

Investigating mobile payment technologies as a replacement for cash/EFTPOS transactions

Bo Wang

A thesis submitted to
Auckland University of Technology
in partial fulfilment of the requirements for the degree
of
Master of Computer and Information Sciences (MCIS)

2012

School of Computing and Mathematical Sciences


Table of Contents

Table of Contents	1
List of Figures	2
List of Tables	3
Attestation of Authorship	4
Acknowledgement	5
Abstract.....	6
Chapter 1. Introduction	8
1.1 Mobile Services	8
1.2 M-Payment	9
1.3 Research Aim	11
1.4 Thesis Outline.....	12
1.5 Summary	12
Chapter 2. Literature Review	13
2.1 M-payment Research.....	13
2.2 SME Decision Making.....	17
2.3 Mobile Service Adoption Model	18
2.4 Summary	22
Chapter 3. Research Design and Methodology	23
3.1 Research Approach	24
3.2 Research Design	25
3.3 Data Collection	27
3.4 Data Analysis	28
3.5 Analysis Framework	29
3.6 Ethics	37
3.7 Summary	37
Chapter 4. Findings and Analysis	39
4.1 Background of the Participants.....	39
4.2 Data Analysis and Results	42
4.3 Summary	53
Chapter 5. Further Analysis and Discussion.....	54
5.1 Factors Derived from Relevant Literature	56
5.1.1 Consumer Related Factors	57
5.1.2 Merchant Related Factors.....	59

5.2 Emerging Factors.....	64
5.2.1 Consumer Related Factors	64
5.2.2 Merchant Related Factors.....	65
5.4 Summary	70
Chapter 6. Summary and Conclusion.....	71
6.1 Method	71
6.2 Findings	72
6.3 Research Aim and Questions	74
6.4 Implications.....	75
6.5 Contribution	75
6.6 Limitations.....	76
6.7 Summary	76
References	78
Appendices.....	85
Appendix A – Interview Questions.....	85
Appendix B – Participant Invitation Letter.....	87
Appendix C – Participant Consent Form	89
Appendix D – Interview Transcripts.....	90
Pilot Interview	90
Interview 1	100
Interview 2	107
Interview 3	118
Interview 4	127
Interview 5	136
Interview 6	144
Interview 7	151
Interview 8	158
Appendix E – Ethical Approval	164
Appendix F – Reformated Data (available only on request).....	

List of Figures

<i>Figure 1.1</i> Retail M-Payment Workflow (Source: Author).....	11
<i>Figure 2.1</i> M-Payment Service Value Chain (Adapted from: Smith, Markendahl, and Andersson (2010)).....	14

<i>Figure 2.2</i> M-payment Framework of Factors (adapted from: Dahlberg, Mallat, Ondrus and Zmijewska (2008))	16
<i>Figure 2.3</i> Prerequisites, drivers and barriers related to M-Payment Merchant's Adoption (Adapted from: Mallat and Tuunainen (2005)).....	20
<i>Figure 3.1</i> Research Process (Source: Author).....	23
<i>Figure 4.1</i> Location of the businesses that are interviewed for this study, marked with  (Source: Author).....	41

List of Tables

Table 2.1.....	22
Table 3.1.....	26
Table 3.2.....	31
Table 4.1.....	41
Table 4.2.....	43
Table 4.3.....	46
Table 4.4.....	47
Table 4.5.....	50
Table 5.1.....	54
Table 5.2.....	55
Table 6.1.....	72
Table 6.2.....	73

Attestation of Authorship

'I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person or material which has been accepted for the qualification of any other degree or diploma of a university or other institute of higher learning.'

A handwritten signature in grey ink, appearing to be 'Bo Wang', with stylized loops and a large circular flourish at the end.

Bo Wang

28/04/2012

Acknowledgement

First of all, I would like to thank my thesis supervisor, Krassie Petrova, for her patience, guidance, and tremendous support throughout the process of this research study. The selected research topic 'Investigating of mobile payment adoption as a replacement for cash/EFTPOS transaction' is appealing and the qualitative research approach taken in this study has been also very interesting and challenging. It improved my research skills and increased my research knowledge throughout this research project. What I have achieved and learned from this research project may assist my career development in the near future. It allows me to form a foundation from which to pursue bigger goals in life.

I would like to thank those who gave valuable time and participated in the interviews. The information provided was extremely useful for the completion of my study. I enjoyed my interactions with interviewees at a personal level and was glad to be able to collect their thoughts on the research subject. Although I cannot name the participants in my study, I am grateful for their friendly and patient participation.

Lastly, special thanks to Mr. Gordon Grimsey for being extremely helpful with resolving IT related issues including getting Nvivo 9 up and running in the lab.

This research study was approved by the Auckland University of Technology Ethics Committee on 21 June 2011 AUTECH Reference number 11/120.

Abstract

Due to the increasing popularity of smart phones, mobile payment (m-payment) is now a reality which is about to transform consumers' daily activities such as paying for purchases in retail. For this new technology to become successful in mainstream New Zealand, it is important for the local industry stakeholders to gain in-depth understanding of retailers' motives to adopt and validate its suitability as a replacement for cash/EFTPOS.

This thesis aims at providing answers to two research questions, what are the factors that motivate retailers for m-payment within the retail industry and what are the challenges they might face when implementing an m-payment system. This study uses a qualitative approach for data collection and analysis. A series of face to face interviews are conducted with retailers from the area of Auckland CBD in which they expressed their opinion towards the subject in accordance to their business environment. Data collected in the interviews are analysed using content analysis techniques. A code schema is developed based on the review of relevant literature and is used to extract meanings from data. The outcome of the research identifies the factors that influence the m-payment adoption in retailer industry and enhances the understanding of the challenges perceived by retailers.

The findings indicate that there is a general acceptance of m-payment in the New Zealand retail businesses. Merchants' adoption of m-payment is motivated by the needs of consumers and by business related factors. The needs of customers for m-payment as an m-payment system or application are related to their demographics, background and attitude towards m-payment. This study also finds that lack of knowledge and competition from existing payment technology are the major challenges facing retailers. Those are important factors that could prevent retailers from adopting for m-payment in their business.

M-payment is found to be suitable as a replacement for cash/EFTPOS transactions. However, substantial efforts by service providers are required to promote the product as public awareness is low. This study contributes to the body of knowledge in the area as a very limited number of studies have focused on retail merchants and the empirical

investigation of the attitudes of this particular stakeholder group (small retail merchants). It also provides valuable insights into the perception of m-payment by local retail business environment in Auckland, New Zealand.

Chapter 1. Introduction

Due to the rapid increase in mobile phone ownership and the mobile phone hardware capabilities, personal mobile devices have become a vital part of people's everyday life. These devices have the potential to transform the ways of conducting common commercial activities. Mobile phones already serve as a replacement for many familiar devices such as cameras and SAT NAV (satellite navigation) systems. Multi-functional mobile phones eliminate the need for users to own (at a cost) and carry around a number of separate devices. Batchelor (2008) suggests that because of the immediate availability of mobile phones in the hands of many, they are being considered commercially viable instruments for carrying out various types of activities, especially financial transactions. More recently, mobile phones have facilitated financial transactions in the public service and retail industries, and have been seen in several emerging Asian economies. It is expected that the growth of mobile payment (m-payment) will double in the next few years (Hamblen, 2009). As more and more consumers are equipped with m-payment ready mobile phones, retailers may need to start considering adding m-payment to the available payment options. Since m-payment provides a number of benefits such as speed, convenience and payment for service or goods independent of time and location, it is expected to grow to \$10 billion revenue by 2010 (Rouibah, 2009).

1.1 Mobile Services

From the perspective of mobile commerce research, m-payment can be considered an 'enabling' mobile service (m-service) that is a product of interactions between stakeholders in the supply chain (Petrova & MacDonell, 2010). Intensive studies have been carried out in areas such as m-learning, m-payment and m-gaming. These are formed based on the service value chain, and those often involve network operators, software developers and service content developers right through to the end user. In the domain of mobile service, mobile devices along with mobile networks ensure client-side transaction authentication and encryption.

Other research literature in the area of mobile service adoption, including m-payment, suggests that mobile devices may be the driving force behind the next digital revolution where commercial activities can be carried out whenever and wherever. It may be expected that mobile commerce and m-payment technologies will have a

significant impact and may transform the way everyday purchases and payment for product and services are carried out. Therefore, providing a systematic understanding of end user attitude and motivating factors towards the m-payment technology is critical for determining the adoption success.

When considering m-payment as a specific application of m-service, Gódor, Faigl, and Szalay (2009) state that industry standardisation is a key factor in the wide adoption and that secured transaction are an absolute must have for m-payment. On the other hand, Xinyan, Wei, and Tingjie (2009) claim that market demand accompanied by retail merchant provides the base for m-payment adoption. Hence it is important for us to get the full picture of the drivers and motivators for m-payment adoption in the retail industry.

1.2 M-Payment

M-payment as a specific technology application has been gaining wide attention in the retail industry. According to Xinyan et. al. (2009) m-payment can be defined as a way of payment in which payment transaction is delivered via a wireless network to the mobile device. They also state that this payment technology has been recently introduced in many areas where products and services are offered, including digital content, ticketing, transport fares, parking fees and vending and POS terminals. M-payment transactions take place over varied radio communication protocols such as Short Messaging Service (SMS), Near Field Communication (NFC) and with security encryption of different levels (Bangdao & Roscoe, 2011). Several products based on those technologies have been released in the New Zealand market. For instance, TXT-A-PARK is an established payment method using SMS as the data exchange service which is widely available from council-owned car parks. It provides an alternative and convenient option for customers who are unable to pay using either cash or credit card. SMS is the medium for several other mobile services, such as advertising, voting, ticketing (Mehra, 2009). These services utilising this communication technology have a significant issue with perceived security and trust by the consumers (Smith, Markendahl, & Andersson, 2010). Wave and pay, on the other hand, relies on NFC which requires mobile phones as well as terminals to be equipped with additional NFC capable hardware. NFC works by touching the mobile phone towards the object in which it wants to communicate with, in the case of m-payment, it is a payment

terminal. This technology has been used in commercial practises in the form of electronic coupons and posters in some parts of the world. (Michahelles, Thiesse, Schmidt, & Williams, 2007).

The market for m-payment service has expanded rapidly. Petrova (2008) pointed out that the global market for m-payment is expected to rise to US\$150 billion in 2012 with a dramatic increase of the transaction volume outside mature market such as Japan. Xinyan et al. (2009) claim that this phenomenon happened because the consumer demands meet the merchant participation which then generates public adoption. They also emphasise the importance of understanding the motivations behind those two groups in the service chain. The paper uses a Chinese market study that shows that the market for m-payment technology is expanding beyond early adopters such as Japan. Not only is the market expanding, but the ways people use it is also changing. The study gives evidence about how this technology has been introduced in other types of everyday services where m-payment facility has become available.

There have not been enough studies concentrated on the use of m-payment technology in New Zealand despite the fact that overseas m-payment applications have been in trial and have been adopted for commercial use. Electric Fund Transfer at Point of Sale (EFTPOS) terminals currently dominate the local payment technology market locally and are used by 90% of the population for purchasing at retail outlets. It provides a number of benefits such as unlimited amount of cash available at the time of purchase, ease of administration and reduced the need to store cash at the premises (EFTPOS NZ Limited, 2002). This is not the case with m-payment enabled systems. R. R. Dholakia and Dholakia (2004) show that m-payment adoption in New Zealand is limited by adoption of mobile phones which is among the lowest in comparison to the rest of the world. More recently, it appears that m-payment is gaining some traction and banking groups supported by credit card providers have shown sign of embracing the technology nationwide. According to TVNZ (2011), commercial trials have been conducted in New Zealand retail outlets and Taxi cab companies by MasterCard and the ANZ banking group.

1.3 Research Aim

This study attempts to answer the question whether retail business operators perceive m-payment as suitable and appealing as a replacement technology for cash/EFTPOS transactions, and if they are willing to accept and use m-payment systems in their daily operation as a way to pay for goods and services where cash and/or EFTPOS are currently used. This can be achieved by identifying and examining the factors influencing retailer decision making with respect to m-payment adoption, and the challenges faced by retail decision makers when it comes to system implementation. *Figure 1.1* illustrates the conceptual workflow of m-payment used in retail. It shows the different groups of participants in the m-payment supply chain, including retailers, mobile network operators, payment service providers and banks.

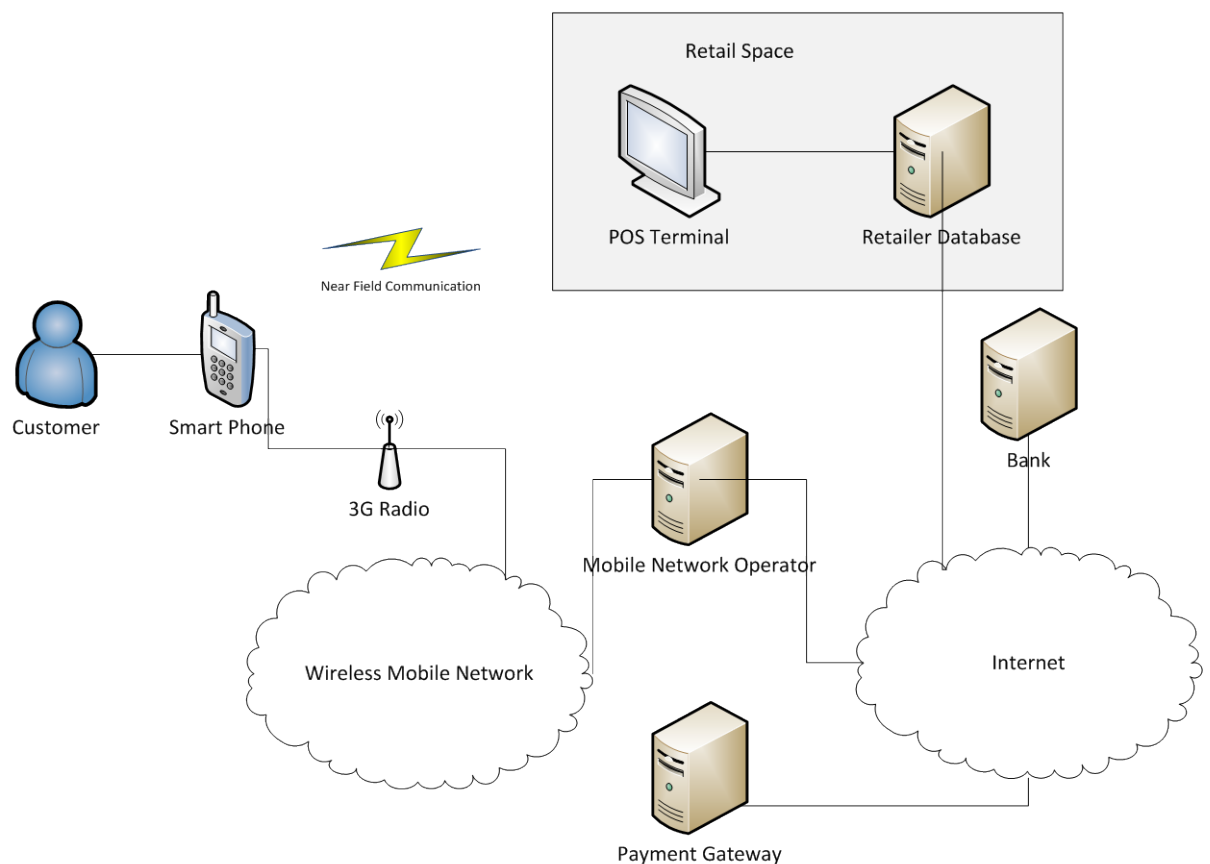


Figure 1.1 Retail M-Payment Workflow (Source: Author)

This thesis draws on the knowledge gained from the literature. It incorporates a comprehensive literature review in which it identifies a research model, methodology, and approaches to study the motivators for technology adoption, and more specifically, for the adoption of m-payment technologies. A qualitative approach is adopted and

semi-structured interview technique is used to address the research questions. Variables outlined in technology adoption model (TAM) and the exploratory theory model proposed in Petrova and MacDonell (2010) are included into the analysis process. The findings are then analysed in the context of mobile services adoption. Since a very limited number of studies have focused on the empirical investigation of the attitudes towards retailers in New Zealand, the outcome of this research may enrich the body of knowledge in the area of m-payment adoption, particularly in the context of New Zealand retail market. The findings also address research the questions and lead to conclusions about the motivational factors that drive retail business adoption for m-payment.

1.4 Thesis Outline

This thesis consists of six chapters. The first chapter introduces the background of the topic area, explains the reasons for selecting this topic and provides an introduction to the methodology used for data collection and analysis. Chapter 2 provides an overview of mobile service and m-payment technology adoption based on a literature review. Chapter 3 outlines the main research objective, research instruments, data collection and research methodology and conducts qualitative data analysis. Chapter 4 presents the findings of data analysed. Chapter 5 includes a discussion of the research findings based on the data analysis. Chapter 6 concludes the thesis with a summary of results, identifies limitations of the study and suggests improvements for future research in the area.

1.5 Summary

This chapter gives an overview of the current trend of using m-payment in retail and outlines mobile services adoption factors identified by several research papers. M-payment and the related technologies are also introduced. It then explains the research aim and focuses on suitable conceptual models. It also provides a general outline of the thesis structure.

Chapter 2. Literature Review

In order to draw from past experiences and formulate a research approach for this study, a literature review is conducted on the topics of mobile service adoption, m-payment adoption and decision making in Small to Medium Enterprises (SME).

Reviewed research articles are selected from highly credible online databases as well as from recent journal publications related to the topic of mobile services and m-payment adoptions. Studies in the area of SME decision making are also reviewed because of their relevancy to retail merchant attitudes towards m-payment adoption. This chapter outlines the research landscape in the area of mobile service adoption and m-payment in particular. It goes into depth synthesizing the ideas and research models proposed by several authors in the field. It aims to discover knowledge in the subject area accumulated to the present day, and to identify the details of those research implementations, relative impairments of the approach and to suggest possible avenues to explore and expand further the area of m-payment adoption. As stated in the previous chapter, prior research studies on mobile services and m-payment adoption form the theoretical foundation of this study. It pays particular attention to the methodology used in several studies that focus on adoption drivers and motivators. In addition to mobile services and m-payment studies, relevant literature in the field of SME behaviour and decision making is reviewed extensively and the relationships of those with m-payment technology adoption are tested.

2.1 M-payment Research

The role of paper-based money has changed significantly over the last few decades and so does the perception of money. It is less relevant to value money in real unit terms today, but rather it is increasingly a tool used in evaluation of services and goods (Khan & Craig-Lees, 2009). M-payment becomes feasible largely due to the availability of mobile internet and commerce (Mallat, 2007). M-payment is considered to be a specific application of mobile services; its importance has been affirmed by parties involved in the mobile commerce (m-commerce) environment. M-payment differs from other m-commerce services, has its own issues and characteristics and so far the focus of stakeholders has been on technical specification rather than on customer requirement (R. R. Dholakia & Dholakia, 2004).

Gódor et al. (2009) defines m-payment as

“... as the process of two parties exchanging financial values using a mobile device in return for goods or services.”

The study of Petrova (2008) views m-payment as an enabling service where monetary values are attached to the data exchange within the mobile network. It suggests that key shareholders such as consumers, retailers and mobile network operators form the drivers for m-payment adoption. *Figure 2.1*, adapted from Smith, Markendahl, and Andersson (2010), demonstrates the dynamics in the relationships of m-payment service value chain.

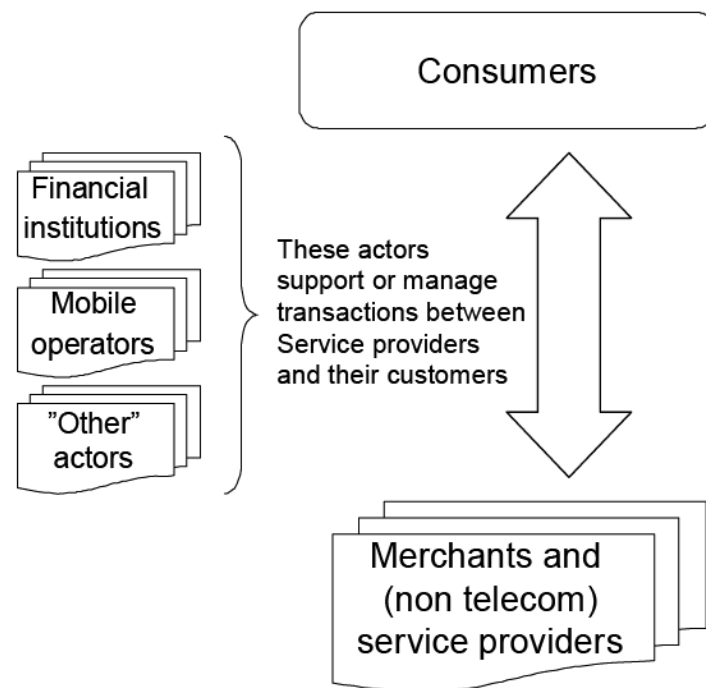


Figure 2.1 M-Payment Service Value Chain (Adapted from: Smith, Markendahl, and Andersson (2010))

Xinyan et al. (2009) support these definitions presented above and further specifies that the transaction has to be carried out via the wireless network electronically. The study focuses on the adoption issues related to two particular groups of stakeholders, namely consumer and merchants in China. It conducts quantitative and qualitative investigations of six common usage scenarios with actual consumers such as mobile online purchases, on-site consumption, phone recharge, transportation fares, public utilities and ticketing. The survey results suggest that m-payment usage in China in all those six areas is low with the highest usage of 44% for paying mobile credit recharge. The findings show that the motivation of factors for m-payment is painless operations, transaction security and time saving. Concerns that hold consumers back are also

identified as lack of knowledge of the service on offer as well as lack of instructions on how to use the service. Another important factor revealed in this research is that people do not use m-payment because they do not use mobile service in general. However, the study also shows that the current mobile network operators in China are interested to gain market competitive advantages by using m-payment technology because some commercial institutions indicated that m-payment technology contributes towards the growth of their business.

An early study conducted in Europe by Kreyer, Pousttchi, and Turowski (2002) finds that cost, security and convenience tend to be the factors that lead to consumer acceptance of m-payment. It claims that from the 16500 users surveyed, most indicated general acceptance of payment technology. The important fact emerging from this study is that people who have previously used electronic banking are most likely to accept m-payment.

According to a recent study from Australia (Thair, Luo & Peter, 2010), the majority of m-payment adoption researchers have ignored examining the actual utilisation of mobile services that have been offered to consumers. This paper evaluates consumer attitudes to m-payment in comparison to other popular payment mechanisms such as PayPal through the use of online survey. The survey is designed with constructs such as confidentiality, cost, control, ease of use and trust and usefulness. It finds that m-payment enhances consumer intention to purchase. It also has an impact on the level of trust and confidence in the purchase. It claims that m-payment is a better option in comparison to other popular online payment options. The authors conclude that m-payment is also an attractive payment method for online shoppers and retailers.

Tomi and Anssi (2007) studied the population of Finland for intentions to use m-payment regularly. They claim that so far m-payment has failed to live up to consumer expectations due to lack of understanding of consumer payment habits. Bradford and Hayashi (2007) in a study of Japanese m-payment market indicated that there has been large mass deployment of POS terminals with contactless payment technology by mobile network operators. It also suggests that Integrated Circuit (IC) based m-payment Point of Sale (POS) terminals have already been in use in South Korea since 2003. This trend is expected to increase due to more operators following suit. It is

becoming increasingly important for business and researchers to understand the consumer behaviour towards m-payment. In contrast, a very limited number of research papers exist in New Zealand that could help m-payment business to reach diffusion. People have largely left out the mobile commerce trend due to lack of supportive mobile operators. The consumers in this market have been sensitive to usage charge, it is believed that those consumers accepts the extra charge for m-payment depending on the type of activity and urgency (Viehland & Leong, 2010)

This view is confirmed in a different study in which the usage of m-payment is extended to everyday purchases. It states that m-payment could be made as a replacement for cash at retail POS terminals (Mallat, Rossi, & Tuunainen, 2004). This paper further claims that m-payment can be divided into two types of payments: micro-payment and macro-payment; paying for physical goods at a POS terminal is considered to be macro-payment where key stakeholders such as a bank play both the role of solution provider as well as the product promoter. Another study from also from Australia by Zmijewska, Lawrence, and Steele (2004), looks at consumer behaviour towards m-payment and suggests that although traditional TAM has been seen as a suitable method for analysing user acceptance, it does not address specific characteristics. A new set of user acceptance factors have been proposed including ease of use, usefulness, mobility, cost, trust and expressiveness.

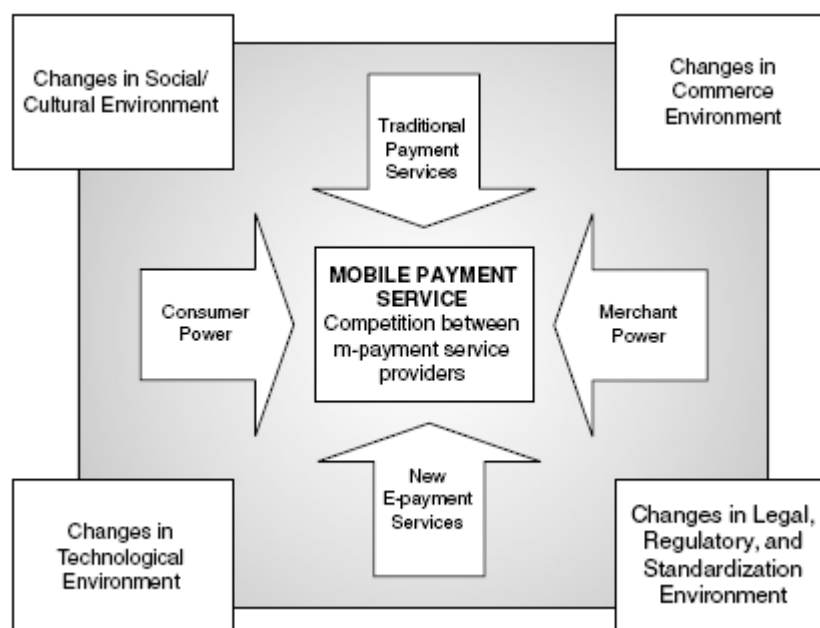


Figure 2.2 M-payment Framework of Factors (adapted from: Dahlberg, Mallat, Ondrus and Zmijewska (2008))

Series of research papers centred on m-payment adoption published by leading researchers indicated that apart from traditional stakeholders being the drivers of m-payment adoption, external factors such as changes in technology, regulatory, cultural and commercial environment can also have a significant impact on the adoption process (*Figure 2.2*). Furthermore, lack of standardisation in m-payment technology is becoming a roadblock to mass adoption (Godbole & Pais, 2008). Apart from technology, some other factors such as the different cultural environment could also leads to different assumptions about m-payment, hence different motives to use the service (Rouibah, 2009). In the study of Pau (2009), banks are not only the financial provider but also appear to be the service operators in m-payment service chain which is common in many cases. The regulatory needs have been identified as a pre-condition to ensure the growth of the mobile banking services due the involvement of user privacy. According to the study conducted in Smith et al. (2010), commercial environment and interoperability between commercial institutions determine the level of trust that goes in the m-payment system.

Culture and lifestyle differences also play a role in the attitudes towards m-payment. There have been sufficient studies in the international scene but not enough are conducted locally within New Zealand. (Dahlberg, Mallat, Ondrus, & Zmijewska, 2008). Rouibah (2009) from Kuwait surveyed 232 students for attitudes towards using m-payment to pay for goods and services. Almost two thirds of the respondents were female. This indicates that there is a difference in responses from different genders. According to Dholakia and Dholakia (2004), most of the studies about m-payment technology have been focused on markets such as Asia, America and Europe. The application of m-payment in New Zealand is limited to m-banking via the use of SMS and Wireless Service Protocol (WSP) (N. Dholakia, Rask, & Dholakia, 2008). In an older study done in neighbouring country Australia, on the other hand, has had m-payments trials in the past, but it is far from being accessible in people's everyday life. (Teo, Fraunholz, & Unnithan, 2005).

2.2 SME Decision Making

SMEs have their own needs and concerns when it comes to technology adoption. According to Riemenschneider (2003), small businesses take up more than half of the economy in the US, and it is not understood well when it comes to technology

adoption. Hospitality services are a major group of SMEs that operate under tight budget and heavily rely on the quality of their service to attract customers. Wang and Qualls (2007) argue that many SMEs in the hospitality industry are very dependent on technology for better sales performance and efficiency. Often it is a complex process to get new technology to flourish in SMEs in the hospitality industry. Existing business structure and processes also influence decision making related to m-payment.

The following study identifies a couple of important factors that drive SMEs to technology adoption. According to Jukic, Jukic, and Velasco (2009), continuous pressure for cost cutting strategies is a critical driver for technology adoption. It expands the idea further by suggesting that information system changes are initiated often by the business process. Apart from the factors within the organization itself, social judgement plays a large role in understanding and shaping consumers behaviour in the hospitality industry. People adopting new ways of doing things due to the influence of their peers (Dhir, 1987).

Riemenschneider (2003) studied the adoption models in small businesses and formed a conclusion based on two established adoption theories Theory of Planned Behaviour (TPB) and Technology Acceptance Model (TAM). It uses web technology as an example and looks at the perceived benefit of web presence versus potential obstacles being seen by small business executives. Subsequently, it concludes that improved social interaction is one of the reasons behind IT adoption in small businesses. A different study that focuses on organisation decision making theories and adoption success, states that the process of adoption or implementation of a new technology does not necessarily contribute towards the success of such technology (H. Chen, Chen, & Tsai, 2002). The study uses questionnaires to survey company employees and concludes that organizational fit contributes towards the success of adoption. Results of this study show that resistance from the organisation does not have an impact on the organizational fit. The process of implementation of a new technology always results in changes of the organisational structure and resources.

2.3 Mobile Service Adoption Model

In order to study mobile service adoption, it is necessary to review the research models developed by well-known researchers in the field. This section identifies and discusses research models from several research papers and tests their suitability for

studying mobile service adoption process. Furthermore, several research papers regarding the definitions of mobile services are included and their research models are examined for effectiveness in studying mobile service adoptions.

“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” (Petrova & MacDonell, 2010).

The study by Petrova and MacDonell (2010) outlines the elements and relationships which form the foundation of commercial mobile services. It further suggests that existing literature does not consider the interrelationships within the service value chain. The authors consider technology adoption as a process of combining mobile technology product with demands from the service value chain. Because of that, this study proposes a research model that could overcome gaps exist in TAM and TPB.

In an earlier study by Petrova (2008), an explanatory model was put to the test. The study reaches the conclusion that it could be suitable to study groups of stakeholders such as retailers and consumers. As stated in some earlier research papers, it defines the relationship between different variables. Meade and Rabelo (2004) believes that the consumer plays an important role in technology adoption and suggest that consumers to be classified in groups each with different needs and reactions to technological innovations. The paper further emphasises on the problems caused by not finding the product position in its adoption life cycle. A different study conducted in Germany found that consumer acceptance is the key to the success of m-payment. It pointed out that m-payment system adoption by consumers is influenced by factors such as use scenarios, security, costs, convenience and functionality requirements (Pousttchi & Zenker, 2003). On the other hand, merchants as a primary group of stakeholders in the m-payment supply chain have not been studied sufficiently as claimed by Mallat and Tuunainen (2005). The paper suggests that reduced cost and convenience of sales of products and services are main drivers for adoption by merchants. A subsequent empirical study was carried out using interviews and a survey, based on these factors as constructs. It found that most of the participants, who had a prior knowledge about m-payment, were more likely to accept m-payment.

More importantly, the study identifies the prerequisites, drivers and barriers related to merchant adoption of m-payment and the results are shown in *Figure 2.3* below.

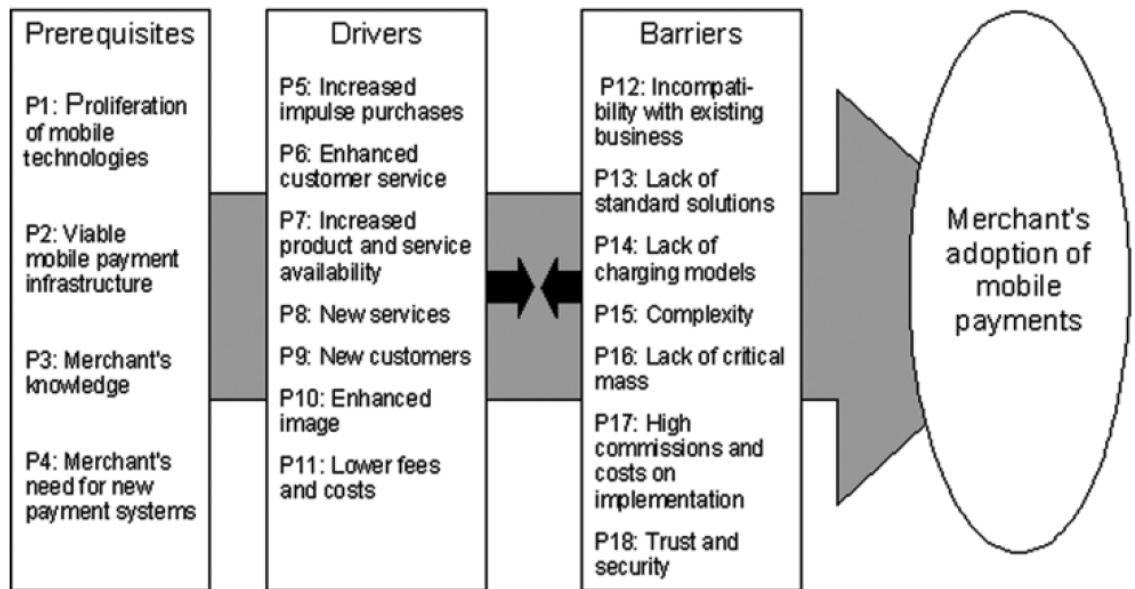


Figure 2.3 Prerequisites, drivers and barriers related to M-Payment Merchant's Adoption (Adapted from: Mallat and Tuunainen (2005))

Markendahl, and Andersson (2010) claim the research model used in this study identifies the key stakeholder categories and focuses on characteristics that influence payment technology adoption. It suggests that mobile service adoption factors can be explored using a combination of two methodologies, namely design science and service science. Subsequently, this study first identifies mobile service market characteristics, stakeholder groups and relationships between parties and presents a complete service value chain using empirical studies. Then, using its proposed research model, the study is able to carry out the investigation and concludes that the research model is capable of delivering better understanding for all parties involved in the value chain, hence it helps stakeholders to develop viable and successful mobile service. On the other hand, Verkasalo (2009) offers a different view and believes that no empirical approach exists at the moment to really test the adoption theories with real world data. It studied the four main categories in adoption theories, and conducted an analysis based on statistics collected from real world user mobile phones using Path Analysis Model (PAM). The result is compared with data collected via questionnaires. The conclusion is that not all intentions identified in the questionnaires are fulfilled by actual usage and people who indicated the intention for using certain services do have

a higher chance of using them in practise. It emphasises on the need to obtain user opinions and usage statistics in order to understand the real drivers behind mobile service adoption.

It is evident that adoption theories and frameworks such as TAM are commonly used in a number of studies and are believed to be the most suited approach to studying mobile service adoption. Chen (2004) supports TAM and combines it with Innovation Diffusion Theory (IDT) for adoption studies. This believed to lead to the most suitable approach explaining the factors and determinants of technology adoption. The study defines TAM as a framework that emphasises on perceived usefulness and perceived ease of use, and those as the determinants for technology acceptance by the end user. A different study conducted by Venkatesh, Davis and Morris (2007), argues that TAM represents a human psychological process in which a series of reasoned actions take place. It suggests that TAM and its extension theories has superiority over other competing research models to be used in technology adoption because it has been widely used and fine-tuned.

Consequently, Wang and Qualls (2007) confirmed the importance of identifying the present stage in adoption life cycle. They claim that TAM captures the internal and external factors influence the adoption behaviour. It further suggests that existing IT framework can be one of the biggest barriers for new technology adoption. This includes the limitations of existing IT infrastructure, lack of product standards and insufficient analysis done to prove the actual return on investment. This study also points out that individual perceptions about benefit and ease of adoption are also keys to the decision making process. Petrova and Mehra (2010) argue that adoption models such as TAM are not suited for all scenarios in adoption studies. They suggest that the subjects being studied in those models had beliefs or perceptions that have influence the m-payment adoption. However, this study pays less attention to those potential adopters who have never come in close contact with the technology. The study confirms that the perceived ease of use considered by TAM a have direct impact on the perceived usefulness.

Despite TAM being considered as a suitable framework for technology adoption studies, the use of IDT along with it is being continuously questioned. According to Hsu,

Lai, and Weng (2008), the IDT model pays special attention to effects of social channels where the innovation is promoted from and it chains the perceived attributes of innovation by individuals directly affect the rate of the adoption. Dearing (2009) claims that the IDT model demonstrates that diffusion of innovation occurs when voluntary adoption is being considered by the majority as consequential. It goes further to suggest that the process of diffusion actually is a process of social change and is largely mathematically predictable. TAM, TPB and IDT models have significant weaknesses as although it explains well the intention of use for a particular mobile product or service, they are not good predictors for actual and continuous usage. (Petrova & MacDonell, 2010).

2.4 Summary

<p>Table 2.1</p> <p><i>Factors in Literature Review</i></p>	
Factors for IT adoption	References
Culture	Mallat (2007); Khan and Craig-Lees (2009); Dahlberg et al. (2008); Rouibah (2009); Dholakia and Dholakia (2004); Tomi and Anssi (2007); Dhir (1987); CHEN, CHEN, and TSAI (2002)
Technology	Dholakia and Dholakia (2004); Gódor et al. (2009); Petrova (2008); Dahlberg et al., (2008); Bradford and Hayashi (2007)
Commerce	Mallat and Tuunainen (2005); Xinyan et al. (2009); Luo, and Peter (2010); Mallat, Rossi, and Tuunainen (2004); Pau (2009); Smith et al. (2010); Wang and Qualls (2007); Jukic, Jukic, and Velasco (2009); Riemenschneider (2003)
Standardization	Pousttchi and Zenker (2003); Kreyer, Pousttchi, and Turowski (2002); Godbole and Pais (2008)

This chapter presents an overview of mobile service definition and adoption models adopted by several of researchers. It pays special attention to research model frameworks used in the area of m-payment. Table 2.1 shows literature reviewed in this study can be divided and associated with four elements of the IT adoption framework. The chapter also reviews some of the relevant studies and examines theories in the area of SME behaviour and decision making which is essential for forming the research design. It pays particular attention to the well-established international research studies and concludes that there is a need for m-payment research domestically here in New Zealand targeting small retail merchants and their customers.

Chapter 3. Research Design and Methodology

In this chapter, the research questions are formulated and a research model as part of the overall methodology is introduced. It also explains the methods used to collect and analysis data. Those are derived as part of the study's research design. This study attempts to answer the following research questions.

- RQ1. Identify the factors which drive retail shop owners demand for m-payment systems.
- RQ2. Identify retail shop owners' perceived challenges when it comes to adoption and implementation of m-payment.

Based on the findings of the literature review presented in Chapter 2, an empirical study using qualitative data from interviews is conducted. It is aimed at investigating the key factors and challenges that influence m-payment adoption in retail as a possible replacement for cash/EFTPOS transactions in New Zealand. *Figure 3.1* below presents the steps taken in the process of this research study.

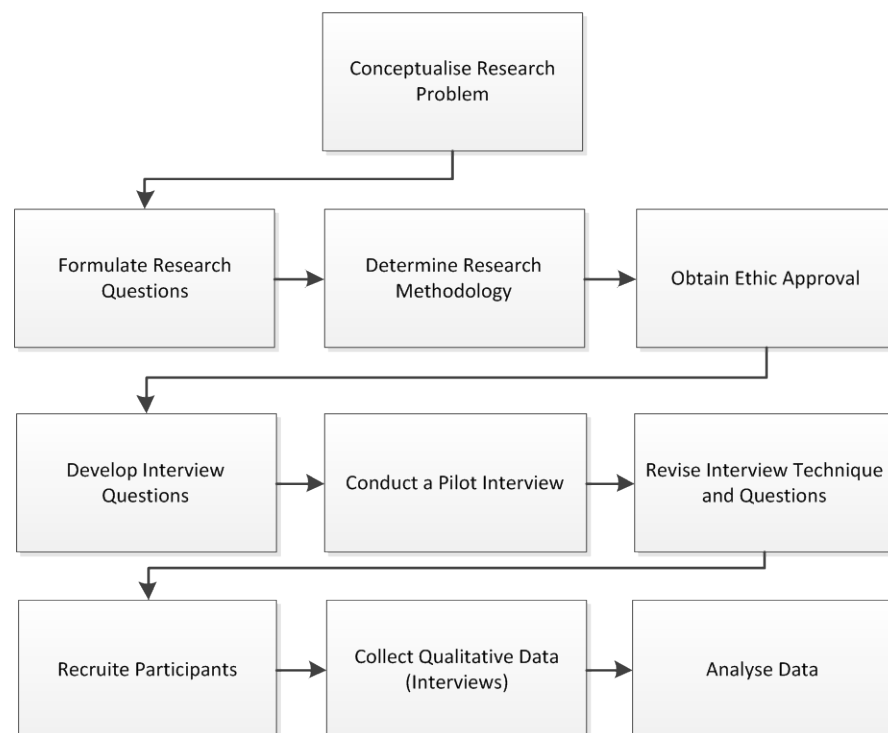


Figure 3.1 Research Process (Source: Author)

3.1 Research Approach

The Interpretivist paradigm is adopted as the guiding philosophy for this thesis according to that paradigm reality exists socially and it also advocates paying attention to the meaning people give to social phenomena. Several studies reviewed in Chapter 2 suggest that the process of technology adoption is considered a social phenomenon. Additionally, this paradigm suits well the objective of this research because it focuses on the perceptions of retailers and their understanding of the influential factors and challenges for m-payment adoption. In contrast, the positivistic paradigm which is the other alternative philosophy that focuses on reality, believes that reality is external to the social environment it is in. (Schutt, 2006, p. 42)

In accordance with the Interpretivist approach taken in this study, the use of interview questions as the research instrument is considered appropriate. Therefore, data collected in the interview will be processed and analysed qualitatively. The data collection process uses semi-structured face to face interviews. Data collection based on semi-structured interviews based is considered more successful when gathering information relates to retailers attitudes to m-payment adoption. It allows the participant to express their opinion on the subject in depth, whereas surveys are limited to a set of predefined answers (Clark, Jeffrey, & Stephenson, 2000). On the other hand, quantitative mail surveys sent directly to retail businesses do not always end up with a meaningful result and also tends to show a very low response rate (London & Dommeyer, 1990).

In addition, a qualitative approach allows closer observation of the business to be carried out, which cannot be done if using a survey as a research instrument. The study by Sherif and Vinze (2003), confirms the above. They state that qualitative approach is particularly suitable to technology adoption studies where constraints and barriers are the centre of focus. Hussey and Hussey (1997, pp. 248-249), add further to the reasons for using qualitative approach in technology adoption studies and claims the analysis of the subjective data gathered from interactive interviews provides a rich basis for drawing theories related to the topic of the research and its objectives. In another book on the subject of qualitative study, Taylor and Bogdan (1998, p. 136) suggest that qualitative studies most often try to interpret social life beyond individuals and their surroundings. Researchers interact with participants to gather descriptive data and

interpret meanings to form their theories. An example of this type of study is given by Blaikie (2000, p. 297), outlines a sample research design which is aimed at finding the motivations for given social phenomena. It uses qualitative data collected from in-depth interviews with participants to form theories address the research questions. It also demonstrated the process in which qualitative data reduction and analysis is carried out.

3.2 Research Design

The research design is driven by qualitative methodology and is conceptually guided by recent comprehensive literature review presented by Mallat (2007). The basis of the research design for this thesis is informed by a literature review of the current research in m-payment adoptability. Subsequently, research questions are formed based on some previously proposed research frameworks. From here, revisions of these research questions are made according to the contemporary context of research subject as well as advices received from thesis supervisor. The research questions are then formulated and finalised. Interview questions are developed based on the research model. Recruitment of interview participants came after the research design phrase.

This study adopts semi-structured interviews as the research instrument. According to Schutt (2006, p. 309), interviews are designed to gather information about people thoughts and feelings towards the subject. In the case of this study, the interview based instrument fits the research objective well because it targets people's attitudes and perceptions of the technology adoption. Interviews can be classified into three main categories: open, semi-structured and structured. Interviews are conducted between the person who asks a question (interviewer) and the person who responds (interviewee). Interviewers' role is to pose the questions and explore interviewees thought process in relation to the research questions. Interviewees are actually participants in the meaning-making process of a qualitative study as oppose to only being the retrieval of information (DiCicco-Bloom & Crabtree, 2006). The difference between unstructured to semi-structured interviews is that semi-structured interviews uses questionnaire format, and the questions are mostly closed questions. It is beneficial to qualitative data collection because it gathers richer information than paper-based survey. It also gives the participants a sense of being personal, open and

vocal, therefore, it encourages interactions and helps with developing in-depth interviews (Whiting, 2008).

Main questions must be prepared for semi-structured interviews and they need to be brief and straight forward for the participant to understand (Schutt, 2006, p. 314). A digital recorder is used in those interviews to record the conversation. There are 10 main questions developed for this research in which four factors are assessed concerning demand, efficiency, technology and affordability. The full set of interview questions can be found in appendix A. The interviewer poses interview questions to the respondent according to the order in the questionnaire, adjustments, follow up or illustrative questions depend on the level of engagement from the respondent. This allows the interviewer to be fully engaged in the conversation without distractions. Table 3.1 shows how the interview questions relate to research questions.

Table 3.1 <i>Relationship between Research Questions and Interview questions</i>	
Research Questions	Interview Questions
RQ1	Q1,Q2,Q7,Q9,Q1,Q6,Q8
RQ2	Q1,Q2,Q3,Q5,Q10,Q3,Q4

Before interview questions can be assured to all participants, a pilot interview is first run to test the validity of the questions as well as interview techniques. The pilot interview is conducted with a food retail operator to test the suitability of the questions and the responses from the interviewee. The transcript of this pilot interview is analysed and assessment the level of engagement is assessed during each stage of the interview including question comprehension, exploration, co-operative and participation phase. Less meaningful answers such as “Yes” or “No” are identified and further interview techniques such as probes and follow up questions are introduced to gather deeper meanings in later interviews.

During the pilot interview, the interviewee shows difficulties when asked to respond to questions related to business decision making. The result also contains significant amount of information on the perceptions of the current EFTPOS system and problems they have had to deal with as a result of system inadequacies, however, there is less information related to the factors that drive m-payment acceptance. This is evident

from the analysis of the transcript. Several reasons are considered for explaining this. Firstly, operators are less likely to give meaningful response to decision making related questions due to lack of business financial insights. Secondly, insufficient number of non-directive probes or follow up questions is added to the main question to obtain deeper and quality answers from the interviewee. This leads the researcher to improve interview techniques and shift focus from the original intended interviewing group consists of operators and owners to solely owners in subsequent interviews.

3.3 Data Collection

Social contacts and mailed invitations are both used in order to attract retail business owners and operators. The participants are approached individually by an invitation letter. This is available in the Appendices section under Appendix B. The participant information sheets are handed to those who have shown interest in taking part. The information sheet contains the relevant information about the research and is given to participants at the beginning. Appointments are made to visit them at a time that is convenient for them. The location is usually their store, but it could be moved to a café nearby if appropriate. Consent forms are given to the participants at the time of the interview and collected during the 'warm up' period of the interview. A copy of the consent form is available in Appendix C. Some personal information is also collected from each participant including name, job title, business name and address and staff number.

To protect the anonymity of the participants, the written reports based on data analysis (e.g. the thesis and any other publications resulting from it) refer to the participants by a code, and to the category to which their respective business belongs to (e.g. food retail). Furthermore, the individual participant is not aware of the identities of the rest of the participants. To protect the confidentiality of the participants the researcher keeps all records stored in a designated location, separate from the consent forms, and does not allow access to the data to anyone else. Some questions related to business practice could be seen as sensitive by interviewees. And they have the right to decline answering such questions. The interviewer adapts the interview instrument to accommodate such sensitivities as they occur. General road safety issues are identified as hazards to the researcher as this research project involves visiting retail shops in Queen Street during business hours. The interviews are

conducted either on the retail premises or in public area such as a café. Finally, a series of qualitative analysis took place on the data collected from retail owners/operators.

Nine interviews are conducted at eight retail premises. The participants are invited based on considerations about their nature (SME- retailers), location (Auckland CBD), and prime time traffic those are busy retailers with high foot traffic, primarily attracting customers who are likely to be active mobile phone users, for example professionals working in the CBD and university students. For the scope of this study, only businesses engaged in food and beverage retail are invited because it is pointed out in a European study that SME in the food and beverage category have a greater need for ICT products (Vlachos, 2011). Approaching this type of businesses ensures a manageable size for this research. It is difficult to gain access to businesses that meet the criteria and are also willing to give up some of their valuable time for this research study. The response from visiting retail outlets in person and from mailed research invitations is very low. As a result of the low response rate, most of the participants except one lunch bar shop in this study are sourced using personal contacts.

The participants who have agreed to take part in the research are interviewed at their location at a time that suits them. The interviews are conducted using a semi-structured format. The interviews are recorded as audio clips. The average length of the interviews is 28 minutes. Some personal information is collected from each participant including name, job title, and age during the warm-up stage. The interview sessions took place over a period of two month, with the last interview concluded in late October 2011.

3.4 Data Analysis

“In qualitative research, data collection and analysis go hand in hand.” (Taylor & Bogdan, 1998, p. 141)

Theories and interpretations are constructed through observation and in-depth semi structured interviewing. Coding becomes an important step once the data is collected. Researchers refine the understanding of the subject during this process. Schutt (2006, p. 289) shares a view that qualitative research design involves collecting data, describing data and requires the researcher to form connections between different data segment and draws interpretations.

According to Saunders, Lewis, and Thornhill (2009, p. 480), qualitative data is defined as non-numeric and is a product of research strategies. They suggest that qualitative data need to be analysed to form theories. In this study the process of sorting and analysing qualitative data into relationships and categories is carried out by using conventional content analysis method. The coding process is then completed using the quantitative analysis tool Nvivo 9.

According to Lakeman (2008), Nvivo provides a computer-assisted platform for analysing qualitative data. Content data and coding schema are loaded into Nvivo separately, the author iterated through the content data looking for meaningful themes and phrases those matches appropriate code from the coding schema. In order to determine adoption motivators and detractors, a coding schema is applied to the answers of interview questions (question by question) using conventional coding techniques, and based on the analysis of the themes emerging from frequently appearing phrases and important expressions by participants. The code schema is outlined in the next chapter. Some interview notes are used to assist interpreting the findings. The result of the analysis allows obtaining an in-depth understanding of the expectations of the retail industry (merchants), and also their business requirements and some viability factors.

3.5 Analysis Framework

This study uses conventional content analysis for qualitative data analysis. It utilises a set of research findings developed by some existing studies as an analysis framework, from which a coding schema is derived. This framework introduces four major elements that influence the m-payment services market, namely: traditional payment services, new e-payment services, consumer and merchant power. This study focuses on the last two groups as the interviewed participants are shop owners, therefore, perceived factors by merchants from their customers' perspective are relevant to the aim of this study. This coding schema is used in this study for qualitative coding and analysis.

Among the research articles reviewed in Chapter 2, the author chose the paper by Mallat (2007) as a starting point because it covers existing studies on m-payment and their research models quite extensively. Furthermore, the author also looked at research published after 2007 in order to identify studies that have significant

relevance to merchant and consumer groups. Those factors are extracted and listed in Table 3.2. This table contains the information about the codes used in the research and explanations of their meaning according to their source. Another column identifies the code in relation to consumer power (CP) or merchant power (MP). Additionally, codes are also marked as possible drivers and detractors. This is to help with better organisation of codes and to assist with the analysis in the next chapter.

The theoretical underpinnings of this research include technology adoption theories and decision making theories; contextually the theories are applied in the SME domain. Dahlberg et al. (2008) is included into the guiding framework because it proposes a conceptual model that creates a suitable framework for studying m-payment adoption model and its factors, especially from merchant perspective. Mallat (2007), Xinyan et al. (2009) and Mallat, Rossi, and Tuunainen (2004) also provide their point of view from the same angle but based on empirical studies and are considered to be good theoretical additions. On the other hand, there are also a few studies that focus on factors that drive m-payment adoption from consumer perspective. Those include Luo and Peter (2010), Tomi and Anssi (2007), Pousttchi and Zenker (2003) and Mallat and Tuunainen (2005). In particular, Mallat and Tuunainen (2005) studied both merchants and consumers as the two sides of m-payment adoption and confirmed that adoption can only occur when the two sides join the adoption process simultaneously. They point out that m-payment as a service is offered via a third party such as banks, network operators and is adopted by consumers and merchants.

The factors identified in the studies mentioned above are assigned to one of the two CP and MP as these represent retail business owners' attitude towards m-payment adoption. Most business owners believe what their customers want is what they want, therefore, perceived consumer factors also contributes to the research objective which is focused on factors and challenges facing merchants.

Table 3.2

Coding Schema

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
Relative advantage ¹	M-payment provides consumers with ubiquitous payment possibilities, timely access to financial assets and an alternative to cash payments.	MP		Yes
Compatibility ¹	The compatibility of m-payment with consumers' purchase transactions and habits is correspondingly expected to impact the adoption.	MP	Yes	
Complexity ¹	Typical limitations include small keypads, limited transmission speeds and memory, and short battery life. All these add complexity to m-payment for ordinary users.	MP	Yes	
Network ¹	M-payment represents a new payment network in the market. Consumer's decision to adopt the network is significantly affected by the amount of merchants using it in retail.	MP		Yes
Use situation ¹	Since consumers can use m-payment in a variety of locations and situations, it can be expected that situational factors impact their adoption of m-payment.	MP		Yes
Changes social and cultural environment ²	People's social and cultural environments affect their consumption habits, buying behavior, and thus their needs for	MP	Yes	

Table 3.2

Coding Schema

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
	new payment services.			
Changes in technological environment ²	Technological environment consists of wireless and other related technologies which are used to develop and produce m-payment services.	MP		Yes
Changes commercial environment ²	Changes in the commercial environment include the development of the Internet and mobile networks into commercial channels, as well as increasing automation and self-service orientation of payment services.	MP	Yes	Yes
Changes legal, regulatory and standardization ²	Changes in the legal, regulatory and standardization environment, dealing with evolving jurisdiction, regulations and other norms in which m-payment technology is required to comply.	MP	Yes	Yes
Customer awareness of service ³	the most important factor is that the users do not know about the service.	MP	Yes	
Customer need for service ³	In areas of payment for public utilities and payment for tickets, the main reason for not adopting to it is that the users do not need the services.	MP		Yes
Time saving ³	Time saving while at the purchase till	MP		Yes
Convenience of the	At the same time, to pay for mobile service at anywhere and anytime, to	MP		Yes

Table 3.2

Coding Schema

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
payment process ³	pay for on-site consumptions without giving or being given change and to get special offers of on-line shopping or buying tickets through m-payment. Reduced operating costs reduce arrears for merchants, more payment options provide to consumers.			
Security ^{1,3}	Payment information needs to be protected and accurate for merchant and consumer adoption.	MP	Yes	
Merchants' income ³	Merchant income is a factor which influences adoption by merchants	MP	Yes	
Low fees ^{1,3}	In the m-payment context, the transaction costs of m-payment are often included in the price of the purchased item. Merchants' expectations and suggestions: The lower the better.	MP		Yes
Joint promotion with merchant ³	Hope to work with larger banks, help merchants to promote and build an information platform and other business alliances.	MP		Yes
Industry cooperation ⁴	Mobile operators aggregate the payment data in mobile networks and banks are responsible for the actual financial transactions.	MP		Yes
M-payment provider self-operated ⁴	Mobile operators act alone and develop solutions such as separate accounts or their own clearinghouse	MP		Yes

Table 3.2

Coding Schema

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
	or credit institution where banks are not involved.			
Bank self-operated ⁴	Bank-based solutions may emerge especially in POS and Internet payments and when the mobile network is used as a data carrier only.	MP		Yes
Confidentiality ⁵	The extent to which the information and payment systems should not be disclosed to unauthorised persons, processes, or devices.	CP	Yes	
Confidence ⁵	Enhancing consumer belief that usage of mobile devices for online payments could be trusted to successfully and reliably execute and complete online payments. Furthermore, consumer perception of security exists through prior knowledge of the adequate rules and regulations that oversee all process steps towards minimising non-repudiation and fraud and other security violations.	CP	Yes	
Cost ^{5,7}	The cost (annual fee and transaction fee) of the payment system to consumers via transaction charges.	CP	Yes	
Control ⁵	The degree to which consumers feel in control of their actions when imparting personal information in a transaction.	CP	Yes	

Table 3.2

Coding Schema

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
Ease of use ^{3,5,6, 8}	The degree of effort that a consumer believes using and managing mobile devices in online payments might take.	CP	Yes	Yes
Usefulness ⁵	The degree to which a consumer believe that using mobile devices would help for simplifying payments for purchases.	CP	Yes	
Internet skills ⁶	The ability to using internet.	CP		Yes
Mobile phone skills ⁶	The ability to use mobile phone for sophisticated tasks by consumers.	CP		Yes
Education ⁶	The education group to which the consumers belong.	CP		Yes
Age ⁶	The age group to which the consumers belong.	CP		Yes
Experience ⁶	Past experience with mobile services, e.g. m-payment.	CP		Yes
Profession ⁶	Professional group to which a consumer belongs.	CP		Yes
Availability of payment transaction information ⁶	Information about the purchase or rent of a physical, digital or intellectual product or service, or a financial transaction between the parties.	CP		Yes
Convenience ^{6,7,8}	Independence of time and place. The payment procedure is easy to use and understand.	CP		Yes

Table 3.2

Coding Schema

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
Compatibility ^{6, 7}	Payment habits such as purchase, bill payments, The particular way of authenticating payments, habitual and large applicability.	CP		Yes
Efficiency ⁶	It is related to the output of the business.	CP		Yes
Social norm ⁶	Social influence by other people.	CP		Yes
Functionality ⁷	e.g. Bank transfers as an additional functionality payment services should provide.	CP		Yes
Increased sales ⁸	M-payment increase company's sales because it is compatible with other payment options available at the premise. It is compatible with company's work routines. Company's products can be paid for with m-payment. Offering m-payment enhances company's image. For the above reasons, offering m-payment brings in increased sales.	CP		Yes
Cost reductions ⁸	M-payment decreases our company's costs. Paying with a mobile phone speeds up payments. Paying with a mobile phone is efficient. M-payment frees resource for other purposes. M-payment makes the processing of complaints easier. M-payment helps staff to concentrate on more important	CP		Yes

Table 3.2***Coding Schema***

Source: 1. Mallat (2007); 2. Dahlberg et al. (2008); 3. Xinyan et al. (2009); 4. Mallat, Rossi, and Tuunainen (2004); 5. Luo, and Peter (2010); 6. Tomi and Anssi (2007); 7. Pousttchi and Zenker (2003); 8. Mallat and Tuunainen (2005);

Code	Definition/Explanation	Type	Possible Detractor	Possible Driver
	tasks.			
Network externalities ⁸	Companies who operate in the same business offer m-payment. M-payment has gained visibility in the market.	CP	Yes	Yes
Trust and security ^{5,6,8}	Cooperation partners, such as financial institutions and telecom operators are trustworthy. M-payment is secure. Mobile phones are reliable enough for payment transactions. Mobile networks are reliable enough for payment transactions. M-payment have a small risk of misdemeanour	CP	Yes	Yes

3.6 Ethics

In order to collect data from human subjects, an Ethnic application is required by AUT University. The application is submitted to AUTEK for approval before the data collection process commenced. This research fully respects the cultures and the rights of participants. It studies the factors that influence m-payment technology adoption and gathers individual views from the perspective of business owner/operators. It does not have any element that relates to ethnic groups. The researcher acknowledges the Treaty of Waitangi and will inform the participants that their view will be respected and protected in accordance to the Treaty principles. Subsequently, an official approval from AUTEK is granted which allows the data collection process to take place. The approval letter is included in the Appendix E.

3.7 Summary

This chapter discusses the research instrument and field procedures in relation to the research objective and research questions. It also introduces the main questions used

in the interviews and how they are developed based on prior literature. The chapter discusses the experience learnt from the pilot interview and adjustments required in the participant selection and interviewing techniques. It also chapter discusses the research questions of this study and how this investigation is carried out. The research paradigm is outlined and explained in detail. It also describes the data collection method and analysis procedures. A coding schema is developed based on reviewed literature and some categories are introduced that relate to consumer power and merchant power. Chapter 4 presents the qualitative data analysis and research findings.

Chapter 4. Findings and Analysis

This chapter presents the findings of the qualitative analysis of collected data. First, the background of interview participants is discussed. Second the chapter presents the key themes as codes using the coding schema developed in the previous chapter. There are two iterations of this process are involved and they are described in detail later in the chapter. Furthermore, the collected data are interpreted and discussed. They are backed with supportive data extracted in the analysis process. The emerged concepts are grouped and presented in the research findings section.

“Qualitative researchers study the meaning” (Ezzy, 2002, p. 81). This book introduces conventional content analysis as a way to study qualitative data because it allows to in-depth analysis of qualitative data. It is also considered suitable for this study because the phenomenon that this study is set to investigate is about factors and challenges related to m-payment adoption in retail. Content analysis begins by identifying the unit of analysis from a given population. Content analysis is considered to be a combined approach where the unit of analysis is tightly integrated with coding categories which can be used to test the existing theory (Ezzy, 2002, pp. 83-84). The unit in this case is the meaning in data. In the context of this study, it can be drivers or detractors. Coding categories are formed to help answer the research questions.

4.1 Background of the Participants

The participants of this research study are selected from the food and beverage retailers located in Auckland CBD. According to the population study conducted by Friesen (2009), Auckland as a major economic centre of New Zealand experienced a rapid gentrification in the last century. The characteristics of the population of Auckland CBD and inner suburbs have evolved over time. From what was known to be an area of low income earners because of its proximity to labour-intensive industries such as the wharfs to what is now an area populated with middle-class professionals who seek an urban lifestyle. In addition, this area used to be associated with pacific ethnic groups due to the low cost of housing. However, it is now largely occupied by working professionals from variety of ethnic background living in newly established apartment blocks or renovated villas. Hence, the change also brought about commercial prosperity to the area where small retail businesses can be easily found. The author also points out that international students who study in the two

universities and other private training establishments in the area have also contributed to this demographic transformation.

A major feature of the population demographics is that the average age of residents is 32, which is lower than that of the national average as well as the wider Auckland region average. Thirty five percent of the residents returned from living overseas in recent years. Furthermore, statistics show that more than a quarter of the population here are tertiary educated and nearly half of the population in this area choose to walk to work (Statistics New Zealand, 2010, p. 5). According to a more recent report conducted by the same agency, retail trade makes up 15% of the total businesses in the area which is found to be a major economical contributor (Statistics New Zealand, 2011). Many of the retailers are considered to be SME. There has been on-going demand for onsite electronic payment services in this business category. The definition of SME varies from country to country; in New Zealand one that has fewer than 19 employees is considered small businesses. These businesses are important for New Zealand's economy because most businesses here fall in this category and contribute to one-third of the total national employment. Since small businesses are largely personality driven, in order to understand the behaviour of the business, it is important to study the context and the attitude of the owner. (Research New Zealand, 2009)

The selection of businesses in Auckland CBD for this study is in line with the objectives of this research which is aimed at finding the factors and challenges that drive m-payment adoption in the retail industry. These businesses are located in the Auckland CBD area with high foot traffic. Food and beverage is identified as a major retail business category which serves a large number of customers on a daily basis. The businesses are chosen because of their close proximity to offices, universities and residential area. The exact locations of these businesses that participated in the study are shown in *Figure 4.1*. A total of nine interviews are conducted over the course of this research including one pilot interview.

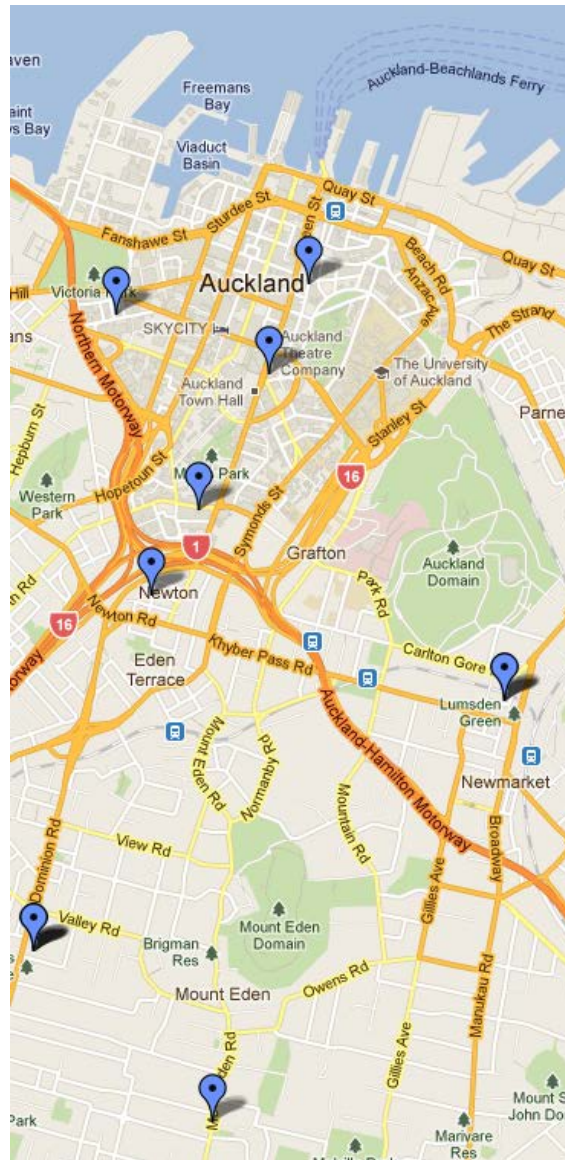


Figure 4.1 Location of the businesses that are interviewed for this study, marked with  (Source: Author)

Demographic information about the participants is collected at the time of the interview is used for analysis. That information along with the business related data shown in Table 4.1.

Table 4.1 <i>Participants Background</i>					
Retail Business Type	Interview Identifier	Gender	Age	Position	No. of Employees
Café	15	Female	31	Owner	1
	12	Male	29	Owner	5

	17	Male	28	Owner	4
Restaurant	Pilot	Female	23	Waitress	8
	11	Male	36	Owner	8
Lunch Bar	13	Male	31	Owner	5
Dairy Shop	14	Female	42	Owner	1
Liquor Shop	16	Male	28	Owner	2
Health Shop	18	Female	29	Owner	1

Background data as presented in Table 4.1 include the participant's gender, age, position and business type, and also interview identifier that is used throughout the coding and analysis process. There are five participants between 20 and 30 years of age, three of participants are between 30 and 40 years old and only one participant is above 40. Four male owners are interviewed as well as four female owners, plus one female waitress. They are all of Asian descent and belong to small business category because of the number of employees in their business.

4.2 Data Analysis and Results

This section presents the analysis of data and the results. This researcher interviews nine participants who operate small retail businesses in Auckland CBD area. The qualitative data collected from those interviews are analysed in order to arrive at findings relevant to the research questions. It is believed that the outcome of the research could help to understand the dynamics involved m-payment technology adoption in the retail industry including decision drivers and motivators as well as preventive barriers.

As already discussed, the study applies a qualitative approach of conventional coding and analysis. According to King and Horrocks (2010, pp. 143-148), qualitative analysis consists of the following steps: transcription, tidy-up, descriptive coding and interpretive coding. Transcription is the process of writing down the content of audio interviews. After the transcription process, the text requires to be tidied up because verbal expression can have a different meaning in written form. Descriptive coding is applied to show the unit of meanings according to research questions. It consists of identifying one or more sentences related to a category. The results can then be

subjected to interpretive coding which normally uses a coding schema. In the last step of the process, the researcher interprets the meanings related to each code and forms his findings about the phenomena this study set out to study.

In the context of this study, textual transcripts of recorded interviews are created from the audio clips. Those transcripts are next they are organised into a flat format where only the answers to interview questions are included. As a result, text data such as the interview questions are removed. Content template is applied to the reduced text to be used in the next step of the interpretive coding.

References to original interviews and questions are maintained using alphanumeric identifiers. This identifier is made of two elements question number and interview identifier, for example, Q1/I1 represents Question 1 from interview 1. No direct reference is made to the names of actual participants for confidentiality reasons. The participants remain anonymous in all references to them in this thesis. Apart from trimming down any non-meaningful content, some answers have been deemed as too brief to be analysed on their own. Therefore, explanatory texts are added to them according to the context of the original interview and are indicated by square brackets. From here, all statements are analysed and are grouped together with respect to their relevance to the research questions. Statements that do not refer to either RQ1 or RQ2 are labelled as 'N/A' and category are looked up again after the completion of the initial coding. Their meanings are reconsidered at the next stage. A sample from the descriptive coding stage is provided in Table 4.2 Below.

<p>Table 4.2</p> <p><i>Sample of Category Coding By Research Question</i></p>		
Research Question	Interview Answer	Interview Question
RQ1	<p>Mainly food services, people buying food from us and order directly over the phone. Both dine in and takeaway.</p> <p>Payment technology as using EFTPOS card, for us here, we only accept EFTPOS and no credit card.</p> <p>Yes [reaction is related to the business type], my fast food customers do want fast service. A lot of them choose to use</p>	Q1/I1

	<p>phone order. And they come in at the right time, pick up the food and make the payment and leave. Yes, it will lead to better efficiency and happy customers.</p> <p>Fees are too high for credit card payment; we have to pay extra for that. Yes [important component in your business], people have been using EFTPOS up to this stage or paying cash directly.</p> <p>Maybe [improve efficiency], For myself, I wanted to move faster so the customers do not get keep in the queue for too long.</p> <p>Not much [customer] complain, they just leave if they cannot wait. Yes. [that indicates dissatisfaction]</p>	
RQ2	<p>Fees are too high for credit card payment; we have to pay extra for that. Yes [important component in your business], people have been using EFTPOS up to this stage or paying cash directly.</p> <p>Because EFTPOS connects to the phone line and sometimes the phone is occupied because we have one phone line. They cannot be used at the same time. Phone order comes in, we cannot use EFTPOS anymore.</p> <p>Yes [we welcome improvement], if they could work simultaneously.</p>	
RQ1	I haven't tried those. [mobile business promotion]	Q2/I1

Computer assisted content coding is best for the unit of analysis when the meaning is a word because it allows to establish relationships and meanings to groups of words (Ezzy, 2002, p. 113). Once the descriptive coding is done, Nvivo 9 is used to assist the interpretive coding with the coding schema defined in Chapter 3. The coding schema is first loaded into Nvivo 9 as nodes. Nodes are grouped into two parent nodes, namely consumer power and merchant power, with each represented as a node. The coding schema is then applied to the content template in the second stage of content analysis, with attention to specific meaningful units such as sentences. The coding schema is then used in the next step in where the codes representing participant's perceptions of m-payment adoption are analysed.

Next the results from the coding process are mapped with descriptive coding for blocks related to research questions. The relationship between coding occurrences and research questions is identified and is shown in the tables below (Table 4.3 and Table 4.4). The number of occurrences for each code relating to each of research questions is recorded. The direct references to the coded data are included in the last column. Appendix F contains the transcripts created after the tidy-up process is exported from Nvivo 9, each of them with individual identifier. The references to the codes are highlighted within its original text. This allows a more accurate analysis of meanings. A direct number index is added to every reference. This feature is then used in the next section for discussions. Due to the size of this data set, it is made available on requests. Therefore, it is not included the final copy of this thesis.

It can be seen in Table 4.2 and Table 4.3 below that most codes from the coding schema defined in Chapter 3 found relevance in the data collected. Among the all, 41 codes are originated from the coding schema. Only 3 of them found no occurrences in the data. There are 13 codes that are not related to any research questions.

The codes are separated into two groups - consumer power (CP) and merchant power (MP) and the data are categorised according to the relevance of research questions. Table 4.2 presents the results for CP in which 21 codes are identified as related to consumer power. Among those, 15 have direct relevancy to RQ1 (factors influences m-payment adoption). The one with the highest number of occurrences is **Convenience** with a count of 18. **Cost reductions** has only is one occurrences and is the code with the lowest number of references in this group. There are 16 codes found to relate to RQ2 (perceived challenges facing retailers). **Trust and security** has the highest number of occurrences 15. **Internet skills** have only one occurrence. Some of the code occurrences that appeared in the content do not relate to any research questions and are included as "Not related to either". There are two occurrences of **Cost** in this set. Seven codes under consumer power are found to fall into "Not Related to Either" group.

Table 4.3

Results for CP using Coding Schema

Codes	Related to RQ1	Related to RQ2	Not Related to Either	Reference
Age	3	3	1	Appendix F:2
Availability of payment transaction information	2	0	0	Appendix F:3
Compatibility	2	3	1	Appendix F:4
Confidence	2	1	0	Appendix F:5
Control	0	0	0	
Convenience	18	1	0	Appendix F:7
Cost	7	7	2	Appendix F:8
Cost reductions	1	1	0	Appendix F:9
Ease of use	0	0	0	
Education	0	2	1	Appendix F:11
Efficiency	12	2	1	Appendix F:12
Experience	6	3	1	Appendix F:13
Functionality	2	1	0	Appendix F:14
Increased sales	7	1	0	Appendix F:15
Internet skills	0	1	0	Appendix F:16

Mobile phone skills	3	3	0	Appendix F:17
Network externalities	0	0	0	
Profession	3	1	1	Appendix F:19
Social norm	4	2	0	Appendix F:20
Trust and security	3	15	1	Appendix F:21
Usefulness	11	1	0	Appendix F:22

Furthermore, in the merchant power group, there are 19 codes that have occurrences in the data. Seventeen are found to be related to RQ1, among those, **Low fees** are found to be the one with the highest number of occurrences to RQ1. Codes such as **industry cooperation** and **m-payment provider self-operated** have no occurrences in data related to RQ1. In contrast, three are found to have no occurrences related to RQ2. **Customer awareness of service** has the highest occurrence number in this category. All other codes have less than half in the number of occurrences in comparison with **Customer awareness of service**. Six codes under merchant power found to have references in “Not Related to Either” category.

Table 4.4 Results for MP using Coding Schema				
Codes	Related to RQ1	Related to RQ2	Not Related to Either	Reference
Bank self-operated	1	0	0	Appendix F:24
Changes commercial environment	9	2	2	Appendix F:25
Changes in technological environment	8	4	0	Appendix F:26
Changes legal, regulatory and	1	2	0	Appendix

standardization				F:27
Changes social cultural environment	4	0	0	Appendix F:28
Compatibility	5	1	1	Appendix F:29
Complexity	3	3	1	Appendix F:30
Convenience of the payment process	9	2	0	Appendix F:31
Customer awareness of service	11	11	1	Appendix F:32
Customer need for of service	6	5	1	Appendix F:33
Ease to use	2	1	0	Appendix F:34
Industry cooperation	0	2	0	Appendix F:35
Joint promotion with merchant	1	0	0	Appendix F:36
Low fees	13	6	1	Appendix F:37
Merchants' income	1	1	0	Appendix F:38
M-payment provider self-operated	0	1	0	Appendix F:39
Network	2	1	0	Appendix F:40
Security	3	5	0	Appendix F:41
Time saving	12	1	0	Appendix F:42
Use situation	9	1	0	Appendix

				F:43
--	--	--	--	------

Table 4.5

New Code Definitions and Results

Codes	Definition	Consumer Power	Merchant Power	Related to RQ1	Related to RQ2	Not Related to Either	Reference
Better service for higher cost	Merchants are happy to pay more for better payment services.		Yes	4	2	0	Appendix F:44
Business hour phone support	Merchants require technical support during business hours.		Yes	6	3	1	Appendix F:45
Change mobile device	The habit of frequent mobile phone upgrade by consumer.	Yes		1	0	0	Appendix F:46
Competition with existing payment technology	Merchants are satisfied with existing payment; this decreases the need for new payment innovations.		Yes	15	6	0	Appendix F:47
Customer satisfaction	Merchants believe that payment system contributes to customer satisfaction.		Yes	7	1	0	Appendix F:48
Free technical support	Merchants believe technical support is required and needs to be offered for free.	Yes	Yes	1	0	0	Appendix F:49
Health Risk	People believe using mobile phone frequently is damaging their health.	Yes		0	1	0	Appendix F:50

Table 4.5

New Code Definitions and Results

Codes	Definition	Consumer Power	Merchant Power	Related to RQ1	Related to RQ2	Not Related to Either	Reference
Influence of mobile commerce	The influence of mobile commerce on merchant's perception towards m-payment system.		Yes	5	1	1	Appendix F:51
Lack of knowledge	Lack of experience and knowledge of how m-payment works by merchant.		Yes	1	2	0	Appendix F:52
Limitations of current payment system	General issues merchants have with their current payment system.		Yes	8	7	2	Appendix F:53
M-payment business mode	Perceived charges if m-payment is placed in their shops.	Yes	Yes	0	1	0	Appendix F:54
On-site support	Merchant requires on-site support due to the importance of the role of payment system in their business.		Yes	2	3	2	Appendix F:55
Productivity	Merchant believes payment system contributes towards their business productivity.		Yes	6	0	0	Appendix F:56
Quality support service	Merchant sees quality support service for the payment system is		Yes	0	1	0	Appendix F:57

Table 4.5

New Code Definitions and Results

Codes	Definition	Consumer Power	Merchant Power	Related to RQ1	Related to RQ2	Not Related to Either	Reference
	important.						
Return on investment	Merchant judges the performance of the new payment system by return on investment.		Yes	2	4	0	Appendix F:58
Support material	Merchant believes support material is required, e.g. user manual, troubleshooting guide.		Yes	2	2	0	Appendix F:59
Willingness to adopt	Merchant shows willingness to adapt to m-payment.		Yes	10	4	1	Appendix F:60

In addition to the codes defined in the original coding schema, Table 4.3 shows the findings for some new codes along with the categories and definitions for each. The researcher has created definitions for new codes based on the context they are extracted from. Categories are then created according to those definitions. Sixteen new codes emerge as a result of the interpretive coding process, four of which are grouped under consumer power and 15 codes are grouped under merchant power. Two codes exist in both groups, namely **Free technical support** and **M-payment business model**. Seventy references in total are found to be associated with new codes. In this set of data, references related to RQ1 make up nearly half of the total number of references found. **Competition with existing payment technology** has the highest count among all others in this group. Three codes are found to have no relation to RQ1. In relation to RQ2, **Limitations of current payment** has the highest count of occurrences - seven. Three codes have no occurrences.

4.3 Summary

In this chapter, the findings of the qualitative analysis are presented. Based on the methodology defined in Chapter 3, it gives a detailed description of the techniques used in analysing the data and for defining the meanings of the qualitative data. As shown by literature review in Chapter 2, participants' demographics also play an important role in determining the drivers for m-payment adoption. The results of the content analysis form the basis of the discussion presented in the next chapter.

Chapter 5. Further Analysis and Discussion

This study pays particular attention to the influencing factors that drive m-payment adoption in merchants group i.e. retailers within the service value chain. It also reveals issues related to business models of m-payment as well as concerns of users that affect the growth of the future plans for m-payment technology.

This chapter discusses the factors that emerged from the research findings outlined in Chapter 4. It highlights some of the key factors that related to RQ1 and believed to be influencing m-payment adoption by the existing literature. This chapter also synthesizes the challenges faced by retailers when implementing an m-payment system which is related to RQ2. Next, it uncovers some of the newly emerged factors from this research study which was not found in the literature. Subsequently, the findings are interpreted and discussed in the context of the research questions. The implications of the results with respect to their relevance to retail industry are discussed. The outcome of this thesis may help to understand the dynamics involved in m-payment technology adoption in the retail industry including decision drivers, motivators as well as challenges and barriers. Due to the various demographics of the participants, there could be differences in the ways each sees motivators and detractors for m-payment implementation in their business. The relationships between those factors and interview data are presented in the Chapter 6.

Table 5.1 and Table 5.2 below provide an overview of the factors found to have influences on the m-payment adoption in retail. Factors are grouped by relevancy to drivers and detractors as they are represented in the data. Some can be positive drivers for m-payment adoption as well as detractors. These factors are ordered according to their significance and the same order is used in the analysis presented further the chapter.

Table 5.1 <i>Consumer Related Factors for M-payment Adoption</i>		
Factors	Drivers	Detractors
Age	YES	YES
Mobile phone skills	YES	NO

Table 5.1*Consumer Related Factors for M-payment Adoption*

Factors	Drivers	Detractors
Profession	YES	NO
Lack of knowledge	NO	YES
Internet skills	NO	YES
Education	YES	YES
Convenience	YES	NO
Competition with existing payment technology	NO	YES
Willingness to adopt	YES	NO
Limitations of current payment system	YES	NO
Customer satisfaction	NO	YES

Table 5.2*Merchant Related Factors for M-payment Adoption*

Factors	Drivers	Detractors
Competition with existing payment technology	NO	YES
Low fees	YES	YES
Efficiency	YES	YES
Time saving	YES	NO
Customer awareness of service	YES	NO
Willingness to adopt	YES	NO
Changing commercial environment	YES	NO
Limitations of current payment system	YES	NO

Table 5.2 <i>Merchant Related Factors for M-payment Adoption</i>		
Factors	Drivers	Detractors
Changing in technological environment	YES	NO
Cost	NO	YES
Customer satisfaction	YES	NO
Business hour phone support	YES	NO
Productivity	YES	NO
Influence of mobile commerce	YES	NO
Better service for higher cost	YES	NO
On-site support	YES	YES
Return on Investment	NO	YES
Support material	YES	NO
Lack of knowledge	NO	YES
Quality support service	NO	YES

5.1 Factors Derived from Relevant Literature

This section highlights the findings in relation to existing research frameworks found in relevant literature and discusses factors that are confirmed by the analysis of this data sample. Number identifiers are provided along with the quotations in the data analysis, e.g. #22. This identifier can also be found in Appendix F for direct referencing. There are 39 factors that are found to have relevancy, among those, the following 12 factors are interpreted as having major impact: **Education, Age, Profession, Mobile Phone Skills, Convenience, Internet skills, Convenience, Efficiency, Usefulness, Cost, Increased sales** and **Experience**. The remaining 27 factors are found to be only occasionally referred to by the participants and they are excluded from the analysis below.

5.1.1 Consumer Related Factors

The factors related to consumer power and considered to be valid in the context of this study are: **Education**, **Age**, **Profession**, **Mobile Phone Skills**, **Convenience** and **Internet skills**. **Ease of use**, **Network externalities** and **Control** have no occurrences in the data. The likely reason for that is that usability of the m-payment system is not part of the merchants concern for their consumers because they possibly assumed that m-payment is as easy to use as the EFTPOS system that is currently used in their shops. It might also be due to the limitation of the interview questions that lead the interviewees to focus more on their own business operation.

a. Drivers

Age and **Education** combined seem to determine the suitability of m-payment for retail business environment. This is shown in #1 *“Young and student appear looking people use Iphone and they are very open to new technologies”* and also in #5 *“Most of them use mobile phones and young to middle aged. Card is also a modern technology; most of them choose to use their cards over cash”*. In addition, **Profession** and **Mobile phone skills** also play an important role in the m-payment adoption process. Small retailers believe that **Profession** is one of the factors that drive consumers to adopt m-payment as preferred method over cash or EFTPOS. As stated in one interview, *“Our customers are lawyers, accountants and office people, pretty high end people working in around the area. They all have smartphones. I think most of them would love it [paying by mobile phone] and found themselves excited about this.”* #160. In relation to **Mobile phone skills**, is seen as an advantage when considering adopting m-payment over traditional payment method due to the large number of owners of mobile phones that know how to operate them effectively. It is supported by strong statement such as *“A lot of people use mobile which is nearly everyone. If it takes off, there could be a lot of payment made through it.”* (#102).

In addition to those factors closely associated with consumer power, merchants also expressed views about factors that they believe impacting on consumers' adoption of m-payment. **Convenience** is considered to be a major factor for consumers as perceived by many of the interviewed retail merchants. Fast service as pointed by most of the merchants is believed to be the significant factor for m-payment adoption; this is supported by statement such as *“my fast food customers do want fast service”*

(#20). This is also a strong factor for merchant adoption because it is seen to improve efficiency and eliminate potential issues with card-based payment transactions as pointed out in the following statements: #21 *"For myself, I wanted to move faster so the customers do not get keep in the queue for too long."*, #39 *"There are so many stuff in girl's bag, there could always be something goes missing. We carry mobile phone at the time, so that can be a plus."* in #22 *"The notion of swapping the card takes time, plus it does not read every customers bank card. I wipe them first and sometimes the magnetic strip reader is not very sensitive"*.

b. Detractors

Internet skills are seen by one of the interviewees to be a negative factor for consumer acceptance of m-payment, *"They have difficulties for them to connect and trust the system."* (#98). Together with **Education** an **Age**, these are found to be both drivers and detractors. One interviewed business owner interviewed believed that m-payment has particular relevance to their main customer base among students, *"Students are the main customer group. That's why we are doing some deals for them."*(#58). This is likely because of the location of the business and the type of service which targets the surrounding university population.

Another business owner said in the interview that **Age** or **Education** has no particular importance in their customer base and therefore, no impact on m-payment adoption. This is evident in statement #60 *"New Zealanders have a drinking culture, young and old both drink, no gender differentiation either. Rich drinks more, poor drinks less. They both do. It is a big consumer group."* made by the owner of a liquor shop. In another interview, the interviewee stated the appeal of new technology to their younger customer group *"Young and student appear looking people use Iphone and they are very open to new technologies."* (#1). In some other cases, it is quite the opposite, m-payment could be seen by older generation of consumers to be too complex or sophisticated to use. Therefore, it is considered a strong detractor in the process. *"For the older generation, maybe not. [paying by mobile phone]"*(#3).

One detractor worth noting here is **Convenience**. If mobile phone for whatever reason goes out of service, this would lead to inconvenience for consumers and disruption for business operations. In #31, the interviewee stated: *"What happens when I run out of*

money and need to do transfers? Or what if the battery goes out, if the phone gets lost, would it be safe to my cards? It could be one more thing for people to look after.”

5.1.2 Merchant Related Factors

Apart from consumer power above, a set of perceived factors that drive merchant demand are found to be valid in the data set as well. In particular, **Convenience**, **Efficiency**, **Usefulness**, **Cost**, **Increased sales** and **Experience** are found to have significant impact on consumer adoption of m-payment. Those can be quite different from factors related to consumer power where perceptions of m-payment are at the centre of focus.

In addition to the perceived factors that influence m-payment adoption, factors considered to be related to merchants are also identified during the data analysis. The factors affecting m-payment adoption by merchants can be divided into groups such as internal and external. There are a few factors considered to be internal because they are relevant to the operations of the business. Those factors that exist in the business environment and over which merchants have no control are considered external, those include **Customer awareness of the service**, **Changing commercial environment**, **Changing in technological environment**, Compatibility, Changing in social cultural environment. **Bank self-operated** and **Changing legal, regulatory and standardization**. These factors considered to be internal are: **Low Cost**, **Time Saving**, **Security**, **Merchants' income**, **Ease to use**, **Network**, **Compatibility**, **Customer need for of service**, **Convenience of the payment process**, **Use situation** and **Complexity**. Factors such as **Industry cooperation**, **M-payment provider self-operated** and **Joint promotion with merchant are** found to have no references from the data. This is perhaps because studying the business model of m-payment in New Zealand is not part of the research objectives of this study.

a. Drivers

Merchants also believe that **Convenience** of an m-payment system is good for both parties; therefore, it could drive more businesses to adopt m-payment as a result. This is backed up by statements such as #24 *“It can be more convenient for them, and it may save time for them as well as for you. In turn, it drives more business.”* And also in #37 *“[it helps businesses to operate more efficiently]. If people do like the idea of paying things fast, maybe there is a profit gain for us”* It is also believed that as mobile

phone is always available to people, it can be a better tool than other types of payment such as cash or EFTPOS. This is evident in #33, *"because everyone likes to use it, customers then adopt to it without the need to carry cash around."*, and #36 :*"From my own experience, mobile phone is with us all the time, using it pay is a better way."*

Other than Convenience, **Efficiency** also contributes significantly towards consumer acceptance. It emerges from the analysis results as being a powerful factor due to its importance in the consumers lifestyle as perceived by merchants. The data suggests that Efficiency and Convenience are correlated. This is confirmed in #67:*"It really depends on the number of people working in the shop as well as good performance from the EFTPOS machine. Number of products sells in a day as well as a faster payment system which allows us to serve customers quicker"* and in #76 :*"Coz people just come in to get things quickly. I think speed is the main factor for efficiency."*

Merchants believe that quick service has a direct impact on customer's purchase behaviour becoming efficient. Merchants have expressed the view that m-payment could increase their customers' satisfaction by avoiding queues at the premises and integrating it with the backroom staff. Therefore, it leads to more revenue as stated in *"[definition of efficiency] The entire transaction needs to be faster, same for people work at the back as well as customer service. Front staff needs to be able to take the order faster. Everything has to move fast to be able to perform efficiently. The goal is to turn over the orders quickly. Faster means more revenue."*(#65)

In consideration of the external factors, a number of retail owners expressed that **Customer awareness of the service** is a critical factor for m-payment adoption. These businesses do not appear to embrace m-payment. *"At the moment, it [mobile payment] is not really developed yet and wide spread. I don't think a lot of people know about it unless they are very techy about them and on top of technology news."*(#208). It is perceived to be most suited for service based business as stated in # 202: *"I saw them [new payment technology] overseas, not in local retail stores, and they normally installed in bars, clubs, subway and car parks, those types of areas."* And again in a different interview *"I have never seen one yet [mobile payment in competition]. But I have seen mobile EFTPOS terminals though. It also accepts EFTPOS card and it works the same way, no wire. It is easy to carry with built in battery. It is used in goods delivery, not in my competitors."* (#198). Some showed some interest in the digital

wallet concept as a medium for carrying out m-payment service: *"Digital wallet is always the theme in the past five years. You pay online and phone credits."* (#204). Most of the retail owners interviewed did not have past experience with m-payment or other services based on mobile phone, however, they welcome it and believe it could add to their business performance. This is evident in the following statement: *"Yes. If that system works well and running smoothly every day, it would definitely be good for your business."* (#221). In contrast, some others think the opposite-no mobile services at the moment, may not be employing mobile service in the future. It is supported by statements such as: *"...Nothing involves mobile. Not at the moment. [not investigating mobile promotion]"* (#206).

Changing commercial environment is found to be another important factor influencing m-payment adoption in small retail shops. One interviewee pointed out that educating the market about the particular technology is critical and it needs to gain public acceptance before coming into commercial environment. *"The technology [barriers] and it really depends on the wider acceptance from customers before we can begin using it. Better tested and customer education."* (#149), *"I don't think people like to pay more to use this flash stuff, unless the big shopping malls start first. It's like the chip cards, they were not accepted everywhere at the beginning."* (#157) and #158: *"Nothing is prefect. People always have strange ideas. I just follow suit. Say 50% uses mobile to attract customers, we will follow suit."* Some also believe m-payment could have some impact on business competition but not hugely. This is supported in statements such as the following: *"Yes, it will [mobile payment has impact on business], but won't be much."* (#155). Another retail owner says that competition does add pressure to businesses and adoption of such a technology is needed to stay ahead. *"If all retailer shops have this system, we will have to get it too. We want to stop in the front coz there is a competition. So we will get it before them"* (#161).

When it comes to adoption by merchants, **Changing in technological environment** is equally important. One retail owner said that it is possible to have iPad incorporated in his business payment process in the future and it may have a significant impact on how the business is carried out, hence rising efficiency and profitability. *"...Maybe [mobile payment will come into the industry soon], some people use mobile devices to take order such as Ipad. It does not have much an impact on my business right now."* (#164).

The perception of technology in business also plays a role in m-payment being accepted in retail environment. This is evident in the following statements: “...It [business efficiency] has little to do with technology”(#165) and “The phone means to me just to use to phone other people and communicate. It can be seen as a traditional way to use a mobile phone.”(#167). Phone vendors’ marketing efforts are also seen as a driving factor for m-payment acceptance in retail and some mobile services are frequently accessed by retail owners. It is supported in this statement: “Big companies such as Apple want to change people mind by using the phone for other purposes. Currently, we use mobile phone to do surfing and online banking.”(#168).

Among all the internal factors related to merchant’s adoption factors, most small retail owners interviewed viewed **Low fees** as the strongest factor when considering m-payment. Business expects the m-payment service to cost less than the EFTPOS system that is currently in use. “But on average, I would say no more than what we current are paying. Yes, reasonable rate” said an interviewee in #243. #244 stated “I think it should be at the same cost to an EFTPOS terminal or a less bit cheaper, and then we could have both. Not more expensive than the current system people have like EFTPOS”. Same attitude is expressed in #250 “If it is for my business and the cost is under my current system, I will love to take it [mobile payment]. But if it is [cost] more I would be hesitated. I would love to give it a go [for personal use].” And “For me to run a business, keeping the cost down is an advantage. As more people using it, it can bring the cost down.”(#256). Some others go further to suggest that the m-payment system should support credit card with no commission to pay. “We don’t take credit cards. Sometime, it can be a bit trouble when people don’t have anything else but credit cards. Because of the extra commission we have to pay. Yes. [good if the commission is removed].”

Time saving is also found to be a major contributing factor for m-payment adoption in retail environment. M-payment could potentially bring a solution for time saving in business which is expressed as a general feeling among interviewed retail owners. “The EFTPOS queue line keeps the customers in waiting which is not good” (#277) and “Most important thing is that it does not hold the customers for too long.”(#278). Some owners can be quite obsessed with the speed of their customer service and regard it to be a key factor for business success: “I did a little trial, and every transaction actually saves you 35 seconds on average. And imagine you have two and three hundred

transaction a day and you add that up, it becomes like an hour each day in time saving.” (#281), “...the most important thing is about the time of the payment. Processing time could be quicker with this technology.” (#287) “It will cost time when I really get busy. Yes. [Customers will like this]. Yes, some of them do [likes to quickly grab something and go]. Especially true during lunch time, most of those customers who only get an half an hour break. When there is a sunny day, they just want to grab a lunch, go and find a space to enjoy.” (#286). “This system will help our business because it saves waiting time. I’m sure my customers like it well” (#285).

b. Detractors

Efficiency of the m-payment service is also believed to be a detractor by some merchants because the service is perceived as unreliable and could lead to undesirable deficiency in business. This is expressed in #72: *“It can be a bit of problem for us using it in business. Not efficient. How about the old phone with a new SIM card, can it still be used for payment?”*

Another important perceived factor when it comes to consumer adoption of m-payment is cost. **Cost** relates to transaction charges targeting consumers every time an m-payment is used. It is believed to be a barrier by some as stated in #41: *“For us, we want to sell goods and services, for the payment supplier, they want to charge the transactions that go over it. That is going to be the most difficult part, it is not the shop but it is for the customers.”* This is supported in another statement: *“Everything depends on how much you start to charge people when it is being used. When we need to do parking fee, we can TXT to pay for the ticket. But it double charges. That really discourages people from using it.”* It could also mean the additional cost of hardware purchases for consumers to use m-payment system. *“It’s too expensive for me to afford it right now. The ones I was looking at were at \$800 mark or above.” (#46).* In another interview, the interviewee pointed out those initial charges can put people off from using the service and discourage customer purchases in the shop. This is backed up in this statement, *“I don’t think people like to pay more to use this flash stuff, unless the big shopping malls start first. It’s like the chip cards, they were not accepted everywhere at the beginning.” (#54)*

Low Fee, can be seen as a detractor as the frequency of use for the m-payment system is a concern to some *“As for the EFTPOS system, we pay a monthly rental fee which is the acceptable cost to me. And because everyone likes to use it, customers then adapt to it without the need to carry cash around.”*(#251)

5.2 Emerging Factors

During the analysis, a variety of meanings are revealed with the help of the predefined coding schema. However, there are some gaps in meanings that the coding schema did not cover. Some new codes emerged to fill in the gaps and a indicated some other factors that drive m-payment adoption. Those new factors are :**Competition with existing payment technology, Willingness to adopt, Limitations of current payment system, Customer satisfaction, Business hour phone support, Productivity, Influence of mobile commerce, Better service at higher cost, On-site support, Return on Investment, Support material, Change mobile device, Free technical support, Lack of knowledge, Health Risk, M-payment business mode** and **Quality support service**.

5.2.1 Consumer Related Factors

Five factors emerged from the data that relate to consumer power for m-payment adoption. These are: **Willingness to adopt, Competition with existing payment technology, Customer satisfaction** and **Lack of knowledge**.

a. Drivers

Some merchants considered **Willingness to adopt** from consumer perspective. Some showed interest because they believed it is suitable for their customer base, therefore, it is suited for their business. *“I would like to if it helps coz we do get a lot of student customers from AUT.”*(#404). On the other hand, some retailers give a direct opinion on why they don't think it is suited for their business. *“...This system will not make much of a difference. People come to you, not so much you go to them.”*(#411) and this particular retailer also showed objection to m-payment due to the risk involved. *“...not willing to take risk and invest in this area. In this industry, everything is set up and you don't need to carry so much about everything else.”*(#410). Some did not favour m-payment because they believe their consumers do not want to be seen as “walking around with the latest gadget”(#412).

Some pointed out problems with EFTPOS magic strip as one of the **Limitations of current payment system**. *“Card is much more vulnerable.”*(#377) and *“Customer says*

their card works elsewhere only not working on your machine. But my machine works for others. We had trouble finding out what the actual fault is. Less of this type of thing would be better.”(#368).

b. Detractors

Competition with existing payment technology is found to have impact on consumer adoption of m-payment. Some merchants expressed the customer perspective that they would like to see EFTPOS around and m-payment is just another way of paying for purchases. *“EFTPOS will not fade out immediately. I always carry cash as well as my cards. If one of them fails, I can just go with the others. It is just another means of transaction. It will not be the only one. It should be fine.”(#320).*

One retail owner suggested that technology distances retail personnel from engaging with their customer and believe it to be impacting on **Customer satisfaction**. Therefore it reduces customer purchasing experience. *“I think physical interactions are better way to attract customers” (#342).*

Lack of knowledge about m-payment is a major concern for by some retailers, particularly its complexity, such as stated in the following statement. *“Not everyone will understand how this technology works. At the moment, I don’t quite understand how this technology works and how good it is. Lack of understanding can be a barrier.”(#354)*

5.2.2 Merchant Related Factors

A total of twelve factors are found to be related to merchant power and they are:

Competition with existing payment technology, Willingness to adopt, Limitations of current payment system , Customer satisfaction, Business hour phone support, Productivity, Influence of mobile commerce, Better service at higher cost, On-site support, Return on Investment, Support material, Lack of knowledge, Quality support service.

a. Drivers

Some of the interviewees expressed their interests in implementing m-payment system in their business. This is coded as **Willingness to adopt**. It is important for the purpose of this study because it tells us whether there is a possibility for retailers to implement m-payment in their environment. It is evident in the following statement

that some retailers are interested in finding out more about m-payment in relation to their business operations: “...I’m thinking to have something like that installed in my other shop if it’s possible.” (#402). Some others indicated that they are already engaged with companies who can supply m-payment systems to be used in their business. “I’m talking to other companies about it.” (#403). One other noticeable factor here is that retailers are willing to switch from current EFTPOS to m-payment provided m-payment addresses issues already found in EFTPOS systems and possibly adding more functionality. “With the construction nearby, you never know when one might strike [power cut]. Could be [believe the same for mobile payment system]. If it replaces my other machines would be more welcomed.” (#408).

Limitations of current payment system are found to be a driver for merchant adoption of m-payment. Although retailers are generally satisfied with their current payment system, however, most have reservations in certain areas which they would like to see addressed by m-payment. This factor is related to the previous one which leads to intention to adopt. In this statement a retailer expressed the view that the technical limitations of EFTPOS conflict with business goals “because EFTPOS connects to the phone line and sometimes the phone is occupied because we have one phone line. They cannot be used at the same time. Phone order comes in, we cannot use EFTPOS anymore.” (#359) and “Five or six were due to power cuts. The system comes back in shortly afterwards, but still I lost customers because of that.” (#365). Another popular view is that EFTPOS tends to slow down over time and this slows down the customer service. “But the issue is that it gets slower processing transactions for some reason. It does hold the customer for a while.” (#360). Another interviewee explained this more in-depth: “Imagine your EFTPOS card transactions, regardless of the speed of the EFTPOS system, any customer would have to take out their wallet and choose an EFTPOS card, and it can be the wrong card without money and give to your people, swap it or insert the card, put in the price, put in the number, and print out the receipt. They have to take their card back and put back into the wallet or they pay cash. There will have changes involved, 2cents and 5cents all that takes time and time consuming” (#362) and “With EFTPOS, it takes 1 min. the whole transaction take 3 – 5mins.” (#364). Credit card acceptance and live transaction by EFTPOS are also major factors that retailers want to address with m-payment “Some people uses different

credit card such as dinner's club or American express. We just applied for those two cards. Not for the first year in the business, we only begin to take those cards this year.”(#373) and “Current banking system only allows me to see payments after 10pm for the total amount.”(#372).

It is confirmed from the data analysis that payment technology does contribute to overall **Customer satisfaction** according to most retailers. Some retailers believe that payment technology enhances shop experience if it is operating efficiently. One interviewee gave valuable indications from their customer's perspective. *“Some of them are busy, if they had it and we were able to provide the payment service. They will just do it. It cuts their wait time short. [delight customers]”(#341).* This point of view was also expressed in a different interview *“[leads to better profit], that can be quicker, instead of giving cash. Payment period can be cut short. It can be what the mobile payment technology brings to us.”(#343).*

Data analysis show that **Business hour phone support** is an important factor for deciding if m-payment should be implemented in retail environment. *“Yes [following phone support instructions and solved the problem], straight away. Of course the support is important at the start stage. Technical support should be made free for a start. Of course phone support.”(#309), “If we have good knowledge, it will take some time. Yes, I more prefer phone support.”(#311) and “Phone is better coz people get to deal with people not people with computer and computer to people.”(#310).*

Productivity is believed to have an impact on business performance and productivity .One retail owner said: *“In the retail business like this, efficiency and quality is the most important to be concerned. Anything can save you a simple 35 seconds; can make a big difference at the end of the day. Sometimes you just need those 35 seconds. You cannot cook something a few seconds less to expect it to taste the same. A few seconds mean a lot in the retail business like this.”(#385).* Another retail owner said that a better payment system could lead to profit gain. *“From my own experience, mobile phone is with us all the time, using it pay is a better way. Same goes for the hop cards used in the bus. [it helps businesses to operate more efficiently]. If people do like the idea of paying things fast, maybe there is a profit gain for us.”(#389)*

Data analysis also indicated that there is a chance that **Influence of mobile commerce** would have an impact on m-payment acceptance in retail business. It is confirmed that retail owners who have had positive experience with mobile commerce in the past are much more likely to implement m-payment system in their business. *“Yes [willingness to investigate mobile promotion], it is a tool that we use every day. Mobile can be a good medium.”*(#352) and *“The donut shop uses Facebook promotion; they had a lot of customers at the shop opening period...”* (#350).

There has been a general acceptance among the retail owners that m-payment offers **Better service at higher cost**. This is found to be a result of **Limitations of current system**. This view is expressed frequently with statement such as *“A little bit more is okay if it can separate the phone line, and two can operate freely from each other. Working better and faster delivers better result, 50% more can be okay.”*(#299) and *“I can accept it to be 30% more [cost]. But I do need to see how to use it and whether it is convenient enough for you to check bank account at night. It should allow you to check on the usage data every day. EFTPOS system is doing a good job.”*(#302). One interviewee was the exception as she believed that better EFTPOS provider would do more for her business and stated *“The pub next door, they always have EFTPOS breakdown. Hardly anything [no problems with current EFTPOS system]. I think it all depend the provider”*(#304).

Some businesses indicated that **On-site support** is needed at the initial period of the introduction phase. This is clear from statement such as: *“I want support people to come to me immediately.”*(#378), *“I think in the introductory period, an onsite support would be necessary.”*(#377) and *“Whenever, there are problems I just rang the company. More often they just tell me you need to do this and you need to do this. I feel quite confused and I don’t like that”* (#380).

Some retail owners ask for **Support material** or possibility technical training to be given to them and believe this to be a factor when evaluating m-payment by retailers. This is stated in the following statement: *“I need a list for simple self-directed troubleshooting. If we can solve it then onsite support will be needed”*(#397) and *“They [current EFTPOS system] have a user guide. Every problem I might have, I would just check against the list. It is easy to follow.”*(#398). One retailer pointed out that the

frequent **Change of mobile device** could be an issue for consumers. *"Most people change their mobile phones every one or one and half year. Does it mean you are changing the cards as well? You will have to re-register them again."*(#314) Another retailer believes that **Free technical support** should be provided with m-payment. *"Yes [following phone support instructions and solved the problem], straight away. Of course the support is important at the start stage. Technical support should be made free for a start. Of course phone support."*(#346)

b. Detractors

One of the most remarkable driving factors discovered during the analysis of the new codes is **Competition with existing payment technology**. Most retail owners interviewed believe that the biggest barrier that m-payment has to overcome is how it is going to be working in relation to existing technology such as EFTPOS. Firstly, current competition from rivalry system such as EFTPOS is seen as a factor driving adoption of m-payment due to the business reliance of it. Because of EFTPOS popularity, m-payment faces a difficult entering into the market. This is supported in statements such as *"EFTPOS so far has been the most important method for payment."* (#330), *"EFTPOS is a very important part [of the business]."* (#335), *"...At least 95% of the people choose to use EFTPOS. It is a big part of business."*(#318) and *"It is a very busy shop, I have a lot of customers in a day and that leads to big increase on the usage of EFTPOS machine."* (#321). Secondly, the current system of EFTPOS is considered to be the most appreciated technology for payment system to date. It is proven to be very reliable and cost efficient, which is evident in the following statements *"Current system such as visa or EFTPOS works well. I think I'm satisfied."*(#331), *"Just like EFTPOS, most people use it. And we all understand how it works. It becomes a must have"*(#333), *"No. nothing major [no trouble with current EFTPOS system]. It's all like malfunctioning and turns out to be user error. There has not been any machine failure."*(#319).

Lack of knowledge about m-payment is found to be the biggest challenge facing retailers and their consumers. This is evident from this statement *"Maybe [unsure whether mobile payment helps with efficiency], we need to see what exactly it does."*(#355). In one instance, retailers expressed their concern about the Health Risk (50) associated with mobile phone overuse such as radiation. *"Plus the risk of radiations from frequent mobile phone use. Those are the problems."*(#347). One

particular retailer said the **M-payment business mode** is important for him to decide whether m-payment is ready for his business. *“But the question to me is, will the customer accept this cost? Are they willing to pay 20 cent for each transactions, it is how the payment supplier makes money and it will be the business mode. It can be the most difficult part”*(#376).

In addition, data analysis shows that business owners do not want to be involved in technology maintenance and troubleshooting, one interviewee stated in relation to **On-site support** *“It is not part of business operation. Having to deal with technology is not part of my job. It’s the job of the manufacturers to hire the best engineering team. I just want the product in perfect condition to help me to do the business not the other way around which I’m helping them to do their business”*(#383)

Lastly, **Quality support service** is pointed out by another retail owner to be an important deciding factor for m-payment adoption. *“Coz when we have a problem we want to get the problem solved straight away, not like an hour later. Customers could walk away if it is that slow”*(#390).

On several occasions, retail owners were particularly concerned about **Return on Investment** for their m-payment system. Some voiced their concern by stating *“We don’t want to end up spending money on the machine not being used actively. It really depends on the market movement.”*(#391) and *“I talked to the company several times and no solution. I’m thinking of pull the plug on that one. We won’t accept it if it [mobile payment system] goes like Snapper.”*(#395). One retail owner thinks that it has no impact on her business therefore there is no return on the investment for m-payment, *“Because we are serving surrounding customers, it won’t have a big impact. Not for small businesses like us. The cost effectiveness is the key to be thought about.”*

5.4 Summary

This chapter presents and discusses the findings of the data analysis and interprets data in relation to consumer power and merchant power that drive the m-payment adoption process. Those factors are considered from two aspects: drivers and detractors. The perceptions of merchants are explored in detail.

Chapter 6. Summary and Conclusion

M-payment is becoming increasingly a reality in New Zealand thanks to the mass adoption of high processing power smartphones and mobile commerce. A recent news article pointed out that major telecommunication network operators in New Zealand are joining force to roll out production m-payment based services to general public (Fletcher, 2012). This research investigates the driving factors of the m-payment adoption perceived by retailers and provides valuable understanding of the possible challenges facing retailers when considering adopting m-payment in their business practices. This study attempts to answer the question whether m-payment is perceived as suitable and appealing to retail business operators as a replacement technology for cash/EFTPOS transactions. In order to gain sufficient knowledge about the phenomenon in the study context, the drivers and detractors for m-payment adoption are gauged from the perspective of the food and beverage retailers. Two research questions are formulated in relation to those initial motivations with more specific attention to factors and challengers facing retailers.

RQ1. What are the factors that motivate retailers to adopt and use m-payment systems in their daily operation as a way to pay for goods and services where cash and/or EFTPOS are currently used?

RQ2. What are the challenges in implementing m-payment from the perspective of retailers?

6.1 Method

This research study draws knowledge from the reviewed literature in the area of mobile service and m-payment adoption and SME decision making. It synthesise adoption theories that have been developed and tested in existing research papers. The study design follows a qualitative approach and data analysis is carried out using content analysis techniques. The study addresses the research questions by studying the behaviour of two groups of stakeholders in the supply chain consumers' power and merchants' power. Consumers and merchants are considered the primary stakeholders based on the framework derived from the relevant literature. In order to conduct an investigation addressing the research questions the study gathers qualitative data from a sample of merchants - food and beverage retailers; as shown earlier merchants are one of the stakeholder groups in the m-payment supply chain. The analysis shows

that merchants react to consumer demand; therefore, if m-payment is welcomed by consumers, then it would be also welcomed by merchants.

The Interpretivist paradigm is chosen as a research approach and the use of interview is adopted as its research instrument. Using interviews as a research instrument allows the author to collect qualitative data from the participants and to gather information about the subject in a way that meaningful units can be extracted for analysis and interpretation. In order to answer the research questions, an interview questionnaire addressing the research questions is developed based on framework proposed in the literature and then used in the interviews. The participants are selected from businesses in Auckland CBD that have high foot traffic. Nine semi-structured interviews are conducted through the course of this research. The interviewees are owners of small retail shops that belong to the food and beverage business group. A set of codes are developed as the coding schema and are used as analysis framework for studying the meanings. The coding schema is formed by extracting factors of m-payment adoption from the relevant literature. Qualitative data are collected and analysed using context analysis techniques which involve defining the unit of analysis and extracting the meanings from a large body of text using a coding schema. This process is carried out with the help of the computer assisted software package Nvivo 9.

6.2 Findings

The research findings are formed during the content analysis process and are based on the interpreted meanings of the gathered data. The subsequent interpretation and discussion of the findings with respect to the research questions is informed by results from current studies in the area of mobile service and m-payment adoption. The findings are summarised in Table 6.1 and Table 6.2. Implications of the study are formed based on factors uncovered in the findings.

Table 6.1 <i>Adoption Factors from Consumer Perspective</i>	
Type of Data	Factors
Demographics	Age, Profession, Education
Background	Mobile phone skills, Lack of knowledge, Internet skills

Attitude towards M-payment.	Convenience, Competition with existing payment technology, Willingness to adopt, Limitations of current payment system, Customer satisfaction
-----------------------------	---

The findings of the study suggest that as perceived by merchants, consumers are mostly influenced by three major groups of factors: demographics, background and attitude towards m-payment (Table 6.1). Data show that consumer demographics and background can be perceived as both a driver and a detractor for m-payment adoption. Younger generations are believed to welcome m-payment in retail because of its convenience. In contrast, consumers who are older, less educated and not working in offices, are seen as unlikely to accept m-payment as a preferable option for purchasing of goods and services because they are not equipped with the skills to operate m-payment sufficiently. Consequently, consumers with a background in mobile technologies are more likely to opt in for m-payment over traditional payment method such as EFTPOS or cash.

The attitude of consumers towards m-payment is also a driving factor for adoption. Merchants believe that consumers will benefit from the convenience of m-payment and indicate that m-payment as an extra service in their shop will help to increase customer satisfaction.

Table 6.2

Adoption Factors from Merchant Perspective

Type of Data	Factors
Business Related Factors	Efficiency, Customer awareness of service, Changing commercial environment, Changing in technological environment, Cost, Customer satisfaction, Business hour phone support, Productivity, Better service for higher cost, On-site support, Return on Investment, Quality support service
Attitude towards M-payment	Competition with existing payment technology, Low fees, Time saving, Willingness to adopt, Limitations of current payment system, Influence of

	mobile commerce, Lack of knowledge, Support material
--	---

Overwhelmingly, retail merchants acknowledge that m-payment might bring a potential benefit to their business. This research found that the adoption of m-payment by merchants is influenced by two major groups of factors: business-related factors and their attitude towards m-payment as shown in Table 6.2. Merchants believe m-payment will bring improved efficiency into their business so they can operate more effectively and encourage more purchases by faster service. The data also show those merchants' decisions are higher by influenced by the competitiveness in the environment in which they are operating. Commercial and technological changes taking place around them will lead to changes in their business practice. Merchants look to other similar businesses when making a technology shift.

Interestingly, return on investment seems to outweigh other cost related factors. Cost is still considered by merchants to be a driving factor and m-payment is expected to be priced similar to that of EFTPOS. Most accept paying more for a m-payment service if the system offers unique benefits. Technical support for m-payment is found to be an essential element when merchants consider m-payment in place of EFTPOS. Since EFTPOS is considered a mature and reliable product, merchants expect to have the same level of service quality for m-payment if it does make its way into the retail businesses. For the same reason, the competition between m-payment and existing systems such as EFTPOS is believed to be a major challenge to m-payment adoption. Consumers and merchants are used to EFTPOS and it is part of their business and lifestyle. For m-payment to succeed and appear as the next generation of payment technology, it needs to be simpler to use and more reliable than EFTPOS.

6.3 Research Aim and Questions

With respect to the research aim and questions formulated earlier the study identifies a number of factors that influence retailer attitude towards m-payment, as discussed in the previous chapter. First the study finds that m-payment is considered favourably by retailers over traditional payment technologies due to the perceived business efficiency and convenience of m-payment. Retailers are also motivated by the demand of their customers, with consumer demand influenced by consumer demographics,

background and attitude towards m-payment. Second the study finds that knowledge and competition with existing payment technology are the major challenges facing retailers when considering m-payment adoption. Finally the analysis of the findings allows addressing the study aim: it shows that there is sufficient evidence to indicate that retailers perceive m-payment as a suitable replacement technology for cash/EFPOS transactions and will be willing to adopt m-payment as a preferred payment system in daily operations.

6.4 Implications

Several implications arise from this research study. The study finds that retailers generally welcome m-payment as a replacement for EFTPOS in New Zealand. Younger generation of consumers are engaged with modern technology and willing to embrace it when m-payment is made available in the retail business space. However due to the popularity of existing payment technology such as EFTPOS, m-payment systems offered to merchants by m-payment service providers will have to serve consumers and merchants with superior features and reliability, to allow more transactions to take place in any given business day. Second, the primary barrier for m-payment to gain wide acceptance in retail space is the lack of knowledge about the service. Aggressive product promotion for m-payment by service providers is recommended.

6.5 Contribution

This study contributes in a several areas. First, it proposes a framework in which factors found in extant research literature are validated in the study context. Some factors are found to be relevant and reflected in the data, the ones are found less relevant need to be investigated further in order to identify differences in geographic and market maturity. Secondly, the study identifies additional factors not previously found in the literature of mobile service adoption including m-payment. These new factors also influence the adoption of m-payment from the merchant perspective in New Zealand. Finally, the factors and challengers identified in this study may also provide insights into and assist business decision making for m-payment adoption. This study allows future researchers to further build and expand the knowledge of m-payment adoption in retail businesses.

6.6 Limitations

This study has several limitations. First, the data are collected from one specific group of retailers within one city in New Zealand. Retailers interviewed in this study are from relatively small businesses, some self-owned and operated. These businesses operate in quite distinctive manner. The result may not be comprehensive enough to draw conclusions about other major retail groups in different cities. More data could be collected in other major centres with large retail chains such as department stores and supermarkets from other parts of New Zealand.

Secondly, this study does not represent fully the picture of m-payment adoption in New Zealand since its primary focus is on merchants' attitude towards m-payment. There are other stakeholders that need to be considered such as consumers, network operators and banks. This study has investigated the factors that drive consumer adoption as perceived by merchants. The data collected that relates to consumer adoption is quite limited. The study area could be extended to if data are collected directly from actual consumers and other stakeholders. This would allow researchers to draw a more conclusive description of the factors that influence m-payment adoption in New Zealand.

6.7 Summary

This chapter concludes this research study by looking at the implications of the findings and contributions made by this study in relation to the factors and challenges of m-payment adoption facing retailers. It also looks at the limitations that this study might have and also shows what needs to be improved in future studies.

There are many avenues that have not been explored in this study. It can be the starting point for future research aimed at more in-depth understanding of the factors and detractors that drive m-payment adoption in New Zealand.

An empirical study is also recommended to examine the attitude of consumers towards m-payment in New Zealand. A survey based data collection is recommended because it could cover a larger population and it would help to tailor the service towards actual consumer expectations. It may also help the service providers with developing m-payment promotion materials for the general public. Additionally, topics such as m-payment business model and fee charging structure brought up by some

participants rise the need for further studies of major stakeholders such as mobile network operators, service providers and banks.

References

- Bangdao, C., & Roscoe, A. W. (2011). Mobile electronic identity: securing payment on mobile phones. In (Vol. 663, pp. 22-37). Berlin / Heidelberg: Springer.
doi:10.1007/978-3-642-21040-2_2
- Batchelor, S. (2008). Mobile phone-enabled payment systems – transformation 2008. *Enterprise Development and Microfinance*, 19(1), 13-30. doi:10.3362/1755-1986.2008.003
- Blaikie, N. W. H. (2000). *Designing social research: the logic of anticipation*: Polity Press.
Retrieved from <http://books.google.com/books?id=i4fBQgAACAAJ>
- Bradford, T., & Hayashi, F. (2007). *Payments system research briefing*. Kansas: Federal Reserve Bank of Kansas City.
- Chen, H., Chen, S., & Tsai, L. (2002). A study of successful ERP – from the organization fit perspective. *Journal of Systemics Cybernetics and Informatics*, 7(4), 8-16.
- Chen, L. (2004). Technology adaptation in E-commerce: key determinants of virtual stores acceptance. *European Management Journal*, 22(1), 74-86.
doi:10.1016/j.emj.2003.11.014
- Clark, T., Jeffrey, P., & Stephenson, T. (2000). Complex agendas for new technology adoption in the UK water industry. *Technovation*, 20(5), 247-256. doi:10.1016/S0166-4972(99)00131-5
- Dahlberg, T., Mallat, N., Ondrus, J., & Zmijewska, A. (2008). Past, present and future of mobile payments research: A literature review. *Electronic Commerce Research and Applications*, 7(2), 165-181. doi:10.1016/j.elerap.2007.02.001
- Dearing, J. W. (2009). Applying diffusion of innovation theory to intervention development. *Research on Social Work Practice*, 19(5), 503-518.

- Dhir, K. S. (1987). Analysis of consumer behaviour in the hospitality industry: An application of social judgement theory. *Int. J. Hospitality Management*, 6(3), 149-161.
- Dholakia, N., Rask, M., & Dholakia, R. R. (2008). It's an m-world after all: lessons from global patterns of mobile commerce. In F. B. Tan (Ed.), *Global Information Technologies: Concepts, Methodologies, Tools, and Applications* (pp. 3604-3631). doi:10.4018/978-1-59904-939-7
- Dholakia, R. R., & Dholakia, N. (2004). Mobility and markets: emerging outlines of m-commerce. *Journal of Business Research*, 57(12), 1391-1396. doi:10.1016/s0148-2963(02)00427-7
- DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, 40(4), 314-321. doi:10.1111/j.1365-2929.2006.02418.x
- EFTPOS NZ Limited. (2002). *The benefits of accepting card payments*. Retrieved 16 April, 2012, from http://www.eftpos.co.nz/cms_display.php?sn=154&st=1&pg=3829
- Ezzy, D. (2002). *Qualitative Analysis: practice and innovation*. Crows Nest: Allen & Unwin.
- Fletcher, H. (2012, April 2). *Telcos join forces for mobile payment push*. Retrieved from http://www.nzherald.co.nz/telecom/news/article.cfm?o_id=207&objectid=1079615
- 1
- Friesen, W. (2009). The demographic transformation of inner city Auckland. In *New Zealand Population Review*, (Vol. 35, pp. 55-74): Population Association of New Zealand.
- Godbole, R. M., & Pais, A. R. (2008). Secure and efficient protocol for mobile payments. In *10th Int. Conf. on Electronic Commerce (ICEC)* (pp. 1-10). Innsbruck, Austria: ACM. doi:10.1145/1409540.1409574
- Gódor, G., Faigl, Z., & Szalay, M. (2009). Mobile payment. In M. Khosrow-Pour (Ed.), *Encyclopedia of Information Science and Technology, Second Edition* (pp. 2619-2625). doi:10.4018/978-1-60566-026-4.ch418

- Hamblen, M. (2009). *Mobile payments will double by 2012*. Retrieved from http://www.pcworld.com/article/165694/mobile_payments_will_double_by_2012_researcher_says.html
- Hsu, L.-L., Lai, R. S. Q., & Weng, Y.-T. (2008). Understanding the critical factors effect user satisfaction and impact of ERP through innovation of diffusion theory [10.1504/IJTM.2008.019405]. *International Journal of Technology Management*, 43(1), 30-47.
- Hussey, J., & Hussey, R. (1997). *Business research: A practical guide for undergraduate and postgraduate students*. London: Macmillan.
- Jukic, B., Jukic, N., & Velasco, M. (2009). Enterprise information systems change, adaptation and adoption: a qualitative study and conceptualization framework. *Information Resources Management Journal*, 22(1), 63-63-87.
- Khan, J., & Craig-Lees, M. (2009). Mobile Payments: their effect on purchase behaviour. *ANZMAC 2009*.
- King, N., & Horrocks, C. (2010). *Interviews in qualitative research*. London: SAGE Publications Ltd.
- Kreyer, N., Pousttchi, K., & Turowski, K. (2002). Standardized payment procedures as key enabling factor for mobile commerce. In *Proceedings of the Third International Conference on E-Commerce and Web Technologies* (pp. 400-409): Springer-Verlag.
- Lakeman, R. (2008). Qualitative data analysis with nvivo. *Journal of Psychiatric and Mental Health Nursing*, 15(10), 868-868. doi:10.1111/j.1365-2850.2008.01257.x
- London, S. J., & Dommeyer, C. J. (1990). Increasing response to industrial mail surveys. *Industrial Marketing Management*, 19(3), 235-241. doi:10.1016/0019-8501(90)90015-n
- Mallat, N. (2007). Exploring consumer adoption of mobile payments – a qualitative study. *The Journal of Strategic Information Systems*, 16(4), 413-432. doi:10.1016/j.jsis.2007.08.001

- Mallat, N., Rossi, M., & Tuunainen, V. K. (2004). Mobile banking services. *Communications of the ACM*, 47(5), 42-46. doi:10.1145/986213.986236
- Mallat, N., & Tuunainen, V. K. (2005). Merchant adoption of mobile payment systems. In *Proceedings of the International Conference on Mobile Business* (pp. 347-353): IEEE Computer Society. doi:10.1109/icmb.2005.58
- Meade, P. T., & Rabelo, L. (2004). The technology adoption life cycle attractor: Understanding the dynamics of high-tech markets. *Technological Forecasting and Social Change*, 71(7), 667-684. doi:10.1016/j.techfore.2004.01.008
- Mehra, R. (2009). *Paying for goods and services using a mobile phone: exploring Mobile Payment Use and Adoption*. School of Computer and Information Sciences. Auckland University of Technology. Auckland.
- Michahelles, F., Thiesse, F., Schmidt, A., & Williams, J. R. (2007). Pervasive RFID and Near Field Communication technology. *Pervasive Computing, IEEE*, 6(3), 94-96.
- Pau, L.-F. (2009). *Mobile payments and a regulatory framework with proposals*. presented at the meeting of the A Telecommunications Economics COST Network, Kista/Stockholm, Sweden. Retrieved from <http://www.cost605.org/>
- Petrova, K. (2008). Mobile payment: towards a customer-centric model. In *Proceedings of the 2008 international workshops on Web Information Systems Engineering* (pp. 12-23). Berlin / Heidelberg: Springer-Verlag. doi:10.1007/978-3-540-85200-1_4
- Petrova, K., & MacDonell, S. (2010). Mobile services and applications: towards a balanced adoption model. In *4th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM 2010)* (pp. 182-188). Florence, Italy: IARIA/XPS.
- Petrova, K., & Mehra, R. (2010). Mobile payment: an exploratory study of customer attitudes. In *Wireless and Mobile Communications (ICWMC), 2010 6th International Conference on* (pp. 378-383)

- Pousttchi, K., & Zenker, M. (2003). Current mobile payment procedures on the german market from the view of customer requirements. *MPRA*.
- Research New Zealand. (2009). *Special report: small business in new zealand: myths and realities*. Wellington: Research New Zealand.
- Riemenschneider, C. (2003). Understanding it adoption decisions in small business: integrating current theories. *Information & Management*, 40(4), 269-285.
doi:10.1016/s0378-7206(02)00010-1
- Rouibah, K. (2009). The failure of mobile payment: evidence from quasi-experimentations. In *2009 Euro American Conference on Telematics and Information Systems: New Opportunities to increase Digital Citizenship* (pp. 1-7). Prague, Czech Republic: ACM.
doi:10.1145/1551722.1551751
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*: Pearson Education. Retrieved from <http://books.google.com/books?id=u-txtfaCFiEC>
- Schutt, R. K. (2006). *Investigating the social world: the process and practice of research*: SAGE Publications, Inc. Retrieved from <http://books.google.com/books?id=HBBJGJ2f5c0C>
- Sherif, K., & Vinze, A. (2003). Barriers to adoption of software reuse: A qualitative study. *Information & Management*, 41(2), 159-175. doi:10.1016/s0378-7206(03)00045-4
- Smith, M., Markendahl, J., & Andersson, P. (2010). Analysis of roles and position of mobile network operators in mobile payment infrastructure. In *21st European Regional ITS Conference*. Copenhagen. Retrieved from <http://hdl.handle.net/10419/44311>
- Statistics New Zealand. (2010). Apartment dwellers. In *2006 Census*. Wellington: Statistics New Zealand.
- Statistics New Zealand. (2011). *New Zealand business demography statistics: at February 2011*. Wellington: Statistics New Zealand.

- Taylor, S. J., & Bogdan, R. (1998). *Introduction to qualitative research methods: a guidebook and resource*: Wiley. Retrieved from <http://books.google.com/books?id=sBxHAAAAMAAJ>
- Teo, E., Fraunholz, B., & Unnithan, C. (2005). Inhibitors and facilitators for mobile payment adoption in Australia: a preliminary study. In *Mobile Business, 2005. ICMB 2005. International Conference on* (pp. 663-666)
- Thair, A., Luo, S., & Peter, S. (2010). Consumer acceptance of mobile payments: An empirical study. In *New Trends in Information Science and Service Science (NISS), 2010 4th International Conference on* (pp. 533-537)
- Tomi, D., & Anssi, O. (2007). Understanding Changes in Consumer Payment Habits - Do Mobile Payments and Electronic Invoices Attract Consumers? In *System Sciences, 2007. HICSS 2007. 40th Annual Hawaii International Conference on* (pp. 50-50)
- TVNZ. (2011). *Payment by mobile phone gets first NZ trial*. Retrieved from <http://tvnz.co.nz/business-news/payment-mobile-phone-gets-first-nz-trial-4222331>
- Venkatesh, V., Davis, F. D., & Morris, M. G. (2007). Dead or alive? the development, trajectory and future of technology adoption research [Article]. *Journal of the Association for Information Systems*, 8(4), 268-286.
- Verkasalo, H. (2009). Dynamics of Mobile Service Adoption. In I. Lee (Ed.), *Handbook of Research on Telecommunications Planning and Management for Business* (pp. 324-350). doi:10.4018/978-1-60566-194-0.ch021
- Viehland, D., & Leong, R. S. Y. (2010). Consumer willingness to use and pay for mobile payment services. *International Journal of Principles and Applications of Information Science and Technology*, 3(1).
- Vlachos, I. P. (2011). SMEs e-business behaviour: a demographics and strategic analysis *Journal of Enterprise Resource Planning Studies*, 2011, 21. doi:10.5171/2011.250358

- Wang, Y., & Qualls, W. (2007). Towards a theoretical model of technology adoption in hospitality organizations. *International Journal of Hospitality Management*, 26(3), 560-573. doi:10.1016/j.ijhm.2006.03.008
- Whiting, L. S. (2008). Semi-structured interviews: guidance for novice researchers. *Nursing Standard*, 22(23), 35-40.
- Xinyan, Z., Wei, G., & Tingjie, L. (2009). Study on consumer demands and merchant participation motives of mobile payment services in China. In *Proceedings of the 2nd International Conference on Interaction Sciences: Information Technology, Culture and Human* (pp. 1447-1451). Seoul, Korea: ACM. doi:10.1145/1655925.1656192
- Zmijewska, A., Lawrence, E., & Steele, R. (2004). Towards understanding of factors influencing user acceptance of mobile payment systems. In P. I. a. N. Karmakar (Ed.), *IADIS WWW/Internet* (pp. 270-277). Madrid, Spain

Appendices

Appendix A – Interview Questions

PART 1

Group 1. What does your business do? Does payment technology matter to you or your business? Expand:

- Yes, in what way? Improved efficiency may lead to profit gain? Any previous experience to suggest that clients would like to see improvement in this area?
- No - why not? Is it because of the type of service you do? Or it won't impact on the overall client satisfaction?

Group 2. Have you ever used a mobile phone as a medium to promote your business, such as TXT advertisement campaign? Do you see offering services utilising a mobile phone as a way to attract potential customers? Expand:

- What's your overall experience with mobile phone as a medium to conduct business?
- In your opinion, could services utilising mobile phone technologies attract customers? Why, or why not?

PART 2 [mobile payment is explained first]

Group 3. What do you see as significant barriers for you and your business to move to a mobile payment solution? Expand:

- Are you worried about security, reliability, and/ or setup/running cost?

Group 4. How would you describe/define as an acceptable cost to set up and start running a mobile payment enabled payment system? Expand:

- Would you be willing to pay more than you pay for your current system?
- Could you indicate how much more in %)?

Group 5. What level of technical support do you expect for such a system? Expand:

- Do you think it is going to require less or more technical support than your current system?
- Do you think you can manage it yourself?

Group 6. Are you satisfied with operating based on cash/EFTPOS for business transactions? Expand:

- Have you had any problems with it in the past?
- Could you explain what the actual cause was?

Group 7. Do you have competitors who are already utilising mobile payment technology in their business?

- Yes: do you think that this impacts on your business, how?
- No: do you think they will be soon doing it?

Group 8. How do you define 'efficiency' in your business? Would a mobile payment system help you operate more efficiently?

- Yes: in what way.
- No: why?

PART 3

Group 9. Would a mobile enabled payment system 'delight' some of your customers and improve your overall customer satisfaction?

- Yes: can you describe your customers (characteristics)? Why would they be delighted?
- No: why not, what do you think your customers are looking for in terms of payment experience.

Group 10. What is your opinion about mobile devices being the future 'wallets'?

- Good thing? Why is it good? Do you plan to embrace it once it becomes available to the general public?
- Bad thing? What are your concerns?

Appendix B – Participant Invitation Letter

An Invitation Letter



Bo Wang
School of Computing and Mathematical Sciences
Auckland University of Technology

June 10th, 2011

Dear Prospective Research Participant:

My name is Bo Wang, a Master's student studying computer and information sciences at Auckland University of Technology. I am currently working on a research project as part of my Master's thesis.

I invite you to participate in my study of mobile payment technology adoption. The study examines the possibility and affordability of mobile phone based payment systems as a suitable replacement for cash or EFTPOS payments. The full title of my research project is "Investigating mobile payment technologies as a replacement for cash/EFTPOS transactions". Your experience in operating in a business environment will help us to determine the factors that influence mobile payment technology adoption in retail. I propose to gather data for my study by conducting in-depth interviews with the research participants

The interview should take no more than 45 minutes. It will be structured around several questions. You will be under no obligation to answer a question, if you do not want to. The interview will be recorded with a digital recorder for later analysis. The information collected during the interviews will be considered private and will be used for this research study only. The identities of the participants and their personal and business details will be known only to me and my academic supervisor, and will not be revealed in any subsequent publication including my Master's thesis. More formation about this project is provided in the attached "Participant Information Sheet".

Any concerns regarding the nature of this research should be notified in the first instance to the Project Supervisor, Krassie Petrova, krassie.petrova@aut.ac.nz, 09-921-9999, x.5045.

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

Researcher Contact Details:

Bo Wang
School of Computing and Mathematical Sciences
Auckland University of Technology
Phone: 021 269 5641, Email: pgv2048@aut.ac.nz

Project Supervisor Contact Details:

Krassie Petrova
Senior Lecturer, School of Computer and Information Sciences
Auckland University of Technology
Phone: 09-921-9999, x.5045, Email: krassie.petrova@aut.ac.nz

Yours Faithfully,

Bo Wang

Attachments: Participant Information Sheet, Consent Form

Appendix C – Participant Consent Form

Consent Form



Project title: *Investigating mobile payment technologies as a replacement for cash/EFTPOS transactions*

Project Supervisor: *Krassie Petrova*

Researcher: **Bo Wang**

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated 10th of June 2011.
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ☐ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- ☐ If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- ☐ I agree to take part in this research.
- ☐ I wish to receive information (email) about where I can find a copy of the report from the research (please tick one): Yes ☐ No ☐

Participant signature:

Participant's name:

Participant's Contact Details (if appropriate):

Email :

.....

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted AUTEK Reference number type the AUTEK reference number

Note: The Participant should retain a copy of this form.

Appendix D – Interview Transcripts

Pilot Interview

Introduction.

Interviewer:

So, umm... you have gone through the information sheet and invitation letter. What do you think?

Just need to describe exactly how you feel about it. Anything you want to ask.

Are you okay with the study that is about to be conducted on you. And you have gone through the information provided.

Let's begin with specific questions.

Interviewee:

Yes.

Interviewer:

What does your business do?

Interviewee:

It's a Chinese restaurant.

Interviewer:

Does payment technology matter to you or your business in any way? payment technology as the way people paying for their meals.

Interviewee:

They normally pay by cash or EFTPOS. Yes, if we were in rush time, it can waste a lot of time.

Interviewer:

So would it in anyway improves efficiency? So that you get better profit gains, which means if we can improve the amount of time that people pay for their meals. As a business would you get a profit gain over it?

Interviewee:

Yes. [Improved efficiency will lead to profit gain]

Interviewer:

Do you have any previous experience that suggests customers are willing to adapt to such change, such improvement in the area of payment technology.

Interviewee:

Our restaurant normally has to rules such as on table one bill. But our restaurant some customers wanted to split bills, ten dollars and five people, takes a long time to clear the bills.

Interviewer:

Have you ever used mobile phone as a way to promote your business, in your case, have you seen your boss using mobile phone to promote your business?

Interviewee:

No, not yet. [Mobile phone was not used to promote the business]

Interviewer:

Do you see services utilising a mobile phone as a way to attractive potential customers? If you somehow business promotions over mobile phone, would it in anyway lead to more business.

Interviewee:

I think so. [Mobile phone promotions will lead to more business]

Interviewer:

Have you had any experience with business promotion over mobile phone?

Interviewee:

No, I haven't. [No previous mobile phone experience]

Interviewer:

What is your overall experience using mobile phone as the medium to conduct business? What if there is a way for you to use mobile phone to promote your business. Do you think it's going to be good or bad and why?

Interviewee:

I think it would be good. It's more convenient for the customers and our services.

Interviewer:

You mentioned Iphone, what do you think of Iphone being a good medium, doing business using Iphone or people owing Iphones? Do you have customer owing Iphones? What do you think you can promote your business through Iphones?

Interviewee:

Lot of them do own Iphones. Yes, I do think that we can promote our business over Iphones.

Interviewer:

In your opinion, could services utilising mobile phone technologies attract more customers? It's related to the previous question. I m interested to know if you think food services benefit from using mobile technology, it could benefit from several ways, one could be coming from mobile advertising, somehow a TXT message is delivered to the audience and come to your shop to make a purchase. Second way is that when they pay for a product they use their cell phone to pay. That's how I see this can benefit your business.

Interviewee:

Yes, I agree. [Utilising mobile phone could be beneficial]

Interviewer:

What do you think about the significant barriers for you and your business to move to a mobile based payment solution? Another word, what stops you and your business from having a mobile payment enabled terminal? Money, it could be one reason, having to purchase additional equipment. Is that a concern?

Interviewee:

Yes, I agree. But I think it's the customer still likes to use cash or EFTPOS. They thought it is a safer way to pay.

Interviewer:

Right, do you think security is one of the biggest issues, payment security? Customers from you past experience that they are more used to handle cash?

Interviewee:

Yes, I think so. [Security is one of the biggest issue]

Interviewer:

Also, don't you think that the cost of running such a system, mobile payment system is also a big barrier?

Interviewee:

I m not sure. But I think we would like to try the new payment system.

Interviewer:

Provided that the cost is reasonable?

Interviewee:

Yes, money is the key. [Cost of the system needs to be reasonable]

Interviewer:

How would you describe and define the acceptable cost to set up and start running mobile payment enabled system. Would you be willing to pay more than what you are paying for your current payment system?

Interviewee:

I don't think so. [Indicated the willingness to pay more for mobile enabled payment system]

Interviewer:

What level of technical support do you expect you will need to run such a system? You know you run advanced mobile payment enabled system, there could be technical issues. You might run into issues every now and then, it's still a brand new technology. It might require regular services and technical support. What level? Do you think you will need someone to call when there is a problem? Do you think you need someone to call once a day or twice a day?

Interviewee:

I do think it could cause a lot of problems for us as well as our customers. [indicated high level of technical support needed]

Interviewer:

So you are concerned about the reliability of the system? You are not comfortable with the technology just yet?

Interviewee:

Yes. [Concerns around reliability of the system and maturity of the technology]

Interviewer:

Do you think it is gonna require less or more technical system than your current system? Do you have a lot of issues with your EFTPOS system?

Interviewee:

Yes. [Indicated that there are lot of issues with the current EFTPOS system]

Interviewer:

Do you think this new payment system will create more issues than your current system?

Interviewee:

Yes. I think so. [Believes this system will create more issues]

Interviewer:

Do you think you can run this technology all by yourself without support?

Interviewee:

No. [Cannot run the system without support]

Interviewer:

How do you guys deal with trouble with your current EFTPOS system? Do you troubleshoot yourself or you call someone?

Interviewee:

Most time, we deal with them ourselves, small problems, but a lot.

Interviewer:

Are you satisfied with your current payment system?

Interviewee:

No. [Not satisfied with the current system]

Interviewer:

What sort of trouble you had in the past? Give me an example.

Interviewee:

Either customer card does not work or using the phone, we cannot use EFTPOS. We cannot use them both.

Interviewer:

So the way to solve that is just to stop using the phone which does not sound like a serious problem to me. It's more like operational issue. It's not really the problem of the technology, more about how to use it.

Interviewee:

It is our fault. [Indicated that the problem experienced was due to user error]

Interviewer:

Do you have competitors who are already utilising mobile payment technology in their business?

Interviewee:

Not yet. [No direct competitors using mobile payment technology]

Interviewer:

Do you think that this trend to have any impact on your business?

Interviewee:

I don't think so, most of them would prefer the EFTPOS machine.

Interviewer:

Do you think they will be soon doing that, your competitors? Would you see them having mobile payment system soon in their shop?

Interviewee:

Maybe. I m not sure. [not sure about competitors on mobile payment adoption]

Interviewer:

How do you define efficiency in your business? Would a mobile payment system help you operate more efficiently? Efficiency can be seen in your business as how fast you can serve your customers and increase the number of meals being served each day. It will translate to better profit return.

Interviewee:

Yes, that should help. It saves time and labour.

Interviewer:

Would a mobile enabled payment system delight some of your customers and improve your overall customer satisfaction?

Interviewee:

I think if you have one EFTPOS tilt, customer wait and loss patient after a while. Maybe if we use the mobile enabled payment system that will help this.

Interviewer:

Can you describe your customers' characteristics such as age, ethnicity and income level? What's the average price for their meal?

Interviewee:

Customer goes for average meal price 10 dollars.

Interviewer:

Can you describe your customers' characteristics such as age, ethnicity and income level? What's the average price for their meal?

Interviewee:

Customer goes for average meal price 10 dollars. Mostly, Asian with 50% of them being young.

Interviewer:

Why do you think they will be delighted with this new payment system? Paying their bills faster or for any other reason?

Interviewee:

I would say young customers would love to use this advanced technology payment system. They will be ease to accept this.

Interviewer:

What is your opinion about mobile devices being the future wallet?

Interviewee:

I think it is acceptable. It is a good thing. It is more efficient. [Opinion on future wallet]

Interviewer:

These days you carry a pile of cards in your wallet, one day in the future, all those cards get to be stored in your phone. You wouldn't need a wallet anymore, what would it mean to you? You open up your mobile phone and screen list your entire card for you.

Interviewee:

What happens when your battery goes out? What happens if you lose your phone? [concerns for e-wallet]

Interviewer:

Would you be getting one of those phones any time soon to replace your wallet?

Interviewee:

For me, not yet, I still prefer the old way. [not going to replace wallet with e-wallet immediately]

Interviewer:

How long you will stick to the old ways, after everybody's in your social circle changes?

Interviewee:

It has to be adopted by 50% of my friends before I switch over. [indicate when to switch to e-wallet]

Interviewer:

Do you see any negative side of this change other than the ones mentioned before?

Interviewee:

Security, knowing my money is not taken by someone else. Phone affordability is also a major factor.

Interview 1

Interviewer:

We have talked about the background about this technology. It is something in the scenery currently. Because of Smartphone has been widely adopted and people own all sort of Smartphone or similar devices these days which have mobile payment chips built into it. Those phones can be hooked onto a terminal which accepts payment transactions over it. I have got a set of prepared earlier for this interview. And I m just going to go through them with you and you can tell me what you do think with each one. Questions such as what you think about the technology as if it was installed in your shop.

Interviewee:

Okay.

Interviewer:

Would you be able to tell me a little bit about what your business is and what you business do in general?

Interviewee:

Mainly food services, people buying food from us and order directly over the phone. Both dine in and takeaway.

Interviewer:

Does the payment technology matter to you in any way or your business?

Interviewee:

Payment technology as using EFTPOS card? For us here, we only accept EFTPOS and no credit card. Fees are too high for credit card payment; we have to pay extra for that.

Interviewer:

Is it a very important component in your business?

Interviewee:

Yes, people have been using EFTPOS up to this stage or paying cash directly.

Interviewer:

So if there is a chance of actually improve the efficiency of this payment system? Would it lead to better profit?

Interviewee:

Maybe, because EFTPOS connects to the phone line and sometimes the phone is occupied because we have one phone line. They cannot be used at the same time. Phone order comes in, we cannot use EFTPOS anymore.

Interviewer:

Any way of better serves payment transactions that will help?

Interviewee:

Yes, if they could work simultaneously.

Interviewer:

Have you had customers who suggest to you that you should look into this area for payment?

Interviewee:

For myself, I wanted to move faster so the customers do not get keep in the queue for too long.

Interviewer:

Does the customer ever complain?

Interviewee:

Not much complain, they just leave if they cannot wait.

Interviewer:

Do you see that as an indication of unsatisfactory?

Interviewee:

Yes.

Interviewer:

Do you think your customer reaction is related to the type of business you are in? For instance, they just want food urgently and they could not wait. Do you think that plays a role in the way your customers react?

Interviewee:

Yes, my fast food customers do want fast service. A lot of them choose to use phone order. And they come in at the wrong time, pickup the food and make the payment and leave.

Interviewer:

This payment technology if it has been improved or could be improved would lead to better customer satisfaction?

Interviewee:

Yes, it will lead to better efficiency and happy customers?

Interviewer:

Have you used mobile phone as medium to promote your business in the past, Txt marketing for instance? People might be able to receive a txt coupons saying 10% discounts at your gold noodle house etc.

Interviewee:

I haven't tried those.

Interviewer:

In your opinion, utilising mobile phone will it attract more customers?

Interviewee:

I m not quite sure, because of the way my business operates; it may not give much of an effect at all.

Interviewer:

What do you see as being the significant barrier for your business to adapt to mobile payment technology?

Interviewee:

The technology and it really depends on the wider acceptance from customers before we can begin using it. Better tested and customer education.

Interviewer:

Not only the business needs to know how to operate it, but also customers need to know and accept it as well.

Interviewee:

Yes, then we will be able to follow the trend of the technology. We don't want to end up spending money on the machine not being used actively. It really depends on the market movement.

Interviewer:

What about the cost involved in getting one of those systems, unless it is too expensive?

Interviewee:

Yes, certainly, it's the same case if it was credit card. Extra cost 3% will be charged over us for customers who use credit card.

Interviewer:

Would you be willing to pay more what you are paying now for extra mobile phone capability? Or you would be expecting a reduction in the cost?

Interviewee:

I would prefer it to cost less unless it performs faster in terms of processing speed. The EFTPOS queue line keeps the customers in waiting which is not good.

Interviewer:

If this one offers phone connectivity and faster transactions, would you be willing to pay more?

Interviewee:

Yes, depends on how much more. A little bit more is okay if it can separate the phone line, and two can operate freely from each other. Working better and faster delivers better result, 50% more can be okay. Most important thing is that it does not hold the customers for too long.

Interviewer:

What level of technical support do you think your business will need, staff training for instance. With your current system, it has been around for a long time and well tested so people knows how to use them, less training required. With this type of brand new system, it needs to be supported. Do you think it will be very high such as weekly or less demanded a few times a year? Or 24/7 support etc.

Interviewee:

It's difficult to say.

Interviewer:

What is level of support you guys have with your current system? Like how many support requests each week?

Interviewee:

7 days a week from 9am to 10pm is sufficient. They need to support my business hours. Not much support calls, only sometimes when the system keeps failing. We first try troubleshooting ourselves by checking the phone line and payment terminal. Only after that we give them a call to see what is going on.

Interviewer:

How often does this type of thing happen?

Interviewee:

Not much, maybe once or twice a year. When I called, they said to me that it is something wrong with the terminal, and they just come in and replace it.

Interviewer:

For this type of new system, I would expect you to do couple of calls a month; it could be because it is new and going through a test period.

Interviewee:

Do you mean that technicians have to come over and check the terminal?

Interviewer:

Support calls and on-site diagnose all together. Can you point out the number of times you would expect to call the service provider? Do you see it being more or less than your current system?

Interviewee:

Don't think so, if the new system is tested okay, there should not be that many. Only when it fails, stops working, it would be the same procedure as with the current system.

Interviewer:

Interesting! Can you actually troubleshoot yourselves?

Interviewee:

Not all the time, sometimes the key pad fails and I give them a call, they come over within 3 hours and change the keypad. Equipment failures cannot be dealt with by us.

Interviewer:

Are you satisfied with this current system?

Interviewee:

Yes, it is kind of okay. But the issue is that it gets slower processing transactions for some reason. It does hold the customer for a while. The notion of swapping the card takes time, plus it does not read every customers bank card. I wipe them first and sometimes the magnetic strip reader is not very sensitive.

Interviewer:

Are any of your competitors using mobile payment system?

I have never seen one yet. But I have seen mobile EFTPOS terminals though. It also accepts EFTPOS card and it works the same way, no wire. It is easy to carry with built in battery. It is used in goods delivery, not in my competitors. Every time, suppliers come along, I can just pay with their mobile payment terminals. Competitors that I know of use the same type of efpos machine.

Interviewer:

How would you define efficiency in your business?

Interviewee:

The entire transaction needs to be faster, same for people work at the back as well as customer service. Front staff needs to be able to take the order faster. Everything has to move fast to be able to perform efficiently. The goal is to turn over the orders quickly. Faster means more revenue.

Interviewer:

Do you see your competitors in the same industry to adapt to this new technology any time soon?
Do you see a possibility?

Interviewee:

Maybe, some people use mobile devices to take order such as Ipad. It does not have much an impact on my business right now. Because my business is Chinese food, a lot of ingredient involved. It can be complicated for those devices to take special orders such as no onion or some other ingredient. This makes it very hard to be taken on a system like ipad.

Interviewer:

If they had this new payment technology installed in their shop, do you see that being a threat to your operation? Would you see them getting more customers?

Interviewee:

Depends on their business is like. If you run the business well and keep the booking system running okay, then payment system can help and takes away a lot of headache.

Interviewer:

Are you an early technology adopter? As one that always buy the latest gadgets.

Interviewee:

Not really, but I have got an Iphone. I found it being quite useful. You can do a lot with those smartphone such as checking email.

Interviewer:

Would you say if you had this new payment system in place, would you say this new system delight your customers?

Interviewee:

It can be more convenient for them, and it may save time for them as well as for you. In turn drives more business.

Interviewer:

Can you briefly describe about the general characteristics about your customers? For instance, age and look.

Interviewee:

Young, old people, european, Asian and Indian etc. all sort of people coming to my shop. During the day, most of them are from surrounding offices well dressed.

Interviewer:

Do you see them holding Iphones a lot?

Young and student appear looking people use Iphone and they are very open to new technologies. Same for people working in the offices.

Interviewer:

What is your opinion about future electronic wallet? All your cards can be found inside your phone. And use your mobile phone as your wallet.

Interviewee:

Yes, I do like that idea. But it has to be safe. Safety comes first. Not easy for someone to break in and access your cards.

Interviewer:

Is that a good thing?

Interviewee:

I think the buses are going to use this e-wallet concept. You don't need to buy ticket anymore to get on the bus. You just wave the card and the money is deducted. And it is a good thing, and it is convenient as long as it is secure and reliable.

Interviewer:

Do you want to use one of those phones?

Interviewee:

Certainly, I will try.

Interviewer:

Thanks for your time. It is now the end of the interview. Very nice to meet you and talk to you about this interesting topic.

Interview 2

Interviewer:

Can I begin by introducing you to this new concept of mobile payment technology? It is the next generation of payment system which aimed at replacing the current EFTPOS terminals or every than type to conduct purchase payment transactions.

The interview is aimed at figuring out the factors that influences business decision making when it comes to payment technology adoptions. So are there any questions in regards to the technology itself?

Interviewee:

No, I think I basically understand what you are talking about and understand what you mean.

Interviewer:

Great! The interview will be constructed along a set of questions. It will last somewhere between 30 to 40 mins. Number one, what does your business do in general terms?

Interviewee:

As you can see, we do coffee and aims to deliver service and products within limited time. And it needs to be fast, it is kind of like a fast food business.

Interviewer:

Café restaurant highly depended on the speed of the service. Does payment technology matter to you or your business in anyway?

Interviewee:

Yes, it is of course. [Payment technology matters to the business because dependency on service speed]

Interviewer:

In what sort of sense? Does it help your productivity; does it help you with profitability?

Interviewee:

Imagine your EFTPOS card transactions, regardless of the speed of the EFTPOS system, any customer would have to take out their wallet and choose an EFTPOS card, and it can be the wrong card without money and give to your people, swap it or insert the card, put in the price, put in the number, and print out the receipt. They have to take their card back and put back into the wallet or they pay cash. There will have changes involved, 2cents and 5cents all that takes time and time consuming.

Interviewer:

It definitely sounds that it has significant on business productivity.

Interviewee:

Yes, hugely. In my other café, they tend to have lines of people waiting for their café.

Interviewer:

How many café shops do you own?

Interviewee:

At the moment two, what I m thinking to have something like that installed in my other shop if its possible.

Interviewer:

You are already thinking about that.

Interviewee:

Right now, it may not be using the mobile phones but it could be more like using the bus card.

Interviewer:

What's the name of that thing? Snapper, is it? Snappier also allows you to pay for smaller items such as coffee.

Interviewee:

I did a little trial, and every transaction actually saves you 35 seconds on average. And imagine you have two and three hundred transaction a day and you add that up, it becomes like an hour each day in time saving.

Interviewer:

It all adds up, doesn't it? Do you have clients who indicated to you that they have the desire for such a system?

Interviewee:

I m talking to other companies about it.

Interviewer:

I meant your client coming to your door to get coffee, have they ever mention something to you that they want something different in ways of paying their bills and getting a speedier service.

Interviewee:

No, conversations never go that deep yet. Because it is fast and you grab the coffee and go. We never had that sort of conversation. But I can tell that people are lining up to wait for our products. The last thing they want to do is to spend 25 cent in the shop.

Interviewer:

So that is a pretty well proved indication of such system, it will have a place in the market place. Have you ever used mobile phones as a media to promote your business?

Interviewee:

Absolutely. Not yet.

Interviewer:

Have you been involved in any or thinking about doing any?

Interviewee:

The things we can do is the smart phone always have apps that let you to find café and rating etc. and twitter as well. It is something I m thinking of doing anyway.

Interviewer:

You are pretty into this technology fields, sounds like it.

Interviewee:

No, the thing is that how do you promote your business most efficiently.

Interviewer:

It is trendy and popular, and people like to use cellphones to find and do things.

Interviewee:

At the moment, I have to say that it is not that popular. People are still quite conservative. They like the original such as vouchers.

Interviewer:

Physically printed vouchers?

Interviewee:

Yes, they feel more secure. I do understand it will take a while to get popular.

Interviewer:

Would you say that utilising mobile phone will in some ways attract more customers?

Interviewee:

Yes and no, not everyone has a smart phone. That is the thing. It seems like every phone is a smartphone these days. But group of people is not taking advantage of them. They have difficulties for them to connect and trust the system. Whether it is online sales or something else, people do take awhile before trusting a system at the moment.

Interviewer:

So that in turn leads to mobile phone being a less preferred promotional media?

Interviewee:

Does not apply to just mobile phones, anything they cannot see in real.

Interviewer:

What do you see as being the significant barriers for business to adopt mobile enabled payment gateway?

Interviewee:

Payment method and cost.

Interviewer:

Is cost a one of biggest barrier for business?

Interviewee:

Not really apply to business, coz that system will be given to us free at the introduction period? The concern is with the customers. For us, we want to sell goods and services, for the payment supplier, they want to charge the transactions that go over it. That is going to be the most difficult part, it is not the shop but it is for the customers.

Interviewer:

So you saying that, it probably leads to a reduction on the profit you might be able to make.

Interviewee:

No, I thought about your stuff before, to me customers want simple stuff and once again, it is not so much for the business. To address your questions, the cost does not come from the shop. It is taken from the customers. The cost flows down to the customers. But the question to me is will the customer accept this cost. Are they willing to pay 20 cent for each transactions, it is how the payment supplier makes money and it will be the business mode. It can be the most difficult part.

It is the same case as for those parking machines on the street, you can use TXT and you can use cellphone. But the thing is that you have to extra to get the service. I wonder how many people extra are using them.

Interviewer:

What about reliability or some other issue such as setup cost or security?

Interviewee:

For the business, it is actually not that relevant, coz once the contract is signed; this responsibility will go down to the payment supplier, suppliers are obligated to pay us the money. To the other side, it could well be a different case for the customers.

Interviewer:

What do you think about the acceptable cost to setup a system and running a system like this?

Interviewee:

We rent the EFTPOS machine if it costs us 50 - 70 dollars a month.

Interviewer:

Is that a fixed monthly rental contract? You pay transactions cost separate on top of that?

Interviewee:

Yes, it is a fixed monthly contract. No additional charges.

Interviewer:

How much more would you be willing to pay if payment system enabled?

Interviewee:

It depends, if it is a busy place, they might be willing to pay more. But on average, I would say no more than what we current are paying.

Interviewer:

Our opinion is that this sort of system should come into the same price range as what you have got now.

Interviewee:

Yes, reasonable rate. Say everyone else charges 50 and you charge 70, and your system saves their time and hassle, they never will freak out. If it is not that, then it is not that.

Interviewer:

Sure, the level of technical support for your current system compares to the level of technical support to run a mobile enabled payment system, what do you think? Do you have a lot of trouble with your current system?

Interviewee:

Not really, most of the things are easy to fix.

Interviewer:

You were able to take care of those yourselves?

Interviewee:

Yes, that is the key, if you in the business, you cannot have your EFTPOS system break down, especially true for a café like this. For retail business if you have your tilt stuff up and you cannot do business.

Interviewer:

In terms of frequency, do you ever get in touch with the supplier for technical support? How often?

Interviewee:

This business has been opened for more than four month, once in the beginning and once in the middle. That is it.

Interviewer:

Once in the year?

Interviewee:

Once in the four month period.

Interviewer:

Hardly contact them at all.

Interviewee:

Coz we don't need to, it is easy to use.

Interviewer:

Would you expect the same level of technical support with this new system?

Interviewee:

It needs to be, we need to be able to fix most of the problem at our end. The system itself should never break down.

Interviewer:

Are you satisfied with the current system?

Interviewee:

For my other shop, no. it is just too slow.

Interviewer:

Is efficient you biggest concern?

Interviewee:

Yes, it is the time.

Interviewer:

Terrific, can you explain to me what the actual cause was for the delay?

Interviewee:

It depends on what sort of stuff you are looking at. My other shop is a lot smaller; it can have only a line of 7 people. Once the queue extended out the main door, then people go "I don't have time for this". Imagine for retail business like this, café break can be from 10 minutes to 30 minutes. You get a 10 minute break, really want a cup of coffee, you go down from you office which takes 2 minutes and you find yourself a café on the street, 5 minute already gone, and if you need to wait for another 5 minute to get your coffee, too bad, you won't have the time.

Interviewer:

Delays are mostly due to using EFTPOS card?

Interviewee:

No, you need 30 second to make a coffee. You need another person to facilitate the transaction, for the business owners, I m not talking from a customer perspective. If you got a tile, you need to hire someone to run this tile. It does not matter if you have customers or not, you need to pay them to run the tile. For the business, that is the hardest part. If you had the thing just beeps and done, money goes straight to your account.

Interviewer:

Is that a huge relief for your business?

Interviewee:

Yes, for the customers as well. I carry my phone anyway coz I cannot miss out any business calls.

Interviewer:

That is great, how do you see your competitors being involved in this technology, utilising this new payment system?

Interviewee:

I saw them overseas, not in local retail stores, and they normally installed in bars, clubs, subway and car parks, those types of areas.

Interviewer:

So you haven't seen any local café shop equipped with such system?

Interviewee:

No. it's going to be hard coz how do you make that system work?

Interviewer:

Some people that I came across in the past mentioned to me that banks are speaking to them currently for something like this and wanting to get their feedbacks. Have you had any of experience like this?

Interviewee:

Not yet.

Interviewer:

It's just a matter of time maybe?

Interviewee:

This is something related to smartphone, then who is going to provide the best service?

Interviewer:

You will have to evaluate the service providers, how would you define efficiency in your business?

Interviewee:

Highest level as possible.

Interviewer:

Is it going to be judged on the number of walking in the door, speed in which they leave?

Interviewee:

Efficiency as in the transactions or efficiency in general?

Interviewer:

In general.

Interviewee:

In the retail business like this, efficiency and quality is the most important to be concerned. Anything can save you a simple 35 seconds; can make a big difference at the end of the day. Sometimes you just need those 35 seconds. You cannot cook something a few seconds less to expect it to taste the same. A few seconds mean a lot in the retail business like this.

Interviewer:

Would you see that mobile payment enabled system can help you efficiency?

Interviewee:

I do believe any busy business or retail shops that mobile payment business can be an easy sell. Can you imagine right now, looking from the customer's perspective, the efficiency in easy payment and less hassle they need to be worried about.

Interviewer:

Not only business will benefit from this, what you saying is that the customers are actually the biggest group of people who could benefit from this the most. Would mobile enabled system delight your customers?

Interviewee:

For some, yes. If that is the only system we have right now, let's say you combine with the current system and add another facility. In time, you take over, at the moment, if people don't have a smartphone capable of payment; they need some other way to pay. You can have two system installed in the shops and people will go with ones with less hassle. Keep the original system with extra capacity, to run both in parallel.

Interviewer:

Can you describe the characteristics of your customers; are they young equipped with phone?

Interviewee:

Our customers are lawyers, accountants and office people, pretty high end people working in around the area.

Interviewer:

Do you see them holding smart phones such as Iphone?

Interviewee:

Yes, they all have smartphones. For the older generation, maybe not.

Interviewer:

Would they be delight by being able to pay their purchase with their phone?

Interviewee:

I think most of them would love it and found themselves excited about this. Then it comes down to what sort of phone, network company and app they need to get in order to do this.

Interviewer:

You are talking about the hassles involved in getting them up and running. What is your opinion about this future wallet concept?

Interviewee:

Digital wallet is always the theme in the past five years. You pay online and phone credits.

Interviewer:

Even your door keys. Is it a good thing for you?

Interviewee:

If it is stable, yes.

Interviewer:

What are your concerns, stability, reliability, safety and security etc?

Interviewee:

All of them actually.

Interviewer:

Do you plan to embrace this new trend once it comes out, be the early adopters?

Interviewee:

I will initially sit and wait. Not till late, but once it stabilises itself. Maybe after three month. Never buy anything in the first three month.

Interviewer:

Traffic, in terms of bad things. Your concerns are more around security?

Interviewee:

Safety.

Interviewer:

Is it that you worried what happens next when your phone gets stolen or anything else?

Interviewee:

Not so much being stolen, you could always have a PIN code on your phone. But it's more to do with your phone currency, would it be easily replicate? You know, for someone to replicate the signal of your phone is not that difficult. It can be seen much seen to be using original ways such as swap card and PIN number.

Interviewer:

Technology does come very risks as well. I think we are coming to an end of this interview. Thank you for your time and it has been a wonderful interview. Thanks for your input.

Interview 3

Interviewer:

This is the beginning of this interview, thank you for taking time off and assists this research. It is an interesting topic though because it represents the progression of payment technologies from what we have today EFTPOS card terminals and cash. Maybe in a year ahead, we will properly see more of those mobile phones being adopted by the public. We will be seeing payment terminals that accept mobile phone as the payment gateway. This research is about finding out from retailer point of view what things contribute to the adoption of this technology and more specifically drivers for retailer to embrace this new technology.

Interviewee:

Ok.

Interviewer:

What does your business do in general?

Interviewee:

For retail I guess, it sells sandwiches and coffee.

Interviewer:

How many hours does it open during the day?

Interviewee:

It from 6am to 6pm, 12 hours a day.

Interviewer:

How many people work there?

Interviewee:

It's like a family business; we have people coming in the morning to help with making sandwiches. 5 people in total.

Interviewer:

Does payment technology matter to you or your business in anyway?

Interviewee:

Yeah, because that is how people pay for our service.

Interviewer:

In what way? Would it have any impact on your overall profit for your business?

Interviewee:

Right now, we only have EFTPOS, a lot of people pay with their cards. Not a lot of people pay by cash. That makes up a large chunk of our income coming through EFTPOS till.

Interviewer:

Put in a percentage proportion, how many people come through with cards and how many with cash.

Interviewee:

About 70-80% [using cards].

Interviewer:

Ever you had any experience previously customers suggested to you guys to improve in this area?

Interviewee:

No really.

Interviewer:

Do you have queue during rush time? And how many people standing in the queue?

Interviewee:

Yes, about three or four each time on average. During lunch is busy and it can be as more as five people.

Interviewer:

How you guys used mobile phone as a medium to promote your business?

Interviewee:

No.

Interviewer:

TXT vouchers and apps, there are a few things that you guys could do.

Interviewee:

Stamp vouchers are the only thing we have at the moment. Nothing involves mobile.

Interviewer:

Have you guys ever looked into this area for promote the business using mobile phone.

Interviewee:

Not at the moment?

Interviewer:

What is your opinion on using mobile phone to promote your business?

Interviewee:

It sounds quite good, some shops do the facebook promotion which you are access by phone, at the moment, I m not sure if we are big enough to do that. I would like to if it helps coz we do get a lot of student customers from AUT. So if we had the mobile promotion deals, then it could expand our business.

Interviewer:

What about in general, conduct business through mobile phones, such as placing orders and pay for their orders.

Interviewee:

Some of the lunch catering orders do get through from mobile phones.

Interviewer:

What do you think about the significant barriers for this mobile enabled payment technology?

Interviewee:

At the moment, it is not really developed yet and wide spread. I don't think a lot of people know about it unless they are very techy about them and on top of those technology news.

Interviewer:

What you think as being the most worried about for your customers or you worried about once this technology gets into your shop?

Interviewee:

It makes things a bit complicated I guess, I haven't really through about it.

Interviewer:

Could setup cost become a deciding factor?

Interviewee:

It really depends on how many people pay by mobile as oppose to the cost of installing it. Some of them charges maintenance fees, it could be the same as the EFTPOS. There are hire cost too.

Interviewer:

What about reliability?

Interviewee:

It will depend on how good the system is.

Interviewer:

Can you think of potential problems once the technology gets into your shop? Do you get a lot of problem with your current one?

Interviewee:

With the EFTPOS, not really unless it gets a decline as a result of insufficient fund in the customer's account.

Interviewer:

Are you worried about security? People paying by mobile phones can be quite different from people paying by card.

Interviewee:

Yeah, it might be different since you are no longer need the pin numbers. It should be okay. [as long as the technology is proven to be working and well tested] we just need to keep an eye on it and make sure the transaction does go through.

Interviewer:

What you think about the acceptable cost to have this system? Would you be willing to pay more or less?

Interviewee:

Not really. I think it should be at the same cost to an EFTPOS terminal or a less bit cheaper, and then we could have both. Not more expensive than the current system people have like EFTPOS. If it costs more and not a lot of people know about it then I think there won't be much movement towards it.

Interviewer:

How much less in percentage perspective?

Interviewee:

10%-20% not hugely low. If it is a bit cheaper, than that makes it easier for people to consider getting it.

Interviewer:

What level of technical support would you consider for this new technology?

Interviewee:

Coz it is new at the moment, being able to call in someone to come in and take a look. It would help if there is a 0800 number set up for that.

Interviewer:

Are you suggesting that rather than doing the troubleshooting yourself, you want someone to come in and perform troubleshoot?

Interviewee:

Yes, it would be nice. I think in the introductory period, an onsite support would be necessary.

Interviewer:

In terms of frequency, would you have some idea of how many times would you need them in a month or in a year?

Interviewee:

A lot of people use mobile which is nearly everyone. If it takes off, there could be a lot of payment made through it. Couple of times a month may just be enough that is what we are currently needed for EFTPOS. We just had an issue just now, that for some reason, ANZ cards don't go through. So we called and asking about the issue with technical support. It turned out that person did not have any money on it. It said something else other than decline. And the tech guy said that there is no money on the card.

Interviewer:

2-3 times a month is that all you need for tech support?

Interviewee:

Yeah, not very often.

Interviewer:

Would you expect the new system to work within the same range?

Interviewee:

Yes.

Interviewer:

Do you think you can troubleshoot the problem yourself?

Interviewee:

Maybe, there should be a manual for it. If I can talk to support people over the phone, yes maybe.

Interviewer:

It's good to have technical phone support while you are doing troubleshoot, are you satisfied with your current EFTPOS system?

Interviewee:

It's okay. We don't take credit cards. Sometime, it can be a bit trouble when people don't have anything else but credit cards.

Interviewer:

What was the reason you guys don't accept credit cards?

Interviewee:

Because of the extra commission we have to pay.

Interviewer:

Would it be good to have a system that does not require extra commission and covers everything including credit cards?

Interviewee:

Yes.

Interviewer:

Have you had major problems with your current EFTPOS system?

Interviewee:

No. nothing major. It's all like malfunctioning and turn out to be user error.

Interviewer:

Would you say it is reliable in general?

Interviewee:

There has not been any machine failure.

Interviewer:

What about your competitors, do you see any of your competitors utilising payment technology?

Interviewee:

No, not really. Its either cash or EFTPOS. Some people take more cash than EFTPOS. I meant some businesses in the building. Some people do better than us, and they haven't used anything new as far as I can tell. The donut shop uses facebook promotion; they had a lot of customers at the shop opening period. I don't want to use facebook for things, just one of those things I don't like about it. For shop promotion, it might be useful.

Interviewer:

Do you think this technology would have an impact on your business overall?

Interviewee:

Yes, like I said to you before, we do get a lot of student customers who have smartphones. If this gets into the public for usage, then it will have an impact. Coz some people will ask to pay by mobile, we will have to response with “sorry, we only have cash or EFTPOS”.

Interviewer:

Do you think this new technology will come soon?

Interviewee:

Hopefully soon, coz smartphones are kind of getting better now. And there are a lot of apps for them, so it should be pretty soon.

Interviewer:

Do you have a smartphone?

Interviewee:

No, it's too expensive for me to afford it right now. The ones I was looking at were at \$800 mark or above. The ones within my budget are not that good. So I m just waiting for the price to come down or the phones themselves get fine tuned so they become easier to use.

Interviewer:

How would you define efficiency in your business?

Interviewee:

Coz people just come in to get things quickly. I think speed is the main factor for efficiency.

Interviewer:

How long does the transaction take?

Interviewee:

With EFTPOS, it takes 1 min. the whole transaction take 3 – 5mins.

Interviewer:

How you see mobile enabled payment system helps in efficiency in anyway?

Interviewee:

Yes, I think it would. EFTPOS machines are kind of slow and it takes time to read the card. Would the mobile thing be similar to snapper?

Interviewer:

Snapper could be a step before mobile phone. And it can be converted to mobile phone payment very easily as long as the same chip is built into the mobile phone.

Interviewee:

It depends on how the payment goes through. It will certainly be faster than EFTPOS.

Interviewer:

It could well be the case if there is not payment terminal needed, people just set their phone and authorise the payment at the point of exit. Would you say mobile payment enabled system delight your customers?

Interviewee:

Yes, some of them are busy, if they had it and we were able to provide the payment service. They will just do it. It cuts their wait time short.

Interviewer:

Would it add any competitive advantage to your business if you had it before anybody else?

Interviewee:

It might be good.

Interviewer:

What is your opinion on future e-wallets?

Interviewee:

It is convenient and at the same time, there is less security coz it is your phone. I m kind of worried about that if I had my phone as a wallet.

Interviewer:

Is it a good thing?

Interviewee:

There are security measures against it like snapper cards; you can set the limit to 5 transactions every day. Or set money limit on it. I think that goes through mobile payment, it would make it safer. Yes, it would be easy.

Interviewer:

Would you be willing to embrace it once it comes out?

Interviewee:

Yes, if I had the right phone.

Interviewer:

Is phone a contributing factor?

Interviewee:

Yes.

Interviewer:

What are your concerns? Security being one of them. What if your phone battery goes flat?

Interviewee:

I would still carry backups such as cash or EFTPOS cards. EFTPOS will not fade out immediately. I always carry cash as well as my cards. If one of them fails, I can just go with the others. It is just another means of transaction. It will not be the only one. It should be fine.

Interviewer:

Can you describe the characteristics of your consumers?

Interviewee:

We get a lot of variety, we have students coming for lunch, we have cooperated people coming in. and we get random past by. Students are the main customer group. That's why we are doing some deals for them.

Interviewer:

For this target group, you can come up with a lot of marketing strategy for them.

Interviewee:

Yes.

Interviewer:

That is the end of the interview. Thanks for your time.

Interview 4

Interviewer:

Let's get started, can you begin by asking you about what you business do?

Interviewee:

It's a dairy shop.

Interviewer:

Does payment technology matter to you or your business in anyway?

Interviewee:

Yes, I think so. It is a lot quicker, time saving, but it has problems as well if we have power cut.

Interviewer:

Is it a crucial component to your business?

Interviewee:

Of cause, definitely.

Interviewer:

How do you define efficiency in your business?

Interviewee:

I have a few hundred customers each day, and walk 6 kms within the shop area from the front counter to the back and shelving ales, receiving customers. It is a very busy shop, I have a lot of customers in a day and that leads to big increase on the usage of EFTPOS machine. The more [customers] the more.

Interviewer:

Would it have an overall customer satisfaction?

Interviewee:

I think it will. At least 95% of the people choose to use EFTPOS. It is a big part of business.

Interviewer:

Have you ever used mobile phone as a medium to promote your business?

Interviewee:

Not yet, not for my business. But I do know mobile phone to transfer their money if their card swap fails.

Interviewer:

Have you ever used TXT vouchers or facebook for example?

Interviewee:

No.

Interviewer:

What is your opinion on using mobile phone to attract more customers? Would you see mobile phone as a medium to promote your business?

Interviewee:

I think it is possible because nowadays more and more people using mobile phone. It is more convenient.

Interviewer:

Do you see you customers using mobiles a lot?

Interviewee:

Yes, it is convenient for everybody.

Interviewer:

What you see as being the significant barriers for the mobile system if it gets into your shop?

Interviewee:

Not sure much of barriers though, say if I have a power cut, it is going to be a big problem. With mobile phone powered transaction, it would have the same problem as well. When there is a power cut, I feel irritated.

Interviewer:

Let me put it in a slightly different way, what are your concerns if the mobile system replaces your current EFTPOS system? Cost for example.

Interviewee:

Of course, cost is the first thing we will need to look into. For example, how many little machines do I need to have on the counter? I need one machine that will work for everybody who works into the door. You see I have got so many machines, it is a nightmare.

Interviewer:

How many machines have you got here?

Interviewee:

Four.

Interviewer:

What are they doing individually?

Interviewee:

They are from different companies one for EFTPOS and one for bus card and snapper, and another for phone card. If I want to expand my business later on, I might have to have a display of machines from different companies. I have got special queries from customers already. "Look at your counter, it's cluttered with a display of machines". My response was what I can do. They are incapable to each other. If in the future, one little machine could serve all purposes, that would be ideal. It can save a lot of space on my front counter. It is one of my biggest concerns at the moment. I don't want to have another small machine sitting there and wait in line to serve one purpose.

Interviewer:

Do you have to pay separately for each one? Is it a big cost to you?

Interviewee:

Yes, of course. I don't have an option at the moment.

Interviewer:

In terms of cost, what would you see as being the acceptable cost of this new system to come in? increase or decrease?

Interviewee:

The lower the better, I don't know how low can you people go.

Interviewer:

Is your acceptable percentage?

Interviewee:

No more than 50% increase. Otherwise, I won't accept it. If it is too much, I prefer to stay with my old ones.

Interviewer:

What about reliability?

Interviewee:

Of course, it got to be 100% sure. The chance of error should be kept down to 0.00001. Because we rely on that, if that one does not work, it will affect all business.

Interviewer:

What about the cost of running system?

Interviewee:

We talked about the cost before, was it related to running setup cost or running cost?

Interviewer:

Let's say it was for set up cost.

Interviewee:

Set up should be free. Because all mine current system is free for set up. Running cost is different, because it is another business, should not be over our ability to afford it. If it is less than what I'm paying for my current system, it will immediately jump on it. If it is the same, I will still go with it. If it is over, I will certainly refuse.

Interviewer:

In terms of level of technical support needed, what would you suggest? Let's first talk about the current technical support.

Interviewee:

Whenever, there are problems I just rang the company. More often they just tell me you need to do this and you need to do this. I feel quite confused and I don't like that. I want support people to come to me immediately.

Interviewer:

How often do you get trouble?

Interviewee:

Five or six due to power cuts. The system comes back in shortly afterwards, but still I lost customers because of that. Other problems I had with snapper, I contacted them several times. And their support did not respond as far as I would like them to.

Interviewer:

How often do you call then?

Interviewee:

EFTPOS is pretty okay. It's got less trouble. I hope the new mobile system will work like this one. Snapper is new and we had a few problems with them. 2-3 times over a period of three months so far. That is still too much. Coz we cannot afford to do that.

Interviewer:

What about EFTPOS?

Interviewee:

That goes relatively well with other system. It is properly once or twice a year.

Interviewer:

Is that power cut included?

Interviewee:

5 or 6 times a year is common. With the construction nearby, you never know when one might strike.

Interviewer:

Do you expect the mobile enabled system to fall into the similar rate in term of technical support?

Interviewee:

Could be.

Interviewer:

With the current EFTPOS system or snapper, which one do you think it would be?

Interviewee:

If it replaces my other machines would be more welcomed.

Interviewer:

Do you think you troubleshoot the problem yourself?

Interviewee:

I think I can in most situations. But with technical thing, if it's related to the system, then I won't be much help.

Interviewer:

Do you have to rely on phone support or on-site support?

Interviewee:

At the very beginning, I think on-site support would be much welcomed. Only later on, after a few month, and transit to phone support if it is available and provided the system goes well.

Interviewer:

Are you satisfied with your current EFTPOS system?

Interviewee:

For EFTPOS, it is okay. Not for snapper.

Interviewee:

Why are you not satisfied?

Interviewer:

Because I m paying it out of my own pocket for rental. Sale rep said to me it is a good business, but it does not look like that to me because the sales of it should cover all the running cost of the system. That is not the case.

Interviewer:

Are you making a loss from that system?

Interviewee:

Yes, no profit from it at all. I talked to the company several times and no solution. I m thinking of pull the plug on that one.

Interviewer:

Would you see mobile enabled system to run into the same situation?

Interviewee:

We won't accept it if it goes like snapper.

Interviewer:

What you about your EFTPOS system?

Interviewee:

It is more reliable than any other one I have.

Interviewer:

So the profit you make out of it covers the cost of running the system?

Interviewee:

I don't know. Never compared and we just have to pay for the rental cost anyway.

Interviewer:

It is something you must have.

Interviewee:

Yes, we pay monthly rental whether it covers the cost or not. We just have to.

Interviewer:

Have you had problems with your EFTPOS system?

Interviewee:

Probably not with the system itself but with machine. I m not happy with it being two pieces. I asked one whole set but sale rep gave me a new one after ten month after signing the contract.

Interviewer:

What about actual failures such as power cut? Is there anything else?

Interviewee:

Yes, that's why we need onsite support and shows us how to run it properly. I need a list for simple self directed troubleshooting. If we can solve it then onsite support will be needed. We lose sales as a result of that. Sometimes the system does not work properly; we cannot tell whether it's the card or the machine. The sensors of those machines have to be strong. We had to swap the card several times. Customer says their card works elsewhere only not working on your machine. But my machine works for others. We had trouble finding out what the actual fault is. Less of this type of thing would be better.

Interviewer:

Do you see your competitors having mobile payment system?

Interviewee:

No.

Interviewer:

Do you think mobile payment system will have any impact on your business?

Interviewee:

No. it should give us easy and simple process.

Interviewer:

Would it happy to you build up your profit?

Interviewee:

In terms of time efficiency, it should.

Interviewer:

Do you see your competitors to have this system soon? Is there possibility that your competitor will have the system before you?

Interviewee:

Not sure.

Interviewer:

Would you the system help you to improve business efficiency?

Interviewee:

Yes, only if it helps to cut the transaction time short. My customers will like it very much.

Interviewer:

From business perspective, would you like to have it?

Interviewee:

Yes, I would like to.

Interviewer:

What sort of customers do you normally receive? Can you describe the characteristics of your customers in general?

Interviewee:

This system will help our business because it saves waiting time. I m sure my customers like it well. Most of them use mobile phones and young to middle aged. Card is also a modern technology; most of them choose to use their cards over cash.

Interviewer:

Would you say that this new mobile payment system will delight your customers?

Interviewee:

I think so. It is something new to most people. New is always good.

Interviewer:

What is your opinion on future electric wallet? It is this new concept that instead of carrying your cards you carry your mobile phone with all cards stored in it.

Interviewee:

It could be both. Once it has problems, I won't be able to do anymore purchase. What happens when I run out of money and need to do transfers? Or what if the battery goes out, if the phone gets lost, would it be safe to my cards? It could be one more thing for people to look after. Plus the risk of radiations from frequent mobile phone use. Those are the problems.

Interviewer:

Do you see any benefit?

Interviewee:

Less paper work, it is safe if it works in normal conditions. If it gets lost, it can be a different story.

Interviewer:

Do you see downside outweigh the benefit?

Interviewee:

No.

Interviewer:

Would you be willing to adopt it?

Interviewee:

If it is for my business and the cost is under my current system, I will love to take it. But if it is more I would be hesitated.

Interviewer:

For personal use, would you adopt to it?

Interviewee:

I would love to give it a go.

Interviewer:

That is the end of your interview, thanks for your time.

Interview 5

Interviewer:

Let's get started, can you begin by asking you about what you business do?

Interviewee:

It's a lunch bar.

Interviewer:

Does payment technology matter to you in anyway?

Interviewee:

Sometimes, coz we don't accept credit card here. Lot of people would like to pay by credit card. Because of the extra charge, we don't accept credit card?

Interviewer:

Do you think improvement in payment technology would lead to profit gains?

Interviewee:

Not really.

Interviewer:

Why?

Interviewee:

It won't have much change. People prefer to pay by cash or EFTPOS. Most people resist to change.

Interviewer:

How you had customers who suggest to you to look into this area?

Interviewee:

Never.

Interviewer:

Why do you think that is the case?

Interviewee:

You got to see from the whole country. If everywhere we go, they start using the new payment technology, and then people would like to use it. If it only starts from one shop, I don't think it will have much of an impact.

Interviewer:

Have you ever used mobile phone as a medium to promote your business?

Interviewee:

I heard about this idea before, but no.

Interviewer:

What type of staff you heard about?

Interviewee:

There was a company across the road. They use TXT as a channel to promote businesses. But the company went bust last year.

Interviewer:

You never tried yourself? Why wouldn't you?

Interviewee:

Coz it does not matter and it is not a big deal. Because we are serving surrounding customers, it won't have a big impact.

Interviewer:

What is your overall experience with mobile phone being used in business?

Interviewee:

It's convenient and it's good. It takes time for people to adapt to the concept and use it.

Interviewer:

In your opinion, do you think services utilising mobile phones will attract more customers?

Interviewee:

I think for those big organisations, it would. Not for small businesses like us. The cost effectiveness is the key to be thought about.

Interviewer:

What do you see as being the significant barriers for you and your business to adopt to mobile payment technology?

Interviewee:

It's the cost.

Interviewer:

What about any other ones such as reliability or security?

Interviewee:

They are also part of the factors, but the main thing is cost.

Interviewer:

What do you see as being the acceptable cost?

Interviewee:

As for the EFTPOS system, we pay a monthly rental fee which is the acceptable cost to me. And because everyone likes to use it, customers then adopt to it without the need to carry cash around. Everything depends on how much you start to charge people when it is being used. When we need to do parking fee, we can TXT to pay for the ticket. But it double charges. That really discourages people from using it.

Interviewer:

In the perspective of your own business, what sort of level of cost, would you accept to pay more or less than your current system?

Interviewee:

I don't mind to try, but I m not sure how the whole thing would work. It should be at the same level of what we are paying now for EFTPOS.

Interviewer:

Can you indicate how much in terms of percentage?

Interviewee:

I can accept it to be 30% more. But I do need to see how to use it and whether it is convenient enough for you to check bank account at night. It should allow you to check on the usage data every day. EFTPOS system is doing a good job.

Interviewer:

What level of technical support would you see you will need for a system like this?

Interviewee:

Not sure about this.

Interviewer:

Do you need a lot of technical support with your current system?

Interviewee:

No, never.

Interviewer:

If there are problems, do you think you can troubleshoot the problem yourself?

Interviewee:

If I have a guide to teach me, I can just follow it. I think so.

Interviewer:

Have you done any troubleshooting with your current system?

Interviewee:

They have a user guide. Every problem I might have, I would just check against the list. It is easy to follow.

Interviewer:

Are you satisfied with your current system?

Interviewee:

Yes

Interviewer:

Never had problems with your current system?

Interviewee:

No.

Interviewer:

Do you think your competitors will utilise this technology anytime soon?

Interviewee:

Not sure. It all depends on the cost. I don't think people like to pay more to use this flash stuff, unless the big shopping malls start first. It's like the chip cards, they were not accepted everywhere at the beginning.

Interviewer:

Do you think that will have an impact on your business?

Interviewee:

Yes, it will, but won't be much.

Interviewer:

If the competitors to get the technology before you, do you think there will be negative impacts?

Interviewee:

No.

Interviewer:

How do you define efficiency in your business? Such as like selling more products in a day?

Interviewee:

Good. It has little to do with technology. Does not matter so much how flash the equipment I use, it all depends on the food quality and taste.

Interviewer:

It could not have anything to do with the technology, but just in general, do you think you can operate more efficiently?

Interviewee:

We have to wait till the whole economy gets better. Right now it is economy down turn. Everywhere is slow, so are we.

Interviewer:

Would mobile payment system help you to operate more efficiently?

Interviewee:

No. Not now especially. Payment is not a main thing, it's all about convenience, food taste and quality. Not like the shop malls where you have mobile payment and people like to come to your place because of that. Here, people are used to their current payment method such as EFTPOS and cash and they are happy to carry on.

Interviewer:

Do you get queues line up at lunch time?

Interviewee:

Used to be like that. Not anymore.

Interviewer:

Would you say mobile payment system delight your customers? Why?

Interviewee:

Yes, it's a flash stuff. It's cool. Everyone likes to learn new stuff which makes them happy.

Interviewer:

Can you describe the characteristics of your customers? Age, agenda etc.

Interviewee:

They are mainly working class. They are all work around in the area. All age group, office people.

Interviewer:

Why do you think they will be delighted?

Interviewee:

People like new system in general. They should be okay to accept idea and the concept.

Interviewer:

Because the mobile payment system could cut your customer waiting time short, do you think that can be a factor which contributes to your customer satisfaction?

Interviewee:

Coz I don't have much idea of how this thing could work potentially. I cannot comment on that.

Interviewer:

The system would work like this, you authorise the payment from you phone prior to come to the counter and attached the phone towards the receiver, than a beep sound will alert once the contact is successful.

Interviewee:

That should be good. It will cost time when I really get busy.

Interviewer:

From your customers' perspective, do you think they will value this much?

Interviewee:

Yes.

Interviewer:

Do they have the desire to be quick, come in, grab an order and leave immediately?

Interviewee:

Yes, some of them do. Especially true during lunch time, most of those customers who only get an half an hour break. When there is a sunny day, they just want to grab a lunch, go and find a space to enjoy.

Interviewer:

What is your opinion on mobile device being the future wallet?

Interviewee:

I think that will happen. Maybe in ten years.

Interviewer:

Do you think it is a good idea?

Interviewee:

It's a good idea; it's safe and better, faster too.

Interviewer:

Do you have any concerns?

Interviewee:

Like you said when people use their cellphone to scan the thing. And how do you know if they scan the right thing. Even with EFTPOS machine, sometimes you charge more, sometimes you charge less, mistake happens. You got to really careful about every time you press the keypad. But for the mobile phone, it is going to depends on how you actually operate as well as security. You will need to pursue people trust in the system to use it. For example, online banking, a lot of my friend won't use it because it is perceived to be not safe.

Interviewer:

Do you use online banking?

Interviewee:

Yes, I do for every transaction. Lots of my family members they just don't use it. They rather go back to the branch and queue.

Interviewer:

Would you be willing to adapt to the e-wallet concept when it comes out?

Interviewee:

Yep. Sure. I would like to try. I quite like geeky stuff.

Interviewer:

Let's just go back to the question on issues with current EFTPOS system. Some people I interviewed prior have complains regards to power cut and they see power cut a big issue. Is it not happening here?

Interviewee:

It really depends on the location. Here we are in central Auckland with less power cut. It has only appeared once in the past. It is also relates to the provider I choose. I pay more than others for better service. We use the most reliable one.

Interviewer:

How do you know which one is the reliable one?

Interviewee:

Because compare the monthly rental we pay, some of them only charges \$50 a monthly but ours charges \$70. We never had anything failure. The pub next door, they always have EFTPOS breakdown.

Interviewer:

What about card scan problems?

Interviewee:

Hardly anything. I think it all depend the provider. I pay more but they have been very good and stable most of all.

Interviewer:

That's the end of the interview.

Interviewee:

Hope I can help.

Interview 6

Interviewer:

Let's get started. What does your business do?

Interviewee:

Our premise is a liquor shop. Generally, we do local businesses.

Interviewer:

Does payment technology matter to you or your business in any way?

Interviewee:

Yes, it's either cash or EFTPOS. Most people choose to pay by EFTPOS, some of them pay by cash or credit card.

Interviewer:

Do you think matter to you in your operation?

Interviewee:

It does not make much difference. People come to the shop and pay for whatever they buy. I don't quite know about the technology scene at the moment. EFTPOS so far has been the most important method for payment.

Interviewer:

It matters to you in what way? Does it lead to better efficiency?

Interviewee:

I have never considered it in that way. Yes, I do prefer to pay by faster method. For instance, if you swap your card today, I can see that payment tonight. Even minutes afterwards, that would be helpful for me which should be possible with today's technology. Current banking system only allows me to see payments after 10pm for the total amount.

Interviewer:

Have you had customers suggests to you that you should improve in this area?

Interviewee:

Not at all. Nobody even mention this. Some people uses different credit card such as dinner's club or American express. We just applied for those two cards.

Interviewer:

You don't accept those two cards currently?

Interviewee:

Not for the first year in the business, we only begin to take those cards this year. Coz there was not enough customers using those cards. And they extra fees which lowers my margin. As a business, we have to accept customers with different cards. That's why we decided to apply this year.

Interviewer:

Have you used mobile phone as a medium to promote your business?

Interviewee:

No. Just traditional ways such as printed flyers. We print around 2000 flyers each year and mail them locally. I don't think there are a lot of customers come back because of the promotion flyers. They only need to know your location and come here frequently as regular customers.

Interviewer:

Do you normally serve local customers?

Interviewee:

After two years in business, we almost know every local. It's good that people like to come to buy your products and talk to you. They share history and story with you.

Interviewer:

Do you see mobile phone helping you to promote your business?

Interviewee:

Yes, if the technology is good enough, then that could help.

Interviewer:

What is your overall experience with mobile phone as a medium to promote businesses?

Interviewee:

The phone means to me just to use to phone other people and communicate. It can be seen as a traditional way to use a mobile phone. Big companies such as Apple want to change people mind by using the phone for other purposes. Currently, we use mobile phone to do surfing and online banking. It helps people to understand what is happening quickly and more effective when it comes to doing business.

Interviewer:

Do you think in your opinion, utilising mobile phones would attract more customers?

Interviewee:

To be honest, I don't think so.

Interviewer:

Why?

Interviewee:

Could you show me opinions or benefits you could get from using mobile phone?

Interviewer:

Facebook for instance or txt vouchers etc... Have you ever heard about this?

Interviewee:

Who pays for it?

Interviewer:

Obviously business owners.

Interviewee:

I don't like doing it this way. It's like emails, most promotional emails are discarded very quickly. You should have the same experience, you get hundreds of emails and you just delete them in a few second. It does not mean a lot to people. If you print it on a paper, even newspapers such as NZHerald, people look at them more carefully and pay attention to them. Promoting business through mobile phones, I'm not sure. If everybody is doing this, I will follow suit. Not for the moment though.

Interviewer:

What do you see as being the barriers for mobile payment system to come into your business?

Interviewee:

I'm not sure what do you mean about mobile payment.

Interviewer:

[Explanation of mobile payment technology]

Interviewee:

Ok. How about you lost your phone and people get access to your password etc?

Interviewer:

Yes, that can be seen as a barrier, security.

Interviewee:

How often do you change your phone? Most people change their mobile phones every one or one and half year. Does it mean you are changing the cards as well? You will have to re-register them

again. It can be a bit of problem for us using it in business. Not efficient. How about the old phone with a new sim card, can it still be used for payment? Currently, no one is doing this type of business. So I'm not sure. Government should lead and organise the public to embrace technology, then we can trust. Private companies with new ways of doing business, I find it hard to accept it. Reputation of the phone maker and operator, even the distributor is also important. Some companies can be trusted, some cannot. It is the same with choosing an insurance company. User information gets lost or manipulated too [privacy] you never when and where.

Interviewer:

In terms of cost, what is the acceptable cost to you for mobile payment system?

Interviewee:

Not more than what the current EFTPOS merchant. Currently, we spend probability \$43 dollar for EFTPOS machine rental per month. Exceed this range, I don't think we can accept it unless it perform other function as well. The living cost is increasing too quickly. I have to be careful with managing budget both personal and business. We are trying to save money at the moment.

Interviewer:

Are you thinking the cost to be the same or less?

Interviewee:

Yes, if it is like paying for the internet, you got all the [incoming] information for free. It can be the same for the mobile. More people will use it to do business.

Interviewer:

In terms of technical support, do you experience a lot of problems with your current system?

Interviewee:

No, from my two years of my experience, there was only one outage due to network failure. It's not our fault. It's the network centre. I actually don't know what exactly happened. But the cards could not work, it was only about half an hour. It was not much trouble for us.

Interviewer:

Is that the one time you had trouble with it?

Interviewee:

Yes. It was the only thing we had.

Interviewer:

If there were issues, would you be able to troubleshoot the issue yourself? Did you have to call someone?

Interviewee:

No. problem goes away automatically. I don't know what they have done, we just pay the fee and they provide a [support] service.

Interviewer:

For this new mobile enabled payment system, do you expect the problems to be complex to troubleshoot?

Interviewee:

I prefer the easiest way to do business. I simply don't want to be involved in any technical troubleshooting. It is not part of business operation. My job is to serve my customers with good wine and beer. I prefer spend time on wine searching and knowledge gathering with running a good business which includes how to introduce good product and sell wine to my customers. Having to deal with technology is not part of my job. It's the job of the manufacturers to hire the best engineering team. I just want the product in perfect condition to help me to do the business not the other way around which I'm helping them to do their business.

Interviewer:

Are you satisfied with your current EFTPOS system?

Interviewee:

Nothing is prefect. People always have strange ideas. I just follow suit. Current system such as visa or EFTPOS works well. I think I'm satisfied.

Interviewer:

Do you have competitors who already utilising mobile payment system?

Interviewee:

Not to my knowledge. As much as I know, most shops use the same payment method. Some are even more backward using traditional paper based. Manual inventory handling, they don't even use the point of sale systems.

Interviewer:

Do you think that will have an impact on your business?

Interviewee:

Say 50% uses mobile to attract customers, we will follow suit. Otherwise, not willing to take risk and invest in this area. In this industry, everything is set up and you don't need to carry so much about everything else. We just need to be focused and provide great customers service. It is a steady business and we are not willing to take unnecessary risk.

Interviewer:

Do you think your competitors will be doing that soon?

Interviewee:

Not in our industry. It's in retail industry, this system will not make much of a difference. People come to you, not so much you go to them.

Interviewer:

How do you define efficiency in your business?

Interviewee:

Sell more and spend less.

Interviewer:

Will the mobile enabled payment system help you operate more efficiently? Would it mean that you can sell more bottles of wine?

Interviewee:

No.

Interviewer:

Do you have queues waiting to pay for their purchases? Do you think this thing will cut off waiting time for your customers?

Interviewee:

You see so many people lining up at supermarket wanting to make the payment. There is always a long wait, it should go to them first. I want to see the system first. If they are not doing this, it could mean it is not working very well.

Interviewer:

Of course. Would you see mobile enabled payment system to delight your customers?

Interviewee:

I think physical interactions are a better way to attract customers.

Interviewer:

Can you describe the characteristics of your customers?

Interviewee:

New Zealanders have a drinking culture, young and old both drink, no agenda differentiation either.

Interviewer:

What about ethnic groups or income level.

Interviewee:

Rich drinks more, poor drinks less. They both do. It is a big consumer group.

Interviewer:

Do you see them having smart phones in their hands?

Interviewee:

Most people use iphone. Iphone 3 or iphone 4.

Interviewer:

What is your opinion on mobile being the future wallet? Imagine you can load in your credit cards into your mobile phone and it becomes your virtual wallet. Is it a good thing?

Interviewee:

It takes us back to the first question, how secure it is. Is there enough safety in place? Not sure. When you pack so many features into one device, it might not be so desirable. It becomes unnecessarily important. What happens when you lost your wallet, you can go to the bank or school. If you lose the phone, you lost everything. And also governing law and regulation needs to be put in place which is also important for me. Those are my biggest concerns.

Interviewer:

In your opinion, is it a good thing or bad thing?

Interviewee:

I cannot tell.

Interviewer:

Would you be willing to embrace the technology when it comes out?

Interviewee:

I will try but I will wait. I did not buy the early versions of iphone, but I waited and brought iphone4 coz it is mainstream. I want to see what happens first. I then make a decision; I'm not a fashionable guy walking around with the latest gadget.

Interviewer:

Terrific. That is the end of this interview. Thank you for your time.

Interview 7

Interviewer:

Let's get started, what does your business do in general?

Interviewee:

It's a café and lunch bar providing people with food.

Interviewer:

Does payment technology matter to you or your business in anyway?

Interviewee:

Yes, that is how people get to our products. That matters to us and we receive payment for their purchase.

Interviewer:

If there is an improvement in the technology itself, would it lead to better profit?

Interviewee:

Maybe, that can be quicker, instead of giving cash. Payment period can be cut short. It can be what the mobile payment technology brings to us.

Interviewer:

Have you had client or customers suggest to you to look into this area?

Interviewee:

Not at the moment.

Interviewer:

Have you used mobile phone as a medium to promote your business?

Interviewee:

Not at the moment.

Interviewer:

Have you heard about it?

Interviewee:

No.

Interviewer:

Are you keen to look into this area?

Interviewee:

Yes, if it helps to bring up the business.

Interviewer:

Do you use paper based materials to promote your business?

Interviewee:

At the moment, coz we are in an office area, we promote our business by giving take away lunch menu. We use this kind of way to let people know. Those have our number, so they can ring us through. Some customers are just walking pass by. People work in this area is quite stable. Those people come to us day by day. We are targeting regular customers. People you have done business with can be different. Around here, we almost see each other every day.

Interviewer:

Do you think mobile phone to attract more customers?

Interviewee:

Maybe, if this technology does bring to us those benefit.

Interviewer:

Do you that will have an impact on your overall customer satisfaction?

Interviewee:

If this technology works quicker and stable, no point of error, I think so [satisfaction]. Coz now everybody carries their cell phone. Of course, you want to use them wherever you can. It is a good idea.

Interviewer:

Do you see mobile phone being a good medium to promote your business?

Interviewee:

Yes, because most people have mobile phones.

Interviewer:

What do you see as being the signification barriers towards bringing in mobile payment technology?

Interviewee:

Not sure. Not everyone will understand how this technology works. At the moment, I don't quite understand how this technology works and how good it is. Lack of understanding can be a barrier.

Interviewer:

What about other factors such as cost and reliability etc.

Interviewee:

For me to run a business, keeping the cost down is an advantage. As more people using it, it can bring the cost down. Just like EFTPOS, most people use it. And we all understand how it works. It becomes a must have.

Interviewer:

How would you define acceptable cost for mobile payment system?

Interviewee:

Of course, I would expect it to be less.

Interviewer:

By how much less in comparison with what you got now?

Interviewee:

The less the better. I don't have a right answer for it. I wish it could be free. But I also understand it is a business that there will be cost associated with this service.

Interviewer:

In terms of technical support, do you get a lot of trouble with your current system?

Interviewee:

Not really, if something goes wrong, we always have a number to ring and sort the problem out over the phone.

Interviewer:

Does it go offline often?

Interviewee:

No, very stable.

Interviewer:

How often do you ring the support line?

Interviewee:

Twice a year.

Interviewer:

Do you just call the number and follow their instructions to overcome the issue?

Interviewee:

Yes, straight away.

Interviewer:

Do you expect to have the same level of technical support?

Interviewee:

Of course the support is important at the start stage. Technical support should be made free for a start.

Interviewer:

What method do you prefer, phone or onsite?

Interviewee:

Of course phone support. Phone is better coz people get to deal with people not people with computer and computer to people. Coz when we have a problem we want to get the problem solved straight away, not like an hour later. Customers could walk away if it is that slow.

Interviewer:

Do you think you can manage troubleshoot yourself for this new system?

Interviewee:

If we have good knowledge, it will take some time.

Interviewer:

Do you need written instructions?

Interviewee:

Yes, I more prefer phone support.

Interviewer:

Are you satisfied with your current EFTPOS system?

Interviewee:

It is one of the easiest things to have at the moment to allow the customer to pay other than cash. It seems people always have cash in their wallet. EFTPOS is a very important part.

Interviewer:

Have you had problems with your EFTPOS system?

Interviewee:

Yes.

Interviewer:

What about actual failures such as power cut? Is there anything else?

Interviewee:

At the moment, we are lucky that we did not face any of those problems.

Interviewer:

You mentioned you had a few failures in the past. What are they?

Interviewee:

That was phone line problem. It was telecom I think. They tell us to unplug it and plug it in again. It works after they did something over their end too.

Interviewer:

Do you see your competitors having mobile payment system?

Interviewee:

No.

Interviewer:

Do you think mobile payment system will have any impact on your business?

Interviewee:

Yes. If that system works well and running smoothly every day, it would definitely be good for your business.

Interviewer:

Would it help you to build up your profit?

Interviewee:

Not really, it is more like an alternative way of doing the payment. Not sure if it will help build up profit.

Interviewer:

Would it attract more customers, another word, would you customers care?

Interviewee:

No. it's just another way of doing payment. In the future, I think we will have cash or EFTPOS and mobile. It is just one more option for the customer.

Interviewer:

Do you see your competitors to have this system soon? Is there possibility that your competitor will have the system before you?

Interviewee:

It's all about when this technology becomes available to us. We are trying to stay ahead.

Interviewer:

How would you define efficiency in your business?

Interviewee:

Serving more customers I think.

Interviewer:

Would the payment technology help you to serve more customers and operate more efficiently?

Interviewee:

There is quite a possibility.

Interviewer:

What about the speed in which transaction could get through?

Interviewee:

Yes, the most important thing is about the time of the payment. Processing time could be quicker with this technology.

Interviewer:

Would a new mobile payment system delight your customers?

Interviewee:

I think so. Everybody uses mobile phones and loves new technology.

Interviewer:

What are the characteristics of your customers?

Interviewee:

Mid-aged office people. Most of them have smartphones.

Interviewer:

What is your opinion on mobile phone being future wallet? It is this new concept that instead of carrying your cards you carry your mobile phone with all cards stored in it.

Interviewee:

It can be a good idea. One less thing to carry. Security is very important due to the credit card etc. stored in it.

Interviewer:

Would you be willing to adopt it?

Interviewee:

Yes, first of all, I like other people to try first.

Interviewer:

Any other concerns you might have apart from security?

Interviewee:

Reliability can be a concern. It may not be working 100% so it needs to be reliable. And what happens the phone gets lost.

Interviewer:

That is the end of your interview, thanks for your time.

Interview 8

Interviewer:

Let's get started, what does your business do in general?

Interviewee:

Its health supplement store, we mainly sell health supplements.

Interviewer:

Does payment technology matter to you or your business in anyway?

Interviewee:

Yes, it does.

Interviewer:

Why is it important for you?

Interviewee:

We are in retail so we need to have this right. Every time a customer comes in, payment technology is important and it has to be professional and perfect.

Interviewer:

How many people come in with EFTPOS card?

Interviewee:

At the moment, we are getting approximately 10 customers per day. 80%, most customer uses EFTPOS cards.

Interviewer:

Would an improved payment technology helps with business efficiency?

Interviewee:

Maybe, we need to see what exactly it does.

Interviewer:

How do you define efficiency in your business?

Interviewee:

It really depends on the number of people working in the shop as well as good performance from the EFTPOS machine.

Interviewer:

What is the efficiency in your business?

Interviewee:

Number of products sells in a day as well as a faster payment system which allows us to serve customers quicker. Some people use cash as well.

Interviewer:

Have you had client or customers suggest to you to look into this area?

Interviewee:

Some customer asks for VISA payment.

Interviewer:

Do you accept credit card at the moment?

Interviewee:

Yes, we do. But not cards from overseas. For that we need to open a new contract with our provider. Most of your customers are local.

Interviewer:

Do you think payment technology contribute to your overall customer satisfaction?

Interviewee:

Yes, it is okay for customers who come to visit the shop. But a lot of customers who come to our websites and payment technology become essential.

Interviewer:

Have you used mobile phone as a medium to promote your business?

Interviewee:

Never thought about that. I was thinking more of mobile banking not so much over business promotion.

Interviewer:

Are you thinking mobile being a utility tool rather than a tool to attract more customers?

Interviewee:

Yes.

Interviewer:

Are you going to start looking into mobile promotions?

Interviewee:

Yes, it is a tool that we use every day. Mobile can be a good medium.

Interviewer:

How would you promote your business over mobile?

Interviewee:

Not sure. We need to figure out the options before we can start doing promotions.

Interviewer:

Do you think mobile phone to attract more customers?

Interviewee:

Yes. Some customers come in and want to make purchase with EFTPOS then find that their account is overdrawn. They need real time money transfer. We don't have a computer for them to use at the moment. So we lead them our mobile phone to do the banking.

Interviewer:

What do you think for you and your business as being the significant barriers of adopting this new technology?

Interviewee:

Bank initiative will be helpful if they say to us that we must use it, we will use it. I think in the wider retail market starts to adapt to the new technology, we will too. Cost is not the biggest issue. Cost is important in comparison to the EFTPOS machines.

Interviewer:

Do you think the cost would be lower in comparison to EFTPOS?

Interviewee:

Yes. About 20% less is acceptable.

Interviewer:

In terms of technical support, do you get a lot of trouble with your current system? Do you have problems with your current EFTPOS system?

Interviewee:

Not really, we only have 20 to 30 customers a day. it is not like the busy retail shop. Normally, problems are related to power cut and card error because the magnetic.

Interviewer:

Do you get them every day?

Interviewee:

One or two per week the most.

Interviewer:

Do you expect to get a lot of problem with the new system?

Interviewee:

Not really provided it does not use internet because the internet goes down, the system goes down with it. I'm thinking it should be as easy to operate if not more compares to EFTPOS terminals. It really doesn't on how the system works.

Interviewer:

Do you think you can manage troubleshoot yourself for this new system?

Interviewee:

If the system goes out, I should have a number to contact for troubleshoot. They need to give instructions as what to do. Two or three times a year would be enough. It depends if the system is reliable enough.

Interviewer:

Are you satisfied with your current EFTPOS system?

Interviewee:

Yes, I think so. Because since I had the machine, customers have been using it frequently. Not a lot of problems happened.

Interviewer:

Do you see your competitors utilising mobile payment system in the future?

Interviewee:

Yes, if all retailer shops have this system, we will have to get it too.

Interviewer:

Do you see your competitors getting on the technology before you do?

Interviewee:

We want to stop in the front coz there is a competition. So we will get it before them. I m not very familiar with technology, but we are trying to get on top of that.

Interviewer:

Would a mobile payment system help you operate more efficiently?

Interviewee:

Yes, from my own experience, mobile phone is with us all the time, using it pay is a better way. Same goes for the hop card used in the bus.

Interviewer:

Would it help you to build up your profit?

Interviewee:

If people do like the idea of paying things fast, maybe there is a profit gain for us.

Interviewer:

Would it attract more customers, another word, would you customers care?

Interviewee:

No. it's just another way of doing payment. In the future, I think we will have cash or EFTPOS and mobile. It is just one more option for the customer.

Interviewer:

Would a new mobile payment system delight your customers?

Interviewee:

We don't know at the moment. We need to use the system for a period of time to know whether it helps or not.

Interviewer:

Do you think you customers will be interested in this technology?

Interviewee:

Its more about the people's personality. I know most people like to get their payment done fast.

Interviewer:

What are the characteristics of your customers?

Interviewee:

Mid-aged to older people. Young people don't take health supplements. Mostly 30 plus.

Interviewer:

Do you think they will have problem using the mobile technology?

Interviewee:

People use iphones all the time, to me that am a new piece of technology. I don't think any of my customers will have trouble using it.

Interviewer:

What is your opinion on mobile phone being future wallet? It is this new concept that instead of carrying your cards you carry your mobile phone with all cards stored in it.

Interviewee:

For me, I agree with that concept. But one thing is what happens after you lose it. There are so many stuff in girl's bag, there could always be something goes missing. We carry mobile phone at the time, so that can be a plus. Card is much more vulnerable. We use the phone consistently such as check time. The system need to offer protection if we lost the phone, there should be some ways to stop it from being used. Just like it with cards. Password protect can be one way of securing the phone from unauthorised use.

Interviewer:

Are there any other concerns you might have?

Interviewee:

The best way could be to have them both, keep the phone along with cards so they can all be used.

Interviewer:

Thank you for your time. It is the end of the interview.

Appendix E – Ethical Approval



MEMORANDUM

Auckland University of Technology Ethics Committee (AUTEC)

To: Krassie Petrova
From: **Dr Rosemary Godbold and Madeline Banda** Executive Secretary, AUTEC
Date: 21 June 2011
Subject: Ethics Application Number 11/120 **Investigating mobile payment technologies as a replacement for cash/EFTPOS transactions.**

Dear Krassie

Thank you for providing written evidence as requested. We are pleased to advise that it satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC) at their meeting on 9 May 2011 and we have 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 11 July 2011.

Your ethics application is approved for a period of three years until 20 June 2014.

We 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/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 20 June 2014;
- 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/ethics>. This report is to be submitted either when the approval expires on 20 June 2014 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 AUTECH 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.

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 AUTECH and ourselves, we wish you success with your research and look forward to reading about it in your reports.

Yours sincerely

Dr Rosemary Godbold and Madeline Banda
Executive Secretary
Auckland University of Technology Ethics Committee

Cc: Bo Wang pqv2048@aut.ac.nz