

## **A Study of Bruneian Customers Use of Mobile Services: Examining Theory of Consumption Value with Customers Loyalty**

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### **Abstract**

*The study investigates the 220 mobile services users selected randomly among students and staff of a technical university in Brunei Darussalam in understanding as how the various factors of perceived value and loyalty factors are considered significant in predicting the users' intentions of using various mobile services in Brunei Darussalam. The data has been analyzed through SPSS regression analysis which further indicates that the users' social values show significantly contribute toward customers' loyalty for the service providers and the behavioral intentions in using the mobile services. Besides that, other attributes of perceived values remained insignificant. The study investigates the 220 mobile services users selected randomly among students and staff of a technical university in Brunei Darussalam in understanding as how the various factors of perceived value and loyalty factors are considered significant in predicting the users' intentions of using various mobile services in Brunei Darussalam. The data has been analyzed through SPSS regression analysis which further indicates that the users' social values show significantly contribute toward customers' loyalty for the service providers and the behavioral intentions in using the mobile services. Besides that, other attributes of perceived values remained insignificant.*

### **Keywords**

Theory of consumption value, customers' loyalty, Behavioral intentions, Mobile services, Brunei Darussalam

### **INTRODUCTION**

With the advent of 3G technologies, the users of the mobile phones have started enjoying the lure of the wide range of the services that were hard to conceive a decade ago, The users' response to the 3G services were overwhelming in developed world. Surprisingly, by June 2007, the 200 millionth 3G subscribers had been connected. That was only 6.7% of the 3 billion mobile phone subscribers worldwide. In countries where 3G was launched first such as Japan and Korea where 3G penetration was over 70% ([www.plus8star.com](http://www.plus8star.com)). The first pre-commercial 3G network was launched by NTT-DOCOMO in Japan in 1988. The global statistics indicates that from 1990 to 2011, the worldwide mobile phone subscriptions grew from 12.4 million to over 6 billion by the end of 2011; this corresponds to global penetration of 86.1%. This growth was driven in developing countries that accounted for more than 80%. For mobile broadband, by the end of 2011 there were more than 1 billion mobile broad-band subscriptions worldwide. Mobile broadband has become the single most dynamic ICT service reaching to 40% annual subscription growth by 2011. Although developing countries are catching up in term of 3G coverage, huge disparities remains between mobile-broadband penetration in developing countries (8%) and developed countries (51%). However by 2011, there were more mobile broadband subscriptions than inhabitants in countries Korea, and Singapore. However, in Japan and Sweden, the active mobile penetration surpassed 90% by 2011 ([www.itu.int/ITU-D/ICT./2011%20statistical%20highlights%20June%202012.pdf](http://www.itu.int/ITU-D/ICT./2011%20statistical%20highlights%20June%202012.pdf)).

Mobile phones are spreading faster than any other Information Technology features. Experts have viewed that it could improve the livelihoods of the poorest people in the developing countries ([www.reutersreprints.com](http://www.reutersreprints.com)). These developments in the 3Gs have brought intensive applications to the mobile services. Mobile services are content services that are accessed via mobile handheld devices (PDAs, mobile, cellular or Smartphone, GPS etc.) and are delivered in interaction between an organization and a customer. In this paper we had used current business-to-customer mobile services including logos, ringtones; chat, search services, ticket payments and banking services.

With so much global developments and tremendous impact on mobile services, our study decides to look into the small market in Brunei Darussalam-a small sultanate with oil-rich economy located on Borneo between east and west Malaysia on the equator roughly with the total population of 400,000 ([www.goldpages.com](http://www.goldpages.com)). We had found the potential growth was confirmed by the world indicators. They had suggested that mobile especially the 3G market is seen growing with the two main service providers: DST communications and B-Mobile. ITU database figure shows that Brunei has 61.4% active mobile broad band subscriptions per 100 inhabitants ([www.itu.int/ict](http://www.itu.int/ict)). DST Communication was the first mobile service providers established in 1995. In Sept 2005, B-Mobile Communication Sdn, Bhd became the second service provider but the Brunei's first 3G mobile service provider. In March 2008, B-Mobile made history to be the first in Brunei to commercially launched 3.5G technology high lightening the premium technology of mobile broadband better known as Zoom ([www.wili.smu.edu.sg/digitalmediaasia/Digital Media in Brunei](http://www.wili.smu.edu.sg/digitalmediaasia/Digital Media in Brunei)).

The uses of the mobile services among the masses have continuously been studied by many researchers across the globe as how the technology is adopted and used by the individuals (Jurison, 2000; Pura and Gummerus, 2007). While reviewing the literature on the adoption and uses of technologies, some of the very famous theoretical frameworks were identified. For examples; Roger's (2003) Diffusion of Innovations (DOI), Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA) to Ajzen's (1991) Theory of Planned Behavior (TPB), and Technology Acceptance Model (Davis, 1989). No doubt, the Technology Acceptance Model (TAM) by Davis, (1989) had explained about the technology adoption and use by the individuals. Then based upon the theory of Reasoned Action (TRA) by Fishbein and Ajzen, (1975), TAM was the parsimonious model asserting which were been influenced by external variables such as system design feature on behavior that was mediated by two major components; perceived usefulness and perceived ease of use. TAM was originally developed to explain individual's adoption of traditional technology (e.g. spreadsheet, email, software development tools) in an organizational setting. The TAM had some limitations. However, Venkatesh *et al.* (2003) had conceptualized the Unified Theory of Acceptance and Use of Technology (UTAUT). With this comprehensive model that combines TRA, TPB, TAM and IDT (Innovation Diffusion Theory) modal of MPCU (Model of PC Utilization), the Motivational Model and Social Cognitive Theory, this inclusion has increased the parsimony and predicting power with UTAUT. In the presence of several available models, the selection is however, entirely based on the basic assumption of use of technology both on individual as well as the organizational use of the technology that had two different approaches.

The robust model like TAM has its limitation in explaining the adoption of new ICT such as mobile services. Nevertheless, most adopters and users of traditional technologies are employees of an organizational setting where they use technology for work purposes and the cost of this mandatory adoption is borne by the organization. In contrast, most of the other users are individuals who play a main responsibility of using new ICT for personal purpose. That means that there are other factors that help individuals to use ICT for their personal use so the fundamental question has remained crucial as to why do individuals buy products or use services? To answer this, we had looked beyond standard ICT theories of adoption and usage and we had also looked into the domain of marketing and consumer behavior. While findings an answer Seth *et al.* (1991) in his Theory of Consumption Values (TCV) showed that consumers bought products or services for five basic purposes or to satisfy the five basic values such as functional, conditional, epistemic, emotional and social values. To consumers, *functional values* are defined as utility level of the products and services compared to its alternatives. While *conditional value* derives from specific situational needs. It is partially derived from the feature of mobile phones that may be carried around at all times and enable to get instant access to services e.g., access to a service via mobile phone, is perceived valuable in situation where other media are unavailable. Then the *epistemic values* are related to the experienced curiosity, novelty or gained knowledge by using new products, services or technologies. The *emotional value* is gained particularly through emotional communications especially in entertainment services, e.g. mobile ringtones, gaming, mobile chatting and picture messaging. Finally, *social values* have been associated to users of the services with a social group. This included the aspects of social images, identification, social self-concept and self respect, expression of personality and pursuit of social and class values (Konnad & Balasubramanian, 2005; Sheth *et al.* 1991 and Sweeney and Sontar, 2001). Sheth *et al.* (1991) claimed that there were two basic limitations of the TCV as it could not be used to understand organizational adoption and secondly, it could not be used to predict the behavior of two or more individuals.

While studying the behavior at individual level concept of the perceived value was added as what customer wants and believes while using these services. Pura and Gummerus (2007) defined the perceived values as: the value which is perceived by the customer based on his/her experience with or without having the knowledge of an object, which usually has the results in an evaluation of the desirability of the object or outcome. This is equally applied within the context of mobile services. Customers' values are customers perceived preferences for

and their evaluations of these product attributes, attributes performances and consequences arising from the uses that facilitate (or block) in achieving the customers' goals and purposes in use situation (Woodruff, 1997). In addition, value has originally been observed mainly from the prospective of the expected or delivered benefits and commercial product values to customers (Kotler, 1999). However, the Theory of Consumption Value has its own limitations. For instance, it does not explain the adoption directly rather its unique conceptualization of product values which provide a multidisciplinary approach that contributes towards the understanding of the actual behavior in a market choice.

Besides these values, literatures on consumer behavior had also suggested some additional variables that were found to be equally important such as customers' loyalty, customers' commitments, willingness-to-pay, word-of-mouth and price sensitivity (OTurel *et al.* (2010; Setiowati and Putri, 2012).

The current research is basically deal with the mobile services usage as a new ICT perspective not for the technology-users perspective but from consumers' perspective (Kim *et al.* 2007). Based on this theoretical underpinning, our pioneering study was conducted in Brunei Darussalam in March 2014 with the following objectives:

- (a) To validate the questionnaire in new geographical setting such as in South-East Asian perspective.
- (b) To analyze user's values perception of different types of mobile services in predicting customer loyalty and adoption intentions in using the mobile services.

## LITERATURE REVIEW

### **Research on Theory of consumption value-perceived values and customer's loyalty:**

The term "value" is most commonly used in the field of economics, marketing, accounting and finance. However it is also the roots in the field of psychology and social psychological. Within the context of mobile services, the customer interacts with the service provider and evaluates the service based on previous experiences and underlying values. Therefore, this evaluation would decide on the use of the mobile services offered by particular service provider. Gronroos (2000) had emphasized that perceived value was not assessed singly rather the benefits and sacrifices in the whole evaluation process and relationship contribute to perceived value. In term of psychology, the term value is defined as conceptions of desirable ways of behaving or desirable end-states such as friendship, respect for traditions, living healthy, and ambition (Gronroos 2000). These values were characterized as relatively stable individual preferences that reflect socialization and might be conceived as a type of personality disposition (Bilsky and Schwartz (1994). Nevertheless, the "value" in marketing science stemmed from the perspective of expected or delivered benefits and commercial product value to customers (Kotler 1999). Therefore, the customers' perceived value is the difference between the prospective customer's evaluation of all the benefits and all the costs of an offering and the perceived alternatives (Kotler, 1999). Several other authors have also defined the perceived value. The most widely accepted definition is provided by Zeithaml's (1998) that is "the overall assessment on the product (or service) utility determines by customer's perceptions of what is received and what is given". Choi *et al.* (2004) stated that it involved the comparison of what one was getting (benefits) and what had to be given up (sacrifices) in order to receive the service. Zeithaml's definition focuses on what is received and what is given. Logically, it emphasizes on the comparison of the customers' choice as what one is getting (benefits) and what one has to be given up (sacrifices) in order to receive the services (*ibid*). Therefore, it is further understood that perceived value of mobile services so, in this study, it means the customers' overall perception of its benefits and the sacrifices needed to use it. Komulainen *et al.* (2004) had pointed out that these benefits and sacrifices are sometimes not equal. The difference could be positive or negative. Thus, the positive difference will lead to perceived value and the negative result will lead to perceived worthlessness. Zeithaml (1998) further explained that benefits would include the value desired by the customers while sacrifices would include monetary and non-monetary consideration.

It is argued that mobile services will be accepted and will be used by users if that particular service offer values to its users. In other words, there are several factors and criteria that make a service successful or a failure (Carlsson *et al.* 2006). Several researchers have identified the relative importance of perceived value in the context of TCV and various technologies such as Smart phones, wireless SMS and hedonic digital artifacts. OTurel, Serenko and Bontis (2007) in their study of 222 young adult SMS users found that perceived value would be a key multi-dimensional determinant of behavioral intentions. The study confirmed that price, social, emotional and quality remained significant factor. In another study, using role of TCV on the user acceptance of perceived enjoyment component they concluded that perceived enjoyment (hedonic value) successfully predicted behavioral usage (OTurel, Serenko and Bontis, 2010). Similarly, Bodker, Gimpel and Hedman (2009) in their Danish study by linking the user experience of Smart Phone from consumption value approach and confirm that TCV explained and understand the adoption of new technology artifacts. Ghozizadeh (2012)

studied the mobile services and applications and further stated that mobile services should be easy to use, provide hedonic value, improve users' preferences and in general should be perceived to be useful. In other words, mobile services should provide value to its users.

The customer's loyalty is considered as one of the success factors for businesses and it costs less to retain the current customers than to attract the new customers (Reichheld and Teal 1996). In order to survive in the service industry, any company should pay more attention on its customer's loyalty. The success of the company's strategy depends on the company's ability to fulfill its promises to its customers. In addition, it is important for a company to identify products or services attributes from dissatisfying ones. This is because brand switching is more likely to occur as a result of dissatisfaction. Satisfaction, on the other hand is considered to be linked with a customer's loyalty (Reichheld and Schefer, 2000). In marketing literature and research a customer's loyalty is considered as basic ingredient of satisfaction. In other word, satisfaction is the antecedents of the loyalty (Grewal *et al.*, 2003). It is further defined as an increasing of service quality consistently in the future, thus causing repetitive same brand purchasing despite situational influences and marketing efforts having the potential to cause switching behavior (Oliver 1981). Buchanan and Gilles, (1990) had identified several benefits for business of having loyal customers such as they were less price sensitive and less likely to switch. As a result it is difficult for other companies to enter the market. Several studies have focused on the impact of customers' loyalty and its impact on repurchase intentions (Bendapudi and Berry, 1997; Pura, 2005; Setiowati and Putri 2012). Yang and Peterson (2004) found that companies under e-commerce business environment that strive for customer loyalty should focus primarily on satisfaction and perceived value.

Finally, the relationship between *customer loyalty and behavior intention* to adopt was studied. In service marketing a customer's loyalty is related to the adoption intention (Harrison-Walker, 2001; Johnson *et al.* 2000) had indicated that if a customer was truly loyal he would only buy from the same service provider out of habit and convenience. In addition, some other studies reported behavior intention/intentions to repurchase and other constructs such as word-of-mouth; willingness to pay behavior had traditionally been measured as components of multi-dimensional measures of behavioral intentions (Zeithaml, and Berry, 1996). Whereas, Urbany *et al.* (1997) showed that transaction utility was a predictor of purchase intention and behavior. Sweeney, Soutar and Johnson (1999) found the relationship between perceived value and adoption intentions. Ross and Unnikrsihnan, (2003) found that loyalty was especially important in the location-based service context where purchase decisions were made on certain situational context. Similarly, Kim *et al.* (2007) in their value-based adoption model (VAM) for mobile Internet had provided strong empirical support that perceived value effects perceptual intention to use. In Brunei, Hamdani and Seyal (2014) studied seventy corporate customers to test the value-based adoption model for using mobile services and found that perceived value was the significant predictor of adoption intentions.

## RESEARCH MODEL AND HYPOTHESIS

Based upon our explanation in the proceeding sections, we have developed a model (as shown in Figure 1) of studying mobile services among Bruneian users. The model parsimony would be achieved by the number of factors that account the possibility of increasing the variance in behavioral intention to predict the usage.

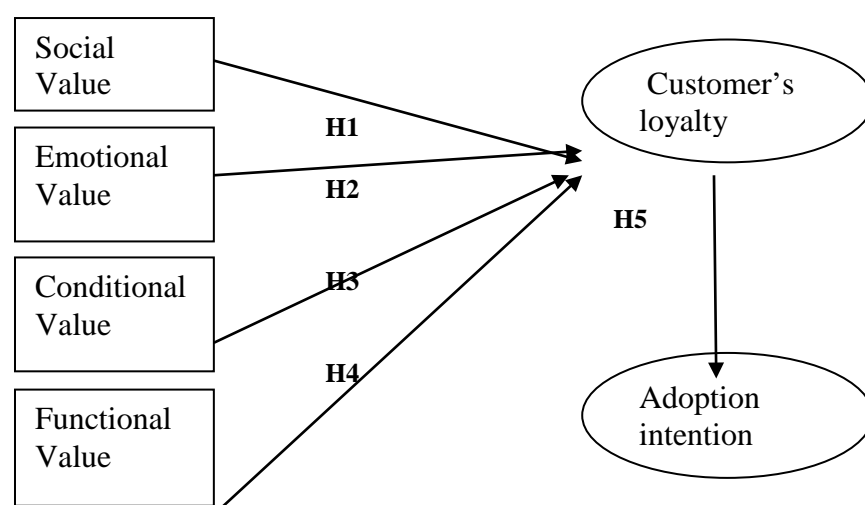


Figure 1: Research Model

Based upon the above mentioned assertion, we therefore propose five hypotheses:

- H1: Social value has a positive effect on the customer's loyalty.
- H2: Emotional value has a positive effect on the customer's loyalty.
- H3: Conditional value has a positive effect on the customer's loyalty.
- H4: Functional value has a positive effect on the customer's loyal
- H5: Customer's loyalty has a positive effect on adoption intention.

## METHODOLOGY

### Design of Instrument

The questionnaire consists of two parts; part A asks questions about the demographical and other users' characteristics questions. However, multiple scales were used to capture the information from dichotomous to ranking one. Part B of the questionnaire captures the data about the specific questions on the five basic constructs used in this study (Appendix-A for items description). *Customer loyalty* mediates with *adoption intention that remained as dependent variable*. The definition and items measuring dependent variables were adapted and modified after Venkatesh and Davis (2000) that regarded intention of using mobile services starting with 1 for "strongly disagree" to the 5 for "strongly agree". All other constructs were used and their sources were provided in Table 2.

### Sampling

Data for the study was collected in March 2014 using the questionnaire. *This questionnaire captured the respondent's demographic profile: gender, age, educational level job category, types of service providers, various types of mobile services used, namely, the brand of the 3G and finally the billing options whether it was pre-paid or post-paid*. The behavior perceptual items were measured by five-point scales representing a range from "strongly disagree" to "strongly agree". This questionnaire survey was conducted among 400 customers (students and staff) of a technical university selected randomly and then every effort was made to ensure an effective response rate. The methods used were to send emails and make personal contacts, give the questionnaires during student-staff meetings, and send the staff questionnaires with a covering letter. 220 out of 400 responses were received and these were retained for the study thus making a response rate of 55% which is acceptable for empirical studies of such nature.

### Instrument reliability and validity

Several other techniques were used to assess the reliability coefficient Cronbach (1951) ( $\alpha$ ) and to assess face, construct and convergent validity. In order to ascertain face validity, an initial questionnaire was passed through the routine editing after it was given to the panel of experts (academics, and industry managers). They were asked to respond to the questionnaire; only few minor changes had to be done to enhance the clarity. Table 3 shows the reliability coefficients and convergent validity for the various constructs.

In general, validity refers to the degree to which an instrument is used to measure the constructs for what it is intended for. There are several types of validity measures which include the face validity and constructs validity. Campbell and Fiske (1959) had proposed two types of validity: convergent and discriminating validity. Convergent validity was measured by average variance extracted for each construct during the reliability analysis that should be 0.5 or 50% or better (Igbaria and Iivari, 1995).

Table 1 shows the reliability values for the various constructs with variance extracted. In Cronbach's ( $\alpha$ ) for the constructs ranging from 0.68 to 0.80, was used to indicate a sufficient level of reliability and convergent validity of all construct. After filtering and further analyzing for convergent and discriminating validity, five constructs were used for the principal component method with Varimax rotation to assess the percentage of variance explained. Then, the testing discriminant validity was required to check the cross loading of items on multiple factors. All items were loaded high on their associated constructs thus fulfilling the Hair *et al.* (1998) criteria for adequate discriminant validity. In general, the results have shown that both validities are satisfied. However, the results for factor analysis are not provided in order to avoid unnecessary length. In addition, CR (composite reliability) was calculated for the value as shown in the Table 2. All the CR values are within the range of .71 to .88 and meet the criteria of suggested minimum value of 0.70 (Hair *et al.* 1998).

Table 1. Pearson Correlations and AVE Table for Discriminant Validity

	FV	SV	EV	CV	LOYTY	BI
Perceived functional value (FV)	1.00					
Perceived social value (SV)	.227**	1.00				
Perceived emotional value (EV)	.368**	.427**	1.00			

Perceived conditional value (CV)	.403**	.335**	.565**	1.00	
Loyalty (LOYTY)	.174*	.2	.216**	.081	1.00
		.84**			
Behavioral intention (BI)	.226**	.305**	.344**	.302**	.233**
					1.00

*All correlations are significant at the 0.01 level (2-tailed)*

Behavioral Intention (Dependent Variable)

The definition and item measuring dependent variable behavioral intention was adapted and modified after Venkatesh and Davis (2000).

Table 2. Reliability & Validity Analysis

Constructs	No of original items	No of items retained	Alpha value (.60 and above)	Mean	Variance explained <.50	CR	Source
Perceived functional value	6	2	.71 (.88)	3.50	.75	.57	Pura <i>et al.</i> 2003 Mathwick <i>et al.</i> (2001)
Perceived social value	3	3	.78 (.91)	3.21	.73	.71	Pura <i>et al.</i> (2003); Soutar & Sweeney, (2001)
Perceived emotional value	3	3	.74 (.86)	3.58	.72	.66	Soutar & Sweeney (2001)
Perceived conditional value	3	3	.82 (.85)	3.64	.71	.83	Pura and Brush (2008)
Customers' loyalty	4	3	.68 (.83)	3.41	.87	.55	Mathwick <i>et al.</i> (2001)
Behavioral intention	3	3	.80 (.84)	3.28	.88	.77	Venkatesh & Davis (2000)
Total	22	17*					

## RESULT

The data obtained from the survey were analyzed using descriptive statistics, then factor analysis, correlation as well as regression analysis were obtained using SPSS version 19, a well known statistical package.

### *Background profile*

The background data of individual users are summarized in Table which is not included here to minimize the no of pages as allocated. Majority (56%) are females within age group of 20-25 years and posses Higher National Diploma (HND). Majority of the respondents are using mobile services from relatively older service providers- DST. About 39% of the respondents have fair IT knowledge and background. 56% of the respondents use the mobile phone to greater extent to very much. 84% of the respondents mentioned using the mobile phones for more than three year. DST remained the top service provider with 75% of the user used their services.

In addition to the demographics data, the respondents were asked to assess their responses on all twenty-one items pertaining to the various attributes of values including loyalty and intention to use the services on five point Likert scale; 0- not at all agreed to 4-for fully agreed.

### *Correlation Analysis:*

Prior to testing for the regression analysis, we had conducted a zero-order correlation between the constructs, as shown in Table 1. The correlation provides directional support for the predicted relationship and shows that co-linearity among the variables of the constructs are within the acceptable range (Hair *et al.* 1998).

### *Regression Analysis:*

Regression analysis was conducted not only to find out the relationship between the four independent variables on the customer's loyalty but also to find the predictive indicators of the behavioral intentions. In line with the principles of multivariate data analysis, data was screened for outliers. Cases with standard deviation greater than 2 and cases with missing values were removed. The result of regression analysis is presented in Table 3. The model has statistically significant F-ratio but possesses small explanatory power as indicated by R<sup>2</sup> coefficient that shows 23% of the variance in the customer's loyalty is explained by the four variables of perceived value taken from TCV From the Table 3, it has clearly shown evident that only one out of four variables is significant predictor of the customer loyalty. Thus out of four hypotheses only H1 is supported.

With a closer look at the beta coefficient in the above table shows an interesting finding. Beta coefficients are the coefficients of independent variables where all the variables are expressed in standardized form. They are used to compare the relative importance of each independent variable directly in relation to the dependent variable. The highest beta coefficient of 0.240 among the four attributes show that "social values" is the most important

variable in measuring the customer loyalty. Table 4 indicates the relationship between customer loyalty and behavioral intention which is the significant predictor of behavior intention which confirms and support H5.

Table3. Regression Analysis

Constructs	Beta	t-value	Sig	Result	Remarks
Social value	.240	3.23	.001	Significant	H1 supported
Emotional value	.142	1.65	.099	Not Significant	H2 not supported
Conditional value	-.127	-1.52	.129	Not Significant	H3 not supported
Functional value	.119	1.61	.108	Not Significant	H4 not supported

$R^2 = 23\%$ ,  $F = 6.223$ ,  $p < 0.05$

Table4. Regression Analysis

Constructs	Beta	t-value	Sig	Result	Remarks
Customer loyalty	.233	3.48	.001	Significant	H5 supported

$R^2 = 15\%$ ,  $F = 118.53$ ,  $p < 0.01$

## DISCUSSION

The results indicate the validity of the research model. The results of this study further highlight the Bruneian customers' intention which has been determined by the perception of the value of mobile services and this in turn is determined by only perceived value –social value components of the TCV. The results, therefore, support only two hypotheses, H1 and H5. This is a unique findings which not only shows the customers' behaviors but also a contrast with the findings of Kim *et al.* (2007) that suggested that extrinsic and intrinsic benefits prompted customers' intentions to adopt. They also indicate that mediating customer loyalty variable is only related to the single cognitive function of perceived value component-social value and all others variables are insignificant.

The study had used four variables that were grouped into Theory of Consumption Value. It had found that only one component of perceived values, i.e. social value is significant predictor of customer loyalty that in turn predicts the behavioral intentions of the customers to use the mobile services. The plausible reason for this result is that the entertainment contents are often shared with others, especially the logos and ringtones which are frequently used for the purpose of amusing or annoying friends and they are known to be sent as gift. Secondly, Brunei society is highly collective compared to individualistic on Hofstede (1994) topology; so the use of mobile services for social aspect is quiet understandable. Our results are in contrast with Pura (2005) who had found the positive effect of social value on commitment was insignificant. However, our results have partially supported Wang *et al.* (2004); Hsieh *et al.* (2003) who had found significant positive relations between social value and commitment. Our results have also supported Nysvean *et al.* (2005) who had concluded that social value exerted a significant impact on mobile services especially in a customer-to-customer context.

This study could not support the significance of the functional value; derived from effective tasks fulfilment which is often related to the superiority, compared with the alternatives (Sheth *et al.* 1991). This is because might be due to the reason that Bruneian customers especially the students and staff who possess a fair IT knowledge do not care about the functionality of the mobile services. So our study, are in contrast with Wang *et al.* (2004) and Pura (2005) who had found that functional value had a direct effect on behavior and indirect effect on behavior via satisfaction.

This study also could not support the conditional value; the value which refers to the circumstance on of social-economical and physical aspects as our respondents do not impose any restrictions to use the services. So our study results are in contrast with Jarvenpaa *et al.* (2003) who had asserted that users, in general, lack motivation to use new mobile services unless these services create value in situation where mobility really matter.

Emotional value has also been found to be equally important for loyal customers (Butz and Goodstein 1996). Similarly, Pura (2005) had found a positive relationship between emotional value and loyalty. Unfortunately, our study results could not support positive relationship mainly because students and staff of the technical university are matured and use the services not for the sake of fun but for the sake of services that are offered by a particular service provider. Hence they do not differentiate on the basis of avoiding negative feelings.

Finally, our study results show that the customer loyalty is the significant predictor of behavioral intentions that support the previous studies of Agarwal *et al.* (2007) and Pura (2005) who had found a significant relationship between commitment and behavioral intentions.

In addition, our study has marginal predictive power with 25% of the variance in customer loyalty which is shared by all four variables of perceived value. It shows that there are some other variables that need to be added to improve the parsimony of the model; only 15% of the total variance in behavioral intentions is shared by customer loyalty-the mediating variable. This study has not had very attractive findings as showed by other studies conducted in Brunei Darussalam which faced with the same problem of low predictive power (Seyal and Rahman, 2002; Seyal *et al.* 2003; Hamdani and Seyal, 2014). The plausible reason of this low predictive power may be cited after OTurel *et al.* (2007). They developed a 19-item measure named PERVAL to assess the dimensions of perceived value and showed that four dimensions were distinct yet correlated and impacted consumption value explained 48-68% of the variance in behavioral outcome and using only a 'value-for-money' measure accounts for only 23-29% of the variance. Some other studies argued that perceived value as a cognitive concept has a direct impact on behavioral outcome (Toften and Olsen, 2004). Similarly, in the study of wireless services a narrower conceptualization of perceived value was shown to directly affect intention to adopt 3G mobile services (Xin, 2004). It is therefore very likely that future studies by adding one or more mediating variable could increase the predictive power of the model. Lin *et al.* (2005) suggested that perceived value as second order factor with first order components out performs model configuration.

## CONCLUSION

This study, however, has fulfilled both of its objectives. The instrument used in this study is reduced to 17 items from the original 22 items, with the acceptable Cronbach coefficient and composite reliability. However, in the present context, the study results do not reflect an ideal situation and has a limited parsimony. The model here only explains that 15% of the variance towards adoption intention so future studies need to add more contextual variables to increase the predictive power. Out of five hypotheses, only two are significant in this study. Perceived social value component of TCV has significantly predicted of customer loyalty that in turn predict the adoption intention. This supports partially the previous studies as the mediating role of customer's loyalty which remains the crux of the value-based studies, within the Bruneian context.

*Limitations:* Our Study is similar to all other empirical ones that are not free from its limitation. The sampling frame itself is not an ideal one to draw generalization. Secondly, this study is based on self-reporting questionnaire which is liable to the response bias. Thirdly, this study is limited to single institution customers so generalizing should be made with caution. Therefore, in future more studies of other groups of the users' population should also be included in order to draw a better picture of the customers.

*Future Studies:* The industry and applications of mobile services are emerging globally but at embryonic stage in Brunei Darussalam and same is true for the research in this area. For the academics and researchers there are many avenues in the form of theoretical models and measuring instruments available to conduct studies from various dimensions. We suggest that more research will definitely be required to develop an understanding of factors affecting user behavior. We therefore recommend that researchers will use the findings of this research as a starting point to conduct more in-depth studies.

## PRACTICAL IMPLICATIONS

This study has also provided some insight for the practice and business especially for the marketing managers of the two service providers, B-mobile and DST currently operating in Brunei Darussalam. They need to understand as to how Bruneian customers are using the mobile services. This study therefore, provides several venues for the mobile service developers to explore and also for those who are responsible for planning and marketing new services. Firstly, the service provider should focus on the customer segments that they wish to attract and keep. This can be accomplished through analyzing demographical data and as well as to examine closely the key findings of the research. This would have an impact in providing more beneficial and comfortable services to the customers of these service providers.

Secondly the managers could effectively develop the marketing strategy that could further trigger the value-based approach such as by highlighting the perceived social value perception of the customers in differentiating the customers' segment as well as to attract customers that may have a real need for using the same one.

Lastly, the customer loyalty aspect has found to be significant with behavior intentions or repurchase intentions precisely. This finding may help the marketing managers to design and develop effective strategies for their committed and loyal customers and also to attract new customers that might be otherwise spuriously loyal. We agree to Pura (2005) that by differentiating the services from competition is necessary if the service provider wants to retain the committed customer base that stays committed. In this regards, marketing department of these



service providers might approach with the word-of-mouth communications to motivate the spuriously loyal customers. The study result provides the indication that loyalty is primarily influenced by social value. So by encouraging customers to differentiate the loyal customer on this value component might help to attain and retain highest degree of loyal customers.

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**Appendix-A** Items measuring the various constructs: 1. Strongly disagree, 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

- I plan to use mobile services in the future
- I intend to use mobile services in the future
- I predict I would use mobile services in the future
- I consider this mobile service provider my first choice to order the service.
- I am proud to use this service provider.
- I care about the fate of this service provider.
- I am loyal customer of this service provider.
- Price paid for the mobile service is cheaper than for the service via other channels
- I get payment time because the mobile service is debited on my phone bill
- Mobile services can be used discretely without distributing others
- Mobile services can be used anonymously
- Mobile services make my life easier
- Mobile services are instant and quick to use
- I can save face by using mobile service
- I gain respect by using mobile services
- I am appreciated by others when I use mobile services
- I enjoy sending emotional messages to my friends
- I think that mobile services are very entertaining
- I think using mobile services is a pleasant way of spending time
- I value the information/entertainment this service offers, with the help of which I get what I need in a certain situation.
- I value the independence of place and time offered by the use of this mobile service
- I value the real time information and interaction that this service makes possible

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