3

You will adjust, yeah. I think it's just that adjustment time is quite difficult. I don't think there's any, in terms of the application space, I mean unless it's sort of infringing on privacy or security in terms of personal information or bank information, then it's, that's probably the only space where regulation is probably required.

4

But I mean apps get created all around the world and available anywhere in the world, so it's probably one that's quite hard to legislate or regulate. You look at things like PayPal and all that, it's, you have it on your phone, you make payments on it, but if it doesn't go right, I don't think the New Zealand Government has, can stop you from using it, for example, or restrict PayPal, for example. So from an application space I think it's pretty hard to do anything

Internals\\STUDY2DATA\\NZInt9

Yes	0.0435	10
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1

the other side of that is that checking your balance is pretty much the first service that people use, because it's low risk. So when they're going through a trajectory of using mobile financial services, they use the lowest risk first.

2

for

3

those who don't use it,

4

they're concerned about security or the value proposition

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number
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5

So that's my starting point. But having said that, there's two points, which I've kind of made already, one is around the biggest concern for people, there's two concerns that everybody, whoever doesn't use it have, one of them's around security. So mobile banking and payment services need to be perceived as safer than they are perceived today, and that's really a customer education

6

what would stop you doing mobile banking?"

And the answer was always safety. It was never a usability thing

7

Because every bank, every country in the world wants to eliminate cheques and get them out of circulation, so all of a sudden they say, "Hey, well here's a good way of sort of stimulating that."

So there's an example of where mobile is actually enforcing, not enforcing, encouraging regulatory change.

8

The biggest area where this will impact is whether the regulators will either encourage or discourage people like Google and PayPal and others from playing in the banking space. That's actually the biggest, real big issue.

9

so yeah I mean, so Google will just apply for a banking licence in New Zealand or in Australia or wherever. The question is will the regulators invite that or will they fight it. I think it will depend on each market.

10

Yeah, so I mean they have to be regulated, you have to have the same safeguards that you have for a normal bank.

Nodes\\3. THEMES\\A. Emerging themes\\Theme Vendors active

Document

Internals\\STUDY2DATA\\NZInt1

Yes	0.0172	1
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1

The Acer example – I happen to be a founder and presenter of the Google technology user group in town, and Acer actually brought along some of their prototype systems to show to our group and give us the opportunity to get a us the newest hardware at a discounted price direct from the manufacturer and I think that you can't ask for more. Hewlett Packard did a similar kind of

Internals\\STUDY2DATA\\NZInt12

Yes	0.0417	3
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1

I think there's a lot of difficulties now, because you have to decide what platforms you'll support and how you'll support them. So you might start with, these days a lot of people are perhaps increasingly using HTML5 on the basis that it's kind of widely supported. But an HTML5 app is only as good as a native app for quite boring things.

Reports\\Coding Summary By Node Report Page 29 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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2

So if you want to do something that's really interesting innovative, you probably have to start thinking about well we should use something that generates something more native. And then there's a sort of halfway house which is like the Rab (0:23:41.5) tools where you code it using a programming language and it spits out iOS, and it spits out Android, or you actually you have to hand build it from scratch on a platform and of course it's, all of those three options are perfectly valid, but you get different costs and benefits out of them.

3

The other thing I guess is that it's quite hard to test this stuff. It's quite hard to, if you come up with a wonderfully innovative mobile app that, for example, uses location, and you want to test it on Android. You can't even test it on the emulator anymore, you have to do it on a device, and then you have to fake your location.

Internals\\STUDY2DATA\\NZInt13

Yes 0.0521 2

1

And it's a fairly, it's a fairly large pie and to have a, to get a, there's a lot of companies that are looking to have a slice of that.

And one of the things that we'll probably end up finding is that there's going to be lots of different competing technologies which do similar things, and it could take a little while for the best players, or maybe not necessarily the best, but some larger players to grow, to get a level of adoption. It'll be like the VHS and Betamax kind of thing, where you had lots of different technologies

2

One of the key, I think, it's an area which rewards people for being innovative, and with marketplaces like Google, like Google Play, or even though the iPhone channels are more restrictive, they still provide an incentive for people to go and provide, sorry, they still provide an incentive for people to write applications for mobile.

Internals\\STUDY2DATA\\NZInt2

Yes 0.0427 11

1

A lot of the space is also just evolving too in the sense that you've got these people providing platforms and they're all fighting one another to try and dominate and get more customers.

2

You've got android that is growing very rapidly, iPhone which is a closed shop, Symbian which used to dominate and is moving out more. You've got J2ME which is actually available on 80% of all phones which is a parallel platform, a Java platform, and it just fits in all these phones but it's a complete dog as well. It's generally a complete mess

3

It's generally a complete mess.

There's no coordination between the providers of how these platforms are going to operate, you're just left with all these individual platforms.

4

you're just left with all these individual platforms. As a developer, it makes it quite difficult because there's major fragmentation

5

If you wanted to write just some J2ME which is the Java platform. I don't know if you're aware of Java, they have this mantra which they call Right Once Run Anywhere, that was their original vision, and it's the worst fragmented platform there is.

6

You've got to write something like maybe 15 or 20 different versions of an application and it's all running on the same platform.

That's not including Android. It does make it really cumbersome

Reports\\Coding Summary By Node Report

Page 30 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference Count
-----------	----------------	----------	-----------------------------	--------------------

7

the web is actually the only glue that sticks these platforms together. Applications have to run on a platform and so once you've started developing for a particular platform you have natural lock-in with your customers and your own development team on that platform.

8

Anything that has to communicate between platforms has to be done on the web and that's where the web was really good. I don't know if you remember back when Bill Gates tried to own the web and failed. He did attempt to control it like he did the application but there was such a strong force pulling the different platforms together because it was the only unifying force that you could link Macs and PCs and things together.

9

Technical obstacles would be definitely fragmentation and that kind of thing.

10

I do think it's happening very fast if you look how fast android is taking over things

11

We've had mobile feature phones for quite some time but now it's starting to hit critical mass and now developers are jumping into it and so that's a piece that's happening fast – in those last few years you can see them in job ads. They're actually advertising for people.

Internals\\STUDY2DATA\\NZInt3

Yes	0.094	8
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1

I also think that expectations around the hardware and the network services ... things like Smartphone penetration, as I've said they're a key part of this in how quickly Smartphone penetration will actually go through. The price of those Smartphones are coming down is obviously going to help

2

I think Android has allowed people to be a bit more innovative and it's a more accessible platform. Apple is a bit more closed.

3

Apple sets the parameters that you can work in, whereas Android doesn't have those.

4

I think there are two key obstacles. I think the first particular obstacle is ensuring that the applications can work across different networks and different platforms. If you fragmentation between different networks and the way that they operate and interface as well as the different platforms.

5

We've got windows, android, Apple, there's going to be a winner and a loser and that sort of fragmentation is going to be difficult in bringing stuff to market. We often saw in the past that Apple is always first to market and not potentially Android is sort of creeping ahead and now Windows has got their partnership with Nokia so what's happening there. You can't just develop one application, you have to develop three or potentially four applications.

6

You end up having to develop not just one thing but multiple things. It's consistency. It makes it a lot harder than just developing one application.

7

I think a lot of it is going to be over the top in content. Players are going to be the ones developing applications.

Reports\\Coding Summary By Node Report

Page 31 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference

8

You need the next over the top and/or content. People and content. Also, think about events companies like Red Bull for instance. That can unite people from all around the world so therefore the network operators it won't work but ...one of the segments ... all these platforms.

Internals\\STUDY2DATA\\NZint5

Yes	0.0102	1	

1

I think everybody because basically, well if you look at the Asia market, Vietnam and all those, Cambodia, nobody is using computers any more they're all using a mobile phone. They check the emails, they talk on mobile phone, they do their banking transaction on mobile.

Internals\\STUDY2DATA\\NZInt6

Yes	0.0586	3	

1

For instance, my organisation, I have certain IT protocols, IT processes that we maintain internally. Some of the protocols are that I cannot download this free cloud based application called Dropbox for cloud storage, personalised cloud storage application called Dropbox.

It is a breach of law, internal laws, privacy, not laws, corporate laws on IT governance that if I download Dropbox onto my laptop it's illegal. I can summarily be, not dismissed, I can be brought up to discipline. This device is my private device provided by my company to use this phone on behalf of work, or whatever else as a private device, but it's basically even though the company provide the device, they don't prevent me from using Dropbox on this device.

They don't know, the reason is they don't know how to prevent you. The IT governance is not able to manage mobile devices.

Researcher

At the moment at least.

NZINT6

They cannot, they will not because the mobile devices are far expanding in their advancement that these guys will not know how to bring in IT governance into mobile platforms. If they start to bring in IT governance into mobile platforms, the mobile developers like the Apples and Androids will lose control, so they will not give mobile operators their basic bottom end how to open and write (unintelligible, 0:10:32.7), write IT governance, they won't give it to them

2

They won't give it because they will lose out on the usability, they want users to use it fully to its maximum possible extent, this device

3

Absolutely a revolution in the making

Internals\\STUDY2DATA\\NZInt8

Yes	0.1217	8
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1

I think from, our core services, if you look at our core services of voice, text, and data, the most attractive is data now. And that's really driven by smartphone adoption in our market

2

And really what's sort of driving smartphones today is really the applications, whether it's consumer or enterprise, is the applications that are really driving the benefits of smartphones, which I suppose is why you've seen the demise of Blackberry as you have and the rise of Apple and Samsung, who sort of, in the Android space, so that's, yeah

Reports\\Coding Summary By Node Report Page 32 of 34

12/09/2015 15:10

Aggregate	Classification	Coverage	Number Of Coding References	Reference
				3

mean one example, I had, and speaking with Apple recently was, a customer created a branded engagement type application, but they turned it into a game. So basically it was a serious of games within this app and it was designed as a marketing, it was like a marketing tool, campaign to drive that sort of brand engagement.

But what Apple came back and said in hindsight was, "Do not create games if you're not a gaming company." So if you take from an iPhone, iPad perspective, you look at companies like EA, Electronic Arts, or Firemint, who sort of developed Real Racing 2, for example, HD. You're competing against those games in that game category as, and if you're not heavily invested and heavily invested in the marketing of it, then whatever you spend your money on producing a game to create brand engagement is lost

4

It's, I think there is some brand loyalty to networks, but I think people are more conscious of what phone they have. In a lot of ways it's, if you take iPhone, it's, and likewise with the top end sort of Galaxy S2/S3, it's as much of an aspirational product now. It's like having a nice, dare I say it, for women it's like having a nice handbag or the like. Having a, it's become a status symbol in some ways, as much as anything else, it's aspirational

5

Yeah, so in that case, I think as a whole, the industry is driving the market to smartphone. Obviously there's net benefits for the carriers to do that, because you're really looking at this additional revenue that comes say from use of data for example, which wasn't there when they had voice and text only.

6

but I think it's, there are also those benefits to having smartphones where you can actually have access to real time information through web search and have access to emails and check your status on Facebook. All those sort of things, it's making it real for more people and as time goes by that price point will become less and less, and, so

7

Voice revenue's sort of tapered off and texts is basically free now, really. I mean the amount of texts you get is free. So you have to look for that next lift in revenue, so it's data, and then where do you go beyond that?

8

Growth is in, the driver is growth in data. I mean if you look at how Telecom has positioned themselves as the smartphone network, you think about how plans these days include data, and everything is smartphone. I mean that really is, probably ties in with what the reports are saying.

[Internals\\STUDY2DATA\\NZInt9](#)

Yes	0.0265	4
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1

So banks will be part of the eco system, but the biggest disruptors will be the likes of Google and Amazon and PayPal, who will, who see banking as an enormous, I mean banking's the world's biggest industry. It's a four trillion dollar a year industry. You don't have to be very smart, if you're sitting in Google's or PayPal's shoes or whatever, to go, "Well we want some of the action." So I think that a lot of the innovations are going to come out of those big competitors. They're not going to be direct competition, but they're going to be tied into it

2

you fast forward ten years it'll be, yeah, many consumers will be comfortable banking with Google or banking with Apple, or banking with whoever, I don't know who of those guys are going to make a serious play.

3

So stop building things I don't want and just give me the things I do want

Aggregate	Classification	Coverage	Number Of Coding References	Reference
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And that's where I think the power of the Googles and the Apples and the whatever, they spend their money on things that consumers want, because they are consumer-centric organisations

U2 Emerging Theme Data: “Future MNOs”, “Motivating customers”, “Simple to use”, “Services”, “Services difficult”

1/10/2015 13:21

Coding Summary By Node

dataround2

1/10/2015 13:21

Internals\STUDY2DATA\NZInt4

No 0.0195 1

1 KP 22/05/2015

Yeah so and I do think network operators will actually, where they'll add value is to provide the glue for these, for the third parties. So the network operators will have the customers, they'll have a customer base, the third parties will need access to the customer base and the network operators will provide that glue to allow these services to be sold through that customer base while taking a cut in the fee or whatever.

Reports\\Coding Summary By Node Report Page 1 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
No	Internals\\STUDY2DATA\\NZInt9	0.0072	1			

9/06/2015

I'm probably paying a hundred dollars a month of which at least half of it goes into marketing and value-added services I don't want. I'd just rather your infrastructure, I just rather Telecom

Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\19. Controlling influences S2 Final\\Future MNOs\\MNOs can provide payment Document

Internals\\STUDY2DATA\\NZInt2

No 0.0071 2

1 KP 7/09/2015

but that's not to say the operators aren't potentially great partners.

These Vodafones and telcos are potentially banks really if you look at it like that.

2 KP 22/05/2015

R: It was envisaged maybe about 12 years ago now that they would become banks but they didn't.) So possibly just an opportunity lost really. But they don't need to do all the banking services, they just need to provide payment services.

[Internals\\STUDY2DATA\\NZInt6](#)

No 0.0085 1

1 KP 1/06/2015

So then the application provider then says, "Okay I'm doing this, I'll do this." Now the MNO cannot sit quietly, he says, "Before the application provider can come up with something I will go and tie up my bank with these guys."

[Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\19. Controlling influences S2 Final\\Future MNOs\\MNOs will continue as data Document](#)

[Internals\\STUDY2DATA\\NZInt11](#)

No 0.0393 2

1 KP 22/05/2015

As I mentioned before, I don't think mobile network operators have a big role to play in mobile service development. The network operators role should stop at the pipe

[Reports\\Coding Summary By Node Report](#)

Page 2 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				2	KP	15/05/2015

To the extent that you are asking about the mobile operator industry structure, I think we have extremely high mobile penetration, good coverage, and high speeds . We have adequate interconnection between NZ networks and to the global internet.

Internals\\STUDY2DATA\\NZInt13

No	0.0098	1			
			1	KP	22/05/2015

So yeah, effectively they're providing that service and that channel and, but what's at the end of the channel is something which is more, it's more customer driven.

Internals\\STUDY2DATA\\NZInt2

No	0.0053	2			
			1	KP	22/05/2015

Otherwise I don't think they really get involved much. They provide just the services for tip over

			2	KP	22/05/2015
Like Vodafone don't say "here we go, here are all the first aps" and it comes preloaded with these aps. They don't have any big channel linking you into their main part. You think they					

Internals\\STUDY2DATA\\NZInt3

No	0.0129	1			
			1	KP	22/05/2015

I think you've got to provide the infrastructure for these guys to thrive on and provide a really solid network platform.

If we do that, that's great. Fast network performance which I think Telecom does a good job at, despite all its problems.

Internals\\STUDY2DATA\\NZInt4

No	0.0068	1			
			1	KP	15/05/2015

But these existing data network owners are also plumbers, right they sell plumbing, they make their money by how much data you send across their pipes

[Internals\\STUDY2DATA\\NZInt6](#)

No	0.0099	1	1	KP	16/06/2015
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most other countries it's going to be large system applications guys or multiple small guys who are service providers of all kinds of services who are going to survive, not survive, who will do better than the operator. The operator will just become a pipe carrier.

Reports\\Coding Summary By Node Report

Page 3 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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[Internals\\STUDY2DATA\\NZInt8](#)

No	0.0197	3	1	KP	22/05/2015
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Definitely within the last two to maybe three years, with the introduction of iPhone in New Zealand maybe four years ago, and then more recently the Android boom in the last year or

2	KP	22/05/2015
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And also, it's attractive from a carrier perspective due to the, I suppose, stagnant growth of voice and text, I suppose really, or the, yeah

3	KP	16/06/2015
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even like iMessage needs a data connection and so forth to work and, I think Apple probably more so than anyone probably sees a carrier as the pipe

[Internals\\STUDY2DATA\\NZInt9](#)

No	0.0545	8
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1	KP	16/06/2015
don't think network operators have anything to do with content development. So I don't think mobile operators will ever be successful at being brokers of anything.		
2	KP	16/06/2015
I think they are just a pipe, and a dumb pipe, and every time they try and be something else, they don't do a good job of it.		
3	KP	22/05/2015
Well I mean clearly they (mobile operators) provide the infrastructure, but no, beyond that, no I don't see any role requirement. All they need to provide is data		
4	KP	22/05/2015
so I think they've got to become a, one of the biggest challenges they've got is they try and be, especially New Zealand, both Telecom and Vodafone tried to be up the value chain and no one wants them up the value chain. They're much better off being the lowest cost infrastructure provider		
5	KP	22/05/2015
And I think that the telcos, I mean telcos in the US already realise this. So they've pretty clearly become infrastructure providers and they don't bother with anything else. I don't think in New Zealand that's not the case, for whatever reasons.		
6	KP	14/09/2015
I'm probably paying a hundred dollars a month of which at least half of it goes into marketing and value-added services I don't want. I'd just rather your infrastructure, I just rather Telecom was just a reliable, high bandwidth network, and it was just the core infrastructure.		
7	KP	9/06/2015
So I think that the future for telcos, at least in the consumer space, is going to be just being infrastructure providers.		
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Reports\\Coding Summary By Node Report	Page 4 of 32	
1/10/2015 13:21		

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				8	KP	22/05/2015
				Yeah, but I don't agree with it, and the reason I don't is because they spend, Telecom and Vodafone both spend more money on marketing than they do on infrastructure. So that's a nonsense argument. You can't have an argument saying, "Oh yeah, no, I need this money for infrastructure," when actually you've spent twice as much on marketing a service than you		
				So if you were spending ten times as much on the infrastructure than you were on marketing, that's a valid argument, because you say, "I've got this core infrastructure, that's where all my money's going." But when all your money's going into marketing, having an argument that you need it for infrastructure makes no sense		
Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\Service development and provision S2 Final\\Cheap smart phones Document Internals\\STUDY2DATA\\NZInt8						
No	0.0248	1				
				1	KP	2/09/2015
				So it's, I suppose it's a fine balance, isn't it, between trying to, I mean we, I think the industry as a whole is driving smartphone adoption. When you have smartphones sort of starting at the price point of \$149, for example, I think is definitely a price when there's a market moment. So your smartphones start at 149 and go up to \$1000 plus, really there's probably not many people who can't afford to get a smartphone now.		
				So I think as an industry and as we're working with device vendors and everyone else, I think you've made smartphones a reality for pretty much everybody. Call it democratising		
Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\Service development and provision S2 Final\\MNOs need to invest Document Internals\\STUDY2DATA\\NZInt6						
No	0.018	1				
				1	KP	24/06/2015

So they should be in a position to access their social networks while they access their business networks. So data requirements from a mobile perspective is highly sought after, high speed data requirements where because data intensive phones or smartphones these days where there's email functionality, GPS functionality. So all of these functionalities to be utilised you need services to be added by MNOs. So applications, provide them, develop services that MNOs can deliver

Reports\\Coding Summary By Node Report

Page 5 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\Service development and provision S2 Final\\MNOs vs customers Document						
Internals\\STUDY2DATA\\NZInt1						
No	0.0395	1		1	KP	22/05/2015

Now Two Degrees has expressed interest in having more mobile portal types of applications developed. They already have a website and they want to have the equivalent of that website on a mobile device which given that there are provider of mobile services you would have thought that it would have been the first thing to have happen rather than the website.

They sell mobile stuff through the website and once you have already got the mobile device they don't really kind of need you to be able to access to store from a mobile perspective as much as they needed to have the website ready. So to my surprise that development – proposal for that development has languished for some months, I think because they have so much else on their plate, trying to do too many other things as opposed to focusing in on making sure that they have a good act for their own shop, which is interesting.

Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\Service development and provision S2 Final\\Work with MNOs\\MNOs have a role as co-funders of service and application development

Document

Internals\\STUDY2DATA\\NZInt4

No	0.0245	1		1	KP	22/05/2015
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I think that's where you build partnerships, you've got an idea, you find the right partner who can actually sell your idea, who gets your idea and sells it. It might be another (unintelligible, 0:19:43.0) capitalist, it might be, I mean like for example, the example I gave you with the guy from India.

He saw a need, he understood how to sell it, but he didn't understand the technology, how to build it, so he went to someone who could do the build and understood the technology and he had people who understood how to market

Internals\\STUDY2DATA\\NZInt8

No	0.0085	1	1	KP	15/05/2015
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Yeah. I don't think there's anything that is not supportive of development of applications as such that I can see. I mean we as a business encourage it and even support it in terms of

Reports\\Coding Summary By Node Report	Page 6 of 32
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1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Nodes\\3. STAGE 2\\A. Emerging themes\\Future MNOs\\Service development and provision interested in partnerships recognising the importance of services				S2 Final\\Work with MNOs\\MNOs		

Document

Internals\\STUDY2DATA\\NZInt1

No	0.0105	2	1	KP	23/05/2015
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Vodafone – I had a very nice data plan that perhaps is still the one that they offer but 3 gb per month.

2	KP	23/05/2015
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I don't know whether it was either that I was a developer or that I happened to be one of their early subscribers to the service

Internals\\STUDY2DATA\\NZInt10

No	0.0383	1	1	KP	22/05/2015
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So do they go out to market themselves with their idea or do they partner with someone to do that? It will be very interesting in ten years to see what it's like. I mean Spark's turning into a, or Vodafone tried it with the Sky partnership years ago. They tried to turn into a full service, content, because content is the where we're going. I mean everyone's got mobile devices, everyone's got bandwidth, you pick and choose. My friends ask me, in New Zealand, what Internet provider should I go with?

And I'll go, I'll list the first five, they're all as bad or as good as each other. There is no difference. But it's the what you can then do with that. So it's the content that's the important...

Internals\\STUDY2DATA\\NZInt4

No	0.0422	4	1	KP	14/09/2015
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So just selling, just having a network without and depending on everybody else to provide services ain't going to work in the new world.

2	KP	22/05/2015
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I think all the network players in New Zealand are incredibly supportive of development and implementation, I mean they have to, I mean if you don't your customers aren't going to stay with you. You need to be seen to be innovative, you need to be seen to be supporting all these applications.

For example, if one of the network providers decided, "No you can't buy anything from Apple iTunes," everybody on that network will leave. (laughter) Everybody with an Apple iPhone would leave that network, that would be madness

3	KP	22/05/2015
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Yes (laughter) so you can't afford not to be supportive

Reports\\Coding Summary By Node Report

Page 7 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
			4	KP		22/05/2015

If I was a network provider that's what I'd be doing and that's what you need to do to work in this brave new world, you can't stop it, you can't stop it from happening, you've got to join

Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service demand generator S2 Final\\Current use by customers Document

Internals\\STUDY2DATA\\NZInt1

No	0.0038	1	1	KP	2/09/2015
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The fact that things are coming down in price just means that the market is expanding.

Internals\\STUDY2DATA\\NZInt11

No	0.0063	1	1	KP	15/06/2015
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Metcalfes law, value increases exponentially with number of users)

Internals\\STUDY2DATA\\NZInt12

No	0.0085	1	1	KP	1/09/2015
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'Cause a lot of it's not about attracting new customers, it's about retaining the ones that you've got. So, I mean that doesn't mean that innovation isn't important in certain places, 'cause clearly we never move forward if someone doesn't innovate.

Internals\\STUDY2DATA\\NZint5

No 0.0115 1

1/06/2015

But the more actually they've got the customers the more they stock orders is growing for them so the more the shares on the market is expensive. Well in terms of business models there's a critical mass as well that is important. So to increase your credentials you need to have a good amount of customers

Reports\\Coding Summary By Node Report

Page 8 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service demand generator S2 Final\\Environment encouraging Document						

Internals\\STUDY2DATA\\NZInt13

No 0.0168 1

1 KP 31/08/2015

So maybe that's something that can be considered here in the mobile space in terms of is it, is that model appropriate for the mobile network operators to provide data in a similar sort of pricing scheme. But making it cost effective for people to be able to use their mobiles abroad

Internals\STUDY2DATA\NZInt2

No 0.0045 2

1 KP 31/08/2015

There's a lot of software services that allow you to pay, if you wanted to.

2

KP

31/08/2015

the other thing is that the market needs to be using them in order for them to work. You've got to have merchants that are already signed . It's starting to become like that

Internals\\STUDY2DATA\\NZInt7

No	0.0491	1
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1

KP

31/08/2015

That are comparable that New Zealand wants to compare itself to and I think as New Zealand it's also it's difficult because it's a big country obviously that has lots of rural areas but at least for some of the centres with not too many people I think there's a great chance that they could, if they would allow things like, which I think is a great example of the free wireless zone in Wellington. It is a perfect example of how it can enable some really innovative services to take place and allow new forms of communication to happen

Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service demand generator S2 Final\\Free trial increases popularity Document

Internals\\STUDY2DATA\\NZInt1

No	0.0518	3
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1

KP

26/05/2015

Pre-pricing I think is a concept that is proven to work.

Reports\\Coding Summary By Node Report

Page 9 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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2

KP

26/05/2015

was why is Drop Box succeed like no other. And the person who answered this question better than anybody else of any other question that was asked in Quora basically said they did just precisely what the customer wanted to have done.

They wanted the deal to have their files synced between what was on their hard disk and what was in the cloud and they had a 'free' new model so everybody could get set up and start using this service but of course as soon as they used it up to the limit then they realised oh well, I am getting so much value out of this I will happily pay the monthly fee.

3 KP 9/06/2015

Free is the way you bring people in the door to help them to understand what the value of the service is. And the same thing is really true 7-digital music player which is so popular. It has a preview capability which means that you can still search for any song you want and you can still hear the first thirty seconds to one minute of it – you just don't get to hear the whole song and so that is another way of looking at free. You aren't really giving anything away. You are just not giving everything away.

Internals\STUDY2DATA\NZint5

No 0.0037 1

1/06/2015

you need to have a good amount of customers and probably for that you need to give it away for free

Internals \ STUDY2DATA \ NZInt6

No 0.0115 1

1/06/2015

It's the services that other providers like developers who are offering all these development services of the mobile banking and all these kinds of services, which today they are making it free to people to popularise it, that's the service providers. So bank says, "Go down and download my banking things

Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service demand generator S2 Final\\Mobile device penetration Document

Internals\\STUDY2DATA\\NZInt1

No 0.0526 2

1 KP 31/08/2015

What really drives the mobile business is people wanting to communicate. The statistics that I have heard are the most informative on this relate to the penetration of mobile devices in the developing world. I have heard it said that we are going to reach a point in the not-to-distant future, where there will be more mobile devices than people with shoes on the planet.

Reports\\Coding Summary By Node Report

Page 10 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				2	KP	31/08/2015

Now, if you think about that for a minute – why would that situation ever exist? Well, first quite a few people in the developed world that have multiple phones. For those people having to make that choice between having a mobile phone and having a pair of shoes well essentially they are probably living in a place where those two things each give them essentially the

How do we get or communicate over a long distance with someone else? With the phone they literally have to have enough electricity to run it and the ability to make that call to find out that information that would otherwise they would have to wear out the pair of shoes walking to that distant town to collect up the information or market their products or whatever it might be. So people are willing to make that trade-off

Internals\\STUDY2DATA\\NZInt3

No	0.0036	1		1	KP	2/09/2015
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Phones have become an extension of people, it's part of who they are.

Internals\\STUDY2DATA\\NZInt9

No	0.0174	2		1	KP	3/09/2015
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So when online banking started, maybe a quarter of homes had a computer in them, let alone an Internet connected computer. So, whereas now, every home's got mobile devices. So you've got your supply side, the devices are there. Consumers are already doing stuff on their phones, Facebook and other things, in particular

			2	KP	2/09/2015

So the point is that there's already a population of users, particular smartphone users that are already familiar with this technology. So not only is the technology everywhere, not only does everyone have the technology, but everyone's familiar with how to use it. So when they think about mobile banking, they think of it as quite an easy, obvious thing.

Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service viable S2 Final\\Customer base Document

Internals\\STUDY2DATA\\NZInt12

No	0.0085	1			
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1	KP	1/09/2015
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And then of course the amount you pay is really, really sensitive. And I think, WhatsApp for example have a pay model, but the amount you pay is very tiny, so that's fine, but then you've got to have a massive user base in order to make it worthwhile

Reports\\Coding Summary By Node Report	Page 11 of 32
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1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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Internals\\STUDY2DATA\\NZInt2

No	0.0167	1			
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1	KP	1/09/2015
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Oh cool. Yeah, the payment services are interesting. The way we want to do it is using 0900 numbers, premier calling numbers. There's calling services around the world where you just dial 0900 and load up your account or you can SMS a number and it will load.

There's lots of ways you can actually do that, even just from the application. You can actually use the application to dial the SMS number and throw up a dialogue box. You don't even need their permission, in fact it's how a lot of scams operate.

We would throw up a dialogue box and say "would you like to charge your account?" and then put in how much money you want in and basically the phone would just dial out and take money from your prepay card or your account and shove it into your virtual account.

As long as the numbers are small enough and you're not talking many dollars, then you do have an economy that people can pay for services.

Internals\\STUDY2DATA\\NZInt8

No	0.0093	1			
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1	KP	1/06/2015
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Well that's right, I mean I suppose you kind of think back to the days of the desktop and so forth. There isn't that, there wasn't five hundred thousand desktop applications, and the applications didn't cost you a \$1.49 or \$1.99.

Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service viable S2 Final\\Incentives needed Document

Internals\\STUDY2DATA\\NZInt11

No	0.0372	2
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1	KP	15/06/2015
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And sometimes free pricing is not enough. You may need to stimulate early adoption not just through give-aways but bundling with another in-use service or other incentives to try it out.

2	KP	15/06/2015
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Hall Varians characteristics of a digital good difficult for the user to value the good without actually consuming it. At the same time low incremental cost for the supplier to give the good

Internals\\STUDY2DATA\\NZInt12

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1	KP	15/06/2015
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The other thing that people of course use is, this bit's free and you pay for the next bit. Or the alternative is it's free up to a point and then you have to start paying

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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1	KP	15/06/2015
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It's very hard. There are a lot of technology issues as well. We're just feeling our way as we go. What we'd like to see is that the adoption starts getting into millions. Even though they're really poor, you eventually build up these channels and then you can sell other services.

Internals\\STUDY2DATA\\NZint5

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1	KP	15/06/2015
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So when you go somewhere and a companion will give you an application for free, just adding on values.

Nodes\\3. STAGE 2\\A. Emerging themes\\Motivating customers\\Service viable S2 Final\\Mobile payment Document

Internals\\STUDY2DATA\\NZInt2

No	0.0186	2
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1	KP	1/09/2015
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Oh cool. Yeah, the payment services are interesting. The way we want to do it is using 0900 numbers, premier calling numbers. There's calling services around the world where you just dial 0900 and load up your account or you can SMS a number and it will load.

There's lots of ways you can actually do that, even just from the application. You can actually use the application to dial the SMS number and throw up a dialogue box. You don't even need their permission, in fact it's how a lot of scams operate.

We would throw up a dialogue box and say "would you like to charge your account?" and then put in how much money you want in and basically the phone would just dial out and take money from your prepay card or your account and shove it into your virtual account.

As long as the numbers are small enough and you're not talking many dollars, then you do have an economy that people can pay for services.

2	KP	15/06/2015
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But those ones have problems that you have to have the merchant signed up and everyone's connected to it

Internals\\STUDY2DATA\\NZInt3

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1	KP	15/06/2015
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I personally think the technical element I think means instead of carrying around a wallet, you can carry around a phone to make a payment. I know that I'd use a machine in Australia to buy a coke. I think it was a text message that then gets charged back to your bill.

So I think that's definitely got benefits but instead if you can walk up to a machine and swipe it with your phone, that makes it easier to use. I think it has more potential.

Reports\\Coding Summary By Node Report	Page 13 of 32
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1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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2	KP	15/06/2015
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But obviously that's coming. It's just a chip set into the device. It should be not too far away. Because it's such an easy application to use. I mean if you're buying something from a dairy or a fast food outlet or even a supermarket, over in the UK it's up to 50 pound value or something, you can swipe at a supermarket

Internals\\STUDY2DATA\\NZInt6

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1	KP	15/06/2015
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So from a benefit perspective, today I have mobile banking, what are the new feature that it's going to really, really dramatically change, is me being able to pay mobile payment on the spot instead of using Eftpos, instead of using a credit card.

2	KP	15/06/2015
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From my account I'm going, I can see my bank balance and when I am buying from the counter I have a bar code scanner I can go to my, which is what is these developments that are going on, there are three or four different things that are happening at the back end. I can use the bar code scanner to scan my item that I'm buying and wherever I'm buying it'll scan, it'll tell me how much money and then it'll tell me what balance I have in my bank and it'll say, "Do you want to purchase these things?"

I go and say, "Make payment." So I made payment, the business gets its payment directly, I get a printout at that place saying you made payment, I take that receipt, walk out with my goods. I have no interaction with the local individual there getting tired, pissed-off, bored, waiting in line for four hundred people in front of me, no these are all going to...

Nodes\\3. STAGE 2\\A. Emerging themes\\Services \\02. Customer decision making S2 Final\\Choice as a factor

Document

Internals\\STUDY2DATA\\NZInt13

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1	KP	1/06/2015
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Certainly I think we are seeing that, is that they [customers], they are becoming more demanding and because there's a number of, there's a number of service providers providing similar services and it's very, it can be quite easy to switch

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1	KP	7/09/2015
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People basically just download their own apps that they want on the phone and they go to a site and start downloading them.

Reports\\Coding Summary By Node Report

Page 14 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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1	KP	31/08/2015
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And then based on specialised services you take, depending on whether the mobile network operator is offering these services, or is an application provider offering the services, or is the system's company offering the services, you might have to pick and choose what applications you want and based on the complexity of what you want you may have to pay for those

Nodes\\3. STAGE 2\\A. Emerging themes\\Need and choice\\02. Customer decision making S2 Final\\Perceived need for service as a factor

Document[Internals\\STUDY2DATA\\NZInt10](#)

No 0.0323 2

1 KP 26/05/2015

But I know that there will be stuff we don't realise is important to us until we actually get it. So mobile banking would be a key example. We were school, ten/fifteen years ago we were schooled in the thought we had to go into a branch in order to interact with our bank. And now, certainly amongst the people I know and work with, we would be talking weeks or months since we last physically went into a bank to interact with the bank. So either we will self-service what we do on the mobile device

2 KP 1/06/2015

And so your need could be something I want to do or the perception of something I should do

[Nodes\\3. STAGE 2\\A. Emerging themes\\Need and choice\\03. Customer expectations S2 Final\\Service choice](#)**Document**[Internals\\STUDY2DATA\\NZInt6](#)

No 0.0058 1

1 KP 9/06/2015

So you are then at your liberty to choose the services you want, from who you want and pay who then is important, that is how the market is going to drive.

Reports\\Coding Summary By Node Report

Page 15 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Internals\\STUDY2DATA\\NZInt9						
No	0.0054	1				

1 KP 7/09/2015

You know, why do I want the Yahoo, Telecom Xtra Yahoo application on my phone? I don't, they're providing content, I don't need that from them, I don't want it. I want to get my content from who I choose to.

Nodes\\3. STAGE 2\\A. Emerging themes\\Need and choice\\05. Customer requirements S2 Final\\Convenient services Document

Internals\\STUDY2DATA\\NZInt1

No 0.0318 1 1 KP 24/05/2015

Essentially I could boil it down to one word and that would be ‘convenience’. Really what we are talking about here is changing the manifestation of so much of our entertainment and cultural experience into a bit stream. We’re turning books into bits, we’re turning music into bits, movies – everything that involves communication is now turning into something that can be stored, carried, communicated through one of these mobile devices, so it becomes a portal, too – skype is giving us global phone calls capabilities, Wikipedia means we can look anything up anywhere at any time when all this stuff gets linked into Google Maps we can always find where we are and how we want to get to any place we want to go to

Internals\STUDY2DATA\NZInt10

No 0.0335 2 1 KP 18/08/2015

So instead of writing a letter to their sister-in-law who lives in England, being able to face time on a mobile device. So if I had to pick one thing that the main requirement for them would be the communications.

the real time transactions of mobile applications. So either I can, say a financial transaction, I can do it on my terms, done and dusted, don't need to think about it when I get home. I can basically accomplish that task whenever I, when I want to do it or when I need to do it. So at my convenience. Yeah, so the convenience of the self-service model, I think is one of the most

Internals\\STUDY2DATA\\NZInt11

1 KP 18/06/2015

Trademe and various other mobile-ified versions of web apps because they save time

Reports\\Coding Summary By Node Report Page 16 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Internals\\STUDY2DATA\\NZInt12						
No		0.0161	3			

1 KP 18/09/2015

I think the other ones are much more general, they tend to be just things where sometimes it's convenient to do it on a mobile, sometimes it's convenient to do it on a desktop. I mean mobile banking would be an example of that where sometimes you want to do it anywhere anytime, and sometimes you don't.

2 KP 18/06/2015

So I think 90% of mobile apps are occasionally convenient.

3 KP 18/06/2015

things that are convenient and helpful and efficient do improve our lives even if it's only in a trivial way.

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1 KP 9/06/2015

Yeah, so I mean I look as myself as an individual, I'm more concerned about ensuring that I'm on the best network and I want to be able to use my phone anywhere and everywhere.

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1 KP 1/06/2015

Yeah I think there's need to be definitely some benefit for the customers, for the users which I think is mainly the accessible, making information accessible in different points in time and

[Internals\\STUDY2DATA\\NZInt9](#)

No 0.027 3

1 KP 9/06/2015

One is around, in essence, convenience, which is really obvious but very much translates directly into time saving. So if I can check my balance on my phone in sixty seconds or less and it takes me two to three minutes to do so online and two to four minutes to do so over the phone, then I'll always go to the mobile device. So there's an immediacy and time saving. So convenience very much translates into time for our customers across our research

2 KP 24/06/2015

Anything that saves them time, so checking your balance on your phone is faster than checking your balance at an ATM or over telephone banking.

[Reports\\Coding Summary By Node Report](#)

Page 17 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				3	KP	15/06/2015

I think it's just much more about the intimacy and the familiarity associated with a device, which you could argue is technology, but actually it's just because it's a device that's in your pocket. It's not 'cause of technology, the technology's neither better nor, in the convenience side, neither, it's definitely not better than my computer which I'm using right now. It just happens to be in my pocket and so it feels easier and more accessible.

[Nodes\\3. STAGE 2\\A. Emerging themes\\Need and choice\\05. Customer requirements S2 Final\\Needed services](#)

Document

[Internals\\STUDY2DATA\\NZInt10](#)

No	0.0166	2			
			1	KP	18/06/2015
Obviously how it fits into the customers' needs, so what their requirements are. So, "Do I have a need that this service meets?" that influences them towards adoption.					
			2	KP	18/06/2015
I think fundamentally you've got to have the need, how does this fit into your need, otherwise I think you just fall into the don't adopt.					
Internals\\STUDY2DATA\\NZInt11					
No	0.0282	1			
			1	KP	18/09/2015
I think adoption follows a model or curve. Many frameworks exist, I like those from Christian, the Innovator's Dilemma. During the early lifecycle of the product first adopters tend to be technical, niche, they are likely attracted to specs or functionality e.g. solving a very specific problem.					
Internals\\STUDY2DATA\\NZInt12					
No	0.0107	1			
			1	KP	18/08/2015
But of course it's also got to be useful and helpful. I mean no one's going to use an app that isn't helpful, 'cause we're talking here about, we're not talking about entertainment, are we, we're talking about business services. So clearly there has to be a useful business process that you engage in as a result					
Internals\\STUDY2DATA\\NZInt4					
No	0.0152	2			
			1	KP	24/06/2015
I think what drives innovation is the need, someone sees a need and then comes up with an idea to resolve an issue, so a problem and something and you come up with an answer to resolve the problem. I believe that's what drives innovation.					

Reports\\Coding Summary By Node Report

Page 18 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				2	KP	16/06/2015

I mean a lot of people come up with a lot of clever ideas but there's just no need for them,

Internals\\STUDY2DATA\\NZint5

No	0.0112	1			
			1	KP	16/06/2015

I've seen a lot of people developing system that exist already, duplicate them from a geek aspect and I've seen people designing very weak things that has fantastic system behind and both of us, I think they don't work on the market, or they don't last very long, so it's a waste of time and energy

Internals\\STUDY2DATA\\NZInt8

No	0.0342	5			
			1	KP	15/06/2015

I think, I'll use the term utility, I suppose really. If, any application, is the utility of it.

			2	KP	15/06/2015

The Maxx application to know where your bus is or, and I mean that's, it's all about utility and that's the really, I think in terms of valuable, the apps that you keep on your phone are probably the ones that offer the best level of utility, if that makes sense

			3	KP	15/06/2015

You tend to buy tens to hundreds of apps for your phone, and not all of them are on your phone, but the ones that are on your phone are typically the ones that

4 KP 15/06/2015

have high utility.

5 KP 16/06/2015

One of the things I've sort of picked up on is that if your app's not being used on a regular basis, it's going to get deleted off the phone, therefore all the work you've put into innovation and putting that app into the market and getting it out there, becomes null and void, because it disappears.

[Internals\\STUDY2DATA\\NZInt9](#)

No	0.0198	2
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1 KP 24/06/2015

in the banking space, the service that is most attractive and most used is checking my balance. So I can tell you very specifically what that is because it makes up over 90% of all our

Now there's a couple of reasons why that's the case, 1) is that you always want to check your balance before you do anything else, because whether you're paying a bill or whatever, you want to make sure there's enough money. So checking your balance is the, is a prerequisite to other types of interactions.

Reports\\Coding Summary By Node Report

Page 19 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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2 KP 24/06/2015

if you're talking about functionality, then it's always going to be, as I said, checking your balance, for the reasons that I alluded to. One is people like knowing their balance and secondly people want to know their balance before they do anything else.

[Nodes\\3. STAGE 2\\A. Emerging themes\\Need and choice\\09. Service demand inhibitor S2 Final\\Not right Document](#)

Internals\\STUDY2DATA\\NZInt6

No	0.0079	1
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1	KP	1/06/2015
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So it's people like me and others and my children and your children who are all wanting these things to happen.

So the more it doesn't happen to them the less they go and buy or interact in the area they do.

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1	KP	2/09/2015
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But I think for the basics, if you think about the foundational versus transformational, I think for foundational we absolutely do see a difference. So a good example, we've got a couple of customers in Asia who do charge for basic services and they definitely don't see the same level of usage for the foundational stuff, but for the transformation...

2	KP	24/05/2015
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we have pretty good data,

3	KP	18/09/2015
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And so that's I think what's changing.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Competition S2 Final\\Amongst service developers cum service providers\\Application developers have different perspectives on how to develop successful applications

Document

[Internals\\STUDY2DATA\\NZInt1](#)

No	0.0111	1			
			1	KP	7/09/2015
I think many people in the mobile application development space look at the problems from different perspective. Some of them think it's all about the technology. Some of them know that it has to be the user experience and others are just marketers					

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Competition S2 Final\\Amongst service developers cum service providers\\Mobile needs fastest growing

Document

[Internals\\STUDY2DATA\\NZInt6](#)

No	0.0176	2			
			1	KP	7/09/2015
So the more it doesn't happen to them the less they go and buy or interact in the area they do. So because they're doing it, businesses then are hurting because they're not getting the money, the revenue pull-throughs. So then they push pressure on their application provider saying, "Come one give me something that I can bring, attract these consumers to come back					
			2	KP	7/09/2015
because mobile usage, mobile services, mobile needs are the fastest growing needs in the world.					

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Competition S2 Final\\Amongst service developers cum service providers\\Service gamification as an attempt to attract customers

Document

[Internals\\STUDY2DATA\\NZInt8](#)

No	0.0237	2
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1	KP	7/09/2015
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Yeah, but there is a difference between gamification and creating a game. So you can have gamification within your application in terms of a sense of gaming in terms of doing things, but you're not actually creating a game, and I think that's two distinct schools of thought.

Reports\\Coding Summary By Node Report	Page 21 of 32
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1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				2	KP	7/09/2015

NZINT8

No, so basically you're using, so basically using gamification in an educational application. So I mean, if you take like a child type scenario, it's like, if you can do three sums, then it reveals or unravels something for you as a token of success in a game, but it's not designed to be a game.

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Competition S2 Final\\Amongst service developers cum service providers\\The challenge is to reach the customer

Document

Internals\\STUDY2DATA\\NZInt11

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1	KP	7/09/2015
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Some of the areas that are most important and most difficult for a developer to tackle are: focus on solving a big problem for a known customer , solve it quickly and elegantly, so that you can test the proof of concept with realworld adopters and refine from the top

Internals\\STUDY2DATA\\NZInt8

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KP

7/09/2015

such a large number of apps, and people creating them every day. The number of app developers, it's exploding. I mean that's what the smartphone has done, has made developing applications so easy that you could do it in your bedroom after school, as a kid basically.

But to be successful, how do you market it, how do you take it to the consumer, how do you get that cut through above everything else that's being launched out there in the marketplace? And that's your biggest obstacle for the success, I think

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Competition S2 Final\\Amongst service developers cum service providers\\To be successful you need to be the first on the market

Document

[Internals\\STUDY2DATA\\NZInt2](#)

No	0.0041	1
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KP

25/06/2015

That's our plan. We'll try and make money like that and start a firm in a foreign country. I don't know how much opportunity is left in Europe like that. It's so competitive and yet the money's all going to India and China.

[Reports\\Coding Summary By Node Report](#)

Page 22 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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[Internals\\STUDY2DATA\\NZInt4](#)

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KP

16/06/2015

or they're too late, or they're too late into the market and in which case they lose out.

2

KP

7/09/2015

I think, so a lot of people who come up with these mobile services are clever technology people, they're clever technical people, they understand how to solve technical problems. But what they don't understand is how do they solve the business problems, how would they market their products.

And a lot of these fail because they don't know how to market themselves, they don't know how to market and sell their products. So they don't have the business acumen, so I think a successful solution needs both technical and business acumen

3 KP 15/06/2015

it's not just a single skill set now that you need, gone are the days where someone like Hewlett & Packard who were very clever inventors could sit in their garage, invent something and

Those days are gone I think, you need a significant larger skill set and it's because the world's moving so quickly. If you take too long to get into the market someone else is going to beat you to it.

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Competition S2 Final\\Amongst service developers cum service providers\\Want to provide the same, most neded or most valuable service

Document

Internals\\STUDY2DATA\\NZInt12

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1 KP 7/09/2015

So they're not being innovative at all. What they're doing is they're saying, "Okay, Bank A has a mobile solution that does X, we're Bank B so we better have a mobile solution that does X." So I don't think innovation is necessarily important when we're talking about business services

Internals\\STUDY2DATA\\NZInt2

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1 KP 3/09/2015

payment services. That's eventually going to be performed by a whole host of companies that are jumping into that space now

Reports\\Coding Summary By Node Report

Page 23 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Internals\\STUDY2DATA\\NZInt9						
No		0.0104	2			

1 KP 7/09/2015

So in terms of mobile financial services, it's going to be a battle between financial institutions, who may or may not outsource to solution providers like us. Some will, some won't. So if you think about it in the New Zealand market. ANZ outsources to us, National Bank outsources to us, Westpac to some extent, but ASB does not, nor does BNZ.

2 KP 7/09/2015

So they'll make their own decisions on a case-by-case basis

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Controlling influences S2 Final\\Banks slow Document

Internals\\STUDY2DATA\\NZInt4						
No		0.0048	1			
				1	KP	30/08/2015

So it's a two-way street, our customers want us to respond much faster so we need to respond much faster.

Internals\\STUDY2DATA\\NZInt9						
No		0.0095	2			
				1	KP	18/05/2015

but when they download the app of a bank they have very high expectations, and that's very, it's very new for financial institutions. They're not accustomed to being publically assessed,

2

KP

18/05/2015

And it doesn't just apply to banks, but obviously that's who I'm most familiar with, but that is a new thing for enterprises that all of a sudden they're in public.

Reports\\Coding Summary By Node Report

Page 24 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Controlling influences S2 Final\\Secondary channel Document						
Internals\\STUDY2DATA\\NZInt13						
No	0.0475	2				

1

KP

7/09/2015

mobile banking, it's really just a, at this point in time it's really just a channel, it's just a way of accessing an account. The phone really doesn't hold a lot of information on it, or hardly anything. So it's not, the value still isn't on the phone necessarily, it's still held elsewhere.

2

KP

7/09/2015

Yeah, it's not to say there's no risk there, but there's a lot of smart minds that have thought about a lot of different ways of protecting it and making sure that they're, the access to the Researcher

All the experience with online banking helps as well, because there is knowledge about...

NZINT13

Yeah, there are some new challenges with mobile banking in that space, but a lot of the principles still apply, or there's a lot of overlap between mobile banking and Internet banking

Internals\\STUDY2DATA\\NZInt2

No

0.0122

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1 KP 7/09/2015

I think that most companies will just see it as another channel to get to their customers

2 KP 7/09/2015

You might see the ANZ Bank or something produce a ... in fact, if you look at Mcom for example, they produce mobile applications for banks. Banks can then just buy Mcom's app and push it out as their own and what they've done basically is outsourced an application developer so they didn't have to do it themselves and created an app from which people can do their banking. It's not a web page any more, it's an app that gives you more security and a more seamless approach

3 KP 7/09/2015

I think that they would treat mobile business services as just another medium to communicate with their customers

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Service development and provision S2 Final\\Different perspectives

Document

Internals\\STUDY2DATA\\NZInt2

No 0.0114 2

1 KP 1/10/2015

For it to jump to being truly useful and stick around, it's got to be functional and integrated. There are not that many services that will stand the test of time like that

Reports\\Coding Summary By Node Report

Page 25 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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2 KP 1/06/2015

I don't think anyone really knows, they just use the phone. "Oh I've got a phone" and they just start using it and this is the experience they get. They don't think "hey, Vodafone's giving me a bad data connection". Maybe when it matures they will but right now I don't think they know. That's my opinion. It wouldn't be a factor for buying a phone. People will just go and say "I want that phone" and they wouldn't think "what kind of data services

Internals\\STUDY2DATA\\NZint5

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1	KP	7/09/2015
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I still think that there's not enough communication between the front end and the back end between programmers and designers and producers. I think we still that what I would call a creative producer that's someone who is able to understand the technical aspect, the parameters, but also understanding the needs of the customer

2	KP	7/09/2015
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sometimes when we develop products we, services for mobile, we forget about customer, they way they interact with it and sometimes we make it too pretty and it doesn't really work well in the background

3	KP	7/09/2015
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So probably we say one of the key jobs now is for the information architect, or project manager needs to be, to have a background on both sides I think.

4	KP	7/09/2015
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Yeah I think right now, well from what I know especially the smaller providers they do everything from A to Z, they design the interface, they create the codes, the language and quite often they've got a very limited ability to do usability tests or to test simply the app

5	KP	7/09/2015
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Probably what I'm trying to say as well is where we've got less and less time as well to develop those products and I think we should take sometimes more time.

Internals\\STUDY2DATA\\NZInt9

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1	KP	7/09/2015
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But that's what comes with the territory. You deliver people what they want, therefore they listen to you and therefore you can guide their, if you don't give people want they want and therefore you don't listen to them.

I mean, as I said, BNZ doesn't give me what I want, therefore I actually don't really care, I have no loyalty to BNZ, therefore they have no real ability to shape my requirements. Whereas if I had lots of loyalty to BNZ then they would have an opportunity to shape my requirements about what to expect from a bank. So it's a vicious, it's a virtuous or vicious cycle.

	2	KP	7/09/2015
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they're consumer expectations			
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Reports\\Coding Summary By Node Report	Page 26 of 32
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1/10/2015 13:21	
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Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Service development and provision S2 Final\\Innovate Document						
Internals\\STUDY2DATA\\NZInt1						
Yes		0.0296	1			

1	KP	7/09/2015
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From my perspective software always is providing a service whether it is providing it on a mobile platform or whether it is providing it from access to the internet or even if it is just something purchased at a store – carried in a shrink-wrapped box and installed on a computer somewhere or a laptop. It is still is essentially a service that is being rendered by the software, So while my work has changed in terms of its subject matter to a certain extent as a result of the mobile initiative developments in the field, I am switching in my career essentially from servicing a corporate software need to serving a personal software need.

1	KP	4/09/2015
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What we're trying to do is hit these new emerging economies. People who have never had a computer because they've only had \$2 a day to live on and they buy their first computer which is a mobile phone and they've never been connected to the internet before. That's the scope of 50 million subscriptions now to the 600 million subscriptions in the next few years.

Those people have never been exposed to any kind of system or computer before. We want to just hook right in and the first thing that they see is our platform which they can create content on for free, they can earn money from that content if someone looks at it, so it's monetized, and the network basically hosts the content.

2 KP 4/09/2015

What we find challenging is that in emerging markets like India, we don't have the natural culture and understanding of what makes those people tick. What's it like living on \$2 a day? What's important to you? What do you want to see?

3 KP 4/09/2015

Yeah. I mean what do those people want? Let's say for example, we're talking about the application that lets you load other applications on it, so like an iStore application. We want to put the most popular applications that they can download – we're saying most popular but what's that from?

The western world? We already know the segment that we're appealing to is young males that are very poor in India so we can actually almost target things that they would like. That's the ongoing challenge of it, making sure you

4 KP 4/09/2015

Yes, the downloading of applications. So they basically download an application that allows them to download other apps. I can't really give you too much detail because they're still in

5 KP 4/09/2015

I can call it an enabler because that's what it is. So it is something which provides them with an interface?

6 KP 4/09/2015

Yes. As far as they're concerned it's just another application, they don't even think of it as another platform. They just see it as another app on their phone but that app allows them to get other apps. So we'll actually like download a centre for them and they can go "I want that one, I want that one" and then it loads up the apps into their inbox and they can use them.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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7 KP 4/09/2015

Yeah. Starting to. We're at the starting gates. We're just at the starting point but we've got them downloading it and it's operating. We've got a number of channels that we're trying to establish. All of those are based on our platform. For us, we made the choice of not going into first world, like iPhone android type markets, we wanted to deliberately learn about this

Nodes\\3. STAGE 2\\A. Emerging themes\\Services difficult\\Service development and provision S2 Final\\Open source Document

Internals\\STUDY2DATA\\NZInt3

No	0.0219	1	1	KP	4/09/2015
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Being open source I think is the key. If network operators or the over the top players try and do it themselves, I think it's going to be difficult. They have to give it to the masses and that's when you're going to get real innovation. I think Apple's been traditionally seen as the innovators but I think if you give it to the masses, that's when you're going to get real innovation

Nodes\\3. STAGE 2\\A. Emerging themes\\Simple to use\\Customer decision making S2 Final\\Ease of use as a factor Document

Internals\\STUDY2DATA\\NZInt13

No	0.0069	2	1	KP	4/06/2015
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customers of the mobile,

2	KP	4/06/2015
important to the ratings that we're getting back on the site as well, and that ease of use.		

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
Internals\\STUDY2DATA\\NZInt9						
No		0.0033	1			
				1	KP	9/06/2015
Which you could argue is ease of use as well. So basically the people who do use it, basically say, "it's good, but it's not easy						
Nodes\\3. STAGE 2\\A. Emerging themes\\Simple to use\\Customer requirements S2 Final\\Easy to use services Document						
Internals\\STUDY2DATA\\NZInt10						
No		0.0083	1			
				1	KP	18/06/2015
And so there is always evolution around there about making mobile devices useable. Useable in an Internet environment versus useable in their own right.						
Internals\\STUDY2DATA\\NZInt11						
No		0.0135	1			
				1	KP	18/06/2015
Low processing time, a continuation of the above , mobile interfaces and use cases tend to encourage quick or simple responses and interactions						
Internals\\STUDY2DATA\\NZInt12						
No		0.0186	5			
				1	KP	18/06/2015

mobile apps from a banking perspective, is they're actually easier to use than the desktop versions. They're probably less secure as a result, but they're easier to use. So when you log into the mobile apps, you're already halfway there. Whereas if you go on the desktop apps, they make you sort of give you your mother's maiden name

	2	KP	1/09/2015
mobile banking			
	3	KP	1/09/2015
is easier than doing it on the desktop.			
	4	KP	18/06/2015
it's easy to use, usefulness, ease of use,			

Reports\\Coding Summary By Node Report Page 29 of 32

1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
				5	KP	18/06/2015
you can't have a mobile app that's difficult to use, because there's so many and there's so much competition.						

Internals\\STUDY2DATA\\NZInt3

No	0.0019	1			
			1	KP	20/08/2015
Ease of use is one of the key things.					

Internals\\STUDY2DATA\\NZInt9

No	0.0156	4			
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		1	KP	9/06/2015
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actually it's quite interesting. As I said to you, the biggest factor when we go and test with consumers, "What do you want?" Existing users, they don't ask for new features, they ask for

		2	KP	9/06/2015
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easier

		3	KP	9/06/2015
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if you go and sample a hundred users of mobile banking services, probably eighty of them will tell you, "I'm happy with what I've got, I just want it to be easier

		4	KP	18/09/2015
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So when I talk about, my view of innovations, is enabling those things, making existing stuff easier and faster, not kind of coming up with this kind of weird and wacky stuff. There will be a role for those things, but I think that's not primary.

Nodes\\3. STAGE 2\\A. Emerging themes\\Simple to use\\Service value adder S2 Final\\Simplicity Document

Internals\\STUDY2DATA\\NZInt1

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		1	KP	1/09/2015
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Well, you know, that's a real gee-whizz cool piece of technology but it's very likely that only a small part of the audience is ever going to take advantage of it. So what happens is that there is an over-development, over-design and featuritis that creeps into many of these products and services where the customers really would have been much happier if they had something very simple and intuitive, so, well, everyone in the development business is trying to figure out what's the best solution.

Reports\\Coding Summary By Node Report	Page 30 of 32
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1/10/2015 13:21

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By	Modified On
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2

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1/09/2015

The tendency is for people to think that more features, more functionality is better when in fact from a users standpoint sometimes it's not.

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KP

18/06/2015

the ones that really work today and are attractive to customers are things that first and foremost need to be simple to use.

2

KP

18/06/2015

for example restaurant applications where you can find out restaurant ratings and so forth, booking. Those things are great but they have to be simple to use

3

KP

30/08/2015

The fact you still have to enter your security details the same as what you do online to me is a massive hindrance for me to actually carry security cards, credit cards into the additional information. I was expecting a far more seamless thing.

4

KP

30/08/2015

Because it's my phone and it's locked anyway to get into it, you shouldn't have to reapply additional security settings. I think they've done it to be consistent with what's on the website but from a mobile perspective, it's quite clunky. The interface itself is not quite intuitive enough

Internals\\STUDY2DATA\\NZInt4

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1/09/2015

Yeah stuff, I think services that reduce the number of devices the customer needs. So a device where applications which allow customers to have their entertainment, allow them to do their work, allow them to find information

Internals\\STUDY2DATA\\NZint5

No	0.0568	6		
			1	KP 1/09/2015
seamless, so it's a service or it's something that you use but you don't really realise that you use it, so...				
			2	KP 30/08/2015
So I would call that seamless, so you don't really see the service and you but it's something natural, more natural that goes between you and the service provided. So that's why it's so attractive, it's not complicated, it's very intuitive, you push here and there and all of a sudden you've got it				
			3	KP 2/09/2015
Something I've done in a test last year to do live video and one of the things that I've learnt from that, that was a big mistake, people really need to go on the website to login to get a specific learning, a specific password, to create a special account number. That account number needs to be actually recorded within the app.				
The app needed to be uploaded on the phone, they needed to logon to the app with a specific learning and password, but it was slightly different from the previous one. So I think the big thing is to make things simple, very simple, that's a big feature and one of the things that Apple did well with an iPhone is the touch screen				
Reports\\Coding Summary By Node Report		Page 31 of 32		
1/10/2015 13:21				
Aggregate	Classification	Coverage	Number Of Coding	Reference Number Coded By Modified On
				4 KP 1/09/2015
basically that operation will appear on your bank statement if you load on your account. Now just to get a SMS alert from your bank account just to say, well you need to set it up at the beginning any online payment that I will do I will get an automatic receipt.				
				5 KP 1/09/2015
and a text message, saying yes, Mr So and so has been paid, or you know,				
				6 KP 1/09/2015
unfortunately I had some payment that didn't go through for some reason and, but nobody told me.				

Internals\\STUDY2DATA\\NZInt9

No 0.0294 1 1 KP 30/08/2015

let me give you an example that I'm working on at the moment. So we've got a customer who wants to do loan extensions via mobile. And the online world today, you have to fill in a form with eighty-something fields. Like your name, your address, your social security number. And people within mobile just simply won't do that and the real question from consumers is, "Why does my bank need all that stuff, they already have it?"

And actually there's only three fields that you need to fill in, which is how much, what are you trying to buy, well how much money do you want to borrow, how much additional money do you want to borrow, what is it for, and do you understand our terms, basically. And so it's changing, so again this goes back to speed.

So there's nothing new about a loan application, but what mobile is going to force is this efficiency of speed and simplicity. So the innovative, lending money is not innovative, there's nothing innovative about it, but today if you go to the bank they make you fill out these ridiculous forms and your question as a consumer is, "This is a waste of my time, you guys are

U3 Emerging Theme Data: “Awareness”, “Mobile lifestyle”, “Unique mobile services”, “Rich experience”, “Service benefits”

27/09/2015 18:43

Coding Summary By Node

dataround2

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Node						
Nodes\\3. THEMES\\A. Emerging themes\\Awareness\\02. Customer decision making S2 Final\\Awareness as a factor new Document						
Internals\\STUDY2DATA\\NZInt1						
No	0.0616	5				
				21/09/2015		
				1	KP	11:50
And whatever is available, they are going to find someway to pitch it to make it seem like something more exciting and valuable than it is.						
				21/09/2015		
				2	KP	11:50
But they don't really leverage that at all. They market that but then it doesn't actually get utilised by their systems at this stage						
				21/09/2015		
				3	KP	11:50

21/09/2015
4 KP 11:49

All they use it for is to make telephone calls and so there's a learning process. So how do people learn to something in a new way? Well, I think it boils down to having some models and having some examples and so when you are introducing a new business service you can actually have that service demonstrated

21/09/2015
5 KP 11:49

You can give free phones to the early adopters so that they can go out to the streets and show people how things work. Make the demonstrations of the technology so that they humanise it and make it possible for people to envisage themselves doing this rather than having to discover on their own because a lot of people are not going to take that initiative and they not want to download an application just on the chance it would be helpful. Someone's going to have to tell them how useful it is. They are going to have to see it being useful for somebody

Internals\\STUDY2DATA\\NZInt2

No	0.0053	2
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21/09/2015
1 KP 11:50

There's a lot of software services that allow you to pay, if you wanted to. The thing is, do people actually install them

21/09/2015
2 KP 11:50

We're looking at hooking up with marketing companies, there's particularly one in Australia we're thinking of working with, who can guide us on how to market to these people

Reports\\Coding Summary By Node Report Page 1 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Internals\\STUDY2DATA\\NZInt3

No	0.0149	1
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21/09/2015
1 KP 11:50

I think that's a very tough thing that people who are building these applications need to work out how they drive the penetration to get people to use them the first time. It's not until you use that particular application the first time that you actually understand what the benefit is.

Internals\\STUDY2DATA\\NZint5

No	0.0267	1
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		21/09/2015
	1	KP
		11:50

And if you look at the apps market as well, that's another model a different model I think, I've forgotten how many million apps there are on the market, but quite a few.

But it's only 5% of actually unique apps, everything is a duplicate and I find that strange. And from a customer point of view, for instance, if I need an app about, I don't know, for instance, the weather, if I go on the iTunes store, Apple store I will find ten of them for free, I will find twenty five of them for that I have to pay, already and I don't really know what to do and I'm not sure which one would be the most reliable one in term of technology or in term of constant update. I think that's a bit of a trick as well.

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		21/09/2015
	1	KP
		11:50

Because with so many apps and so many, and if you take the Android, so many app stores, that, the means of discovery is difficult.

You've got hundreds of thousand apps, how do you know what's good and what's not? So you tend to rely somewhat on word of mouth to say, okay, well, people tell you what app is, they think is great. Obviously you take a lead from what the App Store people might be saying from an editorial perspective, but also I think, you read blogs, you know the Gizmos, the Engagets, or whatever those blogsy, you choose to read, it may give you hints of what may be a great app or not, so that's something those...

		21/09/2015
	2	KP
		11:50

Yeah, well put it this way, I mean I was speaking to Apple just a few days ago about applications and they said, no, your window of opportunity as an app developer to find success is a matter of days or so, maybe weeks at best. So that whole app discovery piece really is, a lot of it is you either market it extremely well

		21/09/2015
	3	KP
		11:50

If I could sort speak specifically about an application for example, I think what I've learnt over the past few months is the marketing of an application. How do you actually make people aware of that new application? Short of it being an enterprise application that you're deploying to your staff, as if you're doing a, I suppose, a business to consumer application. So how do those consumers discover your application, is probably the biggest obstacle to success

21/09/2015
4 KP 11:50

And I think it's where you've got to ask the question, what is the marketing behind getting the app in front of the people, in front of the consumers?

Internals\\STUDY2DATA\\NZInt9

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21/09/2015
1 KP 11:50

is known as service awareness.

Reports\\Coding Summary By Node Report Page 2 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
NZINT9				2	KP	21/09/2015 11:50

Exactly, exactly. Yep and that's exactly our recommendation to banks

21/09/2015
3 KP 11:50

Yeah, the smartphone adoption and then usage. So people, they get their smartphones, they go, even people, I know people who have got their smartphones just 'cause it came free with their plan, and then before you know it they downloaded an application, and then they downloaded another and another, and then they just become active users when they never intended

Nodes\\3. THEMES\\A. Emerging themes\\E11. Awareness\\02. Customer decision making S2 Final\\Social norm as a factor new Document

Internals\\STUDY2DATA\\NZInt1

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			1	KP	1/06/2015 15:12
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But when you're talking about broad base appeal what people are going to decide on – Are my friends using it?

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The things that hold back really widespread adoption and development of new services I think are less technological than they are social

Internals\\STUDY2DATA\\NZInt10

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I believe there's also a certain amount of social influence and stigma in that, "Everyone else I know is using this and says it's fantastic." Or, "Everyone else I know is using this and I should

			2	KP	1/06/2015 15:22
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And so your need could be something I want to do or the perception of something I should do. So the need to be part of the herd. And then your social circle sort of recommendations.

			3	KP	20/09/2015 17:48
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So the consumers end up winning because they have access to everything and then they say, "Okay, here is the model, here is the service that I'm going to use because it goes back to meeting my needs, or because everyone is using it, therefore I should jump on the, I want to jump on the same bandwagon."

Reports\\Coding Summary By Node Report	Page 3 of 25
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27/09/2015 18:43	
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Internals\\STUDY2DATA\\NZInt11

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			1	KP	1/06/2015 15:26

Trial during the growth stage is fuelled more by social factors such as word of mouth, e.g. my friends use uber so I might try it out.

Internals\\STUDY2DATA\\NZInt2

No	0.0048	1			
			1	KP	18/08/2015 14:16

new also carries some kind of fashion or ego facility. Someone might load something new on their phone so they can show their friends and then it becomes a bit of a fashion item almost. There's that whole social buzz to be cool that carries a lot of the new part.

Internals\\STUDY2DATA\\NZInt3

No	0.014	1			
			1	KP	1/06/2015 17:23

I think word of mouth plays a really important role in that. "Have you downloaded this particular application? It does this and this and this". It's that initial push ...So people saying they like an application or something on Facebook can make users to download it.

Internals\\STUDY2DATA\\NZint5

No	0.0253	3			
			1	KP	25/06/2015 14:02

One of my friends he's got just a year ago he just uploaded an app on his iPhone and all of a sudden for him it was a way to talk to me as well and he's like, "I'm like you now I'm trendy I've got a app. It's always, it's also a way to communicate with others, almost like a gadget.

25/06/2015
2
KP
14:02

We used to back in time say, I like that song, or I like that painting or whatever, but now it's I've got that service from that mobile provider. Apps are almost like collectors, we used to keep our images and stick them in our iPhones

1/06/2015
3
KP
12:28

but now when you collect apps it's creating a sort of social buzz so probably its one of those benefits as well to be able to engage whenever with others.

Internals\\STUDY2DATA\\NZInt8

No 0.0248 3

21/09/2015
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KP
9:57

I think, there's a lot of word of mouth. I mean if you take applications as an example, I think word of mouth has a lot to do with how an application is propagated, I suppose, amongst consumers. I mean if I go and tell my friend, "Oh this is a great app." They may look to download it.

15/09/2015
2
KP
16:49

Yeah, well put it this way, I mean I was speaking to Apple just a few days ago about applications and they said, no, your window of opportunity as an app developer to find success is a matter of days or so, maybe weeks at best. So that whole app discovery piece really is,

Reports\\Coding Summary By Node Report

Page 4 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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20/09/2015
3
KP
17:46

you rely on people saying this is a great app.

Nodes\\3. THEMES\\A. Emerging themes\\Awareness\\02. Customer decision making S2 Final\\Trust as a factor new

Document**Internals\\STUDY2DATA\\NZInt1**

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	1	31/08/2015 11:32
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So for entirely new services the trust is established when reviewers in New York Times or something like that, endorse this product being something worth looking at.

	2	31/08/2015 11:32
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Trust and security I think may be come out even ahead of considerations like price.

Internals\\STUDY2DATA\\NZInt13

No	0.0268	2
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	1	24/08/2015 17:01
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But a lot of it's, a lot of it again comes down to trust, who are you going to trust with your money? Are you going to trust the bank who looks, who specialises in looking after money, or are you going to trust a telecom provider

	2	24/08/2015 17:01
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but ultimately when you're dealing with funds you need to build confidence that your funds are going to be well looked after and they're going to be secure, because it's something which is valuable, it's important to you.

Internals\\STUDY2DATA\\NZInt4

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	1	20/09/2015 17:42
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, so yeah I think a lot of people would choose based on brand.

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Nodes\\3. THEMES\\A. Emerging themes\\Awareness\\09. Service demand inhibitor S2 Final\\Security fears**Document****Internals\\STUDY2DATA\\NZInt13**

No	0.0221	1			15/06/2015	
				1	KP	14:37

adoption takes a little bit of time. New technology takes people, even credit cards, for example, would have taken some time to get used to. So it's really, some of the things it's just going, people will adopted it, it's just getting that level of reassurance that it's safe and that their money isn't being able to be accessed from, by other people, is very important.

Internals\\STUDY2DATA\\NZInt2

No	0.0143	1			24/09/2015	
				1	KP	11:01

The other dynamic, and I find it happens a lot, is you have new technology come in and then you have another wave of parasites that follow after that.

An example of that would be say email. Initially it proves to be useful, people use it and adopt it and it becomes a standard and then the parasites like spam and scams and all that come in afterwards and then we are left with the scams.

That's happened in another example with Google. Again another functional service but what we're finding now with Google is that search engine optimisation companies are starting to dominate as they fight for rankings in the search results.

You're led to this bizarre war almost where people try and modify their algorithms to outwit the latest develops that have been made in the SEOs.

Internals\\STUDY2DATA\\NZInt9

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24/05/2015
1 KP 17:03

if you think about the reasons why people don't use mobile banking, there's two very obvious primary reasons.

24/05/2015
2 KP 17:03

the second one is concerns around security or safety. So that's why they don't use it.

2/06/2015
3 KP 6:56

I mean, I did some interviews when I was in the UK last year and we had almost everybody sort of under sixty had, was doing Facebook on their mobile phones. And I kind of go, "Well you already know how to log in, you already know how to take photos, you already know how to type things in, you already know how to search for friends, all this stuff on your phone, what

And the answer was always safety

Reports\\Coding Summary By Node Report Page 6 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Nodes\\3. THEMES\\A. Emerging themes\\Mobile lifestyle\\03. Customer expectations S2 Final\\Merge business and life Document

Internals\\STUDY2DATA\\NZInt3

No	0.0197	1
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3/09/2015
1 KP 11:45

In team meetings or meetings at work, you often see two or three people checking their phones for emails. You end up becoming detached and not really listening. I know that's not a

And I've even noticed in some meetings now that people area actually asked to turn off their mobile phone for that particular reason. They're not listening or they're not concentrating.

Internals\\STUDY2DATA\\NZInt4

No	0.0192	1			3/09/2015
			1	KP	11:45

think the business community are starting to use more and more features of it for their, to run their, to simplify their business. Like, for example, running things like email applications on your device so that you've got your email anywhere and everywhere, you're contactable anywhere and everywhere you go. They're putting, they're building smart apps to access their back end systems through the mobile network.

Internals\\STUDY2DATA\\NZint5

No	0.0157	1			3/09/2015
			1	KP	11:45

there's another phenomenon as well, some people, some companies prefer the employee to have a mobile phone or smartphone because they've got an expectation for people to work 24/7 days. So all the seven or eight to five office time actually it's pretty much over with a smartphone.

So you expect people to check the app every so often and to check the emails, so there are some people they are in that sort of frame

Internals\\STUDY2DATA\\NZInt6

No	0.0577	4			3/09/2015
			1	KP	11:45

So from an attractive perspective, right now the attractive part of it is being able to utilise, from a business services perspective, more accessibility to their back end systems through their mobile devices is something that seems to be highly attractive to clients

			2	KP	24/06/2015
today you have an iPhone,					16:25

			3	KP	24/06/2015
Your personal choice. So your personal choice, now if you had to get it as a business phone I would have got maybe an ordinary four hundred dollar phone which I may not find it useful.					16:25

So you are telling your employer, "I don't want you to give me a phone, I'll bring my phone, I want you to give me access to your network."

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				4	KP	3/09/2015 11:45

But now the next level which is the cloud environment that is coming into the IT side of the business is also taking mobiles into a completely different level. Mobiles is a complete revolution that's happening. What's happening is with the hybrid clouds available, my cloud, personal cloud, private cloud and a hybrid cloud, I'm able to access today I don't need any IT governance on my devices, I can access all three seamlessly, I can simultaneously do what I want.

So the user groups are changing, fundamentally there's a change in the user group. There's a traditionalist user group that is still looking at voice and things and there's a group that is thinking the only way going forward is devices that's going to set me free from the shackles of all that I have and I need that. It's not any more a question of choice it's a question of I want it, I need it, that's happening. So those are the two basic groups

Nodes\\3. THEMES\\A. Emerging themes\\Mobile lifestyle\\05. Customer requirements S2 Final\\Lifestyle supporting services Document

Internals\\STUDY2DATA\\NZInt10

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18/08/2015
13:50

So in my opinion, the services that are out there are things that make our life easier. So services that we need to do to support our lives, whether it be banking, or paying for parking, or getting funny cat videos, are available on any device we want

18/06/2015
14:55

So akin to ubiquitous computing, so it doesn't matter if it's a mobile device, or if it's a laptop, or a tablet, or whatever. So why they're attractive is because I think it's enhancing the quality of life, whether it be actual day-to-day life needs, like banking and things like that. Or whether it be the social quality of life.

18/08/2015
13:50

3 KP

Can I get a push notification, "We're walking to the library now."

18/06/2015
4 KP 14:57

So if I think of things in sort of my generation, it's those life enhancing tools that we can do through a mobile device. So I can pay someone when I'm sitting at dinner with them, I don't have to remember to go home and pay them.

18/08/2015
5 KP 13:26

I know. I felt like my, a) my arm had been cut off, how can I communicate with people? And you've suddenly got to go, okay, go back to old school, who's phone numbers do I know in my head, has someone got another phone I can use or a landline I can use?

18/06/2015
6 KP 15:21

So it's, so when I've got it and I'm using it, my mobile phone's fantastic. When I don't have it, you just, life seems harder.

Reports\\Coding Summary By Node Report

Page 8 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
<u>Internals\\STUDY2DATA\\NZInt11</u>						
No		0.0421	1			

20/08/2015
1 KP 11:37

This well exemplified by mobile email. It does everything that desktop email does, but because it is mobile the benefits grow to anytime, anywhere, low start-up time, not just software and system startup but cognitively, a lot less overhead to pick up your phone from your pocket and glance at your inbox rather than the desktop example which involves travel to desk, unlock computer, clear away any windows from last time, click inbox, etc

Internals\\STUDY2DATA\\NZInt12

No 0.0408 6

			18/06/2015 16:50
1	KP		
We could live without mobile software but actually we've got used to it now, so for example, we don't get lost as much as we used to.			
We don't wait around trying to meet someone who doesn't turn up like we used to. Yes we could live without that, but actually we'd rather not, because we might not need it but actually it does make our lives better in many ways,			
			20/09/2015 9:58
2	KP		
things that are convenient and helpful and efficient do improve our lives even if it's only in a trivial way.			
			18/06/2015 16:51
3	KP		
it helps us to self-actualise, I think, because we don't waste time on ridiculous things that we used to waste time on like getting lost or failing to meet someone, at that trivial level, we don't waste time waiting for the bank to open or running out of cash at the weekend like we used to. And all of those things, yeah we could live without them, but, you know, I'd rather			
			18/06/2015 16:53
4	KP		
Yeah, well, I think, yeah we're past the point where we need stuff, so it's all about life being more pleasurable,			
			18/06/2015 16:53
5	KP		
It's more pleasurable to be able to do tedious things like banking very, very quickly and conveniently. It's more pleasurable to be able to find a friend quickly.			
			18/06/2015 16:53
6	KP		
it's things that we want in our lives, we don't need them.			
			Internals\\STUDY2DATA\\NZInt6
No	0.0149	2	
			30/08/2015 16:49
1	KP		

my son, give him another three years from now, four years, when he is finished his university, I don't think he'll want anything but a smartphone in his hand for his banking, for his watch, for his business work, everything, he will not want anything more than this one device

1/06/2015
2 KP 16:02

Yes but that one person is not intentionally doing it, it's the other nine people noticing that and saying, "We also want."

Reports\\Coding Summary By Node Report

Page 9 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt7						

No 0.0098 1

1/06/2015
1 KP 16:02

I think it is where lots of projects underestimate is the need for connecting people in actual environments

Internals\\STUDY2DATA\\NZInt8

No 0.0332 4

24/06/2015
1 KP 16:31

Smartphones are embedded in our lives pretty much.

24/06/2015
2 KP 16:31

I think as a consumer or customer, I think we all have similar requirements and expectations that apps will do things for us, entertain us, give us a little bit of improved personal productivity

18/08/2015
3 KP 13:46

I think the requirements from a user's perspective I think is pretty standard, everyone is doing it for the same reasons. Having Facebook on their phone, having email on their phone, being able to browse the web on their phone, play Angry Birds, listen to music, all those sort of things I think are generic, consumer type requirements around a smartphone and data,

15/06/2015
4 KP 14:11

You tend to buy tens to hundreds of apps for your phone, and not all of them are on your phone, but the ones that are on your phone are typically the ones that give you, either, 1) an

[Nodes\\3. THEMES\\A. Emerging themes\\Mobile lifestyle\\05. Customer requirements S2 Final\\Mobility supporting services Document](#)

[Internals\\STUDY2DATA\\NZInt1](#)

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18/06/2015
1 KP 14:54

To exchange in effect shoes for mobile phones when it gives them this global productivity, it gives them this to reach over a distance which its very most inherit – what does mobile mean? It means that we don't have to be physically in the same place. We can have an effect far from the place where we are. So it's going to be people taking advantage of that, that's going to drive mobile business forward. And it's happening in some very unexpected ways. People are going to use that connection at a distance to do some really unexpected kinds of things

[Reports\\Coding Summary By Node Report](#)

Page 10 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt11						
No		0.026	1			

18/06/2015
1 KP 15:34

For the time-saving and money-saving mobile business services, their most valuable feature is simply being mobile. That may sound trivial, but is in fact massively important. Mobile enables people to use the in-between times while waiting for others, travelling, and so on.

Internals\\STUDY2DATA\\NZInt12

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			18/06/2015		
			1	KP	15:38

it's got to be things where mobility's got some particular meaning, and I think that can mean one or two things. So, one example I think that's very good in terms of why it works as a mobile application is Air New Zealand's mobile app. And the reason it's useful is that you are literally moving, I mean you are going to be mobile.

So when it's telling you about traffic, when it's telling you about checking online, when it's telling you to go to the gate, it's actually all about movement and I think that's a good example.

			18/06/2015		
			2	KP	15:39

I think most attractive are ones that really leverage mobility in some way, as opposed to just be occasionally convenient.

			18/06/2015		
			3	KP	15:40

Maybe 10% of mobile apps are really about moving. I mean Google Maps on a mobile device would be another obvious example. So anything where a movement is intrinsic I think is, are the ones are really attractive

Internals\\STUDY2DATA\\NZInt13

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			21/09/2015		
			1	KP	14:40

Services on location, an aspect of mobility

			1/09/2015		
			2	KP	11:35

I think, one of the challenges, I guess, with mobile banking now is that we're living in a global economy and people move around and travel a lot, and they expect the same, they expect to do the same things abroad as in a mobile channel as they would as if they were at home.

Internals\\STUDY2DATA\\NZInt4

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24/06/2015

Mobile. Yeah it's available anywhere, it's available anywhere, anytime provided you've got access to the network and that's why you need a decent network. (laughter)

Reports\\Coding Summary By Node Report Page 11 of 25

27/09/2015 18:43

Nodes\3_THEMES\4_Emerging themes\Unique mobile services\Service not viable S2_Final\Mobile not understood

Nodes\\3. THEMES\\A. Emerging themes\\Unique mobile services\\Service not viable S2 Final\\Mobile not understood

Document

Internals\\STUDY2DATA\\NZInt1

No 0.0152

2/09/2015
10:52

So, I think that we are only just beginning to scratch the surface in terms of what mobile are going to do, what tablets are going to do. The particular application that I intend doing in my research is education and there is high likelihood in my opinion that education is going to be transformed by mobile access to learning with a tablet

Internals\\STUDY2DATA\\NZInt7

No 0.046

16/06/2015
14:59

what I can see in the industry that they haven't understood fully the potential of mobile media yet and that they think about mobile media as just another mass media.

16/06/2015
2 KP 15:01

participatory elements, or

16/06/2015
3 KP 15:01

elements in terms of creativity and these are not things I think that can just be applied into like marketing strategy that is focusing on a one year project. But these are addressing bigger questions where the industry are saying with very short term goals doesn't understand the full potential of mobile.

Nodes\\3. THEMES\\A. Emerging themes\\E13. Unique mobile services\\Service value adder S2 Final\\Uniqueness

Document

Internals\\STUDY2DATA\\NZInt2

No	0.014	1
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1/09/2015
1 KP 11:27

what we see is a whole pile of people that don't have access to hardware and don't have access to proper content because they're looking at it through such small screens, like 100 pixels by 100 pixels, and we figure that by restructuring the information we give them a much better experience.

We can get them on to our platform and once they're on our platform we can then offer them other services like financial services in a very simple way that they can pay for things. We want to experiment with that so we're not phased by the fact that other companies will do it because our unique offering is that we can get down to these really cheap devices a little bit before the main players. Everyone's waiting for the iPhone to get cheaper ... we'll just jump on to it.

Reports\\Coding Summary By Node Report

Page 12 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Internals\\STUDY2DATA\\NZInt4

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21/09/2015
1 KP 14:39

they do a lot of the traditional things, but I think they do more. They do more because they're mobile, they are available anywhere. So, for example, a traditional desktop computer, or even a laptop would not have had, it didn't make sense to have a navigation application running on your desktop or laptop because you're not going to carry that around with you, but it makes sense to put it on something like this. So I think, given the fact that it's mobile, it fits in your pocket it's use becomes a lot more

Nodes\\3. THEMES\\A. Emerging themes\\E13. Unique mobile services\\Technology opportunities S2 Final\\Location detection and tracking

Document

[Internals\\STUDY2DATA\\NZInt1](#)

No	0.013	1	23/05/2015	KP	11:28
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We attempted to make most often in our application development is being through GPS - location detection. Carrying a computer around that can tell where you are and add information about that through a message or use it to inform you about what is nearby -- is definitely a new capability.

[Internals\\STUDY2DATA\\NZInt2](#)

No	0.0127	3	16/06/2015	KP	13:38
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For one person the novelty might last a few years but if you spread that over an entire population, that can span a decade as people adopt it and take it on at different times. An example of that would be say absolute positioning. Now you're having services where someone can locate their friends exactly where they are.

2	KP	24/09/2015 10:59
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People are jumping onto that, they think that's wonderful, but the true implications of the privacy and all the realities of that haven't been fully understood. People haven't had that rejection yet of the technology.

3	KP	2/09/2015 15:52
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. If you look at GEO positioning, by adding that piece of hardware into the phone it opens up a whole lot of potential applications that can hook into that

[Internals\\STUDY2DATA\\NZInt4](#)

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23/05/2015
1 KP 11:35

For example, finding a restaurant, finding where the nearest post office is, locating directions, everything built into a single device. I think a device that supports that kind of functionality is probably where the world's heading to at the moment.

Reports\\Coding Summary By Node Report Page 13 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
<u>Internals\\STUDY2DATA\\NZint5</u>						
No		0.023	1			

15/06/2015
1 KP 15:33

One other thing is, it's existing I don't really use it yet, but LinkedIn for instance if you actually read the thing, if I go in a Cafe I can see that some of the people that are part of my network are in the Cafe or in a two kilometres area, so my phone is telling me that, oh Researcher is having a coffee six hundred metres further.

We detected that because of a dual location of your phone saying, "Oh , hey Researcher are you free for a coffee I'm just here I'm talking with Jean Pierre whatever, you know. So there was things that can be done , innovation to make those things a little bit more fluid

<u>Internals\\STUDY2DATA\\NZInt7</u>		
No	0.0337	1
		15/06/2015 1 KP 14:03

the most interesting thing with mobile service is the implementation of GPS data at the moment. And I think that is really like where new business models are developed and where you can see new opportunities for users that's what it is on the commercial side for, you know, people using location data as a way for marketing, as a way for analysing consumers behaviour.

<u>Internals\\STUDY2DATA\\NZInt9</u>		
No	0.0135	2

2/09/2015
1 KP 15:53

Yes, so the last example you gave with the deposit capture,

2/09/2015
2 KP 15:53

So some banks do offer it on the PC, where you can use your scanner. But just the user experience and the, as you were saying, the authentication is quite, a lot easier to authenticate on

And then you can add additional layers, so we've got a customer who's using GPS coordinates on top of that capture, so basically we know exactly where that photo was taken. If it was taken in your house, then it's lower risk than if it was taken in Nigeria.

[Nodes\\3. THEMES\\A. Emerging themes\\Unique mobile services\\Technology opportunities S2 Final\\NFC Document](#)

[Internals\\STUDY2DATA\\NZInt8](#)

No 0.0264 2

16/06/2015
1 KP 15:06

I think if we take a broad view. I think from a carrier perspective, I think near field communications is the next frontier. Obviously a lot of work being done around near field communications now, so mobile payments by near field. I mean obviously we just had, all of the carriers have announced pilots or projects or the likes.

[Reports\\Coding Summary By Node Report](#)

Page 14 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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16/06/2015
2 KP 15:06

Like for example, 2degrees has just partnered up with Snapper, who provide the bus cards and done it, but I mean obviously the adoption and the rest of it's subject to devices and everything else being near field capable and so forth. So that's probably the next probably big, big splash in terms of what's happening

[Nodes\\3. THEMES\\A. Emerging themes\\E13. Unique mobile services\\Technology opportunities S2 Final\\Overtaking functions](#)

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			23/05/2015		
		1	KP	11:34	

It really boils down to people's interest in U-Tube. It turns out that you can make videos or the equivalent of videos by writing things rather than actually speaking them. It gives you tremendous leverage, so much easier to edit a transcript of text, to search that transcript of text, to translate that transcript of text, to transmit that transcript of text.

When some of the mobile devices are fully engaged with downloading videos they are using quite a lot of bandwidth, and with people who cannot afford to have a huge data plan they can eventually be not going to be able to take full advantage of that multi-media capability unless the presentation is packaged up in a more efficient way. I think the combination of text and pictures and the text is then converted onto a device to text speech into a voice over, makes for a very compact transmission an MP3 with pictures or a podcast.

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			23/05/2015		
		1	KP	11:34	

Things like the camera on the phone and the fact that you can use it to measure the acceleration of the phone and all kinds of bit of equipment in the phone that allow you to collectively develop applications that can find new uses that we didn't have before in all kinds of realms.

Internals\\STUDY2DATA\\NZInt4

No	0.0206	1			
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			23/05/2015		
		1	KP	11:35	

mobile device is ultimately going to replace people's computers. I mean if you look at some of the devices today, they've, the phone I'm using today is a Samsung Galaxy S2, it's got a dual-core processor that's far more powerful than the initial desktop I started working with ten years ago, (laughter) ten/twenty years ago. So the capabilities of these devices are amazing and they're just going to get faster, smaller and faster and more powerful

Reports\\Coding Summary By Node Report	Page 15 of 25
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27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Nodes\\3. THEMES\\A. Emerging themes\\Unique mobile services\\Technology opportunities S2 Final\\Specific capabilities Document						
Internals\\STUDY2DATA\\NZInt1						
No	0.0141	1				
				1	KP	2/09/2015 14:11
The fact that the device itself has a touch screen interface makes it very different user experience from the typical mouse and keyboard kind of interaction. And of course what I think is on the horizon with Iphone4 -- and the theory is that there will be voice commands and voice interaction with these devices.						
Internals\\STUDY2DATA\\NZInt10						
No	0.0111	1				
				1	KP	18/06/2015 15:23
Then there's the what data is on my mobile phone, am I more interested in preserving my data and remotely wiping my phone, or finding the perpetrators and catching them, and having to make that decision.						
Internals\\STUDY2DATA\\NZInt12						
No	0.0054	1				
				1	KP	1/09/2015 11:34
Yeah, I think what drives mobile services is not necessarily the business use case so much as what's now possible in terms of the devices and the connectivity						
Internals\\STUDY2DATA\\NZInt13						
No	0.0326	2				

17/09/2015
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KP
10:39

At the point of sale with your phone

17/09/2015
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KP
10:39

I think we're very, very close to having that now. As, effectively, with a credit card, the credit card really is, and your pin number, is something that just identifies you and so that the, when the teller has some, knows who you are and knows which account to charge the goods to.

And the mobile phone has come, is something which is personal and it's certainly, I can see that it's not that far away that it will be used as your identifier, so that someone can charge something against your account.

Internals\\STUDY2DATA\\NZint2

No 0.0066 2

2/09/2015
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KP
15:52

I think a lot of the new benefits are based on the various capabilities of the phone

Reports\\Coding Summary By Node Report Page 16 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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23/05/2015
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KP
11:43

Things like the camera on the phone and the fact that you can use it to measure the acceleration of the phone and all kinds of bit of equipment in the phone that allow you to collectively develop applications that can find new uses that we didn't have before in all kinds of realms.

Internals\\STUDY2DATA\\NZint5

No	0.0534	3			
			23/05/2015		
So to use real physical property capability of the phone. So for instance we made (unintelligible, 0:17:55.6) a video where you can just rotate the phone and do the editing because it's using the phone. I know someone in science, I don't know I think it's North Shore, did something about tennis elbow, measuring tennis elbow with a feature of an iPhone and developed a special app to understand the speed and all these sort of things and the impact. So it's to use those, I think right now a mobile phone is only used like a computer but we not use as.					

			23/05/2015		
		2	KP	11:42	
Yeah special capabilities. Like my son has a game to start the game again you just need to shake the phone, you can't do that with your computer. (laughter) But when you do that it's very nice, so it's all those sort of things. So it's to find a new way as well to talk to people, or even one of my research group in France they use the sound and you needed to blow to go to the next menu. So, and that's one of the things we don't really use in real life to blow for instance in the microphone to get, to have access to the next medium					

			2/09/2015		
		3	KP	13:59	
I think everybody will be involved with mobile, big car companies now they are actually, they are organised the car and all the technology around smartphones, you just need to plug your smartphone in the car and you've got everything. If you go on YouTube and you check what Ford did last year it's quite impressive.					

<u>Internals\\STUDY2DATA\\NZInt7</u>					
No	0.0332	1			
			2/09/2015		
Yeah I think it's definitely the connectivity and I think there is lots of potential also to using if you think about new services such as like augmented (0:12:47.3) reality which is using a combination of different elements. So it's using the Internet data but it's also using the camera to identify different elements in our environment as well as the GPS data					

<u>Internals\\STUDY2DATA\\NZInt9</u>					
No	0.0322	5			
			2/09/2015		
		1	KP	13:59	

So the most obvious example in the United States is what's called remote deposit capture, so basically you're taking a photo of a check to enable deposits. So it's something you couldn't do in the physical world, but obviously mobile technologies, whether it be the camera or GPS or whatever, allows you to do new things.

2/09/2015
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KP
13:59

So we sort of see two streams of work and we call them foundational services and transformational services. So foundational is just basically stuff you've always done but you can do it faster. And then stuff that you couldn't do before but you can now, and that's kind of, depends on, what we call device specialisations

2/09/2015
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KP
13:59

So things that, specific capabilities that are in the device like GPS, like NFC, like capture or camera, and so on. We have these two fundamental distinct streams of adoption drivers.

Reports\\Coding Summary By Node Report

Page 17 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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2/09/2015
4
KP
14:02

To some extent. So some banks do offer it on the PC, where you can use your scanner. But just the user experience and the, as you were saying, the authentication is quite, a lot easier to authenticate on the device.

9/06/2015
5
KP
14:48

So there's a lot of these services that are never going to really hit online or other channels, they're just going to go straight to mobile. And that's going to, as I said, the second stream of

Nodes\\3. THEMES\\A. Emerging themes\\Theme Rich experience\\03. Customer expectations S2 Final\\Unique experience Document

Internals\\STUDY2DATA\\NZInt1

No 0.011 2

4/06/2015
1 KP 15:17

The touch screen interface makes the tactile experience very different.

4/06/2015
2 KP 15:17

. And for some people having that immediacy 'it's at my finger-tips, I can just tap' and to sum it up new information in materials I think makes it extraordinarily engaging -

Internals\\STUDY2DATA\\NZInt11

15/06/2015
1 KP 10:41

New use cases not available offline before that enable a richer life experience for the consumer, for example they can do something enjoyable that they have not done before.

30/08/2015
2 KP 17:03

For the more interesting enrichment services, the features become more specific to the use case and application. I will take an example , mobile media . Some of the key features of my favourite streaming media subscription service are that it plays nice

Internals\\STUDY2DATA\\NZInt7

15/06/2015
1 KP 14:05

So there is (unintelligible, 0:13:06.4) reality has definitely lots of potential for thinking about new experiences that can be created for users.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Internals\STUDY2DATA\NZInt9

No	0.0066	2		
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			15/06/2015	
		KP	14:21	

To some extent. So some banks do offer it on the PC, where you can use your scanner. But just the user experience and the,

			9/06/2015	
		KP	15:02	

And I think the other thing that's unique about mobile compared to other channels today, is the expectation around the user experience

Nodes\3. THEMES\A. Emerging themes\E14. Theme Rich experience\05. Customer requirements S2 Final\Service experience Document

Internals\STUDY2DATA\NZInt1

No	0.0151	1		
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			25/09/2015	
		KP	15:23	

I think that we all have that sort of childish inborn desire to have our actions be responded to, and when they are responded to both in terms of something visual and ultimately in terms of something auditory when we can speak to a device and it will speak back to us, I think that it is going to be really quite a different user experience.

Internals\STUDY2DATA\NZInt11

No	0.0164	1		
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			25/09/2015	
		KP	15:28	

Yes, particularly the next generation richness of experience category of services now that the low-hanging fruits of do on your mobile what you did on your desktop are done.

Internals\STUDY2DATA\NZInt12

No	0.0039	1		
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			25/09/2015 15:22
1	KP		

Yeah, well, I think, yeah we're past the point where we need stuff, so it's all about life being more pleasurable,

Reports\\Coding Summary By Node Report	Page 19 of 25
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27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt13						
No		0.0415	2			

		25/09/2015 15:21
1	KP	

The other thing that's probably happened in the mobile space recently, or we're seeing is changing is that the aesthetics of the, and it's not just the content that's provided, it's the way that the content is provided. So people would, if something was provided and it was just, the content was accurate but the website wasn't styled correctly or it wasn't aesthetically pleasing, people wouldn't necessarily think too much of it, it's just the way it is

		25/09/2015 15:19
2	KP	

And so having that polished user experience is a, having a pleasurable experience for someone to use is a differentiator between someone choosing their service over something which might be functionally quite similar but not as well polished.

Nodes\\3. THEMES\\A. Emerging themes\\Theme Rich experience\\10. Service value adder S2 Final\\Improved experience
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Document

Internals\\STUDY2DATA\\NZInt10

No	0.007	1
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		25/09/2015 15:25
1	KP	

And so we can improve the way we do that, so whether it be an application that's more intuitive to use or more pleasurable to use

Internals\\STUDY2DATA\\NZInt11

No	0.018	2			
			1	KP	25/09/2015 15:27
Facebook, Linkedin are a combination of time saving and a richer experience. Youtube, iTunes, Spotify, other media because of richer experience)					
			2	KP	25/09/2015 15:27
casual games because of richer life experience					

Internals\\STUDY2DATA\\NZInt13

No	0.0054	1			
			1	KP	25/09/2015 15:28
that user experience is becoming very, very important to the ratings that we're getting back					

Reports\\Coding Summary By Node Report

Page 20 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
<u>Internals\\STUDY2DATA\\NZInt8</u>						
No		0.0342	4			
				1	KP	25/09/2015 15:29

The user experience, what you think the customer expectation is. I think you have to put these intangibles at the front of thinking about application development and innovation, and park everything else, because I think everything else comes as an outcome of the right thinking up front.

			25/09/2015 15:29
So I think you have to think about that utility	2	KP	
that sort of user experience and what the customer's going to get out of it, before you think about maybe cost and ROI and everything else,	3	KP	25/09/2015 15:29
In the space we work in here at Vodafone, we have customers who want to look at new ways of creating brand engagement or customer engagement, for example, and a lot of the thinking now is around smartphones and applications. But I think there needs to be more thought into what the application is and how it's going to be used. There's a construct of gamification	4	KP	25/09/2015 15:30
Nodes\\3. THEMES\\A. Emerging themes\\Service benefits\\02. Customer decision making S2 Final\\Benefit as a factor Document			
Internals\\STUDY2DATA\\NZInt10			
No	0.0335	2	
So either we will self-service what we do on the mobile device or we will have an interaction channel through the mobile device. So like Kiwibank's got that chat to my personal banker	1	KP	1/06/2015 12:10
But I think we've got sufficient technology now that that wouldn't actually be an obstacle. So I think then we're talking more the softer obstacles, which goes back to the attitude towards adoption about people's willingness to make use of that mobile service. So it's not automatically a build it and they will come. We've got to be, we've got to provide something that influences people to pull them in towards us.	2	KP	1/06/2015 15:24
Internals\\STUDY2DATA\\NZInt3			
No	0.0198	3	

18/06/2015
1
KP
17:18

It has to either provide capable benefit or tangible benefits to the end user and I'm thinking of things like music applications, banking applications, things that can save people time – for example restaurant applications where you can find out restaurant ratings and so forth, booking. Those things are great

18/06/2015
2
KP
17:18

they have to

Reports\\Coding Summary By Node Report

Page 21 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				3	KP	18/06/2015 17:18

actually provide an end benefit for the end customer.

Internals\\STUDY2DATA\\NZInt9

No 0.0099 4

18/09/2015
1
KP
11:28

(unintelligible, 0:17:14.3)

18/09/2015
2
KP
11:30

if you think about the reasons why people don't use mobile banking, there's two very obvious primary reasons. One is they don't see value,

18/09/2015
3
KP
11:30

So that's why they don't use it

2/06/2015
4 KP 6:53

And the other is that the value proposition, so a lot of people kind of see, "I don't really, I do online banking today or I'm happy with a call centre, why do I need mobile banking?"

[Nodes\\3. THEMES\\A. Emerging themes\\Service benefits\\03. Customer expectations S2 Final\\Service superiority](#)

Document

[Internals\\STUDY2DATA\\NZInt11](#)

No 0.1157 3

4/06/2015
1 KP 15:50

healthcare. With natural privacy concerns the only things I do on my mobile today are book a 15 minute appointment with my GP. That may save the GP time and money, but does nothing for me as the patient if I have to travel 30 minutes to see the GP, then wait 15 minutes, then travel 15 minutes back what a waste of time. Instead, we should expect to see GP appointments or short consulting sessions be delivered via a mobile video call

4/06/2015
2 KP 15:51

For 5 minutes of my time and 5 minutes of the GP's time, perhaps with the integration of fitbit. About government who are traditionally in charge of roading and other services I expect to see more around managing traffic , for example congestion pricing or discounts off car registration for driving off peak, where topark apps, realtime feedback on important issues ,

30/08/2015
3 KP 17:37

But in later stages when crossing the chasm the core features that drove early adoption may be taken for granted or even fall away. Trial during the growth stage is fuelled more by social factors such as word of mouth, e.g. my friends use uber so I might try it out. Adoption following trial is probably driven by did it do what I expected or did it do better than the alternative

[Reports\\Coding Summary By Node Report](#)

Page 22 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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[Internals\\STUDY2DATA\\NZInt12](#)

No	0.0256	4			
			4/06/2015		
So things that are better than doing it on the desktop are things where you definitely are going to be moving.					
		1	KP	16:09	
mobile banking is an example where they've tried to make it very easy to do mobile banking so that it is easier than doing it on the desktop					
		2	KP	18/06/2015 15:42	
what they make you type in. So for example, if I want to go onto the web and look at my bank account, I have to give three pieces of information. If I want to do it online, I only have to					
		3	KP	18/06/2015 15:50	
the point, to some extent, is that if you're offering a business service that kind of replaces an alternative, you do have to convince people that it's better. So in what way is waving my phone better than waving my card or getting out my card and putting it in a machine or taking out some cash?					
		4	KP	4/06/2015 16:15	
Internals\\STUDY2DATA\\NZInt3					
No	0.0094	1			
			1	KP	4/06/2015 17:40
So from what you're saying, it seems to me that you're expecting the mobile application to be better than the online one?					
NZINT3					
Easier to use. Because you're on a smaller screen					
Internals\\STUDY2DATA\\NZInt9					
No	0.0109	5			

				9/06/2015	
1	KP	14:46			
for our customers across our research.					
				9/06/2015	
2	KP	14:46			
the second thing is allowing things that you couldn't do before.					
				30/08/2015	
3	KP	17:38			
So consumers don't have very high expectations when they call a call centre of a bank, but when they download the app of a bank they have very high expectations					
				9/06/2015	
4	KP	15:24			
if you go and sample a hundred users of mobile banking services,					
Reports\\Coding Summary By Node Report		Page 23 of 25			
27/09/2015 18:43					
Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
					Modified On
				5	9/06/2015
Whereas, okay twenty might say, "Yeah, I want new, I want new feature A or new feature B."					
 Nodes\\3. THEMES\\A. Emerging themes\\Service benefits\\03. Customer expectations S2 Final\\Service value Document					
Internals\\STUDY2DATA\\NZInt10					
No	0.0121	1			

			4/06/2015
	1	KP	15:36
Got to come up with a, "Hey, what if we could do this on a mobile device?" I mean, what if I could get my son's school agenda on my mobile device so that I could say, "It's eleven o'clock, he must be at the school library."			
Internals\\STUDY2DATA\\NZInt11			
No	0.0111	1	
			15/06/2015
	1	KP	10:45
Hall Varians characteristics of a digital good difficult for the user to value the good without actually consuming it			
Internals\\STUDY2DATA\\NZInt2			
No	0.0026	1	
			15/06/2015
	1	KP	14:41
people eventually tire of the gimmick aspect of it and, unless it's producing true value underneath, then people start dropping off those services.			
Internals\\STUDY2DATA\\NZint5			
No	0.0489	5	
			30/08/2015
	1	KP	17:18
Or sometimes like the last project that I worked with a museum in France it's a playful way of learning a piece of art, or an artefact somewhere in a museum, so it's adding some value. So rather than to read the long description, just take a picture with your flash card you've got a game and all of a sudden you get a sense of game and you learn something without realising,			
			15/06/2015
	2	KP	12:10
system for a nurse, when they go to see patient and when they do their injection they develop a special app for them to clock the time, to understand how many miles they've done in terms of measuring the costs, the efficiency of the travel of a trip to calculate the cost of the petrol			

Reports\\Coding Summary By Node Report

Page 24 of 25

27/09/2015 18:43

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
						15/06/2015
				3	KP	12:12
			And so there was a requirement now to be efficient, even a salesman will have a special app that's where we'd put all the data in and the output you need to start here and then to go six kilometres away here to see that person seven kilometres away with a dual location.			
						9/06/2015
				4	KP	13:50
			if you do a transaction to make a payment from your phone what you will expect from that service is to confirm that it has been done and well received, but that doesn't exist yet.			
						9/06/2015
				5	KP	13:51
			you will expect to get a text message for instance say forty eight hours later, thank you your transaction has been well received by your so and so,			

Internals\\STUDY2DATA\\NZInt6

No 0.0238

features are never the value, it's the benefit of the feature that's more valuable. That's the difference in a professional job that I do to a lot of other sales people do, I don't sell features. Feature, for you too, what is the point of having a feature if it is not going to benefit you, anything that you have? So does that value add to you something?

So if you look at it from a feature perspective about mobile payment is what the feature is, but what, so I tend to ask in business whether it is a customer or, oh it's a great feature, so I ask, so what? Until I get to a point there is no more "so what". this is why, you know?

Internals\\STUDY2DATA\\NZInt8

No	0.0121	1		
			9/06/2015	
		1	KP	14:32
developing applications is fraught and I think it's a case of learn as you go in terms of what's right and what's wrong. I think a big part of it is, was what I mentioned before, in terms of utility. You've got to think of utility as part of your, I suppose, conceptualisation of the innovation.				

U4. Emerging Theme Data: “Free vs paid”, “Innovativeness”, “Performance quality”

30/09/2015 11:48

Coding Summary By Node

dataround2

30/09/2015 11:48

27/09/2015
2
KP
14:51

It's still not monetized fully, there's a long long way to go, but I think once everyone's got an account online that they can draw money from, possibly they wouldn't mind if they'd spend a few cents on something, just the way they don't mind if they spent a dollar on an application now. It's just a scale

[Internals\\STUDY2DATA\\NZInt4](#)

No	0.0128	1
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27/09/2015
1
KP
14:51

However, things like if I want to buy music, or I want to buy a movie ticket, for example, obviously I'm going to have to pay for the music because there's a certain amount of intellectual property that companies like the Telcos who need to charge for providing the plumbing. So

[Reports\\Coding Summary By Node Report](#)

Page 1 of 20

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZint5						
No		0.0113	1			

27/09/2015
1
KP
14:53

But for boating if you want the pro version of that thing, I think the boating version is thirty New Zealand dollars, I think, twenty five. But I think it's very, very useful because you've got everything on that app for when you go sailing, fishing, you've got all the different layers of information

[Nodes\\3. STAGE 2\\A. Emerging themes\\Free vs paid\\10. Service value adder S2 Final\\No cost Document](#)

[Internals\\STUDY2DATA\\NZInt10](#)

No	0.0216	2
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			4/06/2015
1	KP	15:44	
I mean we see the feedback at work all the time, people want a hundred gig a month at 4G speeds and to pay nothing for it. So there is definitely an appetite for more bandwidth for less			
		9/06/2015	
2	KP	17:38	
And you go, "Oh, actually that makes sense," I have my need to send pictures to someone and I also have a desire not to spend money in that process, and so you adopt the Viber service			
Internals\\STUDY2DATA\\NZInt12			
No	0.0328	3	
		1/06/2015	
1	KP	15:28	
'Cause nobody wants to pay for anything anymore. I mean everybody assumes everything is free. You cannot sell a new service, I don't think. I don't think it's possible now to sell a service.			
		1/09/2015	
2	KP	13:42	
So it's just a cost, it's not a benefit, but of course if they don't do it they're in that competition problem where everybody else does it. So yeah, they have to give it away. It costs them money, but it's a competition issue. I don't think you can sell services, really.			
		1/09/2015	
3	KP	12:02	
Researcher			
That's what I was thinking about mobile services as well that they may repeat the same sort of cycle and go from totally free to less valuable, free but less valuable, starting with valuable and free, but then diluting.			
NZINT12			
Well I suppose it depends on the service, 'cause if you take banking for example, I mean you're paying for it one way or another. Yes, you're not paying directly for your mobile banking service, but one way or another they're making money out of you.			
<hr/> Reports\\Coding Summary By Node Report			
Page 2 of 20			

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZint2						
No		0.0076	1			
				1	KP	1/09/2015 13:41
It would be businesses really won't it who are trying to connect with their customers. I think you will get some content in going in there but the serious players would need it to be monetized and that monetization hasn't quite happened yet. The problem is that people don't want to have to go through the payment headache to get that tiny piece of information that doesn't computer and that's why it has to be free.						
Internals\\STUDY2DATA\\NZint4						
No		0.0188	3			
						15/06/2015 12:05
which existing mobile business services are most attractive to customers?						
				1	KP	
stuff that's free						
				2	KP	15/06/2015 12:05
I think applications that provide you access to services will be freely available, so if I want to buy a bus ticket, for example, or an airline ticket, the mobile applications that run on my phone will be freely, I can download those free because it's in the interest of the organisation to make those available to me.						
				3	KP	1/06/2015 12:23
Internals\\STUDY2DATA\\NZint5						
No		0.0264	3			

			15/06/2015
		KP	12:07

the most attractive one are free of charge, so that's why actually some of the services are very attractive 'cause it's free, so people they don't have to pay, that's a bonus

			9/06/2015
		KP	13:43

immediacy, so it's really there, right now. So for instance if you've got a service offered online you need to have access to a computer or something like that, but with mobile phone or tablets it's in your pocket pretty much.

So time efficiency

			1/06/2015
		KP	17:35

fifteen songs so it's ten cents a song. You need to work out that sort of proportion, but for instance the tide (application that I was talking about there is a live version for free and I've got that one because it's good enough for me just to go swimming down the road.

Internals\\STUDY2DATA\\NZInt6

No	0.0148	1	
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			1/09/2015
		KP	17:04

So my benefit is not only banking and paying through that, would I pay for that service? I don't want to pay for that service. A bank wants me to be faster, so he wants my transaction to go and the supermarket wants me to pay faster, they can renew the checkout people's costs, timing, all of that. So that level of time saving is what they're going to get from me by me

Reports\\Coding Summary By Node Report	Page 3 of 20
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30/09/2015 11:48					
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Internals\\STUDY2DATA\\NZInt8

No	0.0074	2	
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24/05/2015
1 KP 17:00

when you make something free you take all value away from it

24/05/2015
2 KP 16:59

But I think if you sort of lower the risk in trying but still maintaining some value, is probably where it sits with us

Internals\\STUDY2DATA\\NZInt9

No	0.0166	3
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27/09/2015
1 KP 14:56

Not necessarily to the bank. Do services adopt, does the fact it's not free make an impact? So let me give you an example, one of our big customers US Bank and the US charges fifty cents per deposit on the mobile phone. And they, without getting into the specifics, there's no material difference in terms of levels of adoption and usage between them and other financial

27/09/2015
2 KP 14:56

Exactly, because you could go somewhere, they'll use another channel that is free, so why would you?

27/09/2015
3 KP 14:56

Whereas things that you can't do elsewhere like check deposits and location based offers and other things, then people are, might be prepared to pay something.

Nodes\\3. STAGE 2\\A. Emerging themes\\Free vs paid\\11. Service value detractor S2 Final\\Cost Document

Internals\\STUDY2DATA\\NZInt13

No	0.0136	2
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18/09/2015
1 KP 12:32

Cost is factor...If they get pinged through the mobile operator for accessing that service

18/09/2015

2

KP

12:32

And telecom providers have a lot to answer for in sort of having, making that prohibitive for people because of the expensive roaming charges

Reports\\Coding Summary By Node Report

Page 4 of 20

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt6						
No		0.0043	1			

27/09/2015

1

KP

14:55

People are not afraid to pay, what people wouldn't want to have is pay a fat bill for telephone for a mobile company

Internals\\STUDY2DATA\\NZInt9

No	0.0036	1				
Internals\\STUDY2DATA\\NZInt9						
1			27/09/2015			

The, of course sometimes they have to pay data services and text messaging charges and things like that to the mobile operators, so there are

Nodes\\3. STAGE 2\\A. Emerging themes\\E16. (16i and 16ii) Theme Free vs paid\\11. Service value detractor S2 Final\\Free - caution Document

Internals\\STUDY2DATA\\NZInt10

No	0.0296	2				
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			15/06/2015
		KP	14:35

I think it would assist it in that it removes one of the barriers, but only one of the barriers, because then there's also the, "Well if it's free, how is it being paid for, so am I paying for it in another way?" So are there, does the free then introduce some adoption restrictors as a result. So it removes one and introduces others

		15/06/2015	
		KP	14:36

So there is definitely an appetite for more bandwidth for less money. But if it, I certainly would have the question in my mind, how am I paying for something that's free, because you're paying for it somehow

[Internals\\STUDY2DATA\\NZInt2](#)

No	0.0022	1	
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		1/09/2015	
		KP	13:32

free is also not necessarily good quality. People are starting to learn that if they do want quality they do need to pay.

[Internals\\STUDY2DATA\\NZInt8](#)

No	0.0113	3	
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		1/09/2015	
		KP	13:33

I don't know if free, because when you make something free you take all value away from it and therefore people will either say, "Well it's free that means it, either it doesn't work or

Reports\\Coding Summary By Node Report	Page 5 of 20
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30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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I think when you make it free,
 15/06/2015
 2 KP 15:38

people may not perceive value when it's free.
 15/06/2015
 3 KP 15:38

Nodes\\3. STAGE 2\\A. Emerging themes\\Free vs paid\\13. Service not viable S2 Final\\Free services get abused Document

Internals\\STUDY2DATA\\NZInt12

No	0.005	1	1/09/2015
			KP 13:43

But then eventually you do get to the point where everybody wants everything for free and then the quality goes down because there's no investment

Internals\\STUDY2DATA\\NZInt8

No	0.0017	2	15/06/2015
			KP 15:40

I think when you make it free

			15/06/2015
		2	KP 15:40

it gets abused,

Nodes\\3. STAGE 2\\A. Emerging themes\\ Innovativeness\\09. Service demand inhibitor S2 Final\\Stagnant Document

Internals\\STUDY2DATA\\NZInt11

No	0.0339	4	1	KP	1/09/2015 9:35
As I already said the apps are not targeting the right customer wit the right solution and it is not good enough.					

Reports\\Coding Summary By Node Report

Page 6 of 20

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				2	KP	1/09/2015 9:31

Almost all fall into the trap of getting stuck when they have some traction, but are unable to change and refine elegantly

their architecture is complex and stagnant,	3	KP	1/09/2015 9:31
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their user base expectations are not managed to enable and support change.

No	0.0068	2	1	KP	1/09/2015 9:47
That's pretty much the way we're operating is trying to get a technology going, seeing if it works, seeing how many people use it and where it goes. The best way to know if it's going to work is to actually just do it					

			1/09/2015
2	KP	9:47	

Yeah. So we would try a new service and we'll see how that responds and then grow that and modify that or just change it up based on what we think they are.

Nodes\\3. STAGE 2\\A. Emerging themes\\Innovativeness\\13. Service not viable S2 Final\\Business model

Document

Internals\\STUDY2DATA\\NZInt10

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			16/06/2015
1	KP	9:35	

And least supportive would be what I know from insider knowledge, the difficulty of releasing new products based on our internal systems, and I know the other two telcos are the same, because it's the actual implementation of the technology has got barriers, whether they be business barriers or technical barriers.

			16/06/2015
2	KP	9:36	

I don't think there's technology limitations, because I mean we've got so much tech out there. I think it is, I honestly think it is business limitations. So whether it be, you've got to jump through eighteen thousand hoops in order to get some money to pay a developer who can then write the code,

Reports\\Coding Summary By Node Report	Page 7 of 20
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30/09/2015 11:48			
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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			2/09/2015
1	KP	10:55	

I do think the question of whether the future mobile business industry structure will be concentrated as it is today with apple, google, facebook or become more fragmented, for example think of many small apps each commanding a decent market share is important, and probably will be determined by the open-ness of technical standards and APIs

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2/09/2015
1 KP 12:58

The question is how practical and affordable are those things in practice. And I think that's kind of a slightly slower thing, thinking about, "Hey wouldn't that be a really good idea." I mean, I think business use cases have often run ahead of the technology and affordability

2/09/2015
2 KP 12:58

I mean years ago I think British Airways was one of the first companies to have WAP interface, and they worked out that in order to find out your average sort of flight detail using the old WAP, it would take you about twenty-five connections and cost you a fortune in data.

So the use case was fine, but the support for it wasn't really there. So I think that tends to be the case that we've got plenty of ideas about business use case, but we have to kind of wait for the practicality of them to catch up.

2/09/2015
3 KP 10:57

I suspect that there'll be a lot more of this kind of disruptive model like Uber. Like Uber is the classic example of you've got a system that's been around for years and then suddenly someone comes up with a mobile app that is very disruptive to that model. And of course there's lots and lots and lots of aspects of the economy that have been carrying on in one way for a very long time and then suddenly someone's going to come in with a mobile business app that disrupts that specific market in some way. And I think given, well I was going to say the success of Uber, but clearly they're facing a lot of issues, but given the apparent success of that idea that you can come in and just completely disrupt a particular market by using a

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2/09/2015
1 KP 12:23

Researcher

So that's a good example you're giving, but from what I know about car manufacturing these are only big companies, there are no small players in that, do you think that the same might happen in mobile applications?

NZINT5

We are small players but the car is super, super expensive.

Researcher

Oh okay. (laughter) We don't want this for mobile applications.

NZINT5

We are companies it's only fifteen employees but you pay one hundred million a car or something like that.

[Reports\\Coding Summary By Node Report](#)

Page 8 of 20

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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[Nodes\\3. STAGE 2\\A. Emerging themes\\ Innovativeness\\13. Service not viable S2 Final\\Dynamic technology development](#)

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			1	KP	16/06/2015 9:29
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The dynamics of this market can wipe you out of business before you know it. And I am sure that there are people who dedicated themselves building applications for the new HP touch pad and writing in web OS and after some weeks after its release to have the product discontinued by Hewlett Packard. Windows, the Phone7 as I understand it – very well engineered and potentially extraordinarily useful mobile operating system has only 1.7% of the market place

			2	KP	16/06/2015 9:29
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Why is that? Well, there's kind of a motion in the development time line so that when Android started two years ago coming up with different mobile releases and then revived them so frequently – if you have a chance to look at the track record of the Android mobile systems upgrades they are given these code names to them that are all different pastries. Like there was doughnut and honeycomb and the latest one is ice cream sandwich.

The frequency which they come out with these releases has been really quite breathtaking and for a developer actively participating in that community trying to come up with new ideas that use those very latest features, you are always operating right at the cutting edge of – what if I do something now that uses all this new technology but then that breakthrough doesn't work on all the other devices that are out there on the market.

[Internals\\STUDY2DATA\\NZint10](#)

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		16/06/2015
		9:30

I'm tempted to say device, or device variety, because there are so many mobile devices out there. So do you choose that you are going to implement your service, can you make it device agnostic or can you develop a device specific version that makes it accessible to everyone. I mean I think of some of the, my father's just come off a Windows mobile phone, and I think there was some apps I thought might be useful for him, but they were only developed on Android and iPhone, so effectively that service was not available to him because of the platform

[Internals\\STUDY2DATA\\NZint5](#)

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		2/09/2015
		12:49

Yeah it's changing too fast, to be honest we don't need to have a new computer on the market every six months. Nokia used to produce twenty five different mobile phones a year, twenty five different models, they're not there anymore but we've got the iPhone 4 that was released, as it was released iPhone 5 that will be released in September. I think it's going

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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			20/09/2015
1	KP		10:56

Yeah so for instance, the CBD has more Asian population so the way you talk to them, or the way your facilities is not the same than Herne Bay. Even in terms of language how you talk to those guys and thanks to the mobile phone because you've got a GPS system, the mobile can identify which app or which area you've got. So if it's a web base application that can actually redirect you towards that language.

			2/09/2015
2	KP		15:49

Everything is tailored to the customer, the colour even of a car, but I would say 85-90% of the car structure is mass produced, but is it a tape stereo, is it a DVD stereo, do you put screens in the back seats or not? Everything is quite optional and I think with mobile phone apps or services we can do that now

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			1/09/2015
1	KP		11:48

So when you look at it that way the benefits, what the clients are getting is just phenomenal, today you're getting applications from small companies, both upcoming small companies who are no longer programming in the standard client server environment, they are programming on platforms that are completely new platforms, mobile platforms like androids and apple systems and things so that they can work in providing services for users one way or the other

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			15/06/2015
1	KP		14:07

Well I'm very interesting at the moment is that there is the technology that used to be behind this mobile device used to be very complex, but at the moment there is you can see also some new applications being developed that allows people to work with mobile technologies in a more easy way, such as like open source softwares. And there is lots of, you know, like login made Internet very accessible, similar elements for mobile devices which are kind of like custom made data frames.

Coding Summary By Node Report					
Page 10 of 20					
30/09/2015 11:48					
Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
Nodes\\3. STAGE 2\\A. Emerging themes\\Theme Innovativeness\\15. Technology opportunities S2 Final\\Rewarding Document					
Internals\\STUDY2DATA\\NZInt11					
No	0.0208	1			
				1	KP 7/09/2015 12:55
Additionally, the economics of app development unlike media are scalable – they benefit from re-usability and standards so that mobile app number 100000 will cost less to build than app 10000 and less than 100 and so on					
Internals\\STUDY2DATA\\NZInt13					
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				1	KP 7/09/2015 12:58
And in the mobile space, if you publish the right application and you get a lot of hits and a lot of downloads, it can be quite rewarding. And so you've got a lot of, and it's very, quite simple, it's quite simple to do these days.					
Nodes\\3. STAGE 2\\A. Emerging themes\\Innovativeness\\16. Uncertainty S2 Final\\Innovation Document					
Internals\\STUDY2DATA\\NZInt1					

No	0.009	1			1/09/2015	
				1	KP	9:49
To develop at what level of innovation, how much innovation risk do you want to take becomes part of the decision making process for somebody who is in the business commercially of producing applications						
Internals\\STUDY2DATA\\NZInt10						
No	0.0241	1			1/09/2015	
				1	KP	9:49
Yep, or is it because everyone's got different ideas and so you develop eighteen versions of the one product, rather than just one version of the one product, or is it a case of people only have a very conceptual idea and it's not until we actually work through the technology side of it, they go, "Oh okay, actually this is what I mean." And then so it takes you a little while to then say, "Yes this is the idea I was trying to articulate."						
 Reports\\Coding Summary By Node Report						
Page 11 of 20						
30/09/2015 11:48						
Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt12						
No	0.0174	2			1/09/2015	
				1	KP	11:25
What we're, what's probably more important than innovation is usefulness and usability for the customers that you have.						
				2	1/09/2015	
					KP	17:58

when we're talking specifically about like mobile apps, it's a much weirder environment where maybe innovation is harder to do because, IBM can innovate by generating a new, say, forward memory, which they've done many times, because they know what it is they're trying to achieve.

When you're trying to come up with some new mobile app it's a lot fuzzier, isn't it, in terms of success.

Internals\\STUDY2DATA\\NZInt2

No 0.0133 3

1/09/2015
9:49

1 KP

Really there's no road there at all because these people are coming on to devices and the whole platform was being pulled by all these other forces and the J2ME platform itself is a mess. These people are experiencing it for the first time. You can't just go and get a book on how market mobile phones in third world countries. It's like the wild west. Everything we do we

1/09/2015
9:49

2 KP

Yeah. I think the whole space is so new and there's no knowing way of doing it or standard way of doing it. The whole process is innovative.

1/09/2015
9:49

3 KP

Even just getting the applications on stores, getting them used. Those stores themselves are really new. Like Getcha the one we use is only six years old but it does 12 million downloads

Internals\\STUDY2DATA\\NZint5

No 0.0082 1

1/09/2015
9:50

1 KP

So they launch the app on the market a better version without testing really and it's crashing and a month later we've got a version one point zero and it's sort of a trial/error rather than saying, well let's test it.

Internals\\STUDY2DATA\\NZInt6

No 0.0095 1

1/09/2015
1 KP 9:50

On the other hand there are these small service companies, four or five of them so far in the last few years, who have all been acquired by American companies because what they're offering a service for mobile operations is more global than what is local.

Reports\\Coding Summary By Node Report

Page 12 of 20

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt7						
No		0.0337	1			

2/09/2015
1 KP 10:51

Yeah, I think the sort of innovation is applied not only in the technology but also the use for the technology can be adopted, or the technology's implemented in different types of projects. So that the environment where the technology is inserted into needs to change a bit to that. So I think they've got some conceptual patterns that have to be changed over time.

Nodes\\3. STAGE 2\\A. Emerging themes\\Performance quality\\02. Customer decision making S2 Final\\Quality as a factor Document

Internals\\STUDY2DATA\\NZInt10					
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2/09/2015
1 KP 12:21

Can we offer to mobile users today? Um, (pause). There's two parts to it. One is what we can do on mobile devices

18/08/2015
2 KP 14:22

And the other is the accessibility of those mobile devices. So the accessibility

			18/08/2015
3	KP		14:22

, areas that they work in. Can we be in the middle of the Southern Alps and still be using our mobile device?

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		28/07/2015
1	KP	14:28

People are starting to learn that if they do want quality they do need to pay. It really depends on what markets you're appealing to.

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		9/06/2015
1	KP	13:37

I need a reliable device, I need a reliable service, so I'm prepared to pay for that.

Reports\\Coding Summary By Node Report	Page 13 of 20	
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30/09/2015 11:48		
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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		1/06/2015
1	KP	17:32

Well it depends on the quality of the service to be honest.

			31/08/2015
	2	KP	17:34
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It's not about developing one service, it's to be able to maintain it in the long term. For instance, using I can use a specific case study about LinkedIn. When they launch their first app that was okay, the second one the new update was constantly crashing.			
But now we have I think version six of the app within two and a half years or three years I think, something like that, it will be two years and now it's very robust, it's very well designed and it's far better than the work site. So apparently they invested some money in development, but not only the technology development and the reliability, but also in the interface design and now both are working very well together.			
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Internals\\STUDY2DATA\\NZInt9			
No	0.0073	4	
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			9/06/2015
	1	KP	14:56
It's good, but it's not			
<hr/>			
			9/06/2015
	2	KP	14:56
fast enough."			
<hr/>			
Researcher			
So speed is an expectation for the quality of the service			
<hr/>			
			9/06/2015
	3	KP	14:56
NZINT9			
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Correct, yep.			
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			9/06/2015
	4	KP	14:59
Whereas the ones that use it, obviously understand the value proposition. They're not that concerned about security, but actually just want more speed.			
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Nodes\\3. STAGE 2\\A. Emerging themes\\Performance quality\\03. Customer expectations S2 Final\\Service quality			

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			30/08/2015	
		1	KP	17:39

It all depends on the service that if the devices didn't function in some way that will be a failure but the fact of the matter is in most part they work in extraordinary way

Reports\\Coding Summary By Node Report	Page 14 of 20			
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30/09/2015 11:48				
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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			30/08/2015	
		1	KP	17:33

in that I would expect to be able to do on a mobile phone what I could do on other types of devices.

But the mobile phone overlays the, it's a complete wireless device. So it doesn't matter whether I'm down at the bach in the Coromandel, or sitting in my lounge room because I can't be bothered walking through to the office, or at the top of Mt Cook. So the mobile device allows me to have that location independence			
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			20/09/2015	
		1	KP	9:51

Timeliness is really important. So going back to my example of the Air New Zealand app, it's a completely useless application if it's not on time. So if it tells you that you're boarding now, but actually you boarded ten minutes ago and you've missed the plane, it's utterly useless.

So I mean I guess timeliness is really, really important. I think the other thing that I've noticed about			
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			30/08/2015		
			1	KP	17:39
And so, and customers of the mobile, if you're looking at a, if you're looking for something, an application which is running on your mobile, or you're wanting it to run on your iPad, we're finding customers are more and more looking for it to be, it needs to be sharp, it needs to be pixel perfect					
Internals\\STUDY2DATA\\NZInt4					
No	0.0108	1			
			9/06/2015		
			1	KP	13:35
I don't want to go somewhere and then find I can't use my phone because I don't have access to a network. I want my email to work all the time, I need to make sure I'm contactable, so I need a reliable network, I need a reliable device,					
Internals\\STUDY2DATA\\NZint5					
No	0.0102	1			
			15/06/2015		
			1	KP	12:11
There's some application made for blind people actually that need to be very precise to know where they are, what's going on, or elderly when they take their pills we need to click on that simple button, but that needs to be connected to the server very quickly as well.					
Reports\\Coding Summary By Node Report			Page 15 of 20		
30/09/2015 11:48					
Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials
					Modified On

Internals\\STUDY2DATA\\NZInt9

No	0.0573	10		
			1	KP 9/06/2015 15:00
the other thing that changes consumer perception once they are actually adopted, is around a requirement for availability, reliability, and robustness. So I've talked about speed, but basically they view mobile as a twenty-four by seven channel and they don't really tolerate very well when things are broken in some way.				
			2	KP 9/06/2015 15:18
actually it's quite interesting. As I said to you, the biggest factor when we go and test with consumers, "What do you want?" Existing users, they don't ask for new features, they ask for				
			3	KP 30/08/2015 17:38
if you go and sample a hundred users of mobile banking services, probably eighty of them will tell you, "I'm happy with what I've got, I just want it to be				
			4	KP 30/08/2015 17:38
faster.				
			5	KP 9/06/2015 15:24
Clearly we have to keep innovating and that's what I do do, but the reality is, if you listen to existing users, they just want faster and easier.				
			6	KP 9/06/2015 15:25
And I think that's actually where real innovation will happen, is how do you make banking services easier and faster?				
			7	KP 9/06/2015 15:25
And so that's I think what's changing. So when I talk about, my view of innovations, is enabling those things, making existing stuff easier and faster,				

30/08/2015
8 KP 16:57

Well banks, back to your point, banking is an established industry. There's reasons, I mean people will always want to store money, borrow money, save money, and pay for stuff. That's not going to change. Those needs aren't going to change, they just want it to be safer, easier, and faster. I mean that's pretty much it. But no one has any, when you think about payments, you don't really think of any other dimension other than easier, faster, or safer, those are the only three dimensions.

7/09/2015
9 KP 12:09

But that's what comes with the territory. You deliver people what they want, therefore they listen to you and therefore you can guide them, if you don't give people what they want and therefore you don't listen to them.

I mean, as I said, BNZ doesn't give me what I want, therefore I actually don't really care, I have no loyalty to BNZ, therefore they have no real ability to shape my requirements. Whereas if I had lots of loyalty to BNZ then they would have an opportunity to shape my requirements about what to expect from a bank. So it's a vicious, it's a virtuous or vicious cycle.

7/09/2015
10 KP 12:09

they're consumer expectations

Reports\\Coding Summary By Node Report Page 16 of 20

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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[Nodes\\3. STAGE 2\\A. Emerging themes\\Performance quality\\11. Service value detractor S2 Final\\Speed Document](#)

[Internals\\STUDY2DATA\\NZInt7](#)

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18/09/2015
1 KP 12:32

it's a bit of concern for a country that is so, it wants to drive innovation so much that some things, I mean isn't even for mobile Internet access but also for Internet access more generally that New Zealand seems to be a bit behind in totals of bandwidth speeds that you would accept in some other different countries.

Internals\\STUDY2DATA\\NZInt9

No	0.0023	1			18/09/2015
			1	KP	12:32

For the ones that do use it, the biggest factor or source of dissatisfaction is around speed

Nodes\\3. STAGE 2\\A. Emerging themes\\E18. Theme Performance quality\\14. Technology limitations S2 Final\\Backhaul Document

No	0.0956	3			16/06/2015
			1	KP	14:52

what the network operator can provide in terms of their backhaul systems in their networks. The obstacles are mostly technology restrictions, the limited capabilities of what a specific network can do at this point of time, or what a specific device can do at this time. So that's where they are still expanding on to.

			2	KP	3/09/2015
					9:35

All cell site are wired to a network, these are wireless, but from the base to this there's a wired system.

These are called backhauls, the more and more users get between these cell sites the more bigger pipe you need here. It's not so simple I mean, I'm putting it in very layman terms, there are several controllers that control different things, then the backhaul comes into play. So the more data requirements are there, voice is very minimal requirement, how many hour time you talk it's very little minimal bandwidth requirement, it's the data that requires bigger bandwidth.

So today Telecom in this country, as like in the AT&T in the USA and a few others in Telstra in Australia, have a backhaul of one gig pipe, just raw pipe from here to each one. One gig is more than sufficient for each, it probably will become five gigs in another two, three years, six years. Most ones like Vodafone and others have less than 250 meg backhaul. So what happens is when you're using ten services of a particular type on this network on the same device, iPhone, you'll find that you're able to reach Telecom network faster and feedback faster

30/09/2015 11:48

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				3	KP	3/09/2015 9:35

The same ten of you are using the 250 meg backhaul that much slower it is because responses. So that's the investment, that is the technology obstacle, so this is one basic problem that we're going to have. Second thing we're going to have is in the radio network controllers that are available to control the network.

So they're highly sensitive, they fail often, how stable the network is, radio network controllers are the ones that control the network and they fail often. And they are both in this ground at the stable site and there is key locations in certain areas, because they're exposed all the time to the elements you don't know how soon or how quickly they can degrade.

So like in a large, a country this size with so many cell phone users, Telecom when they started the XT two years ago thought they would have enough RNCs and put only one in the South Island and two in the North Island, and they didn't provide for (unintelligible, 0:28:02.1) that's why they had that serious outage in the beginning.

Nodes\\3. STAGE 2\\A. Emerging themes\\Performance quality\\14. Technology limitations S2 Final\\Device drives back Document

Internals\\STUDY2DATA\\NZInt2

No	0.0075	3	2/09/2015 13:06
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On a PC, when you do get your connection, you get a full page of information back. On a mobile phone the screen is so small we get a much more limited amount.

2	KP	2/09/2015 13:07
		1

Not only that, it's the size of the screen, it's too small, it can't be seen properly and you can't navigate properly and it's frustrating. How you input information into it.

3	KP	2/09/2015 12:55
		2

Being able to drive content of the application from a highly constrained device

Internals\\STUDY2DATA\\NZInt3

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			15/06/2015
		KP	15:07

Yeah, obviously with the smaller screen – a lot of people have adapted obviously M. standards, they've tried to do it but it doesn't particularly work very well. I think there's a danger because people download an application and then it doesn't work very well and then they pretty much abandon it.

Reports\\Coding Summary By Node Report	Page 18 of 20
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30/09/2015 11:48			
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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			23/05/2015
		KP	11:26

Well one of the things that a mobile device like this is limited by is the amount of real estate on the screen that you have. However, given it's smaller, the quality of the screens can be so much better. I mean that one has got a NLED type screen, it's got a 8 megapixel camera, it's got a HD video capability to take HD video and playback HD video. Because the screen quality is so much better you can actually put a lot more stuff on it

<u>Internals\\STUDY2DATA\\NZint5</u>				
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			7/09/2015
		KP	13:22

In respect of they are still a few things that we don't know how to handle. For instance, one of the key features well that was quite dated now five years ago, but Nokia did a survey and when they said, if there is one thing you want to improve about your mobile phone, what is it, only one? And statistically everybody said, I want my mobile phone to be waterproof and apparently there was a lot of men dropping their mobile phone into the toilet or people in the water.

7/09/2015
2 KP
13:22

But it's only free phone on the market they are totally waterproof so that thing is not waterproof at all 'cause it's too complicated and need to many things and once we've got those things, you can't chose the skin any more. So that sort of a technology glitch and it's quite heavy as well, so

Nodes\\3. STAGE 2\\A. Emerging themes\\Performance quality\\14. Technology limitations S2 Final\\Web protocol Document

Internals\\STUDY2DATA\\NZInt2

No 0.0269 6

23/05/2015
1 KP
11:27

That web protocol which is now 25 years old or whatever, is really old and restricted and that has become a fundamentally limiting factor in mobile phones.

2/09/2015
2 KP
13:06

The other thing with the http protocol which we find ... which our stuff actually avoids http protocol altogether. We've got these little players that sit on the various devices.

The problem with http is that it's a kind of request/response based protocol which means that you ask for a page and then the information comes back and you look at that page and you select something and ask for another page.

That project just repeats as you look at new pages. With a mobile phone that model breaks down because the connection times are accelerated or exaggerated so instead of taking two seconds to make a connection, it could take ten seconds to make a connection and you're waiting around a lot.

23/05/2015
3 KP
11:27

So what we have finally worked out is that people are rewriting these web pages for the mobile anyway because they need to reformat them. We figure if they're rewriting it anyway, we may as well just put it on our own platform that avoids http and it doesn't have these bottlenecks in the network. It's a continuous process.

30/09/2015 11:48

APPENDIX V. STUDY 2: CODES-S2 (STAGE 2)

Category name and code label ⁶	Description
Customer attitudes S2 Final	Summary of topics: Customers are perceived as both (i) Conservative, and (ii) Interested in innovation if it matches their requirements and meets their expectations.
Conservative	Customers tend to be conservative in the way they use new technology and somewhat distrustful of innovation
Interested	Customers are interested in new services; like these existing ones that suit their needs such as mobile banking and services that offer connectivity with others.
Customer decision making S2 Final	Summary of topics: The factors playing a role when a customer decideds to try and/or use a service inlcude: (i) how much value the serives provides for the money paid, and how much the service is needed; (ii) Is the customer aware of the service, is it recommended, and provided by a trustworthy provider, is it safe to use; (iii) is the service affordable; (iv) is the service of the expected high qulaity to be worth the money paid
Affordability as a factor	Customers adopt services the can afford to buy (subscribe to) and/or use
Awareness as a factor	Customers adopt services they have some knowledge or underatanfig about , the challenge is to have them try a service for the first time.
Benefit as a factor	Customers adopt services perceived as providing a benefit
Choice as a factor	Customers have options when making a decision to use a service.
Ease of use as a factor	Customers adopt services that are easy to use
Perceived need for service as a factor	Customers adopt services that meet a need they have become aware of.
Privacy as a factor	Customers adopt services they perceive as safe to use (protecting their personal information)
Quality as a factor	Services adopt and pay for services perceived as performing at a high service quality level (available, reliable, fast, fully functional)
Social norm as a factor	Customers adopt services recommended and/or used by friends and/or by members of their extended social circles
Tradeoff as a factor	Customers pay for services perceived as providing a good tradeoff
Trust as a factor	Customers adopt services perceived as trustworthy (recommennded by a trustworthy recommender; provided by a trustworthy provider)
Customer expectations S2 Final	Summary of topics: Customers expect services to : (i) Bring clear value, (ii) Provide an enjoyable experience, (iii) Perform at very high standard, (iv) Be of higher quality comapred to services offered via alternaive channels

Category name and code label ⁶	Description
Merge business and life	Business and personal life merge location- and timewise
Service choice	Customers prefer to have choice of service channel and of service provider
Service quality	Customers expect high service performance in terms of speed, reliability, and always/anywhere availability. Even more so as services become more part of every day life.
Service superiority	Customers expect services to surpass existing non-mobile alternatives
Service value	Customers expect services to bring real and measurable value not just features (to conceptualise innovation in an efficient service)
Unique experience	Customers expect something unique
Customer input S2 Final	Summary of topics: Customers are perceived as (i) Source of valuable feedback, (ii) Drivers of service development, (iii) Service co-creators empowered by the technology
Co-creators	Customers empowered to develop and deliver content and become service co-creators facilitated by technology
Drivers	New service development is driven by perceived customer demand as providers use technology opportunities to meet customer requirements, expectations, preferences
Feedback	Service providers value and rely on customer feedback that is facilitated by technology
Customer requirements S2 Final	Summary of topics: Customers require services that are: (i) needed and convenient; (ii) easy to use and pleasurable; (iii) supporting their everyday life, and/or their mobile lifestyle
Convenient services	Customer requires services that are convenient to use and make life easier
Easy to use services	Customers require services that are easy to use
Lifestyle supporting services	Customers require services that meet their personal goals and suit their lifestyle
Mobility supporting services	Customers require services that support mobility
Needed services	Customers require services that meet their needs (helpful, rather than just useful)
Service experience	Customers require not just service but a service that provides a [pleasurable] way to use it
Customer segmentation S2 Final	Summary of topics: Multidimensional segmentation resulting in microsegments. Main segmentation factors are (i) demographics , (ii) specificity of requirements, (iii) socio economic status.
Demographics	Age influences requirements and expectations; providers perceive differences between younger and older customers. Gender is not very pronounced as a segmenting factor
Micro segmentation	As a result of main factor interplay the resulting segments are relatively small (niche?)
Requirement specific	Specific requirements related to: (i) personal characteristics (socio economic and demographical) which means that services need to be developed with different personas in mind, even for the same service such as banking; (ii) Occupation; (iii) Personal preferences based on earlier experience

Category name and code label ⁶	Description
Socio-economic status	Status has a two fold influence: (i) mostly different status leads to different service needs; (ii) status may determine level of access to any service (but this is not too relevant to New Zealand)
Regulatory environment S2 Final	<p>Summary of topics: (i) Accessibility - while aimed first of all at giving customers choice and options regulations are seen as affecting negatively large MNOs and infrastructure owners; this may lead to a negative impact overall on the industry (lack of incentives to invest, capital decrease); (ii) Customer protection - regulations needed, need to be aligned with global trends, without heavy compliance costs locally; (iii) Regulations needed to support service import.</p>
Broadband	Regulations (bandwidth) aim to provide best deal for customers
Content	The New Zealand regulatory environment is not restrictive for content development
High compliance costs	Small developers may have high compliance costs (with customer privacy rights)
International	Regulations need to facilitate import of services and global providers setting camp here
Roaming	Regulations need to facilitate affordable access to local services through roaming
ROI and income	Large MNOs affected negatively in terms of return on investment and income
Security	Regulations (security and privacy) aim to protect customers and customer rights
Service importer	It is likely that in the future NZ customers will use imported services
Service demand generator S2 Final	<p>Summary of topics: Possible demand generators are: (i) mobile phone penetration, (ii) entertainment needs. To prosper services need (iii) encouraging environment, (iv) appropriate pricing models (free trials)</p>
Current use by customers	Important to reach a critical mass - need for marketing and/or other ways to increase customer awareness,
Entertainment	There is a confirmed need for entertainment services
Environment encouraging	Service use can be encouraged by creating an inducive environment: e.g., affordable use of phones overseas, free wireless zones in rural communities, service co-participants ready (e.g., merchants)
Free trial increases popularity	Free services are a way to attract more customers and create the critical mass needed before collecting revenue
Mobile device penetration	Mobile device ownership has reached extremely high levels and may become a service driver as people want to use their devices
Service demand inhibitor S2 Final	<p>Summary of topics: Possible service demand inhibitors are (i) services not seen as useful and/or meeting a need, not continuing to meet the need; (ii) not seen as safe to use as safe to use</p>
Not right	To be tried and later adopted services need to be seen at least as useful, or better - meeting an identified need, with a cost trade off
Security fears	A primary factor stopping customers from adopting a service - fear about how safe is the service to use (i.e., using it will not cause harm to the customer)
Stagnant	Services that do not change "well" to meet changing customer requirements are not going to be used.

Category name and code label ⁶	Description
Service value adder S2 Final	Summary of topics: (i) Lifestyle oriente,; (ii) simple, seamless, integrated; (iii) offered at no cost ; (iv) use the unique features of mobile technology and provide good experience
Improved experience	Enriching service experience attracts customers
No cost	Free services meet customer expectations to be provided some services for free - at least for services that are part of a larger , not-for-free service system such as mobile banking
Simplicity	Most attractive to customers are services that are simple to use and perform their functions seamlessly
Supporting lifestyle	Lifestyle supporting services save time and money, enable communication and staying connected (a new need?), enhance experience, "embed' easily in everyday life; Support also business/work and personal lifestyle as the boundaries between time spent working and not-working start blurrin
Uniqueness	Services that cannot be performed using a non mobile device such as authentication through GPS/data network
Service value detractor S2 Final	Summary of topics: (i) Free services may not be attractive to cautious custoimers who perceive them as less valuable compared to paid ones, and alls hidden cost ladden; (ii) data network service quality/cost makes using services not attractive
Cost	Cost of access to the data network high
Free - caution	Free services regarded with caution because of perceptions about hidden cost, inadequate quality, lack of value
Speed	Speed of the data network not adequate
Service viable S2 Final	Summary of topics: Service viability is affected by (i) Developing a signifcsnt customer base; (ii) Offering incentives to customers including merchants adoptig mobile payment; (iii) Pricing services to be affordable and aligning them with market segments.
Customer base	As applications are cheap there is a need for a large cuistmer base in order to make some profit
Incentives needed	Bundling and otther insentives to motivate customers
Mobile payment	Mobile payment enables adoption of other mobile services
Priced	Service viability depends on the pricing model and the tradeoff offered to customers.
Responsive	Services and applications need to be aligned with market segments
Service not viable S2 Final	Summary of topics: (i) Inadequate business model , in a way the mobile channel is not yet well understood ; (ii) Technology moving faster than businesses can cope with; (iii)
Business model	Businesses develop their models too slow while innovative applications and servies that disrupt the market or develop unrealstic models
Dynamic technology development	[add to services difficult] Technology is moving forward at a very fast pace and the future is not easily seen especially by small players
Free services get abused	Free services exhaust resources and inhibit investment, which affects quality negatively

Category name and code label ⁶	Description
Mobile not understood	The potential of and the opportunities offered by the mobile channel are not yet fully understood
Technology limitations S2 Final	Summary of topics: Identified limitations include (i) inherent device limitations, (ii) application layer protocol (HTTP) limitations, (iii) backhaul limitations
Backhaul	Date network infrastructure may not be adequate, expanding but may be slow
Device drives back	Mobile devices still have inherent limitations (screen size, OS)
Web protocol	The fats transition to the mobile Internet meant using the existing Web but HTTP is inherently slow for mobile devices
Technology opportunities S2 Final	Summary of topics: (i) current and future functionality including GPS, NFS, camera, other specific capabilities; (ii) advanced application development environment
Develop and customise	It is now easier to develop and customise applications
Location detection and tracking	Geopositioning as a built in capability supports various LBS
NFC	NFS already used for payment
Overtaking functions	of other devices and media
Rewarding	Mobile application development is relatively cheap and also scalable and therefore cost effective
Specific capabilities	Current and future mobile devices - with integrated capabilities to support new services
Uncertainty S2 Final	Summary of topics: Perceptions of uncertainty about: (i) innovation in services/technology, and (ii) customer preferences; (iii) Changing role of MNOs
Difficult to predict	Uncertainty about changing customer preferences and needs makes customer behaviour difficult to predict
Innovation	Innovative development is on a "test" basis, no clear roadmap; not all consider it needed (in other codes - it is not more important than need for services)
MNOs	MNOs may be limited to a data carrier role only; or may become retailers rather than stand alone network operators
Service development and provision S2 Final	Summary of topics: (i) The main players have different attitudes towards customers and to service development; some synergies exist but more are possible; (ii) Innovation in services not straightforward any more, emerging economies next easy to reach market
Cheap smart phones	Cheap smart phones use through services and apps benefits MNOs
Customer oriented	The two big device platform vendors are strongly customer oriented
Different perspectives	Service providers not attentive to customer expectations and needs and have different perspectives on how services need to be provided
Incentives	Device and platform vendors provide incentives for developing apps/services for their platforms
Innovate	Service developers are looking for new market opportunities
<i>Apps are a type of service</i>	

Category name and code label ⁶	Description
<i>Emerging economies are attractive as a market for new services</i>	
<i>Innovative services are needed for emerging markets, targeting specific market characteristics</i>	
MNOs need to invest	In order to benefit from service us MNOs will need to develop furthr their data services in order to support data intensive mobile services
MNOs vs customers	MNOs not interested in customers once they have them
MNOs vs services	MNOs not particularly supportive to application and service developers and perceive them as a threat
Open source	Massive open source development is the future not top players such as telcos and device vendors
Platform fragmentation	Platform fragmentation is an impediment to service provision
Work with MNOs	MNOs can become partners in service development
<i>MNOs have a role as co-funders of service and application development</i>	
<i>MNOs interested in partnerships recognising the importance of services</i>	
Competition S2 Final	Summary of topics: (i) Strongest competition is amongst MNOs; (ii) To a lesser degree amongst service providers (have many opportunities), and device vendors (have established a global "near duopoly"); (iii) some competition between device vendors and banks, between MNOs and (static) wireless network providers
Amongst device vendors	Device vendors are competing to establish their own technology and lock in service developers, providers and customers
<i>Competition to establish vendor technology for popular services</i>	
<i>Competition to establish vendor's platform to lock in customers</i>	
<i>Device vendors have different platforms - strong platform fragmentation</i>	
Amongst MNOs	MNOs are competing to stay relevant on the market and to ensure profit to shareholders
<i>Competition is limited as country size cannot allow for too many operators</i>	
<i>Competition to retain a position is cutthroat</i>	

Category name and code label ⁶	Description
<i>Customers chose device rather than network provider and MNOs have to consider all choices customers make</i>	
<i>Old players lose on investment while new players do not invest in infrastructure</i>	
<i>Operators face the challenge to be stay relevant</i>	
<i>ROI eroded due to changes in the roles of the players</i>	
<i>Service developers and providers push MNOs down to a carrier role</i>	
<i>Amongst service developers cum service providers</i>	Service developers/ providers compete to provide an identified valuable service; the app and service market is difficult to compete in.
<i>Mobile needs fastest growing</i>	
<i>Service developers and providers have different perspectives on how to develop successful services</i>	
<i>Service gamification as an attempt to attract customers</i>	
<i>The challenge is to reach the customer</i>	
<i>To be successful you need to be the first on the market</i>	
<i>Want to provide the same, most needed or most valuable service</i>	
<i>Between device vendors and banks</i>	The big two device providers may want to become banks
<i>Between WiFi providers and MNOs</i>	Wi Fi providers a threat as customers may switch to their networks
Controlling influences S2 Final	Summary of topics: (i) MNOs control pricing, have opportunities to play new roles; (ii) Device vendors rule the market as their product drives it; want to keep apps and service development to themselves as service demand drives in turn smart phone adoption
<i>Banks slow</i>	Customers expect service providers to respond quickly but banks are not used to it
<i>Control device vendors</i>	Device vendors in a very strong position as smart phones are driving the service market
<i>Device and platform vendors limit the ability of other parties to control how the device operates and protect their own apps</i>	

Category name and code label ⁶	Description
<i>Smart phone benefits can be made visible through applications and services only</i>	
<i>Smart phones are the market drivers</i>	
Data plans	To ensure revenue MNOs control prices through bundling (plans)
Future MNOs	In addition to being data carriers MNOs can play a role as service developers (or may not) and provide enabling services
<i>MNOs can provide authentication services</i>	
<i>MNOs can provide payment services</i>	
<i>MNOs will continue as data carriers</i>	
Secondary channel	Mobile banking is more like a secondary channel rather than a truly innovative service

APPENDIX W. STUDY 2: “TO USE LATER” DATA (STAGE 2)

1/10/2015 12:15

Coding Summary By Node

dataround2

1/10/2015 12:15

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Node						
Nodes\\3. STAGE 2\\C. To code later\\To use later						
Document						
Internals\\STUDY2DATA\\NZInt1						
Yes	0.0334	1				
				31/08/2015	KP	13:56
				1		

There are unintended consequences of this technology that are likely to materialise as literally billions of people suddenly have these capabilities that they didn't have before, to reach out and communicate, I think, new kinds of information. This was what supposedly the Arab Spring was all about is that suddenly all these folks had a window into the world where they could connect with one another.

And as a result, for political groups that opposed the regimes. Changed essentially the politics of the countries in which this new form of person to person kind of communication became possible. So it all boils down again, boils down to the simple concepts of that people like to talk, and people like it even better if they can talk over a distance.

Internals\\STUDY2DATA\\NZInt12

1/06/2015

1

KP

15:29

No, I mean I'm a bit of a luddite personally, in the sense that I don't, I'm always behind the curve with things. I want to see whether it's worth bothering before I get, do it. And I don't really see the point of Mobile Wallet. I mean I still use cash a lot and I'm quite happy using cash. I'm not sure I see the point in waving my phone about instead of paying in some other perfectly

[Internals\\STUDY2DATA\\NZInt2](#)

Yes	0.1039	12
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15/06/2015

1

KP

14:42

let's take the Facebook phenomena.

15/06/2015

2

KP

14:42

when people first realised that they could actually locate their friends and the concept of being able to post things and have that broadcasted to their friends, that was a new mechanism and a lot of people jumped on board that and it kind of accelerated that mechanism because everyone was doing it and it became normal almost to be on Facebook.

15/06/2015

3

KP

14:41

An example of one that's producing true value is Google. It's not a gimmick. When Google first came out it was really interesting to be able to put some words in and bang you find exactly what you needed and that was interesting, but what's happened is that it's actually become completely functional and we use it all the time. That one has kind of stuck. A lot of these services are being driven just by the novelty aspect of it.

[Reports\\Coding Summary By Node Report](#)

Page 1 of 10

1/10/2015 12:15

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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31/08/2015

4

KP

15:17

Of course there's going to be the general connectivity stuff like the social layer which is just the fact that you've got one person connected to however many people and there are untold applications that you can invent that can link people together

			15/06/2015
5	KP		11:10
Because the web is now trying to jump onto the mobile issue so the mobiles are adopting the web just because that's where all the information is at.			
			15/06/2015
6	KP		11:12
So it's like a cloud but it's a peer to peer grid, it's a bit more advanced than a cloud because a cloud is really just to service a client again but virtualized. So it serves the traffic but it serves the content also. Yes, they host it on there but it's served from many points.			
They're still using TCP/IP and so it's kind of torrented towards them, so they're getting it from many nodes from different countries. So they're getting it really fast, they're getting it continuously and they can access it either from a web browser using a javascript player or just brainstorming an application.			
That way we're looking at bridging the gap between the applications and content, it's really just content web. In our world I could just borrow your mobile phone, log into the website and then just start taking video footage or photos and all those photos are going into my account, it's not installed on this phone, it's stored on the grid. I can use anyone's device and then when I eventually want to access my stuff I can look at it in high res if I used a desktop			
			4/09/2015
7	KP		13:28
But these guys have got much more time than we do. They would muck with something for hours while we'd give up and move on. They've got a device and that device would be used constantly. They would know everything about it, everything it can access and they'd put a lot of time and learning on how to use that device.			
I think they would have worked every feature out on their phone because they've got so much time and it's such an important thing. It's a very expensive device to them. They earn \$2 a day and it cost them \$20 so it's a substantial chunk of their livelihood.			
			25/06/2015
8	KP		13:16
We found that, for example when the systems went down, we know that there's a problem. Now with one of the systems we know that there's an issue that causing it to crash out. We'd see them come back and back and back. We could see it in the logs.			
We know it's failing and we see them come back and they try, ten minutes later they're trying again, ten minutes later trying again. It went on for days. For me, I would go "doesn't work", bang, I'm out of here. These people are persistent. It's not that much stuff they can get for their cheap phones. In India in particular the networks are really poor so ordinary apps that might work - because you've got two kinds of things, the web type apps and the app apps, right?			
When I say web apps I mean apps that will take you to a website. It's really just a website on the browser's phone. So that kind of app generally will perform quite badly in India because the networks are really flaky. This is stuff that we've learned as we go. What we're targeting in that ability to work better on those really flaky networks and not relying on that web protocol			
			4/09/2015
9	KP		13:28

People can use web pages on these phones, yeah, but the browsers are pretty restrictive and they're not html 5 so they don't do flash, they don't do java script, they don't do any interactive

Researcher

But by using your app ...

NZINT2

They can get images and video and they can get content streamed faster so they get a more meaningful experience than they would otherwise.

Researcher

So it seems to me that you have found what will be specifically available to your potential customers in the segment we're discussing here and you're targeting these needs. You've identified

4/09/2015

10

KP

13:28

NZINT2

Yeah. Basically they've got a very limited computer to access the internet and we put some software on there that makes it capable of operating better, so we're also writing software for that platform targeting particular needs over the top of that. So we think they're going to want to be looking at other applications so we would only put applications in there that we know would run well on poor network environments and on those particular phones that they're like to have.

31/08/2015

11

KP

13:56

The whole social shift that's going to happen in those countries over the next few years is going to be astounding as they come out of not accessing anything to having a phone and being tapped straight into the world. They will try a lot of stuff I think.

[Reports\\Coding Summary By Node Report](#)

Page 2 of 10

1/10/2015 12:15

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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7/09/2015

12

KP

12:50

If you look at the IT marketplace from a recruitment perspective, there's people on databases, people on programming, all specialized but that's been going for 20 years, now there's this little piece which is this mobile thing and there are very few skills. People are rushing to them but if you try and employ someone who's got five years of mobile development, it's hard

[Internals\\STUDY2DATA\\NZInt3](#)

Yes	0.0138	1
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		16/06/2015
	KP	13:58

know that some people, and very smart people, are working on different applications. I can think of one friend specifically who's building an electricity meter application at the moment in the UK. I think having that open source will allow more and more innovation

Internals\\STUDY2DATA\\NZint4

Yes	0.0611	1
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		24/06/2015
	KP	16:01

Innovation, I think what drives innovation is the need, someone sees a need and then comes up with an idea to resolve an issue, so a problem and something and you come up with an answer to resolve the problem. I believe that's what drives innovation.

A really good example is something I read on the BBC News today. In India someone tried to buy a bus ticket to go home for Diwali to go back to his home town for Diwali and he had run around town to the various bus companies to see if he could get a ticket.

And in the end he couldn't, he couldn't get a bus ticket so he didn't go and he was really upset about this. And he thought, why is it if I want to buy an airline ticket I can go to any number of websites to buy an airline ticket and they will search all the airlines for me to get the best priced airline ticket. I can do that for buying a movie ticket, why can't I do that for a bus ticket?

So and this thing didn't exist in India, so he and a couple of friends got together, four of them got together, they left their jobs, they built this website. And now they employ four thousand people across India selling bus tickets to integrate into all the bus companies timetables and seating systems. You can now buy a bus ticket and you can choose your seat and fantastic, but

Internals\\STUDY2DATA\\NZint5

Yes	0.0241	3
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		31/08/2015
	KP	15:13

so everybody wants to make profits and I think nobody's really investing enough back into society. So nobody, I faced a few times a question just saying well how much, what will give a profit or how much will you get out of

			31/08/2015 15:13
2	KP		

but I think you can open up, well you can diminish some services and increase others and make a balance like that, but something a little bit more social, or democratic.

		31/08/2015 15:13
3	KP	

Or to take the risk to say, well actually rather than to get your portion, your bach in the Coromandel, you just get slightly less money and you redistribute that money amongst those people and they pay slightly less money on their communication.

Reports\\Coding Summary By Node Report			Page 3 of 10
Aggregate	Classification	Coverage	Number Of Coding References
			Reference Number
Internals\\STUDY2DATA\\NZInt7			
Yes	0.0177	1	

		7/09/2015 12:52
1	KP	

Well I think New Zealand hasn't quite, has acquire lots of companies and developing like mobile applications so it has a very strong infrastructure for having localised services being developed.

Internals\\STUDY2DATA\\NZInt9		
Aggregate	Classification	Coverage
Yes	0.0035	1

		2/06/2015 7:01
1	KP	

I'd go with, if Google offered me a bank account in New Zealand that was regulated and insured, I'd go bank with Google, no doubt about it

Nodes\\3. STAGE 2\\C. To code later\\To use later\\Indian bus site		
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Document**Internals\\STUDY2DATA\\NZInt4**

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1	KP	24/06/2015 16:01
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Reports\\Coding Summary By Node Report

Page 4 of 10

1/10/2015 12:15

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Nodes\\3. STAGE 2\\C. To code later\\To use later\\Indian customers low end**Document****Internals\\STUDY2DATA\\NZInt2**

No	0.0203	1
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25/06/2015
13:16

1 KP

We found that, for example when the systems went down, we know that there's a problem. Now with one of the systems we know that there's an issue that causing it to crash out. We'd see them come back and back and back. We could see it in the logs.

We know it's failing and we see them come back and they try, ten minutes later they're trying again, ten minutes later trying again. It went on for days. For me, I would go "doesn't work", bang, I'm out of here. These people are persistent. It's not that much stuff they can get for their cheap phones. In India in particular the networks are really poor so ordinary aps that might work - because you've got two kinds of things, the web type apps and the app apps, right?

When I say web aps I mean aps that will take you to a website. It's really just a website on the browser's phone. So that kind of app generally will perform quite badly in India because the networks are really flaky. This is stuff that we've learned as we go. What we're targeting in that ability to work better on those really flaky networks and not relying on that web protocol

[Nodes\\3. STAGE 2\\C. To code later\\To use later\\Meter app](#)

Document

[Internals\\STUDY2DATA\\NZInt3](#)

No	0.0138	1	16/06/2015 13:58
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know that some people, and very smart people, are working on different applications. I can think of one friend specifically who's building an electricity meter application at the moment in the UK. I think having that open source will allow more and more innovation

Reports\\Coding Summary By Node Report	Page 5 of 10
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1/10/2015 12:15	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Nodes\\3. STAGE 2\\C. To code later\\To use later\\Mobile services jump onto the web						
Document						

[Internals\\STUDY2DATA\\NZInt2](#)

No	0.0027	1		
			15/06/2015 11:10	KP

Because the web is now trying to jump onto the mobile issue so the mobiles are adopting the web just because that's where all the information is at.

Nodes\\3. STAGE 2\\C. To code later\\To use later\\New Zealand has a good software development infrastructure but stil there is a lack of skilled mob application developers

Document

Internals\\STUDY2DATA\\NZInt2

No	0.0067	1		
			7/09/2015 12:50	KP

If you look at the IT marketplace from a recruitment perspective, there's people on databases, people on programming, all specialized but that's been going for 20 years, now there's this little piece which is this mobile thing and there are very few skills. People are rushing to them but if you try and employ someone who's got five years of mobile development, it's hard

Internals\\STUDY2DATA\\NZInt7

No	0.0177	1		
			7/09/2015 12:52	KP

Well I think New Zealand hasn't quite, has acquire lots of companies and developing like mobile applications so it has a very strong infrastructure for having localised services being developed.

Researcher

So it seems to me that you have found what will be specifically available to your potential customers in the segment we're discussing here and you're targeting these needs. You've identified

4/09/2015

4

KP

13:28

NZINT2

Yeah. Basically they've got a very limited computer to access the internet and we put some software on there that makes it capable of operating better, so we're also writing software for that platform targeting particular needs over the top of that. So we think they're going to want to be looking at other applications so we would only put applications in there that we know would run well on poor network environments and on those particular phones that they're like to have.

Reports\\Coding Summary By Node Report

Page 7 of 10

1/10/2015 12:15

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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Nodes\\3. STAGE 2\\C. To code later\\To use later\\personal feelings about mobile financial services

Document

[Internals\\STUDY2DATA\\NZInt12](#)

No	0.0137	1
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1/06/2015

1

KP

15:29

No, I mean I'm a bit of a luddite personally, in the sense that I don't, I'm always behind the curve with things. I want to see whether it's worth bothering before I get, do it. And I don't really see the point of Mobile Wallet. I mean I still use cash a lot and I'm quite happy using cash. I'm not sure I see the point in waving my phone about instead of paying in some other perfectly

[Internals\\STUDY2DATA\\NZInt9](#)

No	0.0035	1
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			2/06/2015
1	KP	7:01	

I'd go with, if Google offered me a bank account in New Zealand that was regulated and insured, I'd go bank with Google, no doubt about it

Nodes\\3. STAGE 2\\C. To code later\\To use later\\Societal implications

Document

Internals\\STUDY2DATA\\NZInt1

No	0.0334	1	
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		31/08/2015
1	KP	13:56

There are unintended consequences of this technology that are likely to materialise as literally billions of people suddenly have these capabilities that they didn't have before, to reach out and communicate, I think, new kinds of information. This was what supposedly the Arab Spring was all about is that suddenly all these folks had a window into the world where they could connect with one another.

And as a result, for political groups that opposed the regimes. Changed essentially the politics of the countries in which this new form of person to person kind of communication became possible. So it all backs again, boils down to the simple concepts of that people like to talk, and people like it even better if they can talk over a distance.

Internals\\STUDY2DATA\\NZInt2

No	0.0092	2	
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		31/08/2015
1	KP	15:17

Of course there's going to be the general connectivity stuff like the social layer which is just the fact that you've got one person connected to however many people and there are untold applications that you can invent that can link people together

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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31/08/2015
13:56

2 KP

The whole social shift that's going to happen in those countries over the next few years is going to be astounding as they come out of not accessing anything to having a phone and being tapped straight into the world. They will try a lot of stuff I think.

Internals\\STUDY2DATA\\NZint5

No	0.0241	3
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31/08/2015
15:13

1 KP

so everybody wants to make profits and I think nobody's really investing enough back into society. So nobody, I faced a few times a question just saying well how much, what will give a profit or how much will you get out of

31/08/2015
15:13

2 KP

but I think you can open up, well you can diminish some services and increase others and make a balance like that, but something a little bit more social, or democratic.

31/08/2015
15:13

3 KP

Or to take the risk to say, well actually rather than to get your portion, your bach in the Coromandel, you just get slightly less money and you redistribute that money amongst those people and they pay slightly less money on their communication.

Nodes\\3. STAGE 2\\C. To code later\\To use later\\Why Google and Facebook were successful Document

Internals\\STUDY2DATA\\NZInt2

Yes	0.0149	3
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15/06/2015
14:42

1 KP

let's take the Facebook phenomena.

			15/06/2015
2	KP	14:42	
when people first realised that they could actually locate their friends and the concept of being able to post things and have that broadcasted to their friends, that was a new mechanism and a lot of people jumped on board that and it kind of accelerated that mechanism because everyone was doing it and it became normal almost to be on Facebook.			

		15/06/2015
3	KP	14:41
An example of one that's producing true value is Google. It's not a gimmick. When Google first came out it was really interesting to be able to put some words in and bang you find exactly what you needed and that was interesting, but what's happened is that it's actually become completely functional and we use it all the time. That one has kind of stuck. A lot of these services are being driven just by the novelty aspect of it.		

Reports\\Coding Summary By Node Report	Page 9 of 10		
1/10/2015 12:15			
Aggregate	Classification	Coverage	Number Of Coding References
			Reference Number
			Coded By Initials
Nodes\\3. STAGE 2\\C. To code later\\To use later\\Why Google and Facebook were successful\\About facebook Document			
Internals\\STUDY2DATA\\NZInt2			
No	0.0069	2	
			15/06/2015
		1	KP
let's take the Facebook phenomena.			14:42

		15/06/2015
2	KP	14:42
when people first realised that they could actually locate their friends and the concept of being able to post things and have that broadcasted to their friends, that was a new mechanism and a lot of people jumped on board that and it kind of accelerated that mechanism because everyone was doing it and it became normal almost to be on Facebook.		
Nodes\\3. STAGE 2\\C. To code later\\To use later\\Why Google and Facebook were successful\\About Google		

Document

[Internals\\STUDY2DATA\\NZInt2](#)

No	0.0079	1
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	1	KP	15/06/2015 14:41
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An example of one that's producing true value is Google. It's not a gimmick. When Google first came out it was really interesting to be able to put some words in and bang you find exactly what you needed and that was interesting, but what's happened is that it's actually become completely functional and we use it all the time. That one has kind of stuck. A lot of these services are being driven just by the novelty aspect of it.

APPENDIX X. STUDY 2: CODES-S2 ORGANISED BY BASIC, ORGANISING AND GLOBAL THEME (STAGE 3)

Name	Sources	References
GLOBAL THEME CUSTOMERS DRIVE SERVICE DVELOPMENT	13	366
ORGANISING THEME CUSTOMER DECISIONS	13	134
BASIC THEME Free vs paid (change of attitude)	10	36
CATEGORY Customer decision making S2 Final	4	5
Tradeoff as a factor	4	5
CATEGORY Service not viable S2 Final	2	3
Free services get abused	2	3
CATEGORY Service value adder S2 Final	8	18
No cost	8	18
CATEGORY Service value detractor S2 Final	6	10
Cost	3	4
Free - caution	3	6
BASIC THEME Performance quality	11	45
CATEGORY Customer decision making S2 Final	5	11
Quality as a factor	5	11
CATEGORY Customer expectations S2 Final	7	16
Service quality	7	16
CATEGORY Service value detractor S2 Final	2	2
Speed	2	2
CATEGORY Technology limitations S2 Final	5	16
Backhaul	1	3
Device drives back	4	7
Web protocol	1	6
BASIC THEME Rich experience	8	20
CATEGORY Service value adder S2 Final	4	8

Improved experience	4	8
CATEGORY Customer expectations S2 Final	4	7
Unique experience	4	7
CATEGORY Customer requirements S2 Final	4	5
Service experience	4	5
BASIC THEME Service benefits	9	33
CATEGORY Customer decision making S2 Final	3	9
Benefit as a factor	3	9
Customer expectations S2 Final	9	24
Service superiority	4	13
Service value	6	11
ORGANISING THEME CUSTOMER NEEDS	13	158
BASIC THEME Free vs paid (free)	10	36
CATEGORY Customer decision making S2 Final	4	5
Tradeoff as a factor	4	5
CATEGORY Service not viable S2 Final	2	3
Free services get abused	2	3
CATEGORY Service value adder S2 Final	8	18
No cost	8	18
CATEGORY Service value detractor S2 Final	6	10
Cost	3	4
Free - caution	3	6
BASIC THEME Mobile lifestyle	11	56
CATEGORY Customer expectations S2 Final	4	7
Merge business and life	4	7
CATEGORY Customer requirements S2 Final	9	28
Lifestyle supporting services	6	20
Mobility supporting services	5	8
CATEGORY Service value adder S2 Final	9	21
Supporting lifestyle	9	21
Services (choice)	12	37

CATEGORY Customer decision making S2 Final	4	5
Choice as a factor	3	3
Perceived need for service as a factor	1	2
CATEGORY Customer expectations S2 Final	2	2
Service choice	2	2
CATEGORY Customer requirements S2 Final	9	26
Convenient services	7	12
Needed services	7	14
CATEGORY Service demand inhibitor S2 Final	2	4
Not right	2	4
BASIC THEME Services (need)	0	0
CATEGORY Customer decision making S2 Final	4	5
Choice as a factor	3	3
Perceived need for service as a factor	1	2
CATEGORY Customer expectations S2 Final	2	2
Service choice	2	2
CATEGORY Customer requirements S2 Final	9	26
Convenient services	7	12
Needed services	7	14
CATEGORY Service demand inhibitor S2 Final	2	4
Not right	2	4
BASIC THEME Simple to use	9	29
CATEGORY Customer decision making S2 Final	2	3
Ease of use as a factor	2	3
CATEGORY Customer requirements S2 Final	5	12
Easy to use services	5	12
CATEGORY Service value adder S2 Final	5	14
Simplicity	5	14
ORGANISING THEME CUSTOMER PARTICIPATION	13	74
BASIC THEME Customer role (contributors)	13	74
CATEGORY Customer attitudes S2 Final	9	24

Conservative	7	15
Interested	5	9
CATEGORY Customer input S2 Final	8	35
Co-creators	3	10
Drivers	7	17
Feedback	3	8
CATEGORY Service demand generator S2 Final	3	6
Entertainment	3	6
Uncertainty S2 Final	6	9
Difficult to predict	6	9
BASIC THEME Customer role (users)	0	0
CATEGORY Customer attitudes S2 Final	9	24
Conservative	7	15
Interested	5	9
CATEGORY Customer input S2 Final	8	35
Co-creators	3	10
Drivers	7	17
Feedback		
CATEGORY Service demand generator S2 Final	3	6
Entertainment	3	6
CATEGORY Uncertainty S2 Final	6	9
Difficult to predict	6	9
GLOBAL THEME SERVICE PROVIDERS FACE CHALLENGES	13	263
ORGANISING THEME HOW TO INNOVATE	13	74
BASIC THEME Innovativeness	9	33
CATEGORY Service demand inhibitor S2 Final	2	6
Stagnant	2	6
CATEGORY Service not viable S2 Final	5	11
Business model	4	7
Dynamic technology development	3	4
CATEGORY Technology opportunities S2 Final	5	6

Develop and customise	3	4
Rewarding	2	2
CATEGORY Uncertainty S2 Final	7	10
Innovation	7	10
BASIC THEME Services difficult	11	41
CATEGORY Competition S2 Final	8	15
Amongst service developers cum service providers	8	15
<i>Application developers have different perspectives on how to develop successful applications</i>	1	1
<i>Mobile needs fastest growing</i>	1	2
<i>Service gamification as an attempt to attract customers</i>	1	2
<i>The challenge is to reach the customer</i>	2	2
<i>To be successful you need to be the first on the market</i>	2	4
<i>Want to provide the same, most needed or most valuable service</i>	3	4
CATEGORY Controlling influences S2 Final	4	8
Banks slow	2	3
Secondary channel	2	5
CATEGORY Service development and provision S2 Final	5	18
Different perspectives	3	9
Innovate	2	8
<i>Emerging economies are attractive as a market for new services</i>	1	4
<i>Innovative services are needed for emerging markets, targeting specific market characteristics</i>	1	3
<i>Software as a service</i>	1	1
<i>Open source</i>	1	1
ORGANISING THEME HOW TO REACH CUSTOMERS	13	189
BASIC THEME Awareness	10	40
CATEGORY Customer decision making S2 Final	10	35
Awareness as a factor new	6	16
Social norm as a factor new	7	14
Trust as a factor new	3	5
CATEGORY Service demand inhibitor S2 Final	3	5

Security fears	3	5
BASIC THEME Customer segmentation	13	81
CATEGORY Customer decision making S2 Final	7	12
Affordability as a factor	7	12
CATEGORY Customer segmentation S2 Final	12	55
Demographics	8	32
Micro segmentation	1	1
Requirement specific	10	14
Socio-economic status	4	8
CATEGORY Service viable S2 Final	7	14
Priced	4	5
Responsive	4	9
BASIC THEME Motivating customers	11	32
CATEGORY Service demand generator S2 Final	10	18
Current use by customers	4	4
Environment encouraging	3	4
Free trial increases popularity	3	5
Mobile device penetration	3	5
CATEGORY Service viable S2 Final	7	14
Customer base	3	3
Incentives needed	4	5
Mobile payment	3	6
BASIC THEME Unique mobile services	10	36
CATEGORY Service not viable S2 Final	2	4
Mobile not understood	2	4
CATEGORY Service value adder S2 Final	2	2
Uniqueness	2	2
CATEGORY technology opportunities S2 Final	10	30
Location detection and tracking	6	9
NFC	1	2
Overtaking functions	3	3

Specific capabilities	8	16
GLOBAL THEME VENDORS, OPERATORS COMPETE	13	204
ORGANISING THEME COMPETITION	13	149
BASIC THEME Active vendors	9	41
CATEGORY Competition S2 Final	4	11
Amongst device vendors	3	9
Competition to establish vendor technology for popular services	2	2
Competition to establish vendor's platform to lock in customers	1	3
Device vendors have different platforms - strong platform fragmentation	2	4
Between device vendors and banks	1	2
CATEGORY Controlling influences S2 Final	5	16
Control device vendors	5	16
Device and platform vendors limit the ability of other parties to control how the device operates and protect their own apps	3	6
Smart phone benefits can be made visible through applications and services only	1	1
Smart phones are the market drivers	4	9
CATEGORY Service development and provision S2 Final	6	14
Customer oriented	1	2
Incentives	3	3
Platform fragmentation	3	9
BASIC THEME Future MNOs	10	39
CATEGORY Controlling influences S2 Final	8	27
Future MNOs	8	27
MNOs can provide authentication services	4	5
MNOs can provide payment services	2	3
MNOs will continue as data carriers	8	19
CATEGORY Service development and provision S2 Final	5	12
Cheap smart phones	1	1
MNOs need to invest	1	1
MNOs vs customers	1	1

Work with MNOs	4	9
<i>MNOs have a role as co-funders of service and application development</i>	2	2
<i>MNOs interested in partnerships recognising the importance of services</i>	3	7
BASIC THEME MNOs under pressure (market dynamics)	11	69
CATEGORY Competition S2 Final	9	49
Amongst MNOs	8	43
<i>Competition is limited as country size cannot allow for too many operators</i>	2	2
<i>Competition to retain a position is cutthroat</i>	6	14
<i>Customers chose device rather than network provider and MNOs have to consider all choices customers make</i>	2	7
<i>Old players lose on investment while new players do not invest in infrastructure</i>	1	3
<i>Operators face the challenge to be stay relevant</i>	2	7
<i>ROI eroded due to changes in the roles of the players</i>	4	8
<i>Service developers and providers push MNOs down to a carrier role</i>	1	2
Between WiFi providers and MNOs	3	6
CATEGORY Controlling influences S2 Final	7	10
Data plans	7	10
CATEGORY Service development and provision S2 Final	4	10
MNOs vs services	4	10
BASIC THEME MNOs under pressure (sector competition)	0	0
CATEGORY Competition S2 Final	9	49
Amongst MNOs	8	43
<i>Competition is limited as country size cannot allow for too many operators</i>	2	2
<i>Competition to retain a position is cutthroat</i>	6	14
<i>Customers chose device rather than network provider and MNOs have to consider all choices customers make</i>	2	7
<i>Old players lose on investment while new players do not invest in infrastructure</i>	1	3
<i>Operators face the challenge to be stay relevant</i>	2	7
<i>ROI eroded due to changes in the roles of the players</i>	4	8

<i>Service developers and providers push MNOs down to a carrier role</i>	1	2
Between WiFi providers and MNOs	3	6
CATEGORY Controlling influences S2 Final	7	10
Data plans	7	10
CATEGORY Service development and provision S2 Final	4	10
MNOs vs services	4	10
ORGANISING THEME ENABLING COMPETITION	12	55
BASIC THEME Enabling competition	12	55
CATEGORY Customer decision making S2 Final	4	11
Privacy as a factor	4	11
CATEGORY Regulatory environment S2 Final	12	41
Broadband	5	11
Content	5	6
High compliance costs	1	1
International	2	2
Roaming	2	4
ROI and income	2	5
Security	4	9
Service importer	3	3
CATEGORY Uncertainty S2 Final	3	3
MNOs	3	3

APPENDIX Y. STUDY 2: CODED DATA-S2 ORGANISED BY GLOBAL THEME (STAGE 3)

Y1. Global theme data: “Vendors, operators compete”

Y2. Global theme data: “Service providers face challenges”

Y3. Global theme data: “Customers drive service development”

Y1. Global Theme Data: "Vendors, operators compete"

15/10/2015 6:04 p.m.

Coding Summary By Node dataround2

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
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Node

Nodes\\STAGE 3\\Global and organising themes\\VENDORS, OPERATORS COMPETE

Document

Internals\\STUDY2DATA\\NZInt1

Yes	0.1027	8	1	KP	24/08/2015 5:01 p.m.
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and what are the security implications of it. The latest headlines about all of this violence and other pornographic materials being posted to Facebook – it causes people to sign off their social network

2 KP 1/06/2015 3:12 p.m.

But when you're talking about broad base appeal what people are going to decide on –

3 KP 1/06/2015 3:12 p.m.

is it something that I can actually use without risk.

4 KP 24/08/2015 11:54 a.m.

My firm developed an application and entered it into this contest and while we didn't win we are very familiar with another developer who did win and it was designed to encourage the development of web and mobile applications that used government data – so it was kind of an open data initiative and so because of that experience, I have had to say that New Zealand has been both supportive and innovative in the way in which they have been supportive

5 KP 22/05/2015 12:21 p.m.

Now Two Degrees has expressed interest in having more mobile portal types of applications developed. They already have a website and they want to have the equivalent of that website on a mobile device which given that there are provider of mobile services you would have thought that it would have been the first thing to have happen rather than the website.

They sell mobile stuff through the website and once you have already got the mobile device they don't really kind of need you to be able to access to store from a mobile perspective as much as they needed to have the website ready. So to my surprise that development – proposal for that development has languished for some months, I think because they have so much else on their plate,

6 KP 18/05/2015 12:13 p.m.

The Acer example – I happen to be a founder and presenter of the Google technology user group in town, and Acer actually brought along some of their prototype systems to show to our group and give us the opportunity to get a us the newest hardware at a discounted price direct from the manufacturer and I think that you can't ask for more. Hewlett Packard did a similar kind of initiative

7 KP 23/05/2015 9:23 a.m.

Vodafone – I had a very nice data plan that perhaps is still the one that they offer but 3 gb per month.

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
			8	KP	23/05/2015 9:23 a.m.	

Internals\\STUDY2DATA\\NZInt10

Yes	0.1473	7	1	KP	3/09/2015 10:04 a.m.
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So we've, yeah, because network operators have got a vested interest in people using mobile services, because of the pricing structure we've got now, effectively. You pay for data. So I mean, you look at Spark introducing Lightbox, which is very bandwidth hungry. You've just got to question their motives, going, "Oh, great, we've got this new content service from Spark and they're not charging me to use it." Back to our no free lunch.

2 KP 22/05/2015 12:50 p.m.

So do they go out to market themselves with their idea or do they partner with someone to do that? It will be very interesting in ten years to see what it's like. I mean Spark's turning into a, or Vodafone tried it with the Sky partnership years ago. They tried to turn into a full service, content, because content is the where we're going. I mean everyone's got mobile devices, everyone's got bandwidth, you pick and choose. My friends ask me, in New Zealand, what Internet provider should I go with?

3 KP 16/08/2015 3:34 p.m.

the regulatory environment, most of it is around accessibility and delivery. So for example, making sure that, the Commerce Commissioner making sure that all mobile telcos have similar bandwidth spectrum and things like that.

4

KP

22/08/2015 5:21 p.m.

I don't know how much regulation there is around content.

5

KP

16/08/2015 3:34 p.m.

I mean for example, why don't we have Netflix in New Zealand, why is it only just coming now? Is that because Netflix didn't see a market in New Zealand, or is that because there were regulatory bodies that stopped them coming in? And I don't know what the answer to that is. So how they, so how the regulatory bodies can be most supportive, I think, is enabling all of that to be accessible, and then the consumers then decide what they want to use, which then effectively picks the winners and losers

6

KP

3/09/2015 9:36 a.m.

What's most supportive is the cutthroat nature, because everyone's trying to outdo each other. I mean we released the new mobile plans recently, and I'm just, I'm waiting for Spark and Vodafone to follow, because they'll go, "Oh shit, we can't be out priced by 2degrees." So we're constantly trying to better the rivals.

7

KP

3/09/2015 9:36 a.m.

So I think that supports the development and implementation of services, because they're constantly trying to get better and better and better. No one's resting on their laurels. When we had a monopoly and a duopoly, people rested on their laurels. So the existence of the three players

Internals\\STUDY2DATA\\NZInt11

Yes

0.1814

12

1

KP

22/08/2015 5:21 p.m.

New Zealands regulatory environment is quite restrictive for many industries, think electricity, health, etc but currently it is not too restrictive for apps

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
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2 KP 18/05/2015 2:35 p.m.

We do need to be very careful in balancing the need for consumers right to privacy with the ability for small developers to innovate without unduly high compliance costs

3 KP 22/08/2015 5:33 p.m.

Also, NZ needs to stay aligned to global developments in the area of Identifcaion and authentication, and tax and payments. These are two areas where some governments have made a poor design choice, and stifled innovation for their constituents by not enabling them to participate in global modalities.

4 KP 22/05/2015 12:59 p.m.

As I mentioned before, I don't think mobile network operators have a big role to play in mobile service development. The network operators role should stop at the pipe

5 KP 22/08/2015 4:20 p.m.

As I mentioned before, I don't think mobile network operators have a big role to play in mobile service development. The network operators role should stop at the pipe,

6 KP 15/05/2015 5:13 p.m.

, and possibly some value-added services provided alongside it such as user authentication, location, payments

7 KP 15/05/2015 5:10 p.m.

To the extent that you are asking about the mobile operator industry structure, I think we have extremely high mobile penetration, good coverage, and high speeds . We have adequate interconnection between NZ networks and to the global internet.

8 KP 18/05/2015 9:02 a.m.

We could do more to open APIs and interconnection for authentication, location and payments between carriers, between banks and carriers, between apps and carriers. And all should be subject to [the privacy and global standards considerations](#)

9 KP 18/05/2015 8:53 a.m.

If this question is asking about the mobile app ecosystem over and above the role of the carriers, I am less experienced in this area but would guess that New Zealand's small size means that while we have good local software companies we are likely to be a net importer of mobile services .

10 KP 22/08/2015 5:30 p.m.

Hence the need to ensure our consumer market and local regulations facilitate easy import of services from overseas

11 KP 16/08/2015 3:38 p.m.

Hence the need to ensure our consumer market and local regulations

12 KP 16/08/2015 3:38 p.m.

while safeguarding the rights of New Zealand consumers and also helping local developers to export overseas.

[Internals\\STUDY2DATA\\NZInt12](#)

Yes 0.1384 13

1 KP 2/09/2015 6:05 p.m.

I think there's a lot of difficulties now, because you have to decide what platforms you'll support and how you'll support them. So you might start with, these days a lot of people are perhaps increasingly using HTML5 on the basis that it's kind of widely supported. But an HTML5 app is only as good as a native app for quite boring things.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
			2	KP	2/09/2015 6:05 p.m.	

So if you want to do something that's really interesting innovative, you probably have to start thinking about well we should use something that generates something more native. And then there's a sort of halfway house which is like the Rab (0:23:41.5) tools where you code it using a programming language and it spits out iOS, and it spits out Android, or you actually you have to hand build it from scratch on a platform and of course it's, all of those three options are perfectly valid, but you get different costs and benefits out of them.

3 KP 2/09/2015 6:05 p.m.

The other thing I guess is that it's quite hard to test this stuff. It's quite hard to, if you come up with a wonderfully innovative mobile app that, for example, uses location, and you want to test it on Android. You can't even test it on the emulator anymore, you have to do it on a device, and then you have to fake your location.

4 KP 16/08/2015 3:34 p.m.

And so I've been kind of following with interest the debates that have taken place over the last ten years or so about the government's attitude towards regulation of broadband, both fixed and wireless, and competition and unbundling and all of those things

5 KP 16/08/2015 3:34 p.m.

So it's been really, really interesting and the impression I've got from that is that the New Zealand regulatory environment has reluctantly been opening itself up to enable things to happen. So I think it's become more supportive, but it's had to do that because members of the industry or certain parts of the industry have forced them to do that that they've gradually had, I mean with great resistance from Telecom, for example

6 KP 16/08/2015 3:34 p.m.

So yeah, so I think it's gradually become more conducive to competition, innovation and so on, but it's not been an easy process, and it's still an ongoing issue, I think

7 KP 22/05/2015 1:04 p.m.

Well I suppose it's fairly straightforward, isn't it, I mean you've still got what's left of the incumbent and it's still the case that even though everything's been split up, Chorus is still the rump of that centralised infrastructure ownership. So they've always been the drag, if you like, on everybody else.

8 KP 22/05/2015 1:04 p.m.

And then of course the other major players which these days would be Vodafone, 2degrees, I suppose, in the mobile space, have been trying against that to do more in the market. But of course it is a problem, because those other players want to do that on the back of someone else's infrastructure. Someone else has put all the money into building the physical infrastructure. They bung up a few masts and sell a few phones and say, "Oh we want this full market."

9 KP 15/05/2015 4:16 p.m.

And of course, you can see why those who've been involved in building up a national government funded infrastructure for decades were not very happy about doing that

10 KP 3/09/2015 9:36 a.m.

But as we know, it's very clear that if you don't have competition, you don't get the services, you don't get the prices.

11 KP 16/08/2015 3:34 p.m.

One of the things I was reading about recently was about the level of intervention that's required for successful broadband in a country.

And the general consensus is that what they call medium intervention is the best model which is, the government has to take some responsibility, but it can't control everything.

12 KP 16/08/2015 3:34 p.m.

the medium intervention model is something that New Zealand's moved towards.

13 KP 16/08/2015 3:34 p.m.

You can't leave it to the market and you can't just have a thing where the government tells you, you've got to have some kind of balance in order to get things happening, but then that's kind of like, it's the old, it's the same argument we've had about economies for hundreds of years, isn't it?

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt13						
Yes		0.1799	10			

1 KP 18/08/2015 2:26 p.m.

to use their mobiles abroad. I mean the thing is at the moment, and it's, it drives culture and it drives, people find ways around the regulation.

2 KP 24/08/2015 5:26 p.m.

And so what you'll find, or what you find now is that if I, if someone was going overseas, they just go and get a SIM card from the country that they're in and sort of work around it. And ultimately the telecommunications providers here are losing out, because they're not then providing that service at all.

3 KP 15/05/2015 4:18 p.m.

I think that there's an awful lot of interest in this.

4 KP 15/05/2015 4:21 p.m.

And it's a fairly, it's a fairly large pie and to have a, to get a, there's a lot of companies that are looking to have a slice of that.

5 KP 22/05/2015 1:19 p.m.

So yeah, effectively they're providing that service and that channel and, but what's at the end of the channel is something which is more, it's more customer driven.

6 KP 7/09/2015 1:52 p.m.

So I guess originally when you went to, you bought a phone, you bought it off the phone, the telecom provider and that was it.

7 KP 12/08/2015 6:29 p.m.

And you've, what you've, I think what you've, what you've seen, especially in the European markets now is that there's an EU cap on roaming charges now, to give, to sort of be able to provide the platform so that people can use their mobile abroad, with a premium but it's not cost prohibitive to use.

8

KP

3/09/2015 9:59 a.m.

Well I think, the difference between New Zealand and overseas is that there's probably a lot more competition and it's a bigger market, and here, although we have, we have limited competition and it's, and that's what's keeping the price up

9

KP

15/05/2015 4:26 p.m.

Well again it's not, there's a lot of competition in that market now as well. So it used to be where there was, maybe where there was a sole network operator, they don't have the dominance now that they used to have because there's a lot of competition in the market for providing that service

10

KP

15/06/2015 4:47 p.m.

One of the key, I think, it's an area which rewards people for being innovative, and with marketplaces like Google, like Google Play, or even though the iPhone channels are more restrictive, they still provide an incentive for people to go and provide, sorry, they still provide an incentive for people to write applications for mobile.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt2						
Yes		0.1088	23			

1

KP

18/08/2015 2:20 p.m.

People are jumping onto that, they think that's wonderful, but the true implications of the privacy and all the realities of that haven't been fully understood. People haven't had that rejection yet of the technology.

2

KP

15/05/2015 3:54 p.m.

A lot of the space is also just evolving too in the sense that you've got these people providing platforms and they're all fighting one another to try and dominate and get more customers.

3

KP

15/05/2015 3:54 p.m.

You've got android that is growing very rapidly, iPhone which is a closed shop, Symbian which used to dominate and is moving out more. You've got J2ME which is actually available on 80% of all phones which is a parallel platform, a Java platform, and it just fits in all these phones but it's a complete dog as well. It's generally a complete mess

4

KP

15/05/2015 3:55 p.m.

It's generally a complete mess.

5

KP

2/09/2015 6:05 p.m.

you're just left with all these individual platforms. As a developer, it makes it quite difficult because there's major fragmentation

6

KP

15/05/2015 3:56 p.m.

If you wanted to write just some J2ME which is the Java platform. I don't know if you're aware of Java, they have this mantra which they call Right Once Run Anywhere, that was their original vision, and it's the worst fragmented platform there is

7

KP

2/09/2015 6:05 p.m.

You've got to write something like maybe 15 or 20 different versions of an application and it's all running on the same platform.

8

KP

23/05/2015 11:13 a.m.

the web is actually the only glue that sticks these platforms together. Applications have to run on a platform and so once you've started developing for a particular platform you have natural lock-in with your customers and your own development team on that platform.

9

KP

23/05/2015 11:14 a.m.

Anything that has to communicate between platforms has to be done on the web and that's where the web was really good. I don't know if you remember back when Bill Gates tried to own the web and failed. He did attempt to control it like he did the application but there was such a strong force pulling the different platforms together because it was the only unifying force that you could link Macs and PCs and things together.

10 KP 7/09/2015 10:00 a.m.

but that's not to say the operators aren't potentially great partners.

11 KP 22/05/2015 1:07 p.m.

R: It was envisaged maybe about 12 years ago now that they would become banks but they didn't.) So possibly just an opportunity lost really. But they don't need to do all the banking services, they just need to provide payment services.

12 KP 2/09/2015 6:05 p.m.

Technical obstacles would be definitely fragmentation and that kind of thing.

13 KP 7/09/2015 2:28 p.m.

I do think it's happening very fast if you look how fast android is taking over things

Reports\\Coding Summary By Node Report

Page 6 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	------------------	------------------	-------------------	-------------

14 KP 15/06/2015 5:05 p.m.

We've had mobile feature phones for quite some time but now it's starting to hit critical mass and now developers are jumping into it and so that's a piece that's happening fast – in those last few years you can see them in job ads. They're actually advertising for people.

15 KP 15/05/2015 4:05 p.m.

I don't think the network operators would provide at all. No. It's really anyone who wants to develop an a service. You get free aps, people can develop their own aps

16 KP 16/08/2015 3:38 p.m.

This evokes a 2004 Telecommunications Act which says that basically the government needs to be able to get access to all information. We actually had a go at that and there's no way of us actually being able to solve that problem. On the one hand the law says you have to allow governments to get access to it and the other thing we're trying to sell is security to firms and go "if you use this ...

17 KP 16/08/2015 3:38 p.m.

But how do you do that? If you can make it with a hole that the government can get to it then there's a hole that hacking can get into it. The easiest thing is to go "this is secure" because there's a fear of absolute information security and that explains how you make a secure model, and then say now there's an implementation that it's secure but now you're breaking the law. There's ways we can get around that, kind of fudge it and do it and say "if the Government can track where this server is" then we'll have to put mechanisms in that basically weaken it.

That's an example of regulations ...Because of your particular approach, it is a regulation which actually ...says you're not allowed to do that. It's a paradox

18 KP 16/08/2015 3:38 p.m.

How do you solve that problem? It's a real hard one. You actually do your job and you now solve the problem but you're now breaking the law. You have to find creative ways to go "OK, well we're going to break the law but when they catch us we'll have this thing to say yes they can get in but not through the official way" so it's like a slap on the wrist".

19 KP 22/05/2015 1:12 p.m.

The only thing I think they do is shape the traffic maybe to their own interests. They may hold certain services or may delay traffic going to other providers and stuff like that. I don't think people like them very much if they do that

20 KP 22/05/2015 1:13 p.m.

Otherwise I don't think they really get involved much. They provide just the services for tip over

21 KP 22/05/2015 1:15 p.m.

Yeah. I don't think that they do really communicate much with application developers at all. Telecom have got three different gateways and two of them are a bit dodgy but do they care really? A lot of the telcos charge ... I know Vodafone uses one gateway if you're on prepaid and it's incredibly slow.

22 KP 22/05/2015 1:34 p.m.

Like Vodafone don't say "here we go, here are all the first aps" and it comes preloaded with these aps. They don't have any big channel linking you into their main part. You think they might

23 KP 3/09/2015 9:54 a.m.

But it could've been different in the past. Let's say operators could've actually started encouraging this themselves and had all these aps on their phones.

NZINT2

Internals\\STUDY2DATA\\NZInt3

Yes 0.2107 18

1 KP 3/09/2015 8:05 a.m.

I also think that expectations around the hardware and the network services ... things like Smartphone penetration, as I've said they're a key part of this in how quickly Smartphone penetration will actually go through. The price of those Smartphones are coming down is obviously going to help

Reports\\Coding Summary By Node Report

Page 7 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	------------------	------------------	-------------------	-------------

2 KP 16/06/2015 1:58 p.m.

I think Android has allowed people to be a bit more innovative and it's a more accessible platform. Apple is a bit more closed.

3 KP 4/09/2015 1:31 p.m.

Apple sets the parameters that you can work in, whereas Android doesn't have those.

4 KP 2/09/2015 6:05 p.m.

I think there are two key obstacles. I think the first particular obstacle is ensuring that the applications can work across different networks and different platforms. If you fragmentation between different networks and the way that they operate and interface as well as the different platforms.

5 KP 2/09/2015 6:05 p.m.

We've got windows, android, Apple, there's going to be a winner and a loser and that sort of fragmentation is going to be difficult in bringing stuff to market. We often saw in the past that Apple is always first to market and not potentially Android is sort of creeping ahead and now Windows has got their partnership with Nokia so what's happening there. You can't just develop one application, you have to develop three or potentially four applications.

6 KP 2/09/2015 6:05 p.m.

You end up having to develop not just one thing but multiple things. It's consistency. It makes it a lot harder than just developing one application.

7 KP 8/09/2015 11:47 a.m.

I think a lot of it is going to be over the top in content. Players are going to be the ones developing applications.

8 KP 23/05/2015 11:15 a.m.

You need the next over the top and/or content. People and content. Also, think about events companies like Red Bull for instance. That can unite people from all around the world so therefore the network operators it won't work but ...one of the segments ... all these platforms.

9 KP 18/05/2015 1:15 p.m.

I think the biggest problem we have in NZ is we're very small. Because of that you're probably not going to get a huge amount of NZ specific applications working because we're just too small. That's where the open source might flush that out a little bit.

10 KP 22/08/2015 5:29 p.m.

The thing that will fix that obviously is having over the top players that are international over the top players basically providing applications. I don't think a lot of those applications will be specific NZ applications. From my point of view, the biggest thing from an industry perspective is how to encourage these people to set up camp in NZ.

11 KP 22/05/2015 1:54 p.m.

We're too small a place. Over the top players will kill us.

12 KP 22/05/2015 1:54 p.m.

I think you've got to provide the infrastructure for these guys to thrive on and provide a really solid network platform.

13 KP 22/05/2015 1:56 p.m.

It's something we have, from the telecommunications perspective, is how do we try and monetise all of this bandwidth.

Obviously we're building bigger networks with fatter and fatter pipes to carry more and more and more content but how do we make money and how to we try and get return on our investment?

14 KP 22/05/2015 1:57 p.m.

not just from the NZ perspective but International Broadband Forum last year, it was a big talking point. How do we monetise bandwidth? Broadband is exactly the same as mobile broadband.

We're building more and more infrastructure but how do we get a return. We can't charge our end customers more for it.

Reports\\Coding Summary By Node Report

Page 8 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	------------------	------------------	-------------------	-------------

15 KP 22/05/2015 1:57 p.m.

Everyone's expecting MFI and cellular phone, they're also getting data plan included. The problem is there's a real cost to providing that infrastructure and it is a massive problem and I don't think that the world understands how we decide what [inaudible 33.31] communications to keep building but at some stage

16 KP 2/09/2015 10:56 a.m.

I think specific network technology such as mash up, getting Google and applications to try and reduce some of that international bandwidth costs.

But also get some money out of it.

17

KP

2/09/2015 10:56 a.m.

How

18

KP

2/09/2015 10:56 a.m.

We don't know. Big players can say "if you don't do it, Vodafone or 2degrees will do it"

Internals\\STUDY2DATA\\NZInt4

Yes

0.2303

21

1

KP

3/09/2015 8:37 a.m.

That's right, who bears the carrier charges? There is the thought that companies like Apple and Google who are starting to corner the smart phone markets will have, at some point, enough of a market share to actually start building their own networks across Wi-Fi and data

2

KP

3/09/2015 8:38 a.m.

I mean we're seeing things like Viber doing, allowing you to make voice and SMS voice calls and send SMS's and bypassing the mobile operators. Who's to say someone like Apple doesn't build a worldwide IP network?

3

KP

15/05/2015 4:30 p.m.

But these existing data network owners are also plumbers, right they sell plumbing, they make their money by how much data you send across their pipes

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KP

15/05/2015 4:33 p.m.

but someone like Apple or Google have a different driving factor, their aim is to sell the devices and if they provide the network that says, I sell you the device, you buy my device you can call anybody else who's got the same device on this network for free and that's a huge incentive

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KP

15/05/2015 4:34 p.m.

Yeah so they're not selling the plumbing they're selling the device, that's where they make their money. So it beholds then the Telcos to figure out how they are going to play in this brave new world

6

KP

22/05/2015 1:59 p.m.

I think that's where you build partnerships, you've got an idea, you find the right partner who can actually sell your idea, who gets your idea and sells it. It might be another (unintelligible, 0:19:43.0) capitalist, it might be, I mean like for example, the example I gave you with the guy from India.

7 KP 7/09/2015 2:02 p.m.

I think both, network operators need to figure out

8 KP 16/06/2015 2:23 p.m.

I think both, network operators need to figure out how they're going to keep their business going because I think people like the Apples and the Googles are going to eat into their, eat their lunch.

Reports\\Coding Summary By Node Report

Page 9 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
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9 KP 7/09/2015 2:02 p.m.

how they're going to ensure that they survive in this world, so they're going to have to provide reasons for people not to go onto the other networks.

10 KP 22/05/2015 3:40 p.m.

Yeah so and I do think network operators will actually, where they'll add value is to provide the glue for these, for the third parties. So the network operators will have the customers, they'll have a customer base, the third parties will need access to the customer base and the network operators will provide that glue to allow these services to be sold through that customer base while taking a cut in the fee or whatever

11 KP 16/06/2015 2:26 p.m.

Yeah and then the network operator who can provide the most services wins, because I mean...

12 KP 14/09/2015 2:07 p.m.

So just selling, just having a network without and depending on everybody else to provide services ain't going to work in the new world.

13 KP 18/05/2015 2:05 p.m.

I think the way, what the government's done to stifle the larger Telcos to allow the smaller Telcos to operate, things like 2 Degrees something, in the long run is probably not good. Because you're taking investment out of the large Telcos so they're going to invest less, at the end of the day the Telcos have to show a return to their shareholders. And if you're eating into the way they can operate then they've got to cut costs elsewhere, so that cost comes out of capital investment

14 KP 16/08/2015 3:30 p.m.

I think in the long run it'll be counterproductive and it doesn't help the smaller, yes it puts more money in the back pocket for the smaller provider in the short term, but unless the smaller provider actually uses that to invest to do real capital

15 KP 16/08/2015 3:30 p.m.

Yeah they'll eventually get gobbled up anyway and nobody wins in the long run, so

16 KP 16/08/2015 3:34 p.m.

Yes and so at the end of the day what the government's trying to do is to ensure the consumer gets the best deal

17 KP 18/05/2015 2:03 p.m.

Yes and so at the end of the day what the government's trying to do is to ensure the consumer gets the best deal, they might have in the short term but in the long term it might not have helped anybody. Because if shareholders don't see a return they'll just pull their investment out.

18 KP 22/05/2015 3:41 p.m.

I think all the network players in New Zealand are incredibly supportive of development and implementation, I mean they have to, I mean if you don't your customers aren't going to stay with you. You need to be seen to be innovative, you need to be seen to be supporting all these applications.

19 KP 22/05/2015 3:41 p.m.

Yes (laughter) so you can't afford not to be supportive

20 KP 22/05/2015 3:41 p.m.

You can, I mean basically you put probes in the network and you see anybody doing this and you drop their data rate (0:29:26.1) which is fine, you can do that. But I would rather see that the networks says, "Use Skype if you want and in fact if you use Skype you can pay us a little extra and we'll ensure you've got a higher quality of service." So.

Reports\\Coding Summary By Node Report

Page 10 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	------------------	------------------	-------------------	-------------

21 KP 22/05/2015 3:41 p.m.

If I was a network provider that's what I'd be doing and that's what you need to do to work in this brave new world, you can't stop it, you can't stop it from happening, you've got to join the party.

Internals\\STUDY2DATA\\NZint5

Yes

0.1060

9

1 KP 24/06/2015 4:04 p.m.

Oh yeah absolutely. We have a massive fight now for online mobile or security transactions it's one of the big theme at the moment to secure all those payments via mobile advices. So banks have got a very, very specific requirement, businesses as well they want secure for secured information for their, that's why people will only use Blackberries virtually

2 KP 3/09/2015 10:04 a.m.

Yeah but we've seen that when Vodafone launch actually 3G in New Zealand I was part of a team communicating about that, services offered in New Zealand were not the same in Australia but it's a big Vodafone group. So you've got the templates you've got the branding guidelines, but according to the market you don't provide the same services, you tick the box or not. So even big companies you can, well actually no, you're talking about small companies

3 KP 24/08/2015 5:26 p.m.

Now speaking about that, you need to make sure that leaving the country of New Zealand you've got the right provider to get reception on the water overseas as well. So you see what I am saying ~~as well?~~

4 KP 15/06/2015 5:14 p.m.

I think everybody because basically, well if you look at the Asia market, Vietnam and all those, Cambodia, nobody is using computers any more they're all using a mobile phone. They check the ~~emails, they talk on mobile phone, they do their banking transaction on mobile~~

5 KP 22/05/2015 3:43 p.m.

I think they don't support enough that's an issue I've got with New Zealand in general, it's about the cash society and short term

6 KP 22/05/2015 3:44 p.m.

So in my view actually mobile companies here provider, all the big one and even the small one, except 2 Degrees who have just opened up a new way of thinking business, is really we pay far too much here, communication. And with (unintelligible, 0:36:40.8) it's only four point five million people on that market

7 KP 22/05/2015 3:44 p.m.

But Vodafone, for instance, is a big example of ripping off the people for communication and it's a shame I think. When you look at Broadband in Japan, there are I think twenty gigabytes per seconds transfer and it costs how much? I think ten New Zealand dollars a month or something like that for unlimited data. (laughter) Why we can't do it here

8 KP 24/08/2015 5:30 p.m.

But, it's involving the Auckland city, it's involving sponsorship from those companies for everybody to work together and saying, well for the sake of the customers, for the sake of the population and enhancing growth or development, we should all put five here, ten there and yeah and speed up and get a special funding like that. And I thought that was one of the aim of the government actually to say, this is a pool of money and you key actor, you add on the pool of money, but apparently there's no real politics like that here.

9 KP 22/05/2015 3:47 p.m.

Yeah. So mobile network industry in New Zealand, I think are not very supportive yet and I would say that they probably should look more at the very long term rather than the short term ~~investment~~

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt6						
Yes		0.3006	24	1	KP	24/06/2015 4:17 p.m.
So they should be in a position to access their social networks while they access their business networks. So data requirements from a mobile perspective is highly sought after, high speed data requirements where because data intensive phones or smartphones these days where there's email functionality, GPS functionality. So all of these functionalities to be utilised you need services to be added by MNOs. So applications, provide them, develop services that MNOs can deliver						
				2	KP	22/08/2015 4:20 p.m.
Not the MNO you see, just a fundamental change is happening in the place that MNOs are no longer as important						
				3	KP	18/05/2015 12:34 p.m.
it's the service providers of services like cool services. So the larger you are like the big worlds of the people like the IBMs today can become bigger than MNOs if they know how to own aps, application services, that fundamentally drives everything for the mobile.						
				4	KP	22/05/2015 3:58 p.m.

So the network operator then becomes purely a network operator, so there's a battle going on between big global systems integrators who are developing mobile applications, mobile platform applications while the MNOs are also trying to rapidly do the same thing before the systems integrators can do so that then the MNOs have still that difference of point on offer.

5 KP 7/09/2015 1:52 p.m.

So the operators today, whether they like it or not, these applications are being provided on through their devices which is not even network dependent. So the benefits offered to mobile users today is the genuine availability of applications that can be freely bought by their provider and not controlled by either your corporate or by your provider MNO

6 KP 15/05/2015 4:40 p.m.

For instance, my organisation, I have certain IT protocols, IT processes that we maintain internally. Some of the protocols are that I cannot download this free cloud based application called Dropbox for cloud storage, personalised cloud storage application called Dropbox.

It is a breach of law, internal laws, privacy, not laws, corporate laws on IT governance that if I download Dropbox onto my laptop it's illegal. I can summarily be, not dismissed, I can be brought up to discipline. This device is my private device provided by my company to use this phone on behalf of work, or whatever else as a private device, but it's basically even though the company provide the device, they don't prevent me from using Dropbox on this device.

They don't know, the reason is they don't know how to prevent you. The IT governance is not able to manage mobile devices.

Researcher

7 KP 15/05/2015 4:55 p.m.

They won't give it because they will lose out on the usability, they want users to use it fully to its maximum possible extent, this device

8 KP 15/05/2015 4:56 p.m.

Absolutely a revolution in the making

9 KP 3/09/2015 7:56 a.m.

Actually that's where the problem is, another problem. Mobile network operators are trying to recover their cost of investment in their networks that they've built, that's billions of dollars. Their recovery rates are a low slower now because the usage of this is no more the traditional voice of traditional data

10

KP

1/06/2015 5:40 p.m.

Where it is going to be is it will come to a point in time where these are commodity products, mobile services are a commodity products, it'll become really next to nothing cost, it'll say, "You buy my phone, you buy my device, pay fifty dollars a month flat, use as much data, as much voice, everything flat."

Reports\\Coding Summary By Node Report

Page 12 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
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11

KP

1/06/2015 12:44 p.m.

So then the application provider then says, "Okay I'm doing this, I'll do this." Now the MNO cannot sit quietly, he says, "Before the application provider can come up with something I will go and tie in my bank with these guys"

12

KP

16/06/2015 2:54 p.m.

backhaul systems in their networks.

13

KP

16/06/2015 2:54 p.m.

So that's where they are still expanding on to.

14

KP

16/06/2015 2:54 p.m.

They have to otherwise they are not going to be able to deliver, somebody else will see the gap in the business and another operator will take that advantage

15

KP

3/09/2015 9:35 a.m.

There are cell sites all over put up by one operator. There are also similar cell sites in the same neighbourhood by another operator out to compete (0:25:30.3).

16

KP

3/09/2015 9:45 a.m.

No not only South Island, even North Island, I mean south of Taupo everything failed because the North Island one RNC and the South Island RNC both failed. But an RNC approximately costs fifty million dollars, Vodafone on the other hand despite the fact that the other areas were bad they had six RNCs for this place.

So quickly Telecom had to reinvest and (unintelligible, 0:28:30.4) so there is different components in the network technology capabilities that keep coming. And in the meanwhile there's companies like Nokia and Alcatels suddenly bring better advanced technology to say, "We can do faster networks," so the backhaul one gig becomes redundant it's too little they need more, so it's a constant

17 KP 7/09/2015 2:01 p.m.

Global operators like AT&T possibly will be part of the growth, people like Telecom and Telstra of these parts of the world will lose out (unintelligible, 0:29:34.6).

18 KP 7/09/2015 2:02 p.m.

Vodafone is a global operator, Vodafone will survive because they know their survival is not network, it's the business services that they're going to offer.

That's why they acquire service companies, developers, development, offer cool services on top to keep stickiness of the client. They know that otherwise the stickiness will go with somebody else. Who all controls the consumer and their business is going to be the king. Operators are not going to be the king unless they also change dramatically.

19 KP 16/06/2015 2:57 p.m.

most other countries it's going to be large system applications guys or multiple small guys who are service providers of all kinds of services who are going to survive, not survive, who will do better than the operator. The operator will just become a pipe carrier

20 KP 16/08/2015 3:34 p.m.

Commerce Commission here is not doing a good job, their controls are quite slack. First of all they need to make sure that the network operators don't charge as much as they're charging today with the marketplace. To increase usage of the people, increase value, you need to drop prices and these network termination charges between the two (unintelligible, 0:31:11.8) providers, all these things are still not fully addressed not yet (unintelligible, 0:31:19.3).

Instead of summarily saying stop it, they're giving them a window of three, five years and things like that. So because the lobby from the operators is strong, the regulatory forces are not changing

21 KP 3/09/2015 9:52 a.m.

New Zealand is not a place for that, your question number eleven. That aspects of New Zealand's mobile network infrastructure are more supportive to the development (unintelligible, 0:32:00.6) market penetration of new mobiles as a service. Not really

22

KP

3/09/2015 9:52 a.m.

They are not, there are some companies here that offer services, there are lots of innovative software companies seeing potential for growth so they offer it.

The moment it gets to be a good piece of the puzzle, global companies are watching out, they buy them out. So a classic case in point is a company called Data Square, which is a New Zealand

company offering text services on mobile network, it's a squaring of data through texting on a quick manner, easier to manage, sort of using not the same as Gateways but Data Gateways, which is

Reports\\Coding Summary By Node Report

Page 13 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
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23

KP

3/09/2015 9:52 a.m.

So the network operators here are not doing anything to improve the position, whether it's Vodafone, 2 Degrees, they are not doing anything. It is not in their interest to drop things to make it more innovative for them because then they will lose out.

24

KP

18/05/2015 12:47 p.m.

And the global guys who innovate for global part don't come and sell here because it is too small a market

Internals\\STUDY2DATA\\NZInt7

Yes

0.1057

4

1

KP

24/06/2015 4:28 p.m.

another really important feature is the idea of connectivity and so with having the potential to access internet through either wireless networks such as in Wellington. We've got the whole city centre almost being wireless which is really amazing, online for thirty minutes and all you have to go through the data charges of network providers which of course is, can be seen very sceptical because that's quite a big business model behind that.

2

KP

3/09/2015 7:56 a.m.

But of yeah as a sort of business model, personally I'm very sceptical of the mobile networking companies. Actually in the UK they're taking, they used to have for a long time unlimited data and it driving this model (unintelligible, 0:15:00.3) back because they fear the loss of their own revenues. People start to use Skype and things like this so that is, it's yeah.

3 KP 3/09/2015 7:56 a.m.

So I think in that respect things like wireless Internet will probably be like a really great solution

4 KP 15/05/2015 5:20 p.m.

But on the other hand the negative side is that I think the data charges are still a bit higher in comparison to international comparison. So that, probably because there's less people the price needs to be higher 'cause less people.

Internals\\STUDY2DATA\\NZInt8

Yes 0.3823 29

1 KP 7/09/2015 2:25 p.m.

I think from, our core services, if you look at our core services of voice, text, and data, the most attractive is data now. And that's really driven by smartphone adoption in our market

2 KP 22/05/2015 4:35 p.m.

Definitely within the last two to maybe three years, with the introduction of iPhone in New Zealand maybe four years ago, and then more recently the Android boom in the last year or so, yep.

3 KP 22/05/2015 4:35 p.m.

4 KP 7/09/2015 1:26 p.m.

And really what's sort of driving smartphones today is really the applications, whether it's consumer or enterprise, is the applications that are really driving the benefits of smartphones, which I suppose is why you've seen the demise of Blackberry as you have and the rise of Apple and Samsung, who sort of, in the Android space, so that's, yeah

5 KP 3/09/2015 7:56 a.m.

I think from a, if you take a mobile operator's perspective, I think your cost of infrastructure is too great to give stuff away, I suppose, really.

Reports\\Coding Summary By Node Report

Page 14 of 19

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
			6	KP	3/09/2015 8:08 a.m.	

mean one example, I had, and speaking with Apple recently was, a customer created a branded engagement type application, but they turned it into a game. So basically it was a serious of games within this app and it was designed as a marketing, it was like a marketing tool, campaign to drive that sort of brand engagement.

But what Apple came back and said in hindsight was, "Do not create games if you're not a gaming company." So if you take from an iPhone, iPad perspective, you look at companies like EA,

7 KP 16/06/2015 3:14 p.m.

And beyond that, I mean, this is the hard question, is what will be the relevance of the carrier in years to come?

8 KP 25/06/2015 2:04 p.m.

think about how say three to five years ago you bought your cell phone. You, 1) you decided which network you wanted to go to first, and then you decided which, how much you wanted to spend and then you kind of got the phone to fit around you.

Today, I think, as a consumer, you go and say, "Well which phone do I want, first, do I want to go to iPhone, do I want to go Galaxy S3, do I want to go HTC?" You have that, now that you have that, I

9 KP 25/06/2015 2:04 p.m.

Right, "What's the best deal I can get on an iPhone?" Then you go, "Okay, because that carrier's offering me the best deal and the service plan is enough for me to do, then I'll just go with that deal." And it becomes, the carrier becomes secondary to the device, which I think it wasn't the case say three to five years ago

10 KP 16/06/2015 3:15 p.m.

And I think that's one of the, for me, I think it's one of the biggest challenges as a carrier, is how do you stay relevant?

11 KP 16/06/2015 3:16 p.m.

Obviously the Googles and the Apples of this world, would like, well not would like, but probably start seeing the carrier as a dumb pipe to all their rich content and services

12 KP 16/06/2015 3:17 p.m.

And I think it's one of the biggest challenges in terms of the future is how does a carrier stay relevant? I mean, again personal observation, not one of the company's, it's like we, the companies believe that their service or their network or the likes is important. I think it is, but I think it's probably maybe not as important as perceived, I suppose really

13 KP 2/09/2015 3:04 p.m.

It's, I think there is some brand loyalty to networks, but I think people are more conscious of what phone they have. In a lot of ways it's, if you take iPhone, it's, and likewise with the top end sort of Galaxy S2/S3, it's as much of an aspirational product now. It's like having a nice, dare I say it, for women it's like having a nice handbag or the like. Having a, it's become a status symbol in some ways, as much as anything else, it's aspirational

14 KP 22/08/2015 4:19 p.m.

Yeah, I mean, the industry constructs are changing. I mean likewise for Telecom, how they've become now more of a retail business as opposed to a big sort of network business.

15 KP 16/06/2015 3:18 p.m.

I think, yeah, that's, I think that challenges the relevance of the carrier, because I mean you look at iTunes and the so forth

16 KP 16/06/2015 3:18 p.m.

You have all your content, all your music, your videos, your movies in the App Store. I mean this thing is entirely Apple, there's no Vodafone on it, other than the connection

15/10/2015 6:04 p.m.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
			17	KP	16/06/2015 3:18 p.m.	
			even like iMessage needs a data connection and so forth to work and, I think Apple probably more so than anyone probably sees a carrier as the pipe			
			18	KP	16/06/2015 3:19 p.m.	
			that's one of our biggest challenges as a carrier, is like how do you stay relevant to a consumer			
			19	KP	12/08/2015 4:50 p.m.	
			I think in the pure business service in terms of like data and voice and everything else, the regulation has probably made life more difficult for the carrier, obviously, right. I mean I think, obviously with the mobile termination rate rulings in the last, what, twelve months, has definitely made our lives a lot harder. I think in that, that's probably where the impact mostly is.			
			20	KP	16/08/2015 3:38 p.m.	
			You will adjust, yeah. I think it's just that adjustment time is quite difficult. I don't think there's any, in terms of the application space, I mean unless it's sort of infringing on privacy or security in terms of personal information or bank information, then it's, that's probably the only space where regulation is probably required.			
			21	KP	22/08/2015 5:31 p.m.	
			But I mean apps get created all around the world and available anywhere in the world, so it's probably one that's quite hard to legislate or regulate. You look at things like PayPal and all that, it's, you have it on your phone, you make payments on it, but if it doesn't go right, I don't think the New Zealand Government has, can stop you from using it, for example, or restrict PayPal, for example. So from an application space I think it's pretty hard to do anything			
			22	KP	15/05/2015 5:23 p.m.	
			Yeah. I don't think there's anything that is not supportive of development of applications as such that I can see. I mean we as a business encourage it and even support it in terms of sometimes co-funding it			
			23	KP	22/05/2015 4:38 p.m.	

How can we make it better? I mean that's a tricky one, I mean you start getting, you start getting into, you can't give away your crown jewels, you can't make things free. But the reality is applications use data, but you can't say zero rate data for applications or things, 1) it's probably technically quite difficult for too many applications, for example, and the other is you don't want to

24 KP 2/09/2015 5:57 p.m.

So it's, I suppose it's a fine balance, isn't it, between trying to, I mean we, I think the industry as a whole is driving smartphone adoption. When you have smartphones sort of starting at the price point of \$149, for example, I think is definitely a price when there's a market moment. So your smartphones start at 149 and go up to \$1000 plus, really there's probably not many people who can't afford to get a smartphone now.

25 KP 7/09/2015 2:25 p.m.

Yeah, so in that case, I think as a whole, the industry is driving the market to smartphone. Obviously there's net benefits for the carriers to do that, because you're really looking at this additional revenue that comes say from use of data for example, which wasn't there when they had voice and text only.

26 KP 3/09/2015 8:05 a.m.

but I think it's, there are also those benefits to having smartphones where you can actually have access to real time information through web search and have access to emails and check your status on Facebook. All those sort of things, it's making it real for more people and as time goes by that price point will become less and less, and, so

27 KP 22/05/2015 4:41 p.m.

Yeah, so I don't think there's anything that the industry isn't doing to sort of drive this new adoption, the...

I think voice has probably peaked and probably sort of levelled off in terms of growth, in terms of share numbers of, and you really have to find that next revenue opportunity.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
			28	KP	3/09/2015 10:01 a.m.	
Voice revenue's sort of tapered off and texts is basically free now, really. I mean the amount of texts you get is free. So you have to look for that next lift in revenue, so it's data, and then where do you go beyond that?			29	KP	3/09/2015 10:01 a.m.	
Growth is in, the driver is growth in data. I mean if you look at how Telecom has positioned themselves as the smartphone network, you think about how plans these days include data, and everything is smartphone. I mean that really is probably ties in with what the reports are saying			1	KP	24/06/2015 4:34 p.m.	
Internals\\STUDY2DATA\\NZInt9		0.1497	26			
Yes				2	KP	9/06/2015 2:59 p.m.
the other side of that is that checking your balance is pretty much the first service that people use, because it's low risk. So when they're going through a trajectory of using mobile financial services, they use the lowest risk first				3	KP	9/06/2015 2:59 p.m.
for				4	KP	9/06/2015 2:59 p.m.
those who don't use it,				5	KP	1/06/2015 4:35 p.m.
they're concerned about security or the value proposition						

So that's my starting point. But having said that, there's two points, which I've kind of made already, one is around the biggest concern for people, there's two concerns that everybody, whoever doesn't use it have, one of them's around security. So mobile banking and payment services need to be perceived as safer than they are perceived today, and that's really a customer education issue

6 KP 24/08/2015 11:52 a.m.

what would stop you doing mobile banking?"

7 KP 16/06/2015 3:19 p.m.

don't think network operators have anything to do with content development. So I don't think mobile operators will ever be successful at being brokers of anything.

8 KP 16/06/2015 3:23 p.m.

I think they are just a pipe, and a dumb pipe, and every time they try and be something else, they don't do a good job of it.

9 KP 15/06/2015 5:35 p.m.

So banks will be part of the eco system, but the biggest disruptors will be the likes of Google and Amazon and PayPal, who will, who see banking as an enormous, I mean banking's the world's biggest industry. It's a four trillion dollar a year industry. You don't have to be very smart, if you're sitting in Google's or PayPal's shoes or whatever, to go, "Well we want some of the action." So I think that a lot of the innovations are going to come out of those big competitors. They're not going to be direct competition, but they're going to be tied into it

10 KP 16/08/2015 3:38 p.m.

Because every bank, every country in the world wants to eliminate cheques and get them out of circulation, so all of a sudden they say, "Hey, well here's a good way of sort of stimulating that."

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
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11 KP 22/08/2015 5:32 p.m.

The biggest area where this will impact is whether the regulators will either encourage or discourage people like Google and PayPal and others from playing in the banking space. That's actually the
biggest real big issue

12 KP 22/08/2015 5:32 p.m.

so yeah I mean, so Google will just apply for a banking licence in New Zealand or in Australia or wherever. The question is will the regulators invite that or will they fight it. I think it will depend on
each market

13 KP 2/06/2015 7:00 a.m.

you fast forward ten years it'll be, yeah, many consumers will be comfortable banking with Google or banking with Apple, or banking with whoever, I don't know who of those guys are going to make
a serious play

14 KP 16/08/2015 3:38 p.m.

Yeah, so I mean they have to be regulated, you have to have the same safeguards that you have for a normal bank.

15 KP 22/05/2015 4:43 p.m.

Well I mean clearly they (mobile operators) provide the infrastructure, but no, beyond that, no I don't see any role requirement. All they need to provide is data

16 KP 3/09/2015 8:43 a.m.

All they need to provide is data connectivity. And in fact it might not even be mobile networks. When I was living in Atlanta, you had Ymax network, that wasn't run by a mobile operator. It's entirely
feasible that these technological changes will happen without mobile networks

17 KP 3/09/2015 8:39 a.m.

If I owned a tablet I'd probably go with the Ymax, 'cause then I wouldn't have to pay, my monthly fee would be 9.99 or whatever, I'd have faster connectivity and I can still use Skype and I can still, so you're going to start, so the tablet movement is going to create this non-dependence, because people are going to start using Wi-Fi at home.

18 KP 3/09/2015 8:40 a.m.

Yeah, so, but I think that as you use your tablet, you'll start thinking, "Why do I have my phone with a provider?" I mean it is an entirely feasible question

19 KP 22/05/2015 4:46 p.m.

so I think they've got to become a, one of the biggest challenges they've got is they try and be, especially New Zealand, both Telecom and Vodafone tried to be up the value chain and no one wants them up the value chain. They're much better off being the lowest cost infrastructure provider

20 KP 22/05/2015 4:47 p.m.

And I think that the telcos, I mean telcos in the US already realise this. So they've pretty clearly become infrastructure providers and they don't bother with anything else. I don't think in New Zealand that's not the case for whatever reasonc

21 KP 14/09/2015 4:39 p.m.

I'm probably paying a hundred dollars a month of which at least half of it goes into marketing and value-added services I don't want. I'd just rather your infrastructure, I just rather Telecom was just a reliable, high bandwidth network and it was just the core infrastructure

22 KP 9/06/2015 4:09 p.m.

I'm probably paying a hundred dollars a month of which at least half of it goes into marketing and value-added services I don't want. I'd just rather your infrastructure, I just rather Telecom was just a reliable, high bandwidth network and it was just the core infrastructure

23 KP 9/06/2015 4:08 p.m.

So I think that the future for telcos, at least in the consumer space, is going to be just being infrastructure providers.

Aggregate	Classification	Coverage	Number Of Coding	Reference Number	Coded By Initials	Modified On
			24	KP	22/05/2015 4:48 p.m.	

Yeah, but I don't agree with it, and the reason I don't is because they spend, Telecom and Vodafone both spend more money on marketing than they do on infrastructure. So that's a nonsense argument. You can't have an argument saying, "Oh yeah, no, I need this money for infrastructure," when actually you've spent twice as much on marketing a service than you have on the infrastructure.

25 KP 11/09/2015 2:45 p.m.

So stop building things I don't want and just give me the things I do want

26 KP 9/06/2015 4:13 p.m.

And that's where I think the power of the Googles and the Apples and the whatever, they spend their money on things that consumers want, because they are consumer-centric organisations

Y2. Global Theme Data: “Service providers face challenges”

15/10/2015 18:03

Coding Summary By Node dataround2

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Node						
Nodes\\STAGE 3\\Global and organising themes\\SERVICE PROVIDERS FACE CHALLENGES						
Document						
Internals\\STUDY2DATA\\NZInt1						
Yes		0.4321	27			
				7/09/2015		
				1	KP	14:45
From my perspective software always is providing a service whether it is providing it on a mobile platform or whether it is providing it from access to the internet or even if it is just something purchased at a store – carried in a shrink-wrapped box and installed on a computer somewhere or a laptop. It is still is essentially a service that is being rendered by the software, it's the way						
So while my work has changed in terms of its subject matter to a certain extent as a result of the mobile initiative developments in the field, I am switching in my career essentially from servicing a corporate software need to serving a personal software need.						
				20/08/2015		
				2	KP	12:14
So it is an entertainment software that has received I believe at this point somewhere 100,000 downloads as compared to our perhaps next most popular software (real estate) which has only a few thousand and it tapers off pretty quickly after that to niche markets and corporate uses.						
				24/06/2015		
				3	KP	17:47

That is correct. There is not a wide interest in a real estate application or perhaps a thing called personal body guard which is another one of our applications. It is for a very specialized group of people who would have such security requirements that they would want to be carrying around a mobile device that would warn them who departed from a business meeting in a certain

23/05/2015

4

KP

11:28

We attempted to make most often in our application development is being through GPS - location detection. Carrying a computer around that can tell where you are and add information about that through a message or use it to inform you about what is nearby -- is definitely a new capability.

2/09/2015

5

KP

14:11

The fact that the device itself has a touch screen interface makes it very different user experience from the typical mouse and keyboard kind of interaction. And of course what I think is on the horizon with iPhone4 -- and the theory is that there will be voice commands and voice interaction with these devices.

2/09/2015

6

KP

10:52

So, I think that we are only just beginning to scratch the surface in terms of what mobile are going to do, what tablets are going to do. The particular application that I intend doing in my research is education and there is high likelihood in my opinion that education is going to be transformed by mobile access to learning with a tablet

23/05/2015

7

KP

11:34

It really boils down to people's interest in U-Tube. It turns out that you can make videos or the equivalent of videos by writing things rather than actually speaking them. It gives you tremendous leverage, so much easier to edit a transcript of text, to search that transcript of text, to translate that transcript of text, to transmit that transcript of text.

When some of the mobile devices are fully engaged with downloading videos they are using quite a lot of bandwidth, and with people who cannot afford to have a huge data plan they can eventually not be able to take full advantage of that multi-media capability unless the presentation is packaged up in a more efficient way. I think the combination of text and pictures and the text is then converted onto a device to text speech into a voice over, makes for a very compact transmission an MP3 with pictures or a podcast.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				8	KP	7/09/2015 14:51

I think many people in the mobile application development space look at the problems from different perspective. Some of them think it's all about the technology. Some of them know that it has to be the user experience and others are just marketers

21/09/2015
9 KP 11:50

And whatever is available, they are going to find someway to pitch it to make it seem like something more exciting and valuable than it is.

21/09/2015
10 KP 11:50

But they don't really leverage that at all. They market that but then it doesn't actually get utilised by their systems at this stage

21/09/2015
11 KP 11:50

the 7 inch tablets and that's got a properly developed to quite some extent in each DMI port which means that you are able to plug this thing into some high definition television set.

26/05/2015
12 KP 15:38

Pre-pricing I think is a concept that is proven to work.

26/05/2015
13 KP 15:39

was why is Drop Box succeed like no other. And the person who answered this question better than anybody else of any other question that was asked in Quora basically said they did just precisely what the customer wanted to have done.

They wanted the deal to have their files synced between what was on their hard disk and what was in the cloud and they had a 'free' new model so everybody could get set up and start using this service but of course as soon as they used it up to the limit then they realised oh well, I am getting so much value out of this I will happily pay the monthly fee.

9/06/2015
14 KP 17:37

Free is the way you bring people in the door to help them to understand what the value of the service is. And the same thing is really true 7-digital music player which is so popular. It has a preview capability which means that you can still search for any song you want and you can still hear the first thirty seconds to one minute of it – you just don't get to hear the whole song and so that is another way of looking at free. You aren't really giving anything away. You are just not giving everything away.

31/08/2015
15 KP 11:32

So for entirely new services the trust is established when reviewers in New York Times or something like that, endorse this product being something worth looking at.

16 KP 31/08/2015
11:32

Trust and security I think may be come out even ahead of considerations like price.

17 KP 2/09/2015
16:17

The fact that things are coming down in price just means that the market is expanding.

18 KP 1/06/2015
15:12

But when you're talking about broad base appeal what people are going to decide on – Are my friends using it?

19 KP 20/08/2015
12:17

I think that the notion that app stores have 500,000 applications really means that there are 10 or 12 applications that a whole lot of people are going to use – 'angry birds' is on every mobile device there is and another 490,000 apps really are failed experiments and despite in some cases the substantial investments in trying to create something that seems to be the killer app for

20 KP 16/06/2015
9:29

The dynamics of this market can wipe you out of business before you know it. And I am sure that there are people who dedicated themselves building applications for the new HP touch pad and writing in web OS and after some weeks after its release to have the product discontinued by Hewlett Packard. Windows, the Phone7 as I understand it – very well engineered and potentially extraordinarily useful mobile operating system has only 1.7% of the market place

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				21	KP	16/06/2015 9:29

Why is that? Well, there's kind of a motion in the development time line so that when Android started two years ago coming up with different mobile releases and then revived them so frequently – if you have a chance to look at the track record of the Android mobile systems upgrades they are given these code names to them that are all different pastries. Like there was doughnut and honeycomb and the latest one is ice cream sandwich.

The frequency which they come out with these releases has been really quite breathtaking and for a developer actively participating in that community trying to come up with new ideas that use those very latest features, you are always operating right at the cutting edge of – what if I do something now that uses all this new technology but then that breakthrough doesn't work on all the other devices that are out there on the market.

1/09/2015
22 KP 9:49

To develop at what level of innovation, how much innovation risk do you want to take becomes part of the decision making process for somebody who is in the business commercially of producing applications

1/06/2015
23 KP 15:13

The things that hold back really widespread adoption and development of new services I think are less technological than they are social

21/09/2015
24 KP 11:49

All they use it for is to make telephone calls and so there's a learning process. So how do people learn to something in a new way? Well, I think it boils down to having some models and having some examples and so when you are introducing a new business service you can actually have that service demonstrated

21/09/2015
25 KP 11:49

You can give free phones to the early adopters so that they can go out to the streets and show people how things work. Make the demonstrations of the technology so that they humanise it and make it possible for people to envisage themselves doing this rather than having to discover on their own because a lot of people are not going to take that initiative and they not want to download an application just on the chance it would be helpful. Someone's going to have to tell them how useful it is. They are going to have to see it being useful for somebody else before

31/08/2015
26 KP 17:39

What really drives the mobile business is people wanting to communicate. The statistics that I have heard are the most informative on this relate to the penetration of mobile devices in the developing world. I have heard it said that we are going to reach a point in the not-to-distant future, where there will be more mobile devices than people with shoes on the planet.

31/08/2015
27 KP 17:39

Now, if you think about that for a minute – why would that situation ever exist? Well, first quite a few people in the developed world that have multiple phones. For those people having to make that choice between having a mobile phone and having a pair of shoes well essentially they are probably living in a place where those two things each give them essentially the same How do we get or communicate over a long distance with someone else? With the phone they literally have to have enough electricity to run it and the ability to make that call to find out that information that would otherwise they would have to wear out the pair of shoes walking to that distant town to collect up the information or market their products or whatever it might be. So people are willing to make that trade-off

Internals\\STUDY2DATA\\NZInt10

Yes _____ 0.212 15 _____

18/08/2015
14:16
1 KP

And the other is

18/08/2015
14:16
2 KP

how much we pay to use the devices,

Reports\\Coding Summary By Node Report

Page 3 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				3	KP	28/07/2015 15:00

the obvious classification is based on generation. For example, someone of my generation, so in their forties, who hasn't necessarily grown up with technology but certainly has, technology has been available throughout most of our lives, would have different, possibly not so much different needs, but different adoption willingness and concerns or lack of concerns about mobile

To someone, say, who's, I think they're calling it the I Generation, which I think my son's at the bottom end of, so that's the people doing their Bachelor's now, that sort of group. And then another generation being, so my parents' generation where technology was not introduced in their lifetime and they're coming up to speed now

28/07/2015
15:00
4 KP

With my mother's generation, a lot of it is about communication. So maintaining those communication ties that they probably had anyway, but doing it through the mobile medium

25/06/2015
11:47

5

KP

there are definitely different groups that have different requirements.

11/08/2015
16:38

6

KP

the generational thing is just one classification

25/06/2015
11:48

7

KP

Then there's another classification could be the accessibility side of things. I would imagine that a group in New Zealand, which has got pretty much, 3G mobile access nationwide, would possibly have different needs to say an African nation that's got basic sort of texting services.

1/06/2015
15:19

8

KP

I believe there's also a certain amount of social influence and stigma in that, "Everyone else I know is using this and says it's fantastic." Or, "Everyone else I know is using this and I should get

1/06/2015
15:22

9

KP

And so your need could be something I want to do or the perception of something I should do. So the need to be part of the herd. And then your social circle sort of recommendations.

16/06/2015
9:30

10

KP

I'm tempted to say device, or device variety, because there are so many mobile devices out there. So do you choose that you are going to implement your service, can you make it device agnostic or can you develop a device specific version that makes it accessible to everyone. I mean I think of some of the, my father's just come off a Windows mobile phone, and I think there was some apps I thought might be useful for him, but they were only developed on Android and iPhone, so effectively that service was not available to him because of the platform he was on.

20/09/2015
17:48

11

KP

So the consumers end up winning because they have access to everything and then they say, "Okay, here is the model, here is the service that I'm going to use because it goes back to meeting my needs, or because everyone is using it, therefore I should jump on the, I want to jump on the same bandwagon.

16/06/2015
12 KP 9:35

And least supportive would be what I know from insider knowledge, the difficulty of releasing new products based on our internal systems, and I know the other two telcos are the same, because it's the actual implementation of the technology has got barriers, whether they be business barriers or technical barriers.

16/06/2015
13 KP 9:36

I don't think there's technology limitations, because I mean we've got so much tech out there. I think it is, I honestly think it is business limitations. So whether it be, you've got to jump through eighteen thousand hoops in order to get some money to pay a developer who can then write the code,

1/09/2015
14 KP 9:49

Yep, or is it because everyone's got different ideas and so you develop eighteen versions of the one product, rather than just one version of the one product, or is it a case of people only have a very conceptual idea and it's not until we actually work through the technology side of it, they go, "Oh okay, actually this is what I mean." And then so it takes you a little while to then say, "Yes this is the idea I was trying to articulate."

Reports\\Coding Summary By Node Report

Page 4 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

18/06/2015
15 KP 15:23

Then there's the what data is on my mobile phone, am I more interested in preserving my data and remotely wiping my phone, or finding the perpetrators and catching them, and having to make that decision.

Internals\\STUDY2DATA\\NZInt11

Yes

0.2764

19

20/08/2015
1 KP 12:25

But in general, I think the time-saving/money-saving categories of mobile apps that replace pre-existing offline or desktop use cases are running out. With the possible exception of two sectors which are digital laggards, such as government and healthcare

28/07/2015
2 KP 14:43

Digital services, and particularly mobile services, are all about micro-segmentation

25/06/2015
3 KP 12:01

there might be 100000 times more apps because each matches a particular customer profile better than the last.

7/09/2015
4 KP 12:55

Additionally, the economics of app development unlike media are scalable – they benefit from re-usability and standards so that mobile app number 100000 will cost less to build than app 10000 and less than 100 and so on

25/06/2015
5 KP 12:02

overall the answer is strongly .Yes different requirements and expectations on the demand side

18/08/2015
6 KP 17:39

Yes different requirements and expectations on the demand side, also fuelled by the capability to cater to those differences at lower and lower cost on the supply side.

15/06/2015
7 KP 10:42

And sometimes free pricing is not enough. You may need to stimulate early adoption not just through give-aways but bundling with another in-use service or other incentives to try it out.

15/06/2015
8 KP 10:43

Metcalfes law, value increases exponentially with number of users)

15/06/2015
9 KP 10:44

Hall Varians characteristics of a digital good difficult for the user to value the good without actually consuming it. At the same time low incremental cost for the supplier to give the good away

1/06/2015
10 KP 15:26

Trial during the growth stage is fuelled more by social factors such as word of mouth, e.g. my friends use uber so I might try it out.

20/08/2015
11 KP 12:26

Yes, particularly the next generation richness of experience category of services now that the low-hanging fruits of do on your mobile what you did on your desktop are done.

7/09/2015
12 KP 14:38

Some of the areas that are most important and most difficult for a developer to tackle are: focus on solving a big problem for a known customer , solve it quickly and elegantly, so that you can test the proof of concept with realworld adopters and refine from the top

18/08/2015
13 KP 17:39

too many mobile apps either try to solve many small problems at once with a cornucopia of features, or do not make a bold choice about their customer segment . Something for everyone rather than the number one app for user eks

Reports\\Coding Summary By Node Report

Page 5 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

1/09/2015
14 KP 9:35

As I already said the apps are not targeting the right customer wit the right solution and it is not good enough.

1/09/2015
15 KP 9:31

Almost all fall into the trap of getting stuck when they have some traction, but are unable to change and refine elegantly

16 KP 1/09/2015
9:31

their architecture is complex and stagnant,

17 KP 24/05/2015
16:47

their user base expectations are not managed to enable and support change.

18 KP 16/06/2015
10:35

the focus on small segments required to succeed in the model I outline above.

19 KP 2/09/2015
10:55

I do think the question of whether the future mobile business industry structure will be concentrated as it is today with apple, google, facebook or become more fragmented, for example think of many small apps each commanding a decent market share is important, and probably will be determined by the open-ness of technical standards and APIs

Internals\\STUDY2DATA\\NZInt12

Yes 0.1767 15

1 KP 18/06/2015
15:39

it's difficult to generalise about other customers

2 KP 1/09/2015
11:34

Yeah, I think what drives mobile services is not necessarily the business use case so much as what's now possible in terms of the devices and the connectivity

3 KP 15/06/2015
10:51

So for example, yeah, we reached a point where devices became very powerful, certainly in New Zealand, we were still at a point where data was expensive, so people might not use things even though they could be done.

Now we're at the stage where data's kind of affordable, so we have the devices and we have the data. So I think in terms of the business use cases, they tend to be slowed down by other things.

So the use cases have been there for a long time. Like finding things on a map, for example, we've been able to do for a long, long time, but it's only relatively recently that people have had affordable devices and connectivity to do that.

So I think it's more about affordability rather than the fact that we can't imagine what those use cases will be. I mean there's lots of things that we can imagine being able to do.

2/09/2015

4

KP

12:58

The question is how practical and affordable are those things in practice. And I think that's kind of a slightly slower thing, thinking about, "Hey wouldn't that be a really good idea." I mean, I think business use cases have often run ahead of the technology and affordability

2/09/2015

5

KP

12:58

I mean years ago I think British Airways was one of the first companies to have WAP interface, and they worked out that in order to find out your average sort of flight detail using the old WAP, it would take you about twenty-five connections and cost you a fortune in data.

So the use case was fine, but the support for it wasn't really there. So I think that tends to be the case that we've got plenty of ideas about business use case, but we have to kind of wait for the practicality of them to catch up.

Reports\\Coding Summary By Node Report

Page 6 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				6	KP	15/06/2015 16:08

Well you want enough people to be able to afford to do it. I think that's the trouble. Otherwise you can't get critical mass. If only a hundred people can afford to use it, there's no point.

25/06/2015

7

KP

12:12

mobile services, they tend to be, they're services that tend to be consumer based, so that, in a sense, reduces the number of potential actors, in the sense that some systems you're looking about, you've got internal users, external users. That might still be the case with mobile systems, but perhaps on the other hand you're looking at like occasional users or people who use stuff all the time. So I think, yes it's very important to think about what your different personas might be with mobile apps, 'cause not all the customers are going to be the same

25/06/2015
8 KP 12:12

They won't have the same requirements and they won't have the same, if you like, well buy-in, I suppose, is another issue. To what extent are people committed to the application and how important it is to them? Is it something they use once in a blue moon, or something they use every day, all the time?

15/06/2015
9 KP 16:08

The other thing that people of course use is, this bit's free and you pay for the next bit. Or the alternative is it's free up to a point and then you have to start paying

1/09/2015
10 KP 17:07

And then of course the amount you pay is really, really sensitive. And I think, WhatsApp for example have a pay model, but the amount you pay is very tiny, so that's fine, but then you've got to have a massive user base in order to make it worthwhile

7/09/2015
11 KP 12:19

So they're not being innovative at all. What they're doing is they're saying, "Okay, Bank A has a mobile solution that does X, we're Bank B so we better have a mobile solution that does X." So I don't think innovation is necessarily important when we're talking about business services

1/09/2015
12 KP 11:25

What we're, what's probably more important than innovation is usefulness and usability for the customers that you have.

1/09/2015
13 KP 17:27

'Cause a lot of it's not about attracting new customers, it's about retaining the ones that you've got. So, I mean that doesn't mean that innovation isn't important in certain places, 'cause clearly we never move forward if someone doesn't innovate.

1/09/2015
14 KP 17:58

when we're talking specifically about like mobile apps, it's a much weirder environment where maybe innovation is harder to do because, IBM can innovate by generating a new, say, forward memory, which they've done many times, because they know what it is they're trying to achieve.

When you're trying to come up with some new mobile app it's a lot fuzzier, isn't it, in terms of success.

2/09/2015
15 KP 10:57

I suspect that there'll be a lot more of this kind of disruptive model like Uber. Like Uber is the classic example of you've got a system that's been around for years and then suddenly someone comes up with a mobile app that is very disruptive to that model. And of course there's lots and lots and lots of aspects of the economy that have been carrying on in one way for a very long time and then suddenly someone's going to come in with a mobile business app that disrupts that specific market in some way. And I think given, well I was going to say the success of Uber, but clearly they're facing a lot of issues, but given the apparent success of that idea that you can come in and just completely disrupt a particular market by using a mobile app I think that that's

Internals\\STUDY2DATA\\NZInt13

Yes 0.2256 18

7/09/2015
1 KP 12:26

mobile banking, it's really just a, at this point in time it's really just a channel, it's just a way of accessing an account. The phone really doesn't hold a lot of information on it, or hardly anything. So it's not, the value still isn't on the phone necessarily, it's still held elsewhere.

Reports\\Coding Summary By Node Report

Page 7 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				2	KP	7/09/2015 12:26

Yeah, it's not to say there's no risk there, but there's a lot of smart minds that have thought about a lot of different ways of protecting it and making sure that they're, the access to the accounts Researcher

All the experience with online banking helps as well, because there is knowledge about...

NZINT13

Yeah, there are some new challenges with mobile banking in that space, but a lot of the principles still apply, or there's a lot of overlap between mobile banking and Internet banking

			25/06/2015 12:13
[customers are] using mobile services as persona,	3	KP	
smart technology but depends on age	4	KP	28/07/2015 15:00
certainly people, familiarity with technology and being intimidated by it would, some of the older generation would be intimidated by the newer technology.	5	KP	28/07/2015 15:00
It's like getting a new DVD player and having a ten-year-old come round to program it	6	KP	28/07/2015 15:00
That they always need a ten-year-old to come round	7	KP	28/07/2015 15:00
and help them deal with the new technology, because it's not something that they've grown up with, and	8	KP	28/07/2015 15:00
they don't have a level of comfort in using it.	9	KP	28/07/2015 15:00
	10	KP	31/08/2015 17:32

So maybe that's something that can be considered here in the mobile space in terms of is it, is that model appropriate for the mobile network operators to provide data in a similar sort of pricing scheme. But making it cost effective for people to be able to use their mobiles abroad

15/06/2015
11 KP 14:37

adoption takes a little bit of time. New technology takes people, even credit cards, for example, would have taken some time to get used to. So it's really, some of the things it's just going, people will adopted it, it's just getting that level of reassurance that it's safe and that their money isn't being able to be accessed from, by other people, is very important.

17/09/2015
12 KP 10:39

At the point of sale with your phone

17/09/2015
13 KP 10:39

I think we're very, very close to having that now. As, effectively, with a credit card, the credit card really is, and your pin number, is something that just identifies you and so that the, when the teller has some, knows who you are and knows which account to charge the goods to.

And the mobile phone has come, is something which is personal and it's certainly, I can see that it's not that far away that it will be used as your identifier, so that someone can charge something against your account.

Reports\\Coding Summary By Node Report

Page 8 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

24/08/2015
14 KP 17:01

But a lot of it's, a lot of it again comes down to trust, who are you going to trust with your money? Are you going to trust the bank who looks, who specialises in looking after money, or are you going to trust a telecom provider

24/08/2015

15

KP

17:01

but ultimately when you're dealing with funds you need to build confidence that your funds are going to be well looked after and they're going to be secure, because it's something which is valuable, it's important to you.

18/08/2015

16

KP

17:30

Yeah, ultimately, from a mobile banking perspective, the amount of information that we have to transfer backwards and forwards between the phone and the backend is still relatively limited, it's fairly small. With other types of mobile services, they would have much higher demands for data.

And so the cost of getting their data to the phone is really going to help, going to be one of those things which drives whether those services take off or not,

1/06/2015

17

KP

12:08

because if it's going to cost people a lot of money, even though the service itself may be free or relatively cheap...

7/09/2015

18

KP

12:58

And in the mobile space, if you publish the right application and you get a lot of hits and a lot of downloads, it can be quite rewarding. And so you've got a lot of, and it's very, quite simple, it's quite simple to do these days.

Internals\\STUDY2DATA\\NZInt2

Yes

0.1994

43

16/06/2015

1

KP

13:38

For one person the novelty might last a few years but if you spread that over an entire population, that can span a decade as people adopt it and take it on at different times. An example of that would be say absolute positioning. Now you're having services where someone can locate their friends exactly where they are.

24/09/2015

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KP

10:59

People are jumping onto that, they think that's wonderful, but the true implications of the privacy and all the realities of that haven't been fully understood. People haven't had that rejection yet of the technology.

24/09/2015
11:01

3

KP

The other dynamic, and I find it happens a lot, is you have new technology come in and then you have another wave of parasites that follow after that.

An example of that would be say email. Initially it proves to be useful, people use it and adopt it and it becomes a standard and then the parasites like spam and scams and all that come in afterwards and then we are left with the scams.

That's happened in another example with Google. Again another functional service but what we're finding now with Google is that search engine optimisation companies are starting to dominate as they fight for rankings in the search results.

You're led to this bizarre war almost where people try and modify their algorithms to outwit the latest developments that have been made in the SEOs.

18/08/2015
14:16

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KP

new also carries some kind of fashion or ego facility. Someone might load something new on their phone so they can show their friends and then it becomes a bit of a fashion item almost. There's that whole social buzz to be cool that carries a lot of the new part.

18/08/2015
14:16

5

KP

For it to jump to being truly useful and stick around, it's got to be functional and integrated. There are not that many services that will stand the test of time like that

1/10/2015
12:25

6

KP

Reports\\Coding Summary By Node Report

Page 9 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				7	KP	31/08/2015 17:42

There's a lot of software services that allow you to pay, if you wanted to.

21/09/2015
8 KP 11:50

There's a lot of software services that allow you to pay, if you wanted to. The thing is, do people actually install them

31/08/2015
9 KP 17:42

the other thing is that the market needs to be using them in order for them to work. You've got to have merchants that are already signed . It's starting to become like that

2/09/2015
10 KP 15:52

I think a lot of the new benefits are based on the various capabilities of the phone

2/09/2015
11 KP 15:52

. If you look at GEO positioning, by adding that piece of hardware into the phone it opens up a whole lot of potential applications that can hook into that

23/05/2015
12 KP 11:43

Things like the camera on the phone and the fact that you can use it to measure the acceleration of the phone and all kinds of bit of equipment in the phone that allow you to collectively develop applications that can find new uses that we didn't have before in all kinds of realms.

23/05/2015
13 KP 11:34

Things like the camera on the phone and the fact that you can use it to measure the acceleration of the phone and all kinds of bit of equipment in the phone that allow you to collectively develop applications that can find new uses that we didn't have before in all kinds of realms.

4/09/2015
14 KP 12:08

What we're trying to do is hit these new emerging economies. People who have never had a computer because they've only had \$2 a day to live on and they buy their first computer which is a mobile phone and they've never been connected to the internet before. That's the scope of 50 million subscriptions now to the 600 million subscriptions in the next few years.

Those people have never been exposed to any kind of system or computer before. We want to just hook right in and the first thing that they see is our platform which they can create content on for free, they can earn money from that content if someone looks at it, so it's monetized, and the network basically hosts the content.

1/09/2015

15

KP

17:12

Oh cool. Yeah, the payment services are interesting. The way we want to do it is using 0900 numbers, premier calling numbers. There's calling services around the world where you just dial 0900 and load up your account or you can SMS a number and it will load.

There's lots of ways you can actually do that, even just from the application. You can actually use the application to dial the SMS number and throw up a dialogue box. You don't even need their permission, in fact it's how a lot of scams operate.

We would throw up a dialogue box and say "would you like to charge your account?" and then put in how much money you want in and basically the phone would just dial out and take money from your prepay card or your account and shove it into your virtual account.

As long as the numbers are small enough and you're not talking many dollars, then you do have an economy that people can pay for services.

1/09/2015

16

KP

17:15

Oh cool. Yeah, the payment services are interesting. The way we want to do it is using 0900 numbers, premier calling numbers. There's calling services around the world where you just dial 0900 and load up your account or you can SMS a number and it will load.

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As long as the numbers are small enough and you're not talking many dollars, then you do have an economy that people can pay for services.

3/09/2015

17

KP

11:58

payment services. That's eventually going to be performed by a whole host of companies that are jumping into that space now

Reports\\Coding Summary By Node Report

Page 10 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

1/09/2015

18

KP

11:27

what we see is a whole pile of people that don't have access to hardware and don't have access to proper content because they're looking at it through such small screens, like 100 pixels by 100 pixels, and we figure that by restructuring the information we give them a much better experience.

We can get them on to our platform and once they're on our platform we can then offer them other services like financial services in a very simple way that they can pay for things. We want to experiment with that so we're not phased by the fact that other companies will do it because our unique offering is that we can get down to these really cheap devices a little bit before the main players. Everyone's waiting for the iPhone to get cheaper ... we'll just jump on to it.

4/09/2015
19 KP 12:10

What we find challenging is that in emerging markets like India, we don't have the natural culture and understanding of what makes those people tick. What's it like living on \$2 a day? What's important to you? What do you want to see?

21/09/2015
20 KP 11:50

We're looking at hooking up with marketing companies, there's particularly one in Australia we're thinking of working with, who can guide us on how to market to these people

4/09/2015
21 KP 12:10

Yeah. I mean what do those people want? Let's say for example, we're talking about the application that lets you load other applications on it, so like an iStore application. We want to put the most popular applications that they can download – we're saying most popular but what's that from?

The western world? We already know the segment that we're appealing to is young males that are very poor in India so we can actually almost target things that they would like. That's the ongoing challenge of it, making sure you

25/06/2015
22 KP 12:36

Do you think it's important to know the different segments?

NZINT2

Yes, definitely, totally. Yeah, you have to know exactly who your market is

28/07/2015
23 KP 15:00

Age is one

9/08/2015
24 KP 17:50

Probably if you're male. I think women use social networking sites more.

25 KP 9/08/2015
17:50

generally technology men tend to grab and want more and if they're younger they seem to

26 KP 1/09/2015
9:47

That's pretty much the way we're operating is trying to get a technology going, seeing if it works, seeing how many people use it and where it goes. The best way to know if it's going to work is to actually just do it

27 KP 1/09/2015
9:47

Yeah. So we would try a new service and we'll see how that responds and then grow that and modify that or just change it up based on what we think they are.

28 KP 15/06/2015
11:15

It's very hard. There are a lot of technology issues as well. We're just feeling our way as we go. What we'd like to see is that the adoption starts getting into millions. Even though they're really poor, you eventually build up these channels and then you can sell other services.

29 KP 4/09/2015
12:10

Yes, the downloading of applications. So they basically download an application that allows them to download other aps. I can't really give you too much detail because they're still in

30 KP 4/09/2015
12:10

I can call it an enabler because that's what it is. So it is something which provides them with an interface?

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

4/09/2015

31 KP 12:12

Yes. As far as they're concerned it's just another application, they don't even think of it as another platform. They just see it as another app on their phone but that app allows them to get other aps. So we'll actually like download a centre for them and they can go "I want that one, I want that one" and then it loads up the aps into their inbox and they can use them.

4/09/2015

32 KP 12:12

Yeah. Starting to. We're at the starting gates. We're just at the starting point but we've got them downloading it and it's operating. We've got a number of channels that we're trying to establish. All of those are based on our platform. For us, we made the choice of not going into first world, like iPhone android type markets, we wanted to deliberately learn about this new

1/09/2015

33 KP 9:49

Really there's no road there at all because these people are coming on to devices and the whole platform was being pulled by all these other forces and the J2ME platform itself is a mess. These people are experiencing it for the first time. You can't just go and get a book on how market mobile phones in third world countries. It's like the wild west. Everything we do we have

25/06/2015

34 KP 13:20

That's economical segmentation you've plugged into and found that there is a market there.

NZINT2

Most of those people aren't yet connected to networks because only 50 million out of the billion have access to the internet on their mobile. That number is going to grow to 500 million in the next few years. That's the wave that's coming and we're just trying to get pitched and set up so when the wave comes we're ready.

25/06/2015

35 KP 13:19

That's our plan. We'll try and make money like that and start a firm in a foreign country. I don't know how much opportunity is left in Europe like that. It's so competitive and yet the money's all going to India and China.

24/05/2015

36 KP 16:53

And for our guys in India, because everything's new, it's more based on can we get it running on their phone. There's a lot of stuff they want to look at but they just can't get it on their phone or it just won't support it.

1/09/2015

37 KP 9:49

Yeah. I think the whole space is so new and there's no knowing way of doing it or standard way of doing it. The whole process is innovative.

1/09/2015

38

KP

9:49

Even just getting the applications on stores, getting them used. Those stores themselves are really new. Like Getcha the one we use is only six years old but it does 12 million downloads in a

7/09/2015

39

KP

12:26

I think that most companies will just see it as another channel to get to their customers

7/09/2015

40

KP

12:26

You might see the ANZ Bank or something produce a ... in fact, if you look at Mcom for example, they produce mobile applications for banks. Banks can then just buy Mcom's app and push it out as their own and what they've done basically is outsourced an application developer so they didn't have to do it themselves and created an app from which people can do their banking. It's not a web page any more, it's an app that gives you more security and a more seamless approach

7/09/2015

41

KP

12:26

I think that they would treat mobile business services as just another medium to communicate with their customers

15/06/2015

42

KP

17:08

But those ones have problems that you have to have the merchant signed up and everyone's connected to it

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				43	KP	1/06/2015 17:20

I don't think anyone really knows, they just use the phone. "Oh I've got a phone" and they just start using it and this is the experience they get. They don't think "hey, Vodafone's giving me a bad data connection". Maybe when it matures they will but right now I don't think they know. That's my opinion. It wouldn't be a factor for buying a phone. People will just go and say "I want that phone" and they wouldn't think "what kind of data services"

Internals\\STUDY2DATA\\NZInt3

Yes 0.2445 14

21/09/2015
1 KP 11:50

I think that's a very tough thing that people who are building these applications need to work out how they drive the penetration to get people to use them the first time. It's not until you use that particular application the first time that you actually understand what the benefit is.

1/06/2015
2 KP 17:23

I think word of mouth plays a really important role in that. "Have you downloaded this particular application? It does this and this and this". It's that initial push ...So people saying they like an application or something on Facebook can make users to download it.

2/09/2015
3 KP 15:06

Phones have become an extension of people, it's part of who they are.

28/07/2015
4 KP 15:00

I think that it does come down a lot to age and different segments. If you gave a five year old for example an iPad or an iPhone, it's so intuitive to them and they can use it almost straight away. Whereas, if I gave that same application to my parents, they would struggle with that and probably get frustrated and put it down.

If I gave it to my grandfather, he wouldn't even know what it could do. There's definitely a need to segment based on people's previous history with technology in those particular applications. I definitely think they'd have far different expectations of what those applications would deliver. I don't even think my grandfather would even understand what internet banking is, whereas the children would see that as normal.

28/07/2015
5 KP 15:00

There would be specific concerns that my grandfather would have around security and having that information on the air, thinking about banking specific. Even providing information to use applications and things like social networking, he'd be concerned that his photos and so forth are on line.

I think the younger generation are probably far more comfortable with that.

28/07/2015
6 KP 15:00

I think there are three specific segments, there may be more. In my own head, I see the 25s and under, the 25-45 and then 45 and over.

28/07/2015
7 KP 14:59

Yes, at least they'd have some understanding. Because that 25-45 year old age group grew up with technology, they've seen the bad bits of technology as well as good. I think back to the old technology which was a particularly poor experience so we know how bad it can be and we probably put up with a little bit more. Our expectations are lower than the under 25s who have always grown up with much better applications

28/07/2015
8 KP 15:00

Would my granddad still ever buy one? Probably not. Would my [inaudible 14.13], probably. Would they use all the functionality?

Definitely not, they wouldn't even understand to unless somebody sat down and explained it to them one on one. Would they then get social networking applications, I don't think so.

28/07/2015
9 KP 15:00

I think you need to develop different applications for my grandfather and my parents because they need to even have a more basic step by step approach. They don't find it intuitive.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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15/06/2015
10 KP 11:43

I personally think the technical element I think means instead of carrying around a wallet, you can carry around a phone to make a payment. I know that I'd use a machine in Australia to buy a coke. I think it was a text message that then gets charged back to your bill.

So I think that's definitely got benefits but instead if you can walk up to a machine and swipe it with your phone, that makes it easier to use. I think it has more potential.

15/06/2015
11 KP 11:47

But obviously that's coming. It's just a chip set into the device. It should be not too far away. Because it's such an easy application to use. I mean if you're buying something from a dairy or a fast food outlet or even a supermarket, over in the UK it's up to 50 pound value or something, you can swipe at a supermarket

18/08/2015
12 KP 17:28

I think that's the ultimate trade off. It's like going to a bank and being charged a fee but doing it online for free. There's always going to be a trade off. So it depends what the cost is I guess. I think the trade off is there.

For me, I think if it's priced fairly, people will continue to pay. Potentially your time of going to the bank versus online or on the mobile phone. So time and convenience I guess. Would you pay 50c or \$1 for doing that? It depends what you value your time at and the convenience at

4/09/2015
13 KP 14:00

Being open source I think is the key. If network operators or the over the top players try and do it themselves, I think it's going to be difficult. They have to give it to the masses and that's when you're going to get real innovation. I think Apple's been traditionally seen as the innovators but I think if you give it to the masses, that's when you're going to get real innovation and

18/08/2015
14 KP 17:33

Indeed. I think I spoke around segmentation. You can't develop just one application, it almost needs to be three applications to cater for the different markets.

Internals\\STUDY2DATA\\NZInt4

Yes _____ 0.1798 14 _____

23/05/2015
1 KP 11:35

For example, finding a restaurant, finding where the nearest post office is, locating directions, everything built into a single device. I think a device that supports that kind of functionality is probably where the world's heading to at the moment.

23/05/2015
2 KP 11:35

mobile device is ultimately going to replace people's computers. I mean if you look at some of the devices today, they've, the phone I'm using today is a Samsung Galaxy S2, it's got a dual-core processor that's far more powerful than the initial desktop I started working with ten years ago, (laughter) ten/twenty years ago. So the capabilities of these devices are amazing and they're just going to get faster, smaller and faster and more powerful

28/07/2015
15:00

3 KP

there are different segments of customer groups.

28/07/2015
14:59

4 KP

if you look at people using mobile devices today, you've got the younger generation who don't use the devices to talk or SMS any more, they use it for data, they use instant messaging now. They use things like Viber to make their calls so they're using the data network more than they're using the mobile network. So they use it for communicating, they use it for non verbal communicating mainly, the younger generation. They use it for entertainment, they use it for information gathering.

21/09/2015
14:39

5 KP

they do a lot of the traditional things, but I think they do more. They do more because they're mobile, they are available anywhere. So, for example, a traditional desktop computer, or even a laptop would not have had, it didn't make sense to have a navigation application running on your desktop or laptop because you're not going to carry that around with you, but it makes sense to put it on something like this. So I think, given the fact that it's mobile, it fits in your pocket its use becomes a lot more

30/08/2015
16:47

6 KP

So it's a two-way street, our customers want us to respond much faster so we need to respond much faster.

Reports\\Coding Summary By Node Report

Page 14 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

28/07/2015
14:59

7 KP

I think there's a certain amount of brand consciousness especially among the younger generation

20/09/2015
17:42

8 KP

, so yeah I think a lot of people would choose based on brand.

18/08/2015
9 KP 14:08

if you are an occasional user you're probably more conscious about pricing.

25/06/2015
10 KP 13:27

Yeah when Telecom were having all sorts of problems with their 3G network, if I was a business customer on that network I would not be happy and I would be looking to move, because I can't run my business like that. But if I was a teenager I had a limited amount of pocket money to spend every month, or every week, I'd be very conscious about the price of what I pay for.

28/07/2015
11 KP 14:59

a younger person who probably didn't have a huge amount of commitment and bills to pay at the end of every month and I had a significant amount of surplus money to spend, I'd probably be a lot more brand conscious and I might want to be with the trendy providers. I want the best iPhone and I want to be on the most trendy network provider, for example. So I guess it

16/06/2015
12 KP 14:22

or they're too late, or they're too late into the market and in which case they lose out.

7/09/2015
13 KP 12:04

I think, so a lot of people who come up with these mobile services are clever technology people, they're clever technical people, they understand how to solve technical problems. But what they don't understand is how do they solve the business problems, how would they market their products.

And a lot of these fail because they don't know how to market themselves, they don't know how to market and sell their products. So they don't have the business acumen, so I think a successful solution needs both technical and business acumen

15/06/2015
14 KP 12:07

it's not just a single skill set now that you need, gone are the days where someone like Hewlett & Packard who were very clever inventors could sit in their garage, invent something and get it

Those days are gone I think, you need a significant larger skill set and it's because the world's moving so quickly. If you take too long to get into the market someone else is going to beat you to it.

Internals\\STUDY2DATA\\NZint5

Yes 0.3134 27

15/06/2015
1
KP
12:08

So when you go somewhere and a companion will give you an application for free, just adding on values.

25/06/2015
2
KP
14:02

One of my friends he's got just a year ago he just uploaded an app on his iPhone and all of a sudden for him it was a way to talk to me as well and he's like, "I'm like you now I'm trendy I've got a app. It's always, it's also a way to communicate with others, almost like a gadget."

25/06/2015
3
KP
14:02

We used to back in time say, I like that song, or I like that painting or whatever, but now it's I've got that service from that mobile provider. Apps are almost like collectors, we used to keep our images and stick them in our iPhones

Reports\\Coding Summary By Node Report

Page 15 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

1/06/2015
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KP
12:28

but now when you collect apps it's creating a sort of social buzz so probably its one of those benefits as well to be able to engage whenever with others.

25/06/2015
5
KP
13:29

So those are really quite different I can see that and there is no way that you can develop one thing for everybody.

25/06/2015
13:29

6

KP

NZINT5

No, no you, even well actually the beauty of a mobile phone, last year we worked on with a, how is it called? ReThink (grant which was something for people having mental health issues. So we developed a concept of having a special app that will allow people in a specific neighbourhood of Auckland to communicate about their phobia or their nerve racking issues or if they not very, so there was a special application for Ponsonby, for CBD and their requirement are quite different.

Researcher

And why are they different, because of the location?

NZINT5

Because of location, because of what you can do, so they don't offer the same services, they don't offer exactly the same thing. The structure, 80% of the app was pretty much the same, but there's 20% that is quite flexible according to the needs.

20/09/2015
10:56

7

KP

Yeah so for instance, the CBD has more Asian population so the way you talk to them, or the way your facilities is not the same than Herne Bay. Even in terms of language how you talk to those guys and thanks to the mobile phone because you've got a GPS system, the mobile can identify which app or which area you've got. So if it's a web base application that can actually redirect you towards that language.

2/09/2015
15:49

8

KP

Everything is tailored to the customer, the colour even of a car, but I would say 85-90% of the car structure is mass produced, but is it a tape stereo, is it a DVD stereo, do you put screens in the back seats or not? Everything is quite optional and I think with mobile phone apps or services we can do that now

2/09/2015
12:23

9

KP

Researcher

So that's a good example you're giving, but from what I know about car manufacturing these are only big companies, there are no small players in that, do you think that the same might happen in mobile applications?

NZINT5

We are small players but the car is super, super expensive.

Researcher

Oh okay. (laughter) We don't want this for mobile applications.

NZINTS

We are companies it's only fifteen employees but you pay one hundred million a car or something like that.

23/05/2015

10

KP

11:42

So to use real physical property capability of the phone. So for instance we made (unintelligible, 0:17:55.6) a video where you can just rotate the phone and do the editing because it's using the phone. I know someone in science, I don't know I think it's North Shore, did something about tennis elbow, measuring tennis elbow with a feature of an iPhone and developed a special app to understand the speed and all these sort of things and the impact. So it's to use those, I think right now a mobile phone is only used like a computer but we not use as.

23/05/2015

11

KP

11:42

Yeah special capabilities. Like my son has a game to start the game again you just need to shake the phone, you can't do that with your computer. (laughter) But when you do that it's very nice, so it's all those sort of things. So it's to find a new way as well to talk to people, or even one of my research group in France they use the sound and you needed to blow to go to the next menu. So, and that's one of the things we don't really use in real life to blow for instance in the microphone to get, to have access to the next medium

18/08/2015

12

KP

14:09

Well from my understanding of business, that's not a big factor, price is not a big factor, if people they like it, they will spend money on it.

18/08/2015

13

KP

14:09

So free pricing is not necessarily something that will actually accelerate the adoption of a service.

Reports\\Coding Summary By Node Report

Page 16 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

9/06/2015

14

KP

13:46

But a reasonable price yeah sure, so if you provide a service for, there are some apps you can pay five dollars, US dollars. But if they are good apps and very useful people they can spend

18/08/2015
15 KP 14:08

But paying twenty or thirty dollars app for your phone is something that starts to be a little bit more difficult.

1/06/2015
16 KP 12:31

But the more actually they've got the customers the more they stock orders is growing for them so the more the shares on the market is expensive. Well in terms of business models there's a critical mass as well that is important. So to increase your credentials you need to have a good amount of customers

1/06/2015
17 KP 12:32

you need to have a good amount of customers and probably for that you need to give it away for free

15/06/2015
18 KP 15:33

One other thing is, it's existing I don't really use it yet, but LinkedIn for instance if you actually read the thing, if I go in a Cafe I can see that some of the people that are part of my network are in the Cafe or in a two kilometres area, so my phone is telling me that, oh Researcher is having a coffee six hundred metres further.

We detected that because of a dual location of your phone saying, "Oh , hey Researcher are you free for a coffee I'm just here I'm talking with Jean Pierre whatever, you know. So there was things that can be done , innovation to make those things a little bit more fluid

2/09/2015
19 KP 13:59

I think everybody will be involved with mobile, big car companies now they are actually, they are organised the car and all the technology around smartphones, you just need to plug your smartphone in the car and you've got everything. If you go on YouTube and you check what Ford did last year it's quite impressive.

7/09/2015
20 KP 12:37

I still think that there's not enough communication between the front end and the back end between programmers and designers and producers. I think we still that what I would call a creative producer that's someone who is able to understand the technical aspect, the parameters, but also understanding the needs of the customer

21/09/2015
21 KP 11:50

And if you look at the apps market as well, that's another model a different model I think, I've forgotten how many million apps there are on the market, but quite a few.

But it's only 5% of actually unique apps, everything is a duplicate and I find that strange. And from a customer point of view, for instance, if I need an app about, I don't know, for instance, the weather, if I go on the iTunes store, Apple store I will find ten of them for free, I will find twenty five of them for that I have to pay, already and I don't really know what to do and I'm not sure which one would be the most reliable one in term of technology or in term of constant update. I think that's a bit of a trick as well.

7/09/2015
22 KP 12:37

sometimes when we develop products we, services for mobile, we forget about customer, they way they interact with it and sometimes we make it too pretty and it doesn't really work well in the background

7/09/2015
23 KP 12:37

So probably we say one of the key jobs now is for the information architect, or project manager needs to be, to have a background on both sides I think.

7/09/2015
24 KP 12:37

Yeah I think right now, well from what I know especially the smaller providers they do everything from A to Z, they design the interface, they create the codes, the language and quite often they've got a very limited ability to do usability tests or to test simply the app

1/09/2015
25 KP 9:50

So they launch the app on the market a better version without testing really and it's crashing and a month later we've got a version one point zero and it's sort of a trial/error rather than saying, well let's test it.

7/09/2015
26 KP 12:37

Probably what I'm trying to say as well is where we've got less and less time as well to develop those products and I think we should take sometimes more time.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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2/09/2015
27 KP 12:49

Yeah it's changing too fast, to be honest we don't need to have a new computer on the market every six months. Nokia used to produce twenty five different mobile phones a year, twenty five different models, they're not there anymore but we've got the iPhone 4 that was released, as it was released iPhone 5 that will be released in September. I think it's going too fast it's just

[Internals\\STUDY2DATA\\NZInt6](#)

Yes _____ 0.1009 8

1/09/2015
1 KP 11:48

So when you look at it that way the benefits, what the clients are getting is just phenomenal, today you're getting applications from small companies, both upcoming small companies who are no longer programming in the standard client server environment, they are programming on platforms that are completely new platforms, mobile platforms like androids and apple systems and things so that they can work in providing services for users one way or the other

15/06/2015
2 KP 12:23

So from a benefit perspective, today I have mobile banking, what are the new feature that it's going to really, really dramatically change, is me being able to pay mobile payment on the spot instead of using Eftpos, instead of using a credit card.

15/06/2015
3 KP 12:25

From my account I'm going, I can see my bank balance and when I am buying from the counter I have a bar code scanner I can go to my, which is what is these developments that are going on, there are three or four different things that are happening at the back end. I can use the bar code scanner to scan my item that I'm buying and wherever I'm buying it'll scan, it'll tell me how much money and then it'll tell me what balance I have in my bank and it'll say, "Do you want to purchase these things?"

I go and say, "Make payment." So I made payment, the business gets its payment directly, I get a printout at that place saying you made payment, I take that receipt, walk out with my goods. I have no interaction with the local individual there getting tired, pissed-off, bored, waiting in line for four hundred people in front of me, no these are all going to...

1/06/2015
4 KP 12:33

It's the services that other providers like developers who are offering all these development services of the mobile banking and all these kinds of services, which today they are making it free to people to popularise it, that's the service providers. So bank says, "Go down and download my banking things"

7/09/2015
5 KP 13:13

So the more it doesn't happen to them the less they go and buy or interact in the area they do. So because they're doing it, businesses then are hurting because they're not getting the money, the revenue pull-throughs. So then they push pressure on their application provider saying, "Come one give me something that I can bring, attract these consumers to come back to me.

9/08/2015
6 KP 17:54

So it's the people like your children and my children that are pushing the market.

7/09/2015
7 KP 13:13

because mobile usage, mobile services, mobile needs are the fastest growing needs in the world.

1/09/2015
8 KP 9:50

On the other hand there are these small service companies, four or five of them so far in the last few years, who have all been acquired by American companies because what they're offering a service for mobile operations is more global than what is local.

Reports\\Coding Summary By Node Report

Page 18 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt7						
Yes		0.331	13			

15/06/2015
1 KP 14:03

the most interesting thing with mobile service is the implementation of GPS data at the moment. And I think that is really like where new business models are developed and where you can see new opportunities for users that's what it is on the commercial side for, you know, people using location data as a way for marketing, as a way for analysing consumers behaviour.

11/08/2015
2 KP 16:42

Of course there's lots of implications that one has to think about for different categories of people that, you know, related to age groups, financial backgrounds and I think it's very difficult to generalise mobile media 'cause the way that different people use mobile technologies I think it's more specific to their local, or like their personal characteristics.

11/08/2015

3

KP

16:42

Of course there's lots of implications that one has to think about for different categories of people that, you know, related to age groups, financial backgrounds and I think it's very difficult to generalise mobile media 'cause the way that different people use mobile technologies I think it's more specific to their local, or like their personal characteristics.

11/08/2015

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KP

16:41

Of course there's lots of implications that one has to think about for different categories of people that, you know, related to age groups, financial backgrounds and I think it's very difficult to generalise mobile media 'cause the way that different people use mobile technologies I think it's more specific to their local, or like their personal characteristics.

2/09/2015

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KP

13:59

Yeah I think it's definitely the connectivity and I think there is lots of potential also to using if you think about new services such as like augmented (0:12:47.3) reality which is using a combination of different elements. So it's using the Internet data but it's also using the camera to identify different elements in our environment as well as the GPS data

18/08/2015

6

KP

14:16

But I think that once the accessibility to mobile data services will become greater so as you can see, for instance, in (unintelligible, 0:14:22.8) career I think that's when the people will take up mobile devices a lot more

2/09/2015

7

KP

10:51

Yeah, I think the sort of innovation is applied not only in the technology but also the use for the technology can be adopted, or the technology's implemented in different types of projects. So that the environment where the technology is inserted into needs to change a bit to that. So I think they've got some conceptual patterns that have to be changed over time.

16/06/2015

8

KP

14:59

what I can see in the industry that they haven't understood fully the potential of mobile media yet and that they think about mobile media as just another mass media.

16/06/2015

9

KP

15:01

participatory elements, or

16/06/2015

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KP

15:01

elements in terms of creativity and these are not things I think that can just be applied into like marketing strategy that is focusing on a one year project. But these are addressing bigger questions where the industry are saying with very short term goals doesn't understand the full potential of mobile.

15/06/2015

11

KP

14:07

Well I'm very interesting at the moment is that there is the technology that used to be behind this mobile device used to be very complex, but at the moment there is you can see also some new applications being developed that allows people to work with mobile technologies in a more easy way, such as like open source softwares. And there is lots of, you know, like login made Internet very accessible, similar elements for mobile devices which are kind of like custom made data frames.

Reports\\Coding Summary By Node Report

Page 19 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				12	KP	31/08/2015 17:31

That are comparable that New Zealand wants to compare itself to and I think as New Zealand it's also it's difficult because it's a big country obviously that has lots of rural areas but at least for some of the centres with not too many people I think there's a great chance that they could, if they would allow things like, which I think is a great example of the free wireless zone in Wellington. It is a perfect example of how it can enable some really innovative services to take place and allow new forms of communication to happen

15/06/2015

13

KP

15:36

I think that is probably one I would say a factor that is hindering innovation is that there, if people could have greater access to the Internet on their mobile devices, whether that's through 3G networks or through wireless networks, then I think innovation could place lots. Innovation could be taken up by more people than just by some of the people that are the forerunner of this

Internals\\STUDY2DATA\\NZInt8

Yes

0.1669

14

30/08/2015

1

KP

16:12

So really, I mean, it really, in my opinion, where phones have gone from is, if you think of a Blackberry from five/six years ago to where it is today, users have gone beyond email, calendar, and

21/09/2015

2

KP

9:57

I think, there's a lot of word of mouth. I mean if you take applications as an example, I think word of mouth has a lot to do with how an application is propagated, I suppose, amongst consumers. I mean if I go and tell my friend, "Oh this is a great app." They may look to download it.

21/09/2015

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KP

11:50

Because with so many apps and so many, and if you take the Android, so many app stores, that, the means of discovery is difficult.

You've got hundreds of thousand apps, how do you know what's good and what's not? So you tend to rely somewhat on word of mouth to say, okay, well, people tell you what app is, they think is great. Obviously you take a lead from what the App Store people might be saying from an editorial perspective, but also I think, you read blogs, you know the Gizmos, the Engagets, or whatever those blogsy, you choose to read, it may give you hints of what may be a great app or not, so that's something those...

15/09/2015

4

KP

16:49

Yeah, well put it this way, I mean I was speaking to Apple just a few days ago about applications and they said, no, your window of opportunity as an app developer to find success is a matter of days or so, maybe weeks at best. So that whole app discovery piece really is,

21/09/2015

5

KP

11:50

Yeah, well put it this way, I mean I was speaking to Apple just a few days ago about applications and they said, no, your window of opportunity as an app developer to find success is a matter of days or so, maybe weeks at best. So that whole app discovery piece really is, a lot of it is you either market it extremely well

20/09/2015

6

KP

17:46

you rely on people saying this is a great app.

1/06/2015

7

KP

16:28

Well that's right, I mean I suppose you kind of think back to the days of the desktop and so forth. There isn't that, there wasn't five hundred thousand desktop applications, and the applications didn't cost you a \$1.49 or \$1.99.

7/09/2015
8 KP 14:56

Yeah, but there is a difference between gamification and creating a game. So you can have gamification within your application in terms of a sense of gaming in terms of doing things, but you're not actually creating a game, and I think that's two distinct schools of thought.

7/09/2015
9 KP 14:56

NZINT8

No, so basically you're using, so basically using gamification in an educational application. So I mean, if you take like a child type scenario, it's like, if you can do three sums, then it reveals or unravels something for you as a token of success in a game, but it's not designed to be a game.

Reports\\Coding Summary By Node Report

Page 20 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				10	KP	21/09/2015 11:50

If I could sort speak specifically about an application for example, I think what I've learnt over the past few months is the marketing of an application. How do you actually make people aware of that new application? Short of it being an enterprise application that you're deploying to your staff, as if you're doing a, I suppose, a business to consumer application. So how do those consumers discover your application, is probably the biggest obstacle to success

21/09/2015
11 KP 11:50

And I think it's where you've got to ask the question, what is the marketing behind getting the app in front of the people, in front of the consumers?

7/09/2015
12 KP 12:17

such a large number of apps, and people creating them every day. The number of app developers, it's exploding. I mean that's what the smartphone has done, has made developing applications so easy that you could do it in your bedroom after school, as a kid basically.

But to be successful, how do you market it, how do you take it to the consumer, how do you get that cut through above everything else that's being launched out there in the marketplace? And that's your biggest obstacle for the success, I think

16/06/2015
13 KP 15:06

I think if we take a broad view. I think from a carrier perspective, I think near field communications is the next frontier. Obviously a lot of work being done around near field communications now, so mobile payments by near field. I mean obviously we just had, all of the carriers have announced pilots or projects or the likes.

16/06/2015
14 KP 15:06

Like for example, 2degrees has just partnered up with Snapper, who provide the bus cards and done it, but I mean obviously the adoption and the rest of it's subject to devices and everything else being near field capable and so forth. So that's probably the next probably big, big splash in terms of what's happening

Internals\\STUDY2DATA\\NZInt9

Yes _____ 0.2257 36

2/09/2015
1 KP 13:59

So the most obvious example in the United States is what's called remote deposit capture, so basically you're taking a photo of a check to enable deposits. So it's something you couldn't do in the physical world, but obviously mobile technologies, whether it be the camera or GPS or whatever, allows you to do new things.

2/09/2015
2 KP 13:59

So we sort of see two streams of work and we call them foundational services and transformational services. So foundational is just basically stuff you've always done but you can do it faster. And then stuff that you couldn't do before but you can now, and that's kind of, depends on, what we call device specialisations

2/09/2015
3 KP 13:59

So things that, specific capabilities that are in the device like GPS, like NFC, like capture or camera, and so on. We have these two fundamental distinct streams of adoption drivers.

2/09/2015
4 KP 15:53

Yes, so the last example you gave with the deposit capture,

2/09/2015
5 KP 14:02

To some extent. So some banks do offer it on the PC, where you can use your scanner. But just the user experience and the, as you were saying, the authentication is quite, a lot easier to authenticate on the device.

2/09/2015
6 KP 15:53

So some banks do offer it on the PC, where you can use your scanner. But just the user experience and the, as you were saying, the authentication is quite, a lot easier to authenticate on the

And then you can add additional layers, so we've got a customer who's using GPS coordinates on top of that capture, so basically we know exactly where that photo was taken. If it was taken in your house, then it's lower risk than if it was taken in Nigeria.

Reports\\Coding Summary By Node Report

Page 21 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

9/06/2015
7 KP 14:48

So there's a lot of these services that are never going to really hit online or other channels, they're just going to go straight to mobile. And that's going to, as I said, the second stream of

25/06/2015
8 KP 13:34

We're a big believer in segmentation. We use a model in financial services called the mosaic model. I don't know if you know it, but that's what many banks around the world use.

25/06/2015
9 KP 13:34

So yeah, anyway, that's kind of, but segmentation is very important. So our view is two fold, one is that the problems for different segments that you're solving are different. So I happen to be quite well paid, so I don't need to check my balance before I check out at a supermarket, because I am, because I don't live week by week.

20/07/2015
10 KP 16:16

Whereas there's a pretty significant segment of this society that, whose value proposition for mobile banking is checking their balance before they buy something. The value proposition for me, is I can maximise my yield from my financial services. So I can make sure that I keep my money in the highest yield accounts for as long as possible.

So it's quite a different, I'm a different segment and therefore the value's quite different. So we look at it two ways, one is the actual use cases and therefore the services are different per segment. And the other, which is very related, is how you promote it is very different. So

25/06/2015
11 KP 13:35

Yeah, because like for me, if a bank came up to me and promoted mobile banking as the, "Avoid embarrassing situations at the bar with your friends." Well that's not really relevant to me, because again I'm not in that segment. So, whereas if they said to me, "Hey, make sure..." I don't know. They said, "Make sure that you get your maximum yield from your savings accounts."

Then I go, "Oh yeah that makes sense, that's actually a good proposition." So it affects real use cases in then how you'd promote those services. And what we have seen is that customers who promote services generically, i.e., "Mobile banking is here, mobile banking is awesome," they get very low levels of adoption. Whereas customers who promote services in a segment-centric way, they get very high levels of adoption.

21/09/2015
12 KP 11:50

is known as service awareness.

21/09/2015
13 KP 11:50

NZINT9

Exactly, exactly. Yep and that's exactly our recommendation to banks

18/08/2015
14 KP 14:13

Researcher

18/08/2015
15 KP 14:11

Now I guess if it's beyond their means they wouldn't be doing it, but fifty cents seems to be reasonable.

NZINT9

Yeah, exactly. I mean obviously, yeah exactly, I mean any pricing strategy has to be sensible, but yes.

16 KP 24/05/2015
17:03

if you think about the reasons why people don't use mobile banking, there's two very obvious primary reasons.

17 KP 24/05/2015
17:03

the second one is concerns around security or safety. So that's why they don't use it.

18 KP 28/07/2015
15:00

Demographics is one, I mean is part of it, but it's not the only side. I mean it's just back to the segmentation. Very different segment attitudes. Demography's a bit crude, that's why I just need something a big more sophisticated in terms of segmentation model.

Reports\\Coding Summary By Node Report

Page 22 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

19 KP 28/07/2015
15:00

I mean age is a factor, but it's not the dominant factor. So yeah, I mean and as I said, there's very good models in financial services which are not, which are much more sophisticated and valid than just crude demographics.

20 KP 18/05/2015
10:25

but when they download the app of a bank they have very high expectations, and that's very, it's very new for financial institutions. They're not accustomed to being publicly assessed, put it

21 KP 18/05/2015
10:25

And it doesn't just apply to banks, but obviously that's who I'm most familiar with, but that is a new thing for enterprises that all of a sudden they're in public.

2/06/2015
22 KP 6:54

And that requires segment-centric approaches, which we've talked about already. So you can't just sort of say, "Mobile banking's here." You've got to say, "This is the specific need for you, Mr Customer, that we are addressing."

3/09/2015
23 KP 11:48

So when online banking started, maybe a quarter of homes had a computer in them, let alone an Internet connected computer. So, whereas now, every home's got mobile devices. So you've got your supply side, the devices are there. Consumers are already doing stuff on their phones, Facebook and other things, in particular

2/06/2015
24 KP 6:56

I mean, I did some interviews when I was in the UK last year and we had almost everybody sort of under sixty had, was doing Facebook on their mobile phones. And I kind of go, "Well you already know how to log in, you already know how to take photos, you already know how to type things in, you already know how to search for friends, all this stuff on your phone, what would

And the answer was always safety

2/09/2015
25 KP 14:07

So the point is that there's already a population of users, particular smartphone users that are already familiar with this technology. So not only is the technology everywhere, not only does everyone have the technology, but everyone's familiar with how to use it. So when they think about mobile banking, they think of it as quite an easy, obvious thing.

21/09/2015
26 KP 11:50

Yeah, the smartphone adoption and then usage. So people, they get their smartphones, they go, even people, I know people who have got their smartphones just 'cause it came free with their plan, and then before you know it they downloaded an application, and then they downloaded another and another, and then they just become active users when they never intended to,

7/09/2015
27 KP 12:02

So in terms of mobile financial services, it's going to be a battle between financial institutions, who may or may not outsource to solution providers like us. Some will, some won't. So if you think about it in the New Zealand market. ANZ outsources to us, National Bank outsources to us, Westpac to some extent, but ASB does not, nor does BNZ.

7/09/2015
28 KP 12:02

So they'll make their own decisions on a case-by-case basis

28/07/2015
29 KP 14:59

You talk to young people and they go, they think of their banks as, well on one hand they still have a special relationship with money, money is special to most people, so there is something unique there. But on the other hand they just think banks are retarded.

28/07/2015
30 KP 14:59

And I look at, and the example I give is Bank of New Zealand spent over a hundred million dollars upgrading all of its branches just in the last few years.

28/07/2015
31 KP 14:59

And consumers, younger consumers they just think that's idiotic.

Reports\\Coding Summary By Node Report

Page 23 of 24

15/10/2015 18:03

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

28/07/2015
32 KP 14:59

they literally look at you in the eye and they go, "What do you need a branch for?

28/07/2015
33 KP 14:59

so you get a twenty-year-old, you go, you've never been to a bank branch and then you look to a bank with branches and you go, "These guys are old and boring, they're the Encyclopaedia Britannica or the Blockbuster or the whatever, they're part of the old history of the world, I want to go where the banking, where banking is going.

28/07/2015
34 KP 14:59

And you're an average twenty-year-old and you have to make a decision, on one hand money's special, but on the other hand you go, "Why would I go with those guys? They're old

7/09/2015

35

KP

12:09

But that's what comes with the territory. You deliver people what they want, therefore they listen to you and therefore you can guide their, if you don't give people want they want and therefore you don't listen to them.

I mean, as I said, BNZ doesn't give me what I want, therefore I actually don't really care, I have no loyalty to BNZ, therefore they have no real ability to shape my requirements. Whereas if I had lots of loyalty to BNZ then they would have an opportunity to shape my requirements about what to expect from a bank. So it's a vicious, it's a virtuous or vicious cycle.

7/09/2015

36

KP

12:09

they're consumer expectations

Y3. Global Theme Data: “Customers drive service development”

15/10/2015 18:02

Coding Summary By Node dataround2

15/10/2015 18:02

4 KP 4/06/2015 15:17

The touch screen interface makes the tactile experience very different.

5 KP 4/06/2015 15:17

. And for some people having that immediacy 'it's at my finger-tips, I can just tap' and to sum it up new information in materials I think makes it extraordinarily engaging -

6 KP #####

I think that we all have that sort of childish inborn desire to have our actions be responded to, and when they are responded to both in terms of something visual and ultimately in terms of something auditory when we can speak to a device and it will speak back to us, I think that it is going to be really quite a different user experience.

7 KP 24/05/2015 8:06

Essentially I could boil it down to one word and that would be 'convenience'. Really what we are talking about here is changing the manifestation of so much of our entertainment and cultural experience into a bit stream. We're turning books into bits, we're turning music into bits, movies – everything that involves communication is now turning into something that can be stored, carried, communicated through one of these mobile devices, so it becomes a portal, too – skype is giving us global phone calls capabilities, Wikipedia means we can look anything up anywhere at any time when all this stuff gets linked into Google Maps we can always find where we are and how we want to get to any place we want to go to

Reports\\Coding Summary By Node Report

Page 1 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

8 KP 24/05/2015 8:09

. And meanwhile we are being entertained by all of our favourite artists.

There are subscriptions plans like Spotify that has been launched in the USA and the application I worked on commercially is a digital music player that is expected to launch a subscription service, which gives you 17 million music tracks to take your pick. You can listen to any one at any time with a full search capability, so you can always find that particular song that you'd like to hear and have it immediately screened onto your mobile device and there off you go.

9 KP 24/05/2015 8:12

The new Amazon Kindle Fire product is a very interesting one in terms of its ability to access everything that Amazon has traditionally offered in terms of printed books and other materials on their Kindle e-readers, but now they're expanding that into movies and music. So all of this is again coming back to the idea that where we used to have to go out to obtain some of

10 KP 1/09/2015 13:49

Well, you know, that's a real gee-whizz cool piece of technology but it's very likely that only a small part of the audience is ever going to take advantage of it. So what happens is that there is an over-development, over-design and featuritis that creeps into many of these products and services where the customers really would have been much happier if they had something very simple and intuitive, so, well, everyone in the development business is trying to figure out what's the best solution.

11 KP 1/09/2015 13:49

The tendency is for people to think that more features, more functionality is better when in fact from a users standpoint sometimes it's not.

12 KP #####

They wanted the deal to have their files synced between what was on their hard disk and what was in the cloud and they had a 'free' new model so everybody could get set up and start using this service but of course as soon as they used it up to the limit then they realised oh well, I am getting so much value out of this I will happily pay the monthly fee. And so now they have a very

13 KP #####

They wanted the deal to have their files synced between what was on their hard disk and what was in the cloud and they had a 'free' new model so everybody could get set up and start using this service but of course as soon as they used it up to the limit then they realised oh well, I am getting so much value out of this I will happily pay the monthly fee. And so now they have a very

14 KP #####

If I could put that one in one word, I would say "trust". I think so much of this technology is new that people want to get involved in something they know has some kind of reputation in the

15 KP #####

But then it becomes a question of people being frightened by some of this technology

16 KP #####

I think the early adopters would have been just as happy to pay \$1000.00 and \$200.00 for that latest gadget.

17 KP #####

I think there is in fact an inherited resistance to change and mobile does in fact cause a lot of things to change. And so you will see people - perfectly reasonable, educated, intelligent people having a resistance to the idea of that they would check their email from a mobile device because a mobile device.

18 KP 1/06/2015 15:16

I am calling it a device because I know that there are phones and tablets and a variety of things that can be moved around. But for a lot of people they're still thinking of it just in terms of a phone and so you don't check your email on a phone you make phone calls on a phone

19 KP #####

And so there are these the less technological segment of the population who are still reluctant to take advantage of the fact that their Smart phone can actually run applications.

Reports\\Coding Summary By Node Report

Page 2 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

20 KP #####

To exchange in effect shoes for mobile phones when it gives them this global productivity, it gives them this to reach over a distance which its very most inherit – what does mobile mean? It means that we don't have to be physically in the same place. We can have an effect far from the place where we are. So it's going to be people taking advantage of that, that's going to drive mobile business forward. And it's happening in some very unexpected ways. People are going to use that connection at a distance to do some really unexpected kinds of things

21 KP #####

It all depends on the service that if the devices didn't function in some way that will be a failure but the fact of the matter is in most part they work in extraordinary way

Internals\\STUDY2DATA\\NZInt10

Yes _____ 0.3187 32 _____

1 KP #####

So in my opinion, the services that are out there are things that make our life easier. So services that we need to do to support our lives, whether it be banking, or paying for parking, or getting funny cat videos, are available on any device we want

2 KP #####

So akin to ubiquitous computing, so it doesn't matter if it's a mobile device, or if it's a laptop, or a tablet, or whatever. So why they're attractive is because I think it's enhancing the quality of life, whether it be actual day-to-day life needs, like banking and things like that. Or whether it be the social quality of life.

	3	KP	2/09/2015 12:21
Can we offer to mobile users today? Um, (pause). There's two parts to it. One is what we can do on mobile devices			
	4	KP	#####
And the other is the accessibility of those mobile devices. So the accessibility			
	5	KP	#####
, areas that they work in. Can we be in the middle of the Southern Alps and still be using our mobile device?			
	6	KP	#####
And so there is always evolution around there about making mobile devices useable. Useable in an Internet environment versus useable in their own right.			
	7	KP	4/06/2015 15:34
So we can work out easy ways to do things, so we know what we do nowadays, we know that we bank, we know that we pay for things, we know that we want to communicate with other people, so sending messages, so text and pictures to other people			
	8	KP	#####
And so we can improve the way we do that, so whether it be an application that's more intuitive to use or more pleasurable to use			
	9	KP	#####
But I know that there will be stuff we don't realise is important to us until we actually get it. So mobile banking would be a key example. We were school, ten/fifteen years ago we were schooled in the thought we had to go into a branch in order to interact with our bank. And now, certainly amongst the people I know and work with, we would be talking weeks or months since we last physically went into a bank to interact with the bank. So either we will self-service what we do on the mobile device			
	10	KP	1/06/2015 12:10
So either we will self-service what we do on the mobile device or we will have an interaction channel through the mobile device. So like Kiwibank's got that chat to my personal banker type			

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				11	KP	4/06/2015 15:36
			Got to come up with a, "Hey, what if we could do this on a mobile device?" I mean, what if I could get my son's school agenda on my mobile device so that I could say, "It's eleven o'clock, he must be at the school library."			
				12	KP	#####
			Can I get a push notification, "We're walking to the library now."			
				13	KP	#####
			So if I think of things in sort of my generation, it's those life enhancing tools that we can do through a mobile device. So I can pay someone when I'm sitting at dinner with them, I don't have to remember to go home and pay them.			
				14	KP	#####
			So instead of writing a letter to their sister-in-law who lives in England, being able to face time on a mobile device. So if I had to pick one thing that the main requirement for them would be the communications.			
				15	KP	#####
			For the younger generation, I have no idea. (laughter)			
				16	KP	#####
			Yep. As a pure entertainment, if I look, if I observed what my son does on a mobile device, it's pure entertainment.			
				17	KP	#####
			the real time transactions of mobile applications. So either I can, say a financial transaction, I can do it on my terms, done and dusted, don't need to think about it when I get home. I can basically accomplish that task whenever I, when I want to do it or when I need to do it. So at my convenience. Yeah, so the convenience of the self-service model, I think is one of the most			
				18	KP	#####
			in that I would expect to be able to do on a mobile phone what I could do on other types of devices.			

But the mobile phone overlays the, it's a complete wireless device. So it doesn't matter whether I'm down at the bach in the Coromandel, or sitting in my lounge room because I can't be bothered walking through to the office, or at the top of Mt Cook. So the mobile device allows me to have that location independence

19 KP #####

I think it would assist it in that it removes one of the barriers, but only one of the barriers, because then there's also the, "Well if it's free, how is it being paid for, so am I paying for it in another way?" So are there, does the free then introduce some adoption restrictors as a result. So it removes one and introduces others

20 KP #####

I think it would assist it in that it removes one of the barriers, but only one of the barriers, because then there's also the, "Well if it's free, how is it being paid for, so am I paying for it in another way?" So are there, does the free then introduce some adoption restrictors as a result. So it removes one and introduces others

21 KP 4/06/2015 15:44

I mean we see the feedback at work all the time, people want a hundred gig a month at 4G speeds and to pay nothing for it. So there is definitely an appetite for more bandwidth for less

22 KP 4/06/2015 15:44

I mean we see the feedback at work all the time, people want a hundred gig a month at 4G speeds and to pay nothing for it. So there is definitely an appetite for more bandwidth for less

23 KP #####

So there is definitely an appetite for more bandwidth for less money. But if it, I certainly would have the question in my mind, how am I paying for something that's free, because you're paying for it somehow

24 KP #####

So there is definitely an appetite for more bandwidth for less money. But if it, I certainly would have the question in my mind, how am I paying for something that's free, because you're paying for it somehow

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

25 KP #####

Obviously how it fits into the customers' needs, so what their requirements are. So, "Do I have a need that this service meets?" that influences them towards adoption.

26 KP 9/06/2015 17:38

And you go, "Oh, actually that makes sense," I have my need to send pictures to someone and I also have a desire not to spend money in that process, and so you adopt the Viber service to

27 KP 9/06/2015 17:38

And you go, "Oh, actually that makes sense," I have my need to send pictures to someone and I also have a desire not to spend money in that process, and so you adopt the Viber service to

28 KP #####

I think fundamentally you've got to have the need, how does this fit into your need, otherwise I think you just fall into the don't adopt.

29 KP 1/06/2015 15:22

And so your need could be something I want to do or the perception of something I should do

30 KP 1/06/2015 15:24

But I think we've got sufficient technology now that that wouldn't actually be an obstacle. So I think then we're talking more the softer obstacles, which goes back to the attitude towards adoption about people's willingness to make use of that mobile service. So it's not automatically a build it and they will come. We've got to be, we've got to provide something that influences people to pull them in towards us.

31 KP #####

I know. I felt like my, a) my arm had been cut off, how can I communicate with people? And you've suddenly got to go, okay, go back to old school, who's phone numbers do I know in my head, has someone got another phone I can use or a landline I can use?

32 KP #####

So it's, so when I've got it and I'm using it, my mobile phone's fantastic. When I don't have it, you just, life seems harder.

Yes 0.3722 21

1 KP #####

I believe the drivers of attractiveness for mobile apps are similar to other new or disruptive technologies. Those that replace a preexisting non-mobile or offline use case but save time or money

2 KP #####

New use cases not available offline before that enable a richer life experience for the consumer, for example they can do something enjoyable that they have not done before.

3 KP #####

Many examples exist

4 KP #####

Mobile banking apps save time and money because access to info is more timely). Various Mobile banking apps as they save time and money)

5 KP #####

Facebook, Linkedin are a combination of time saving and a richer experience. Youtube, iTunes, Spotify, other media because of richer experience)

Reports\\Coding Summary By Node Report

Page 5 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				6	KP	#####
			Trademe and various other mobile-ified versions of web apps because they save time			
			casual games because of richer life experience	7	KP	#####

8 KP #####

If I knew the use-cases specifically, I would be launching the product already!

9 KP 4/06/2015 15:50

healthcare. With natural privacy concerns the only things I do on my mobile today are book a 15 minute appointment with my GP. That may save the GP time and money, but does nothing for me as the patient if I have to travel 30 minutes to see the GP, then wait 15 minutes, then travel 15 minutes back what a waste of time. Instead, we should expect to see GP appointments or short consulting sessions be delivered via a mobile video call

10 KP 4/06/2015 15:51

For 5 minutes of my time and 5 minutes of the GP's time, perhaps with the integration of fitbit. About government who are traditionally in charge of roading and other services I expect to see more around managing traffic , for example congestion pricing or discounts off car registration for driving off peak, where topark apps, realtime feedback on important issues , edemocracy.

11 KP #####

For the time-saving and money-saving mobile business services, their most valuable feature is simply being mobile. That may sound trivial, but is in fact massively important. Mobile enables people to use the in-between times while waiting for others, travelling, and so on.

12 KP #####

This well exemplified by mobile email. It does everything that desktop email does, but because it is mobile the benefits grow to anytime, anywhere, low start-up time, not just software and system startup but cognitively, a lot less overhead to pick up your phone from your pocket and glance at your inbox rather than the desktop example which involves travel to desk, unlock computer, clear away any windows from last time, click inbox, etc

13 KP #####

Low processing time, a continuation of the above , mobile interfaces and use cases tend to encourage quick or simple responses and interactions

14 KP #####

For the more interesting enrichment services, the features become more specific to the use case and application. I will take an example , mobile media . Some of the key features of my favourite streaming media subscription service are that it plays nice

15 KP 1/09/2015 11:24

I will take an example , mobile media . Some of the key features of my favourite streaming media subscription service are

16 KP 1/09/2015 11:24

integrates with my home audio, car audio

17 KP #####

Hall Varians characteristics of a digital good difficult for the user to value the good without actually consuming it

18 KP 2/09/2015 12:40

A complex question and again, if I knew the answer precisely, I would be a rich man

19 KP #####

I think adoption follows a model or curve. Many frameworks exist, I like those from christian , the Innovator's dilemma. During the early lifecycle of the product first adopters tend to be technical, niche, they are likely attracted to specs or functionality e.g. solving a very specific problem.

Reports\\Coding Summary By Node Report

Page 6 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

20 KP #####

But in later stages when crossing the chasm the core features that drove early adoption may be taken for granted or even fall away. Trial during the growth stage is fuelled more by social factors such as word of mouth, e.g. my friends use uber so I might try it out. Adoption following trial is probably driven by did it do what I expected or did it do better than the alternative I

21 KP #####

Yes, particularly the next generation richness of experience category of services now that the low-hanging fruits of do on your mobile what you did on your desktop are done.

Internals\\STUDY2DATA\\NZInt12

Yes

0.2161

37

1 KP #####

it's got to be things where mobility's got some particular meaning, and I think that can mean one or two things. So, one example I think that's very good in terms of why it works as a mobile application is Air New Zealand's mobile app. And the reason it's useful is that you are literally moving, I mean you are going to be mobile.

So when it's telling you about traffic, when it's telling you about checking online, when it's telling you to go to the gate, it's actually all about movement and I think that's a good example.

2 KP 4/06/2015 16:09

So things that are better than doing it on the desktop are things where you definitely are going to be moving.

3 KP #####

I think the other ones are much more general, they tend to be just things where sometimes it's convenient to do it on a mobile, sometimes it's convenient to do it on a desktop. I mean mobile banking would be an example of that where sometimes you want to do it anywhere anytime, and sometimes you don't.

4 KP #####

I think most attractive are ones that really leverage mobility in some way, as opposed to just be occasionally convenient.

5 KP #####

So I think 90% of mobile apps are occasionally convenient.

6 KP #####

Maybe 10% of mobile apps are really about moving. I mean Google Maps on a mobile device would be another obvious example. So anything where a movement is intrinsic I think is, are the ones are really attractive

7 KP 20/09/2015 9:51

Timeliness is really important. So going back to my example of the Air New Zealand app, it's a completely useless application if it's not on time. So if it tells you that you're boarding now, but actually you boarded ten minutes ago and you've missed the plane, it's utterly useless.

So I mean I guess timeliness is really, really important. I think the other thing that I've noticed about

8 KP #####

mobile apps from a banking perspective, is they're actually easier to use than the desktop versions. They're probably less secure as a result, but they're easier to use. So when you log into the mobile apps, you're already halfway there. Whereas if you go on the desktop apps, they make you sort of give you your mother's maiden name

9 KP #####

mobile banking is an example where they've tried to make it very easy to do mobile banking so that it is easier than doing it on the desktop

10 KP 1/09/2015 17:24

mobile banking

Reports\\Coding Summary By Node Report

Page 7 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

11 KP 1/09/2015 17:24

is easier than doing it on the desktop.

12 KP #####

what they make you type in. So for example, if I want to go onto the web and look at my bank account, I have to give three pieces of information. If I want to do it online, I only have to give

13 KP 1/06/2015 15:28

'Cause nobody wants to pay for anything anymore. I mean everybody assumes everything is free. You cannot sell a new service, I don't think. I don't think it's possible now to sell a service.

14 KP 1/06/2015 15:28

'Cause nobody wants to pay for anything anymore. I mean everybody assumes everything is free. You cannot sell a new service, I don't think. I don't think it's possible now to sell a service.

15 KP 1/09/2015 13:42

So it's just a cost, it's not a benefit, but of course if they don't do it they're in that competition problem where everybody else does it. So yeah, they have to give it away. It costs them money, but it's a competition issue. I don't think you can sell services, really.

16 KP 1/09/2015 13:42

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17 KP 1/09/2015 12:02

Researcher

That's what I was thinking about mobile services as well that they may repeat the same sort of cycle and go from totally free to less valuable, free but less valuable, starting with valuable and free, but then diluting.

NZINT12

Well I suppose it depends on the service, 'cause if you take banking for example, I mean you're paying for it one way or another. Yes, you're not paying directly for your mobile banking service, but one way or another they're making money out of you.

18 KP 1/09/2015 12:02

Researcher

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19 KP #####

it's easy to use, usefulness, ease of use,

20 KP #####

you can't have a mobile app that's difficult to use, because there's so many and there's so much competition.

21 KP #####

But of course it's also got to be useful and helpful. I mean no one's going to use an app that isn't helpful, 'cause we're talking here about, we're not talking about entertainment, are we, we're talking about business services. So clearly there has to be a useful business process that you engage in as a result

22 KP 1/09/2015 17:29

I mean if you think about what kind of business services would we do on a mobile? Well obviously we've got banking and we've got travel...

23 KP 1/09/2015 17:29

Different payment services

Reports\\Coding Summary By Node Report

Page 8 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

24 KP 1/09/2015 17:29

that's another possibility that people might find useful

25 KP 4/06/2015 16:15

the point, to some extent, is that if you're offering a business service that kind of replaces an alternative, you do have to convince people that it's better. So in what way is waving my phone better than waving my card or getting out my card and putting it in a machine or taking out some cash?

26 KP 1/09/2015 17:55

So I think that's, it's difficult to make those decisions in some cases because it's not like there's one way of doing it that's obviously better than the others. There's lots of factors.

27 KP #####

And of course you can do all of these things, but none of it's, none of it really, really tells you what it will actually be like when the customers are out there in their millions trying to use the damn thing. So I think there are major challenges to getting something of quality and reliability through the whole development process, so that you know that when it arrives in the hands of the customers it's actually going to work.

28 KP 1/09/2015 13:43

But then eventually you do get to the point where everybody wants everything for free and then the quality goes down because there's no investment

29 KP 1/09/2015 13:43

But then eventually you do get to the point where everybody wants everything for free and then the quality goes down because there's no investment

30 KP #####

We could live without mobile software but actually we've got used to it now, so for example, we don't get lost as much as we used to.

We don't wait around trying to meet someone who doesn't turn up like we used to. Yes we could live without that, but actually we'd rather not, because we might not need it but actually it does make our lives better in many ways,

31 KP 20/09/2015 9:58

things that are convenient and helpful and efficient do improve our lives even if it's only in a trivial way.

32 KP #####

things that are convenient and helpful and efficient do improve our lives even if it's only in a trivial way.

33 KP #####

it helps us to self-actualise, I think, because we don't waste time on ridiculous things that we used to waste time on like getting lost or failing to meet someone, at that trivial level, we don't waste time waiting for the bank to open or running out of cash at the weekend like we used to. And all of those things, yeah we could live without them, but, you know, I'd rather not.

34 KP #####

Yeah, well, I think, yeah we're past the point where we need stuff, so it's all about life being more pleasurable,

35 KP #####

Yeah, well, I think, yeah we're past the point where we need stuff, so it's all about life being more pleasurable,

36 KP #####

It's more pleasurable to be able to do tedious things like banking very, very quickly and conveniently. It's more pleasurable to be able to find a friend quickly.

37 KP #####

it's things that we want in our lives, we don't need them.

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\STUDY2DATA\NZInt13						
Yes		0.2228	23			
				1	KP	#####
			[A definite benefit] would be the option of peer-to-peer payment			
				2	KP	#####
			One of the things that is specific to mobile application delivery, is instant customer feedback. And so I think that's, it's very important and a very useful tool in content or application providers being able to get response and feedback to the services and the, that they've put out			
				3	KP	#####
			So not just the ratings, which are important, but also the comments that people fill in. You, it's not something that you then have to go necessarily and spend, have a research company and have that expense of trying to gather that feedback. It's something that customers are willing to give freely based on their unique experiences of your, of what you provided.			
				4	KP	#####
			And it's something that through the software development industry's learnt for quite sometime and is one of the drivers for introducing things like the agile software development methodology, is that feedback cycle and that feedback loop is very important in terms of, and getting that feedback early is very important in getting the quality application out.			
				5	KP	#####
			The other thing that's probably happened in the mobile space recently, or we're seeing is changing is that the aesthetics of the, and it's not just the content that's provided, it's the way that the content is provided. So people would, if something was provided and it was just, the content was accurate but the website wasn't styled correctly or it wasn't aesthetically pleasing, people wouldn't necessarily think too much of it, it's just the way it is			
				6	KP	#####
			And so, and customers of the mobile, if you're looking at a, if you're looking for something, an application which is running on your mobile, or you're wanting it to run on your iPad, we're finding customers are more and more looking for it to be, it needs to be sharp, it needs to be pixel perfect			

7 KP 4/06/2015 16:23

customers of the mobile,

8 KP #####

that user experience is becoming very, very important to the ratings that we're getting back

9 KP 4/06/2015 16:23

important to the ratings that we're getting back on the site as well, and that ease of use.

10 KP #####

customers' expectations are changing.

11 KP #####

Services on location, an aspect of mobility

12 KP #####

Cost is factor...If they get pinged through the mobile operator for accessing that service

13 KP #####

Cost is factor...If they get pinged through the mobile operator for accessing that service

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

14 KP 1/06/2015 15:32

Certainly I think we are seeing that, is that they [customers], they are becoming more demanding and because there's a number of, there's a number of service providers providing similar services and it's very, it can be quite easy to switch

15 KP #####

And so having that polished user experience is a, having a pleasurable experience for someone to use is a differentiator between someone choosing their service over something which might be functionally quite similar but not as well polished.

16 KP 9/08/2015 17:56

Services need to be customer driven.

17 KP 1/09/2015 11:35

I think, one of the challenges, I guess, with mobile banking now is that we're living in a global economy and people move around and travel a lot, and they expect the same, they expect to do the same things abroad as in a mobile channel as they would as if they were at home.

18 KP #####

And telecom providers have a lot to answer for in sort of having, making that prohibitive for people because of the expensive roaming charges

19 KP #####

And telecom providers have a lot to answer for in sort of having, making that prohibitive for people because of the expensive roaming charges

20 KP 24/05/2015 8:02

And so you've got a lot of young minds, real sharp minds that are thinking about how they can, how they want to work and how they want to do things. And if they have a good idea for themselves, then it's like, it's not necessarily too hard for them to deliver something which also has the benefits for other people

21 KP #####

And so I think we're seeing a lot of innovation in the mobile space, which is driven by people's, the ease of publishing an application, because anyone can do it. And so I think we're going to continue to see lots of innovation in the mobile space because of it.

22 KP #####

customers.

23 KP #####

, if they, if you want something you can go and build it or develop it and do it yourself

Internals\\STUDY2DATA\\NZInt2

Yes

0.1159

33

1

KP

#####

people eventually tire of the gimmick aspect of it and, unless it's producing true value underneath, then people start dropping off those services.

2

KP

#####

the initial attraction is because it's new and that is what starts them.

3

KP

#####

I think some people would pay. It's going to be a function of how much money they've got and how badly they want to try the new thing really. Just getting off that monetization topic you're leading to there, we are starting to see the internet become monetized and the mobile space becoming monetized in various ways

Reports\\Coding Summary By Node Report

Page 11 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

4

KP

#####

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5

KP

#####

It's still not monetized fully, there's a long long way to go, but I think once everyone's got an account online that they can draw money from, possibly they wouldn't mind if they'd spend a few cents on something, just the way they don't mind if they spent a dollar on an application now. It's just a scale

6

KP

#####

It's still not monetized fully, there's a long long way to go, but I think once everyone's got an account online that they can draw money from, possibly they wouldn't mind if they'd spend a few cents on something, just the way they don't mind if they spent a dollar on an application now. It's just a scale

7 KP 1/09/2015 13:32

free is also not necessarily good quality. People are starting to learn that if they do want quality they do need to pay.

8 KP 1/09/2015 13:32

free is also not necessarily good quality. People are starting to learn that if they do want quality they do need to pay.

9 KP #####

People are starting to learn that if they do want quality they do need to pay. It really depends on what markets you're appealing to.

10 KP #####

That's one of the things that we're trying to achieve with our platform in a small way, break the fragmentation problem up and also encapsulate that whole process of writing software in a much simpler space so that people can write content and not have to be application developers.

11 KP #####

Currently you've got the situation where if you want to develop content you put it on a web page and people access it from the web. If you're developing application, then you're at a much more sophisticated level. What we want to do is try and bridge those two because we think that content should be monetized in the same way applications are

12 KP #####

That web protocol which is now 25 years old or whatever, is really old and restricted and that has become a fundamentally limiting factor in mobile phones.

13 KP 2/09/2015 13:06

The other thing with the http protocol which we find ... which our stuff actually avoids http protocol altogether. We've got these little players that sit on the various devices.

The problem with http is that it's a kind of request/response based protocol which means that you ask for a page and then the information comes back and you look at that page and you select something and ask for another page.

That project just repeats as you look at new pages. With a mobile phone that model breaks down because the connection times are accelerated or exaggerated so instead of taking two seconds to make a connection, it could take ten seconds to make a connection and you're waiting around a lot.

14 KP 2/09/2015 13:06

On a PC, when you do get your connection, you get a full page of information back. On a mobile phone the screen is so small we get a much more limited amount.

15 KP #####

So what we have finally worked out is that people are rewriting these web pages for the mobile anyway because they need to reformat them. We figure if they're rewriting it anyway, we may as well just put it on our own platform that avoids http and it doesn't have these bottlenecks in the network. It's a continuous process.

Reports\\Coding Summary By Node Report

Page 12 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

16 KP 2/09/2015 13:13

Because the web is now trying to jump onto the mobile issue so the mobiles are adopting the web just because that's where all the information is at.

17 KP #####

Yeah, it's trying to figure out who your customer is, yeah. What we find challenging is that in emerging markets like India, we don't have the natural culture and understanding of what makes those people tick.

18 KP #####

What's important to you? What do you want to see?

19 KP #####

we'll probably learn as we go, as we learn about our channel, what makes it interesting for them and we'll have to just run with things that work for them. Like one of the things we're discovering is we need to put a lot of our text in Hindi, not in English.

20 KP #####

what you said previously about people being generally attracted by something new. So that would be true across everybody? If it's new, it will be attractive ...

NZINT2

Not necessarily. I think the young people would probably ... like I don't have a Facebook account. I really don't like it. In no way does that make me not take it seriously as a channel.

21 KP #####

Yeah. How I don't know really.

22 KP #####

Trying to get that feedback is quite hard on a mobile phone because people don't want to give you their phone number and it's very hard to get someone to enter stuff in using a keypad and to break their usage of it to give you feedback is very hard.

23 KP #####

data about usage

24 KP #####

We can actually see but it still doesn't tell you everything you need to know about a particular service, like what don't they like about it, how could it be improved and all those soft questions. It's very hard to get people to answer that. We've got another company in India that we use for testing.

They're on the ground and they can give us some feedback but they're not necessarily from our segment. They're all programmers and a totally different cast that they have there.

25 KP #####

it was useful in that it helps us to target. They didn't come back but a lot of it is just trying to figure out what they want and if you get right then the numbers go up and the stats go up

26 KP 2/09/2015 13:07

Let's say you own a web service that was using java script, it wouldn't be operational on one of these cheap phones.

27 KP 2/09/2015 13:07

Not only that, it's the size of the screen, it's too small, it can't be seen properly and you can't navigate properly and it's frustrating. How you input information into it.

28 KP 2/09/2015 13:07

There are so many factors.

29 KP 2/09/2015 12:55

Being able to drive content of the application from a highly constrained device

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

30 KP #####

and you get two kinds of aps really – network centric aps and you get stand-alone aps.

Network centric ones, like if you look to say a Facebook app – there's a big trend there where people are moving away from web based presentation into app based presentation so they can really get exactly the look they want, that becomes generally a network centric application as it hooks across the network and connects for the data

31 KP 1/09/2015 13:41

It would be businesses really won't it who are trying to connect with their customers. I think you will get some content in going in there but the serious players would need it to be monetized and that monetization hasn't quite happened yet. The problem is that people don't want to have to go through the payment headache to get that tiny piece of information that doesn't computer and that's why it has to be free.

32 KP 1/09/2015 13:41

It would be businesses really won't it who are trying to connect with their customers. I think you will get some content in going in there but the serious players would need it to be monetized and that monetization hasn't quite happened yet. The problem is that people don't want to have to go through the payment headache to get that tiny piece of information that doesn't computer and that's why it has to be free.

33 KP 7/09/2015 13:50

People basically just download their own apps that they want on the phone and they go to a site and start downloading them.

Internals\\STUDY2DATA\\NZInt3

Yes _____ 0.1907 20 _____

1 KP #####

the ones that really work today and are attractive to customers are things that first and foremost need to be simple to use.

2 KP #####

Ease of use is one of the key things.

3 KP #####

It has to either provide capable benefit or tangible benefits to the end user and I'm thinking of things like music applications, banking applications, things that can save people time – for example restaurant applications where you can find out restaurant ratings and so forth, booking. Those things are great

4 KP #####

for example restaurant applications where you can find out restaurant ratings and so forth, booking. Those things are great but they have to be simple to use

5 KP #####

they have to

6 KP #####

actually provide an end benefit for the end customer.

7 KP 4/06/2015 17:36

but I think where applications are really going to take off is it's giving time back to people. That's really, really important.

8 KP 4/06/2015 17:36

It's giving back people time in their lives to do other things. I think that's a key thing

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

9 KP 1/09/2015 11:37

Thinking about other potential benefits, if it enhances your life in some way, I think that's also important

10 KP 1/09/2015 11:49

I just note in there about some of the gaming or social media type applications where you used to be sitting on a train or a bus reading a book or reading a newspaper, now we potentially are doing social media and we're actually more connected.

You're getting a real tangible benefit from being connected to lots of people, to other organisations that you feel an affinity with. They're the key benefits

11 KP 1/06/2015 12:18

The technology and applications are almost resented to some point by some people.

12 KP #####

It's a personal example but even people like my mother, I remember sitting around when I was down in Christchurch last time and my brother and I and my father were all on our phones around the dinner table and she said "what's the world coming to?

We should be having a conversation.

13 KP 3/09/2015 11:45

In team meetings or meetings at work, you often see two or three people checking their phones for emails. You end up becoming detached and not really listening. I know that's not a benefit. And I've even noticed in some meetings now that people are actually asked to turn off their mobile phone for that particular reason. They're not listening or they're not concentrating.

14 KP #####

The fact you still have to enter your security details the same as what you do online to me is a massive hindrance for me to actually carry security cards, credit cards into the additional information. I was expecting a far more seamless thing.

15 KP #####

Because it's my phone and it's locked anyway to get into it, you shouldn't have to reapply additional security settings. I think they've done it to be consistent with what's on the website but from a mobile perspective, it's quite clunky. The interface itself is not quite intuitive enough

16 KP #####

clunky. I've actually provided some feedback on Facebook BNZ. When they asked for feedback on the application, I provided that via social media by Facebook, that I thought it was poor and these are the reasons I thought it was poor. I was giving the application provider feedback specifically.

17 KP 4/06/2015 17:40

So from what you're saying, it seems to me that you're expecting the mobile application to be better than the online one?

NZINT3

Easier to use. Because you're on a smaller screen

18 KP #####

Yeah, obviously with the smaller screen – a lot of people have adapted obviously M. standards, they've tried to do it but it doesn't particularly work very well. I think there's a danger because people download an application and then it doesn't work very well and then they pretty much abandon it.

19 KP #####

mobile payment

20 KP #####

it's got massive potential and the way I've seen it working overseas is fantastic. We're still not there yet. I even noticed in the Rugby World Cup that Mastercard have got automatic payment on. I just think adoption wise we've got a wee way to go and New Zealanders aren't used to it yet.

Reports\\Coding Summary By Node Report

Page 15 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt4						
Yes		0.1606	23			

1 KP #####

which existing mobile business services are most attractive to customers? I think the ones that save customers time, save them money

2 KP #####

which existing mobile business services are most attractive to customers?

3 KP #####

which existing mobile business services are most attractive to customers?

4 KP #####

stuff that's free

5 KP #####

stuff that's free

6 KP 1/09/2015 12:05

Yeah stuff, I think services that reduce the number of devices the customer needs. So a device where applications which allow customers to have their entertainment, allow them to do their work, allow them to find information

7 KP 1/09/2015 11:49

Yeah stuff, I think services that reduce the number of devices the customer needs. So a device where applications which allow customers to have their entertainment, allow them to do their work, allow them to find information

8 KP #####

I don't know, it's limited to imagination isn't it? I mean I think it's, what's the limit to human imagination? I don't think there is a limit and anything that we can think of we can actually do and delivery with the computing capability we have today

9 KP #####

New benefits, new use cases? If I could think of those I'd probably be a rich person.

10 KP #####

the older generation tend to use the device as they traditionally use it, it's a phone

11 KP 3/09/2015 11:45

think the business community are starting to use more and more features of it for their, to run their, to simplify their business. Like, for example, running things like email applications on your device so that you've got your email anywhere and everywhere, you're contactable anywhere and everywhere you go. They're putting, they're building smart apps to access their back end systems through the mobile network.

12 KP #####

Well one of the things that a mobile device like this is limited by is the amount of real estate on the screen that you have. However, given it's smaller, the quality of the screens can be so much better. I mean that one has got a NLED type screen, it's got a 8 megapixel camera, it's got a HD video capability to take HD video and playback HD video. Because the screen quality is so much better you can actually put a lot more stuff on it

13 KP #####

Mobile. Yeah it's available anywhere, it's available anywhere, anytime provided you've got access to the network and that's why you need a decent network. (laughter)

Reports\\Coding Summary By Node Report

Page 16 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

14 KP 9/08/2015 17:58

I think we have, I think with the availability of information it allows us to respond much faster, so it allows us to respond to our customers much faster. Our customers know that this technology is available, so our customers demand that we respond much faster.

15 KP 1/06/2015 12:23

I think applications that provide you access to services will be freely available, so if I want to buy a bus ticket, for example, or an airline ticket, the mobile applications that run on my phone will be freely, I can download those free because it's in the interest of the organisation to make those available to me.

16 KP 1/06/2015 12:23

I think applications that provide you access to services will be freely available, so if I want to buy a bus ticket, for example, or an airline ticket, the mobile applications that run on my phone will be freely, I can download those free because it's in the interest of the organisation to make those available to me.

17 KP #####

However, things like if I want to buy music, or I want to buy a movie ticket, for example, obviously I'm going to have to pay for the music because there's a certain amount of intellectual property that companies like the Telcos who need to charge for providing the plumbing. So

18 KP #####

However, things like if I want to buy music, or I want to buy a movie ticket, for example, obviously I'm going to have to pay for the music because there's a certain amount of intellectual property that companies like the Telcos who need to charge for providing the plumbing. So

19 KP 9/06/2015 13:14

Yeah, so I mean I look as myself as an individual, I'm more concerned about ensuring that I'm on the best network and I want to be able to use my phone anywhere and everywhere.

20 KP 9/06/2015 13:35

I don't want to go somewhere and then find I can't use my phone because I don't have access to a network. I want my email to work all the time, I need to make sure I'm contactable, so I need a reliable network, I need a reliable device,

21 KP 9/06/2015 13:37

I need a reliable device, I need a reliable service, so I'm prepared to pay for that.

22 KP #####

I think what drives innovation is the need, someone sees a need and then comes up with an idea to resolve an issue, so a problem and something and you come up with an answer to resolve the problem. I believe that's what drives innovation.

23 KP #####

I mean a lot of people come up with a lot of clever ideas but there's just no need for them,

Internals\\STUDY2DATA\\NZint5

Yes

0.299

31

1 KP #####

the most attractive one are free of charge, so that's why actually some of the services are very attractive 'cause it's free, so people they don't have to pay, that's a bonus

2 KP #####

the most attractive one are free of charge, so that's why actually some of the services are very attractive 'cause it's free, so people they don't have to pay, that's a bonus

3 KP 1/09/2015 11:52

seamless, so it's a service or it's something that you use but you don't really realise that you use it, so...

Reports\\Coding Summary By Node Report

Page 17 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

4 KP #####

Or sometimes like the last project that I worked with a museum in France it's a playful way of learning a piece of art, or an artefact somewhere in a museum, so it's adding some value. So rather than to read the long description, just take a picture with your flash card you've got a game and all of a sudden you get a sense of game and you learn something without realising, so

5 KP #####

So I would call that seamless, so you don't really see the service and you but it's something natural, more natural that goes between you and the service provided. So that's why it's so attractive, it's not complicated, it's very intuitive, you push here and there and all of a sudden you've got it

6 KP 9/06/2015 13:43

immediacy, so it's really there, right now. So for instance if you've got a service offered online you need to have access to a computer or something like that, but with mobile phone or tablets it's in your pocket pretty much.

So time efficiency

7 KP 9/06/2015 13:43

immediacy, so it's really there, right now. So for instance if you've got a service offered online you need to have access to a computer or something like that, but with mobile phone or tablets it's in your pocket pretty much.

So time efficiency

8 KP 1/09/2015 11:50

the takeaway effect. So ones with services provided you, quite often with mobile phone services they provide a social media platform so you've got a record somewhere, or its online somewhere you can engage with participants or you can get with friends.

9 KP 3/09/2015 11:45

there's another phenomenon as well, some people, some companies prefer the employee to have a mobile phone or smartphone because they've got an expectation for people to work 24/7 days. So all the seven or eight to five office time actually it's pretty much over with a smartphone.

So you expect people to check the app every so often and to check the emails, so there are some people they are in that sort of frame

10 KP #####

system for a nurse, when they go to see patient and when they do their injection they develop a special app for them to clock the time, to understand how many miles they've done in terms of measuring the costs, the efficiency of the travel of a trip to calculate the cost of the petrol

11 KP #####

And so there was a requirement now to be efficient, even a salesman will have a special app that's where we'd put all the data in and the output you need to start here and then to go six kilometres away here to see that person seven kilometres away with a dual location.

12 KP #####

There's some application made for blind people actually that need to be very precise to know where they are, what's going on, or elderly when they take their pills we need to click on that simple button, but that needs to be connected to the server very quickly as well.

13 KP 1/09/2015 12:28

And apparently one of my friends are working in a hospital told me as well that New Zealand is one of the pilots for medical information on mobile phone. So when a GP's called for an emergency now he can download on his phone pretty much a profile of the patient in front of him in one or two minutes and to see what sort of allergy he's got before to inject anything, so

14 KP 2/09/2015 14:10

Something I've done in a test last year to do live video and one of the things that I've learnt from that, that was a big mistake, people really need to go on the website to login to get a specific learning, a specific password, to create a special account number. That account number needs to be actually recorded within the app.

The app needed to be uploaded on the phone, they needed to logon to the app with a specific learning and password, but it was slightly different from the previous one. So I think the big thing is to make things simple, very simple, that's a big feature and one of the things that Apple did well with an iPhone is the touch screen

15 KP 1/06/2015 17:32

Well it depends on the quality of the service to be honest.

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				16	KP	1/06/2015 17:35
<p>fifteen songs so it's ten cents a song. You need to work out that sort of proportion, but for instance the tide (application that I was talking about there is a live version for free and I've got that one because it's good enough for me just to go swimming down the road.</p>						
				17	KP	1/06/2015 17:35
<p>fifteen songs so it's ten cents a song. You need to work out that sort of proportion, but for instance the tide (application that I was talking about there is a live version for free and I've got that one because it's good enough for me just to go swimming down the road.</p>						
				18	KP	#####
<p>But for boating if you want the pro version of that thing, I think the boating version is thirty New Zealand dollars, I think, twenty five. But I think it's very, very useful because you've got everything on that app for when you go sailing, fishing, you've got all the different layers of information</p>						
				19	KP	#####
<p>But for boating if you want the pro version of that thing, I think the boating version is thirty New Zealand dollars, I think, twenty five. But I think it's very, very useful because you've got everything on that app for when you go sailing, fishing, you've got all the different layers of information</p>						
				20	KP	#####
<p>Well Angry Bird there's a lot of people paying for Angry Bird now more and more because we want to play different levels because we've completed all the levels. Another application I know is used by, I think they had an increase of 50% last year of the membership, (intelligible, 0:26:39.5).</p>						
				21	KP	9/06/2015 13:50
<p>if you do a transaction to make a payment from your phone what you will expect from that service is to confirm that it has been done and well received, but that doesn't exist yet.</p>						
				22	KP	9/06/2015 13:51
<p>you will expect to get a text message for instance say forty eight hours later, thank you your transaction has been well received by your so and so,</p>						
				23	KP	1/09/2015 11:57

basically that operation will appear on your bank statement if you load on your account. Now just to get a SMS alert from your bank account just to say, well you need to set it up at the beginning any online payment that I will do I will get an automatic receipt.

24 KP 1/09/2015 11:57

and a text message, saying yes, Mr So and so has been paid, or you know,

25 KP 1/09/2015 11:57

unfortunately I had some payment that didn't go through for some reason and, but nobody told me.

26 KP 1/06/2015 15:52

I think it's, well first of all mainstream habits, the way the, how can I say this? It's mass behaviour okay, so sometimes a few things have been invented twenty years too early and they were not very well received or understood by the public or customers. So we say it's mass psychology or it's human factor, the main obstacle is the human mind but it will change

27 KP 7/09/2015 13:22

In respect of they are still a few things that we don't know how to handle. For instance, one of the key features well that was quite dated now five years ago, but Nokia did a survey and when they said, if there is one thing you want to improve about your mobile phone, what is it, only one? And statistically everybody said, I want my mobile phone to be waterproof and apparently there was a lot of men dropping their mobile phone into the toilet or people in the water.

28 KP 7/09/2015 13:22

But it's only free phone on the market they are totally waterproof so that thing is not waterproof at all 'cause it's too complicated and need to many things and once we've got those things, you can't chose the skin any more. So that sort of a technology glitch and it's quite heavy as well, so

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

29 KP #####

One of my friends is working on a project to teach Pilipinos English via thirty seconds sound track, like a ring tone. It's only two sentences in English and people repeat it and they can download as many sentences as they want on your phone and listen, they repeat and they learn English like that.

30 KP #####

I've seen a lot of people developing system that exist already, duplicate them from a geek aspect and I've seen people designing very weak things that has fantastic system behind and both of us, I think they don't work on the market, or they don't last very long, so it's a waste of time and energy

31 KP #####

It's not about developing one service, it's to be able to maintain it in the long term. For instance, using I can use a specific case study about LinkedIn. When they launch their first app that was okay, the second one the new update was constantly crashing.

But now we have I think version six of the app within two and a half years or three years I think, something like that, it will be two years and now it's very robust, it's very well designed and it's far better than the work site. So apparently they invested some money in development, but not only the technology development and the reliability, but also in the interface design and now both are working very well together.

Internals\\STUDY2DATA\\NZInt6

Yes

0.3444

32

1 KP 9/08/2015 17:56

Today mobile market is driven by consumerism not so much by business.

2 KP #####

, a lot of what we do is born from consumer pressure in the market, even for the businesses.

3 KP #####

, but my team, there's another group which is retail clients, they deal retail business to clients like yourselves, or individual users, right, or to my children or to your children and whatever else. But you are the ones who are actually driving the need for even business client, "This is what I want in my business service."

4 KP 3/09/2015 11:45

So from an attractive perspective, right now the attractive part of it is being able to utilise, from a business services perceptive, more accessibility to their back end systems through their mobile devices is something that seems to be highly attractive to clients

5 KP 9/06/2015 13:59

. Networking through that, collaborations through that, services that will help them collaborate, network, utilise their device both for professional and non professional areas.

6 KP #####

today you have an iPhone,

7 KP #####

Your personal choice. So your personal choice, now if you had to get it as a business phone I would have got maybe an ordinary four hundred dollar phone which I may not find it useful. So you are telling your employer, "I don't want you to give me a phone, I'll bring my phone, I want you to give me access to your network.

8 KP #####

my son, give him another three years from now, four years, when he is finished his university, I don't think he'll want anything but a smartphone in his hand for his banking, for his watch, for his business work, everything, he will not want anything more than this one device

9 KP #####

If you take it now the traditional customer groups are still looking at voice and data as the two basic requirements of a mobile requirement.

Reports\\Coding Summary By Node Report

Page 20 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

10 KP #####

traditional customer

11 KP #####

Some of them are slowly expanding towards being able to use, even if not being able to use a certain amount of business orientated, saying, "Can I access my files in my office, at least to view them, not to work with them but to view them," kind of stuff. "Can I access my network to see what I worked on, my shared folders and any like business , so can I do that?"

12 KP 3/09/2015 11:45

But now the next level which is the cloud environment that is coming into the IT side of the business is also taking mobiles into a completely different level. Mobiles is a complete revolution that's happening. What's happening is with the hybrid clouds available, my cloud, personal cloud, private cloud and a hybrid cloud, I'm able to access today I don't need any IT governance on my devices, I can access all three seamlessly, I can simultaneously do what I want.

So the user groups are changing, fundamentally there's a change in the user group. There's a traditionalist user group that is still looking at voice and things and there's a group that is thinking the only way going forward is devices that's going to set me free from the shackles of all that I have and I need that. It's not any more a question of choice it's a question of I want it, I need it, that's happening. So those are the two basic groups

13 KP #####

So the user groups are changing, fundamentally there's a change in the user group. There's a traditionalist user group that is still looking at voice and things

14 KP #####

So the user groups are changing, fundamentally there's a change in the user group.

15 KP #####

and there's a group that is thinking the only way going forward is devices that's going to set me free from the shackles of all that I have and I need that. It's not any more a question of choice it's a question of I want it, I need it, that's happening.

16 KP #####

features are never the value, it's the benefit of the feature that's more valuable. That's the difference in a professional job that I do to a lot of other sales people do, I don't sell features. Feature, for you too, what is the point of having a feature if it is not going to benefit you, anything that you have? So does that value add to you something?

17 KP #####

So if you look at it from a feature perspective about mobile payment is what the feature is, but what, so I tend to ask in business whether it is a customer or, oh it's a great feature, so I ask, so what? Until I get to a point there is no more "so what", this is why, you know?

18 KP #####

And then based on specialised services you take, depending on whether the mobile network operator is offering these services, or is an application provider offering the services, or is the system's company offering the services, you might have to pick and choose what applications you want and based on the complexity of what you want you may have to pay for those services.

19 KP 9/06/2015 14:02

So you are then at your liberty to choose the services you want, from who you want and pay who then is important, that is how the market is going to drive.

20 KP #####

People are not afraid to pay, what people wouldn't want to have is pay a fat bill for telephone for a mobile company

21 KP #####

People are not afraid to pay, what people wouldn't want to have is pay a fat bill for telephone for a mobile company

22 KP 1/09/2015 17:04

So my benefit is not only banking and paying through that, would I pay for that service? I don't want to pay for that service. A bank wants me to be faster, so he wants my transaction to go and the supermarket wants me to pay faster, they can renew the checkout people's costs, timing, all of that. So that level of time saving is what they're going to get from me by me doing that

Reports\\Coding Summary By Node Report

Page 21 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

23 KP 1/09/2015 17:04

So my benefit is not only banking and paying through that, would I pay for that service? I don't want to pay for that service. A bank wants me to be faster, so he wants my transaction to go and the supermarket wants me to pay faster, they can renew the checkout people's costs, timing, all of that. So that level of time saving is what they're going to get from me by me doing that

24 KP 9/08/2015 17:56

The consumers, a lot of consumers have wants and desires, that comes back to me the first question for the answer I told you, it's consumers that are driving the market and not the business.

25 KP 1/06/2015 12:39

So it's people like me and others and my children and your children who are all wanting these things to happen.

So the more it doesn't happen to them the less they go and buy or interact in the area they do.

26 KP 9/08/2015 17:58

They need it and they don't know how to ask for it but they tell in no uncertain manner, because at the end of the day consumers are not buying from people that they want to buy if that facility is not there. So their supplier, the vendor, the marketer, everything is losing out, so he's getting driven by the need of the consumer.

27 KP 9/08/2015 17:56

So there's a bunch of ten guys going out to drink in the evening as friends, eight of them, nine of them all drink beers but one person doesn't drink alcohol, I mean beer, he only drink spirits. So he says, "No I don't want to go to this pub because they don't have spirit."

These nine guys because they don't care where they drink their beer from, go to that pub, don't go to the pub they'd like to go to because there is no spirit in that pub, so they go to a place where there's spirits and beer available. Now that pub guy has lost business of those nine people when he shouldn't have lost those nine people's business right?

28 KP 9/08/2015 17:56

So what is he going to do? Either he is going to continue to stick on to it saying, "I don't want to do it." Or offer specific kinds of spirit to attract that one person so he doesn't lose the nine people. So that's the way the market is driven, so it's essentially the same thing that's happening in the application services, requirements for mobiles, requirements for consumerism and everything else. It's that one person in the big group that is driving the change.

29 KP 1/06/2015 16:02

Yes but that one person is not intentionally doing it, it's the other nine people noticing that and saying, "We also want."

30 KP #####

what the network operator can provide in terms of their backhaul systems in their networks. The obstacles are mostly technology restrictions, the limited capabilities of what a specific network can do at this point of time, or what a specific device can do at this time. So that's where they are still expanding on to.

31 KP 3/09/2015 9:35

All cell site are wired to a network, these are wireless, but from the base to this there's a wired system.

These are called backhauls, the more and more users get between these cell sites the more bigger pipe you need here. It's not so simple I mean, I'm putting it in very layman terms, there are several controllers that control different things, then the backhaul comes into play. So the more data requirements are there, voice is very minimal requirement, how many hour time you talk it's very little minimal bandwidth requirement, it's the data that requires bigger bandwidth.

So today Telecom in this country, as like in the AT&T in the USA and a few others in Telstra in Australia, have a backhaul of one gig pipe, just raw pipe from here to each one. One gig is more than sufficient for each, it probably will become five gigs in another two, three years, six years. Most ones like Vodafone and others have less than 250 meg backhaul. So what happens is when you're using ten services of a particular type on this network on the same device, iPhone, you'll find that you're able to reach Telecom network faster and feedback faster to you, because

5 KP 1/06/2015 16:02

I think it is where lots of projects underestimate is the need for connecting people in actual environments

6 KP #####

Interesting that actually was, some of the interesting things for mobile devices is that the innovation is no longer produced by big enterprises, by big companies, but by what we could call independent creators or rather networks of independent creators and sometimes user communities that's the whole idea of what happened to text messaging, what happened to mobile video. It's not driven by the industry but it's driven by the users of the, the people how have mobile technology

7 KP #####

Exactly the sort of development kits and with these sorts of development kits I can see that there is probably great potential to also use mobile devices in more localised settings. Such as whether it's the concerts, whether it's community groups, whether it's educational environment.

8 KP #####

If this technology becomes more accessible you don't have only the sort of soft tone element from the industry but you can also have some kind of services being developed from a more, I wouldn't want to call it grassroot level, but more from a ground level

9 KP #####

it's a bit of concern for a country that is so, it wants to drive innovation so much that some things, I mean isn't even for mobile Internet access but also for Internet access more generally that New Zealand seems to be a bit behind in totals of bandwidth speeds that you would accept in some other different countries.

Reports\\Coding Summary By Node Report

Page 23 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
Internals\\STUDY2DATA\\NZInt8		0.1563	30			

1 KP 9/08/2015 17:56

It's interesting, because there's that concept of consumerisation of IT that you hear about a lot now. And really the smartphone is, I suppose, the pinnacle of that consumerisation of IT. People wanting to use smartphones, happy to bring their own device into a business.

2 KP #####

Smartphones are embedded in our lives pretty much.

3 KP #####

I think as a consumer or customer, I think we all have similar requirements and expectations that apps will do things for us, entertain us, give us a little bit of improved personal productivity

4 KP #####

I think the requirements from a user's perspective I think is pretty standard, everyone is doing it for the same reasons. Having Facebook on their phone, having email on their phone, being able to browse the web on their phone, play Angry Birds, listen to music, all those sort of things I think are generic, consumer type requirements around a smartphone and data,

5 KP #####

I think, I'll use the term utility, I suppose really. If, any application, is the utility of it.

6 KP #####

The Maxx application to know where your bus is or, and I mean that's, it's all about utility and that's the really, I think in terms of valuable, the apps that you keep on your phone are probably the ones that offer the best level of utility, if that makes sense

7 KP #####

You tend to buy tens to hundreds of apps for your phone, and not all of them are on your phone, but the ones that are on your phone are typically the ones that

8 KP #####

You tend to buy tens to hundreds of apps for your phone, and not all of them are on your phone, but the ones that are on your phone are typically the ones that give you, either, 1) an emotional

9 KP #####

have high utility.

10 KP #####

Yep, I think as a carrier, I don't, I, in my time here, I don't think we've generally provided anything in terms of free. I think we made it accessible in terms of an introductory type scenario. If you take data as an example of one of those services that is going to drive the future in terms of mobility and smartphones, in say in that, I think in the prepay space I think we had like an offer of a dollar for ten megs of data, and that's really just to, it's to lower that sort of fear of trying something new.

11 KP 1/09/2015 13:33
I don't know if free, because when you make something free you take all value away from it and therefore people will either say, "Well it's free that means it, either it doesn't work or it's
"

12 KP 1/09/2015 13:33
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when you make something free you take all value away from it

Reports\\Coding Summary By Node Report

Page 24 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				14	KP	#####
when you make something free you take all value away from it						
				15	KP	#####
But I think if you sort of lower the risk in trying but still maintaining some value, is probably where it sits with us						
				16	KP	#####
But I think if you sort of lower the risk in trying but still maintaining some value, is probably where it sits with us						
I think when you make it free,				17	KP	#####

I think when you make it free	18	KP	#####
I think when you make it free,	19	KP	#####
I think when you make it free	20	KP	#####
it gets abused,	21	KP	#####
it gets abused,	22	KP	#####
people may not perceive value when it's free.	23	KP	#####
people may not perceive value when it's free.	24	KP	#####
developing applications is fraught and I think it's a case of learn as you go in terms of what's right and what's wrong. I think a big part of it is, was what I mentioned before, in terms of utility. You've got to think of utility as part of your, I suppose, conceptualisation of the innovation.	25	KP	9/06/2015 14:32
The user experience, what you think the customer expectation is. I think you have to put these intangibles at the front of thinking about application development and innovation, and park everything else, because I think everything else comes as an outcome of the right thinking up front.	26	KP	#####

27 KP #####

One of the things I've sort of picked up on is that if your app's not being used on a regular basis, it's going to get deleted off the phone, therefore all the work you've put into innovation and putting that app into the market and getting it out there, becomes null and void, because it disappears.

28 KP #####

So I think you have to think about that utility

Reports\\Coding Summary By Node Report

Page 25 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
-----------	----------------	----------	-----------------------------	------------------	-------------------	-------------

29 KP #####

that sort of user experience and what the customer's going to get out of it, before you think about maybe cost and ROI and everything else,

30 KP #####

In the space we work in here at Vodafone, we have customers who want to look at new ways of creating brand engagement or customer engagement, for example, and a lot of the thinking now is around smartphones and applications. But I think there needs to be more thought into what the application is and how it's going to be used. There's a construct of gamification

Internals\\STUDY2DATA\\NZInt9

Yes 0.2296 54

1 KP #####

in the banking space, the service that is most attractive and most used is checking my balance. So I can tell you very specifically what that is because it makes up over 90% of all our interactions.

Now there's a couple of reasons why that's the case, 1) is that you always want to check your balance before you do anything else, because whether you're paying a bill or whatever, you want to make sure there's enough money. So checking your balance is the, is a prerequisite to other types of interactions.

2 KP 9/06/2015 14:44

One is around, in essence, convenience, which is really obvious but very much translates directly into time saving. So if I can check my balance on my phone in sixty seconds or less and it takes me two to three minutes to do so online and two to four minutes to do so over the phone, then I'll always go to the mobile device. So there's an immediacy and time saving. So convenience very much translates into time for our customers across our research

3 KP 9/06/2015 14:46

for our customers across our research.

4 KP 9/06/2015 14:46

the second thing is allowing things that you couldn't do before.

5 KP #####

To some extent. So some banks do offer it on the PC, where you can use your scanner. But just the user experience and the,

6 KP #####

if you're talking about functionality, then it's always going to be, as I said, checking your balance, for the reasons that I alluded to. One is people like knowing their balance and secondly people want to know their balance before they do anything else.

7 KP #####

Anything that saves them time, so checking your balance on your phone is faster than checking your balance at an ATM or over telephone banking.

8 KP #####

I think it's just much more about the intimacy and the familiarity associated with a device, which you could argue is technology, but actually it's just because it's a device that's in your pocket. It's not 'cause of technology, the technology's neither better nor, in the convenience side, neither, it's definitely not better than my computer which I'm using right now. It just happens to be in my pocket and so it feels easier and more accessible.

9 KP #####

The, of course sometimes they have to pay data services and text messaging charges and things like that to the mobile operators, so there are

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				10	KP	#####
			The, of course sometimes they have to pay data services and text messaging charges and things like that to the mobile operators, so there are			
			(unintelligible, 0:17:14.3)	11	KP	#####
			Not necessarily to the bank. Do services adopt, does the fact it's not free make an impact? So let me give you an example, one of our big customers US Bank and the US charges fifty cents per deposit on the mobile phone. And they, without getting into the specifics, there's no material difference in terms of levels of adoption and usage between them and other financial institutions	12	KP	#####
			Not necessarily to the bank. Do services adopt, does the fact it's not free make an impact? So let me give you an example, one of our big customers US Bank and the US charges fifty cents per deposit on the mobile phone. And they, without getting into the specifics, there's no material difference in terms of levels of adoption and usage between them and other financial institutions	13	KP	#####
			But I think for the basics, if you think about the foundational versus transformational, I think for foundational we absolutely do see a difference. So a good example, we've got a couple of customers in Asia who do charge for basic services and they definitely don't see the same level of usage for the foundational stuff, but for the transformation...	14	KP	2/09/2015 12:14
			Exactly, because you could go somewhere, they'll use another channel that is free, so why would you?	15	KP	#####
			Exactly, because you could go somewhere, they'll use another channel that is free, so why would you?	16	KP	#####
				17	KP	#####

Whereas things that you can't do elsewhere like check deposits and location based offers and other things, then people are, might be prepared to pay something.

18 KP #####

Whereas things that you can't do elsewhere like check deposits and location based offers and other things, then people are, might be prepared to pay something.

19 KP #####

we have pretty good data,

20 KP #####

if you think about the reasons why people don't use mobile banking, there's two very obvious primary reasons. One is they don't see value,

21 KP #####

So that's why they don't use it

22 KP #####

For the ones that do use it, the biggest factor or source of dissatisfaction is around speed

23 KP 9/06/2015 14:55

Which you could argue is ease of use as well. So basically the people who do use it, basically say, "It's good, but it's not easy"

Reports\\Coding Summary By Node Report

Page 27 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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24 KP 9/06/2015 14:56

It's good, but it's not

25 KP 9/06/2015 14:56

fast enough."

Researcher

So speed is an expectation for the quality of the service

26 KP 9/06/2015 14:56

NZINT9

Correct, yep.

27 KP 9/06/2015 14:59

Whereas the ones that use it, obviously understand the value proposition. They're not that concerned about security, but actually just want more speed.

28 KP 9/06/2015 15:00

the other thing that changes consumer perception once they are actually adopted, is around a requirement for availability, reliability, and robustness. So I've talked about speed, but basically they view mobile as a twenty-four by seven channel and they don't really tolerate very well when things are broken in some way.

29 KP 9/08/2015 17:58

And I think the other thing that's unique about mobile

30 KP 9/06/2015 15:02

And I think the other thing that's unique about mobile compared to other channels today, is the expectation around the user experience

31 KP 9/08/2015 17:58

is

32 KP 9/08/2015 17:58

the democracy around that. So I mean if you just look on iTunes or on Google Play, consumers will put comments up and they have very much high expectations.

33 KP #####

So consumers don't have very high expectations when they call a call centre of a bank, but when they download the app of a bank they have very high expectations

34 KP 9/06/2015 15:18

actually it's quite interesting. As I said to you, the biggest factor when we go and test with consumers, "What do you want?" Existing users, they don't ask for new features, they ask for faster

35 KP 9/06/2015 15:19

actually it's quite interesting. As I said to you, the biggest factor when we go and test with consumers, "What do you want?" Existing users, they don't ask for new features, they ask for

36 KP 9/06/2015 15:19

easier

37 KP #####

if you go and sample a hundred users of mobile banking services, probably eighty of them will tell you, "I'm happy with what I've got, I just want it to be

38 KP 9/06/2015 15:20

if you go and sample a hundred users of mobile banking services, probably eighty of them will tell you, "I'm happy with what I've got, I just want it to be easier

Reports\\Coding Summary By Node Report

Page 28 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
				39	KP	9/06/2015 15:24
if you go and sample a hundred users of mobile banking services,				40	KP	#####
faster.						

41 KP 9/06/2015 15:24

Whereas, okay twenty might say, "Yeah, I want new, I want new feature A or new feature B."

42 KP 9/06/2015 15:24

Clearly we have to keep innovating and that's what I do do, but the reality is, if you listen to existing users, they just want faster and easier.

43 KP 9/06/2015 15:25

And I think that's actually where real innovation will happen, is how do you make banking services easier and faster?

44 KP #####

let me give you an example that I'm working on at the moment. So we've got a customer who wants to do loan extensions via mobile. And the online world today, you have to fill in a form with eighty-something fields. Like your name, your address, your social security number. And people within mobile just simply won't do that and the real question from consumers is, "Why does my bank need all that stuff, they already have it?"

And actually there's only three fields that you need to fill in, which is how much, what are you trying to buy, well how much money do you want to borrow, how much additional money do you want to borrow, what is it for, and do you understand our terms, basically. And so it's changing, so again this goes back to speed.

So there's nothing new about a loan application, but what mobile is going to force is this efficiency of speed and simplicity. So the innovative, lending money is not innovative, there's nothing innovative about it, but today if you go to the bank they make you fill out these ridiculous forms and your question as a consumer is, "This is a waste of my time, you guys are idiots."

45 KP 9/06/2015 15:25

And so that's I think what's changing. So when I talk about, my view of innovations, is enabling those things, making existing stuff easier and faster,

46 KP #####

And so that's I think what's changing.

47 KP #####

So when I talk about, my view of innovations, is enabling those things, making existing stuff easier and faster, not kind of coming up with this kind of weird and wacky stuff. There will be a role for those things, but I think that's not primary.

48 KP #####

Well banks, back to your point, banking is an established industry. There's reasons, I mean people will always want to store money, borrow money, save money, and pay for stuff. That's not going to change. Those needs aren't going to change, they just want it to be safer, easier, and faster. I mean that's pretty much it. But no one has any, when you think about payments, you don't really think of any other dimension other than easier, faster, or safer, those are the only three dimensions.

49 KP #####

So I'd start off by saying that adoption of mobile financial services is somewhere between five and ten times what anyone expected five years ago. So if you talk about adoption, we really don't have an adoption problem. I think that's my starting point. I mean I can't, there's not a single customer of ours that doesn't tell us, "I can't believe how well it's going," from an adoption

50 KP 2/06/2015 6:53

And the other is that the value proposition, so a lot of people kind of see, "I don't really, I do online banking today or I'm happy with a call centre, why do I need mobile banking?"

Reports\\Coding Summary By Node Report

Page 29 of 30

15/10/2015 18:02

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
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51 KP #####

So age is part of it, but I, as a digital, I guess the biggest thing is whether you're a digital native or not. I do not use physical services, I do not want them, so I'm a digital native.

52 KP 7/09/2015 13:43

You know, why do I want the Yahoo, Telecom Xtra Yahoo application on my phone? I don't, they're providing content, I don't need that from them, I don't want it. I want to get my content from who I choose to.

53 KP 7/09/2015 12:09

But that's what comes with the territory. You deliver people what they want, therefore they listen to you and therefore you can guide them, if you don't give people what they want and therefore you don't listen to them.

I mean, as I said, BNZ doesn't give me what I want, therefore I actually don't really care, I have no loyalty to BNZ, therefore they have no real ability to shape my requirements. Whereas if I had lots of loyalty to BNZ then they would have an opportunity to shape my requirements about what to expect from a bank. So it's a vicious, it's a virtuous or vicious cycle.

54

KP

7/09/2015 12:09

they're consumer expectations

APPENDIX Z. STUDY 2: MEMBER CHECK DATA

Notes for the reader:

1. The text below describes the three principal themes that emerged as a result of the thematic analysis of the interview data (the terms used is “global themes”).
2. The analysis involved creating a hierarchy of codes and themes – that is why each global theme is described as a combination of two or more “organizing themes”.
3. Each theme synthesizes meanings extracted from all 13 interviews.
4. The descriptions below are researcher generated interpretations; the supporting interview data is stored in an nVivo project file.
5. The reader(as a research participant) is asked to comment on these descriptions – do they seem plausible, is there a missing point , or does anything needs to be removed, or any other comments such as strong agreement or disagreement on points made.

Global theme “Vendors, operators compete”

Global theme “Vendors, operators compete” encompassed two organizing themes: COMPETITION, and ENABLING COMPETITION. This global theme was about the perceived characteristics of the service development environment created by the interactions of the stakeholders involved. Its main point was that there was uncertainty around the future of the players in the mobile services market exacerbated by the emergence of a global device/platform provider duopoly.

According to organizing theme COMPETITION competing device vendors promoted different development platforms; the resulting platform fragmentation was an impediment to service provision. As the mobile services market was driven by smart phone penetration device vendors were able to impose development restrictions, for example limit the ability of other parties to control how devices functioned. Furthermore the global environment was becoming a virtual duopoly with the two big device vendors/platform providers competing to establish their product (device and platform) as the market leader for popular services and thus “lock in” service developers, providers and customers; to achieve their goals the two dominant vendors put a strong emphasis on customer orientation and provided incentives for developing apps/services for their platforms – thus promoting the benefits of their new devices/platforms.

These vendors may even threaten the viability of MNOs in data network provision (by providing an affordable WiFi network, for example) thus adding to the pressure MNOs were already under: MNOs had to compete to stay relevant on the market and to ensure profit to shareholders, while their ROI had eroded due in part to the introduction of competition encouraging legislation. MNOs could benefit from mobile service use (as smart devices were becoming more affordable) if they invested in developing their data networks in order to support data intensive mobile services with a reliable and fast network, and develop synergies with other players: due in part to the aggressive promotion strategies of device vendors, customers were now choosing device rather than network providers, and MNOs had to consider all choices customers made.

However despite its “cutthroat” nature the competition was limited as the country size could not allow for too many operators; therefore MNOs continued to control mobile data prices (for example using plan bundling) and were not particularly interested in supporting application and service development by third party developers. Rather than service developers and providers MNOs were seen as potential mobile service enablers (e.g., providing location data, authenticating customers, providing mPayment services).

According to organizing theme ENABLING COMPETITION the New Zealand regulatory environment was not restrictive to content development, with existing regulations around security and privacy already protecting customers and customer rights. However while supportive of mobile service development (as customers tended to adopt services they perceived as safe to use) small local service developers may find it hard to compete because of increased compliance costs. As it was likely that in the future New Zealand customers would use imported services future regulatory provisions would need to facilitate service import while providing adequate privacy and security protection to New Zealand customers, and attract global service provider to “set camp” here rather than encourage competition. Similarly while the bandwidth regulations already in place provided “best deal” for customers they had a negative impact on infrastructures’ owners ROI and income. In response MNOs limited their investment in infrastructure ownership and development; future legislation would need to make adequate provisions for sustained growth.

Global theme “Service providers face challenges”

Global theme “Service providers face challenges” encompassed two organizing themes: HOW TO INNOVATE, and HOW TO REACH CUSTOMERS. In this global theme participants talked about new service development, and its drivers and challenges. The main point was that new services were developed by trial and error rather than by following a clear roadmap as the opportunities offered by the mobile channel and its potential was yet to be fully understood.

In organizing theme HOW TO INNOVATE participants felt that although it had become easier to develop and customize applications it was still difficult to identify and develop and offer new services: there were different perspectives on how services needed to be provided, and innovative development was running on a “test it” basis, without a clear roadmap. A conflict was identified: On one side, technology innovation provided new opportunities that could be used to develop innovative services, in this way technology served as a driver for new and innovative service development. On the other technology was developing at a fast pace and often there was not enough time to test the market with a new business model – often unrealistic business models as service developers were not well attuned to customer expectations and needs. This introduced uncertainty about the outcomes of innovative services adoption and use by customers, exposing service developers and providers to a financial risk. As a result service developers and providers followed competitors’ lead to develop and provide competed to provide “the same” service that had been proved to be valuable and less risky, such as mobile banking (more like a secondary service channel rather than a truly innovative service). A barrier to innovation was also the need to continue to develop existing services in order to meet changing customer requirements however not all service providers were used to such a fast pace (e.g., business with established business models such as banks). Some service developers were looking for new opportunities such as exporting services to developing economies where the market was perceived as an easier to penetrate and innovate.

According to organizing theme HOW TO REACH CUSTOMERS the success of a service depended on the pricing model and the tradeoff offered to customers; free services were seen as a way to attract more customers and create the critical mass needed before collecting any revenue. Participants talked about how to develop, promote and maintain a successful service.

Service development was driven by the interplay of several factors. First mobile device ownership has reached extremely high levels and may become a service development driver as people wanted to use their devices. Second service development was driven by technology progress: the new and unique features of mobile devices provided an opportunity to invent and develop new and unique mobile services that could not be performed using a non mobile device. Examples included authentication through GPS/data network, other LBS that require geopositioning as a built in capability, services around the use of NFS (already used for payment services). A third factor was related to the existence of multiple customer market segments, each with its own specific customer needs and requirements. A new service needed to be aligned with precisely identified target market, for example customer segments formed along demographic characteristics (younger vs older customers), socio- economic status (may affect service affordability), occupation, earlier experience.

As far as service adoption was concerned, one of the challenges to providers was to have customers try a service for the first time. Customer awareness of new services needed to be raised as customers tended to adopt services they had some knowledge and understanding about. Services recommended and/or used by friends/members of extended social circles were likely to be trialed depending on perceptions about the trustworthiness of the recommender or the provider as customers were highly concerned with how safe to use a service was. Second it was needed to provide additional incentives to motivate continuous use by creating a supportive environment (e.g., affordable use of phones overseas, free wireless zones in rural communities, merchants set up to accept mPayment).

Global theme “Customers drive service development”

Global theme “Customers drive service development” encompassed three organizing themes: CUSTOMER NEEDS, CUSTOMER DECISIONS, and CUSTOMER PARTICIPATION. In this global theme participants talked about perceived customer expectations and requirements and the role of customers as drivers of service development. The main point was that customers were well informed, therefore their requirements and expectations needed to be considered; customers had a significant input through feedback and co-participation.

According to organizing theme CUSTOMER NEEDS customers were attracted by services that enhanced their lifestyle quality by making life easier, were simple to use and functioned seamlessly. Customers requirements included convenient and helpful (not just useful) services, and services that supported mobility (especially important as business/work and personal life had started merging location- and timewise.). To this end customers would adopt services that met a need they were aware of. Of the serviced thy adopted customers had high expectations: services were expected to meet the individual's personal goals and needs, to be easy to use, to support interaction and staying connected (staying connected was highlighted by participants as an important expectation related to the mobile device's core capability of being always connected to a network). As customers were used to having options and making informed decisions

when choosing a service they expected the same with mobile services. Finally customers still expected to be offered at least some free services (especially as the cost of access to the data network was still perceived as high) - for example services that were part of a larger, not-for-free service system such as mobile banking. However free services were also regarded with caution because of perceptions about hidden cost and inadequate quality (free services may get abused and inhibit investment, leading to lack of value).

According to organizing theme CUSTOMER DECISIONS customer attitude towards free vs paid services was changing and customers were more prepared to adopt and even pay for "value" as the decision to adopt a service depended on how clear the value proposition was (clear benefits); customers wanted real and measurable value, not just features and saw benefits in services that proposed to surpass existing non-mobile alternatives, or were unique; and promised a pleasurable, engaging and enriching experience. Once in use the overall service value was judged by the quality of the performance of the device and the network performance quality, and by the quality of the service experience. Customers expected high service performance in terms of speed, reliability, and always/anywhere availability – even more so as mobile services became more part of every day life. However the speed of the data network was not always adequate (possibly due to slow infrastructure growth rate); the user experience was not always pleasurable either due to the use of the inherently slow Web protocol (HTTP) and limitations pertinent to mobile devices (small screen, operating system limitations).

According to organizing theme CUSTOMER PARTICIPATION customers were perceived as somewhat conservative in the way they used new technology, and somewhat distrustful of innovation. However customers were interested in new services if they suited their needs (e. g., mobile banking, or services that offered connectivity with others, or entertainment services). Customer preferences and were changing and customers were difficult to predict however technology enabled customers to provide FEEDBACK which they were happy to do. Service providers valued and relied on customer feedback as it made it possible to gauge customer demand and develop and offer services meeting inferred customer requirements, expectations and preferences. Customer role as feedback provider was very important – it created value for service providers by allowing to fine-tune the value proposition, and created value for customers when a much needed service was offered. In addition customers had become active participants in the value creation process as the technology empowered them to develop and deliver content, and become service co-creators.

