Third Screen Communication and the Adoption of Mobile Marketing: A Malaysia Perspective

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Abstract

This study integrates innovation characteristics of the Innovation-Diffusion Theory (IDT), perceived risk, trustworthiness, and permissibility constructs to investigate what determines user intention to adopt mobile marketing. The proposed model in this study was empirically tested using data collected from a survey of mobile users. The structural equation modelling (SEM) technique was used to evaluate the causal model. The research findings suggested that relative advantage of mobile marketing is the strongest influence in building consumers' intention decision to adopt mobile marketing. All other constructs were statistically significant in influencing behavioural intent to adopt mobile marketing. This study's findings support Rogers' (2003) perceived characteristics of innovation attributes that form a favourable or unfavourable attitude toward the innovation.

Keywords: Innovation diffusion theory, Perceived risk, Trustworthiness, Permissibility, Mobile marketing services

1. Introduction

Television is the first screen where consumers can gain information from marketers. The Internet is the second screen where consumers receive relevant information about product and services. The evolution of e-commerce has brought with it a new marketing channel known as mobile marketing (m-marketing), or the third screen of communication. According to Leppäniemi, Sinisalo, and Karjaluoto (2006, p.10), mobile marketing is the use of the mobile medium as a means of marketing communications. The keywords in this definition are mobile medium (e.g. mobile phones) and marketing communications (e.g. information, promotions, competitions etc.). Companies are constantly looking for ways and means of expanding or maintaining their market share. According to Pousttchi (2006), marketing experts consider that the mobile device is an extremely promising marketing tool to overcome the major challenges of getting time and the attention of consumers. Mobile device also provides opportunities to target messages for customers in more efficient ways than the present mass media (Barwise & Strong, 2002). The importance of mobile phones to end users has certainly been recognised by marketers, who view this as a communication channel with huge potential (Kavassalis, et al., 2003; Norris, 2007; Nysveen, et al., 2005).

This study is about understanding the adoption intention of mobile marketing (preferably handheld devices) that is available to all consumers who own mobile phones. Understanding adoption intention is important to the communication industry because marketers are building on this technology to get closer to consumers. Today, advertising is everywhere and as the marketplace for advertising gets more and more cluttered (Godin, 1999), it becomes more and more difficult to get customers' attention. According to McCasland (2005), the Ball State study in 2005 revealed that 92 per cent of students found unsolicited advertising messages to be annoying and two-thirds were less likely to buy a product from a business sending instant messages to their mobile phones. However, according to Ransford (2007) the recent Ball State (2007) study indicated that technically oriented college students are increasingly receptive to receiving advertising via text messages on their mobile devices if their consent (i.e. permission) is sorted and they would gain from the communication (i.e. rewards, ringtones etc.). Consumers' attention towards marketing messages is crucial for marketers to promote their products and when only a few television channels existed, it was relatively unproblematic to capture a large segment of

society by using commercials (Pousttchi & Wiedemann, 2006). Although this innovation is good for marketers, mobile marketing also creates perceived problems of privacy and security risk for consumers'. On the other hand, there is a possibility that the more exposed one is towards a particular/similar communication technology, the more confident one would be towards using the new marketing communication channel (Kavassalis, et al., 2003; Norris, 2007; Nysveen, et al., 2005). Although high mobile phone penetration rates do not necessarily mean high mobile marketing use`, the potential of communicating marketing messages through mobile phones does exist. For example`, in Malaysia`, although the penetration rate of mobile phones in 2008 was 93.9 per cent (26`,126`,000 users) (MCMC), only seven percent of mobile phone subscribers had registered for mobile banking services, and only 13.7 percent accessed the Internet through their mobile phones (MCMC, 2007). According to a study conducted by Mutz (2005), people believe that, "brick and mortar" businesses are more trustworthy than electronic businesses (e-business). This view is shared by Siau and Shen (2003), who stated that while the internet creates unprecedented opportunities for initiating customer relationships, trust between the consumer and provider is an essential ingredient for the adoption of e-business. Trust is needed most when risks are perceived to be high, and many consumers perceive e-commerce as being highly risky (Mutz & Journals, 2005). Perceived risk is important in explaining consumer's behaviour, because consumers are more often motivated to avoid mistakes than maximising utility in purchasing (Mitchell, 1999). Despite many consumers being concerned with transaction security, merchant information, online privacy, and personal data, the problem of mistrust by consumers are often ignored by e-commerce providers (Wu & Wang, 2005). Thus, empirical investigation of privacy risk and personal data security is needed (Leppäniemi, et al., 2006) in order to address consumers' perceived risk in technological adoption perspective. One area that may help in addressing the issue of privacy and security risk in e-commerce is obtaining consumers' permission (Kavassalis, et al., 2003) to allow marketers to communicate with potential consumers and use consumers' data. Admissibility as a consequence of being permitted is known as permissibility ("The American Heritage Dictionary of the English Language," 2003). It is important to stress that in the context of mobile marketing, trust, perceived risk (privacy and data security) and permissibility have been viewed identified in this study as important variables that need to be addressed by service providers to give consumers freedom from doubt (uncertainty) or assurance in adopting mobile marketing services.

2. Significant of the study

According to Hibberd (2007), mobile phone users are approaching the three billion mobile subscriptions mark globally, and advertisers and operators alike are keenly aware of the opportunity to connect with potential consumers through mobile phones. Bauer (2005) argued that the establishment of a well-founded basis of trust between the user and provider for mobile marketing as a generic form of marketing communication has to be a major goal for all advertising companies. Therefore, this study may contribute to the understanding of mobile marketing adoption from the perspective of mobile phone users, which may be applied by service providers, particularly in the context of Malaysia's mobile phone industry. According to Marriott (2007), based on research conducted by the Mobile Marketing Association (MMA) in December 2006, there was a downward trend in the United States in overall consumer attitudes toward mobile marketing, with 21 per cent of consumers highly or moderately interested in mobile marketing, compared to 25 percent in 2005. However, there has been a lot of "hype" surrounding mobile marketing (Hibberd, 2007). Hibberd (2007) explained that although global advertising market is worth $450 billion annually, mobile marketing accounts for only a tiny fraction (0.1 percent) of the total cost of advertising.

3. Literature review

Statistically, from 2003 to 2005, the mobile marketing industry grew from US$4 billion to US$16 billion, serving over 500 million users world-wide (Carroll, et al., 2007). Another study by ABI Research (2008) estimates the global mobile marketing business is currently worth $3 billion, and it is projected to reach $19 billion by 2011. The downside of the high mobile phone penetration rates is the accompaniment of a high number of unwanted text messaging or unsolicited Short Message Service (SMS) rates that is growing by 21.3 per cent per year in the European Union alone (Anonymous, 2008a). Air Wide Solutions reported that French consumers have seen the biggest increase in such messages, where the problem is growing 61.3 percent per year (Anonymous, 2008b). In Malaysia, a total of 51.3 percent of mobile phone users received unsolicited SMS in 2007, with 6.4 per cent of users receiving more than ten SMSs in a week, while 44.9 percent received between one to ten per week (MCMC, 2007). Mobile spam (i.e. unsolicited SMS messages) raises privacy concerns related to the utilisation of the personal and location data used to personalise mobile marketing messages (Leppäniemi, et al., 2006). Consumers may be reluctant to trust mobile marketing as a marketing communication channel because of their perceived risk regarding the safety of their personal data and privacy. Privacy issues are

particularly sensitive with respect to mobile marketing due to the personal nature of mobile devices (Brown, 2006). Besides worries of intrusion into one's private space, mobile spam raises privacy concerns related to the utilisation of the personal and location data by service providers to personalise mobile marketing messages (Leppäniemi, et al., 2006). Banerjjee (2008) also reported that mobile phones are poised to develop relationship-marketing in consumers' lives, offering mass produced products and services on a customised level.

4. Basic concepts and research model and hypotheses

The research model can be found in Figure 1.0 (Note 1). The scope of this study was based on the Diffusion of Innovation (DoI) Theory (Rogers, 1983). According to Rogers (2003, p.175), there are five perceived characteristics of innovation that can be used to form a favourable or unfavourable attitude toward an innovation, namely: relative advantage, compatibility, complexity, trialability, and observability. In mobile services research, although the DoI theory has been discussed in general by previous researchers, perceived characteristics of the innovation are often trimmed down based on Tornatzky and Klien's (1982) meta-analysis research findings (Teo & Pok, 2003; Wu & Wang, 2005) that recommend that relative advantage, complexity (ease of use) and compatibility were consistently related to adoption decisions. Moore and Benbasat (1991) argued that the original construct of observability was defined in a complex manner by Rogers (1983, p.232) in which the results of an innovation are visible and communicable to others, and it also included the idea of the innovation being visible. Moore and Benbasat (1991) further explained that based on the definition of observability, it was decided in their study to split the construct and focus on each dimension independently; one dimension was named Results Demonstrability and the other, Visibility. Another argument regarding the observability characteristic was offered by Tornatzky and Klien (1982), who emphasised that it was unclear whether observability refers to cost or compatibility.

Based on these arguments, the study will not include "observability" as one of perceived innovation characteristics because of various interpretations of the characteristic. The study will only maintain the original four out of five perceived innovation characteristics as proposed by Rogers (1983): relative advantage, complexity, compatibility, and trialability. Therefore the study hypothesizes:-

H_1: Relative advantage has a direct influence on intention decision

H_2: Compatibility has a direct influence on intention decision

H_3: Complexity has a direct influence on intention decision

H_4: Trialability has a direct influence on intention decision

Another area that may also contribute to understanding the adoption of mobile marketing services is trust. According to Siau and Shen (2003), trust is one of the major reasons influencing peoples' decisions in giving service providers their personal data via an electronic medium. This view is supported by Leppäniemi (2006), who indicated the need for empirical investigations into the factors that affect consumers' willingness to provide personal information, and granting permission to use this information in mobile marketing. Therefore the research hypothesizes:

H_5: Trustworthiness has a direct effect on intention decision.

Perceived risk was also included in the model because according to Mitchell (1999), perceived risk is a necessary antecedent for trust to be operative and an outcome of trust building is a reduction in the perceived risk of the transaction or relationship. Hence, perceived risk is essential in the intention to adopt decision, and the study proposes the following hypothesis:

H_6: Perceived risk has a direct effect on intention decision

Permissibility represents permission obtained from users to allow marketers to communicate relevant and anticipated marketing messages consumers. According to Godin (1999, p.21), "permission marketing is an approach, which offers the consumer an opportunity to volunteer to be marketed". Reflecting these considerations the following hypothesis can be formulated.

H_7: Permissibility has a direct effect on intention decision

5. Research methodology

Previous research was reviewed to ensure that a comprehensive list of measures were included. Table 1 summarises the definitions of variable (Note 2). Those of 'relative advantage', 'compatibility', 'complexity', and 'trialability' were adopted from Moore and Benbasat (1991). Items for 'Intention decision' was adapted from Nysveen et al. (2005). New items were also proposed in this study to measure trustworthiness, perceived risk and

permissibility. Items representing each constructs can be found in Table 3.0. Once the initial questionnaire for this study was generated, two rounds of comments by expert judges, senior academic lecturers, were conducted to refine the instrument. These expert judges' rounds enabled the researcher to gauge the clarity of the constructs, access whether the instrument was capturing the desired phenomena, and verify that important aspects had not been omitted. Some changes and amendments were made to the questionnaire. Feedback served as a basis for correcting, refining and enhancing the instruments scales. Some items were omitted from the questionnaire because they were found to represent essentially the same aspect with only slightly wording differences. Some items were modified to represent mobile marketing characteristics. There are many types of mobile marketing campaigns but this research only looks at information (e.g. programs providing information about products, points of interest, news, weather, traffic, horoscopes and related content), and entertainment (e.g. programs that produce value to customers and provide amusement and emotional triggers through videos, music, games and ringtones). The questionnaire consisted of 27 items measuring eight latent variables.

The questionnaire was later pre-tested using Malaysian post-graduate candidates throughout New Zealand, the United Kingdom and Malaysia. Apart from completing the questionnaire, participants were also asked to comment on the language used, the accuracy of the translation and the relevance of the questions in the questionnaire. Based on their feedback some changes were made to the translation, such as using simple instructions in each of the sub-headings to help respondents easily understand the requirements of the questionnaire. A total of 87 questionnaires were distributed but only 61 questionnaires were returned, with 57 of them usable. Based on the pilot testing, several items were removed from the questionnaire to improve the reliability score. In the early stages of basic research, Nunnally (1967) suggests reliabilities of .50 to .60 would suffice and that increasing reliabilities beyond .80 is probably wasteful. Thus, for this study the target level of minimum reliability was set in the 0.60 to 0.70 range. (Note 3)

6. Data collection

For the main study, a total of 670 questionnaires were distributed to mobile phone users in Labuan, Malaysia. The return percentage was 57.46 percent (380 questionnaires), but only 341 questionnaires were usable. A token of RM5.00 was given to all respondents who participated in the survey.

7. Statistical analysis

All data analysis was conducted using SPSS v.15 and AMOS 7. A descriptive analysis will be used to portray a general picture of the survey respondents. The two main types of statistical analysis used in this research were the Factor Analysis Method and Structural Equation Modelling (SEM).

8. Results

For this paper, the KMO measure of sampling adequacy was .894, indicating that the data clearly supported the use of factor analysis and suggesting that the data may be grouped into a smaller set of underlying factors. Eight major factors were identified, representing 58.337 percent of the total variance explained. The Cronbach alpha measures included in the model ranged from 0.700 to 0.894 (see Table 3.0, Note 4). All values were greater than the benchmark of .60 as recommended by Bagozzi (1988). This shows that all the constructs had strong and adequate reliability and discriminate validity.

The structural equation modelling (SEM) was used to consider the rational and significant relationship between technical knowledge, perceived risk, and innovative characteristics in the innovation decision-process model. "The primary interest in structural equation modelling is the extent to which a hypothesized model "fits" or, in other words, adequately describes the sample data" (Byrne, 2001, p.75), which focuses on the adequacy of: (a) the parameter estimates, and (b) the model as a whole. In evaluating the fit of individual parameters in the model, three aspects are important: (a) the feasibility of the parameter estimates, (b) the appropriateness of standard of errors, and (c) the statistical significant of the parameter estimates (Byrne, 2001).

The test statistic for the statistical significance of parameter estimate is the critical ration, which represents the parameter estimate divided by its standard error. Based on the SEM estimates, all parameters critical ration were significant (>±1.96) (Refer to Table 5.0).

8.1 Estimates and fit criteria

For SEM, goodness-of-fit (GFI) indexes are used to evaluate the model in order to assess the model in terms of model fit and model parsimony (refer to Table 4.0). The GFI measures the percent of observed covariances explained by the covariances implied by the model, and the GFI should be equal or greater than 0.90 to accept the model (Gefen, et al.). For this study the GFI is .907, above the recommended value of >.90.

The Adjusted Goodness-of-Fit Index (AGFI) is adjusted for the degrees of freedom of a model relative to the number of variables, and should be above 0.80 (Chin & Todd, 1995; Segars & Grover, 1993). For this model, the AGFI was .888, above the recommended value of >.80.

Bentler (1990) revised the NFI to consider sample size and proposed the comparative fit index (CFI). Although Bentler (1992, p.401) stated that, "higher values indicate greater covariation accounted for, with excellent model having NFI values above .90 representative of a well fitting model", a revised cut-off value close to .95 has recently been advised (Hu & Bentler, 1995) for CFI. In this study the NFI value was .904, above the recommended value of >.90, and the CFI value was .966, above the cut-off value >.95, suggesting a good fit between the hypothesized model and the sample data.

The Tucker-Lewis index (TLI) yields values ranging from zero to 1.00, with values close to .95 (for a large sample) being indicative of good fit (Byrne, 2001; Hu & Bentler, 1999). The TLI for this study was .962. For Root Mean Square Error of Approximation (RMSEA), a value less than .05 indicates good fit, and a value as high as .08 represents reasonable errors of approximation in the population (Browne & Cudeck, 1993). But MacCallum (1996, p.134), "considers values in the range of 0.08 to 0.10 to indicate mediocre fit", and Hu (1999) suggested a value of .06 to be indicative of good fit between the hypothesized model and the observed data. This paper reports the index value for RMSEA to be within the recommended value (specifically, <.05) at .038, which indicates a good fit between the hypothesized model and the observed data. (Note 5)

8.2 Hypothesis Testing

The results of structural equation modelling are standardised maximum likelihood path coefficient for the hypothesised model. *Significant at the p<0.1 level, **Significant at the p<0.05 level, **Significant at the p<0.01 level.

Figure 2.0 (Note 6) presents the significant structural relationship among the variables and standardized path coefficients. All the hypotheses for this paper were strongly supported and all standardised paths were significant (>±1.96) (refer to Table 5.0, Note 7). For hypothesis 1, the result indicated that relative advantage has a significant effect on the decision intention by consumers to adopt mobile marketing ($\beta = 0.83$). This indicates that users' relative advantage of a new innovation is an important determinant for users' decision intention to adopt mobile marketing. Compatibility, complexity, and trialability also have direct effects on intention decision with regression weight (β) of 0.79, 0.61 and 0.63, respectively. These findings support Rogers' (2003) perceived characteristics of innovation attributes where the above three constructs can be used to form a favourable or unfavourable attitude toward the innovation.

Perceived risk also registered a significant direct effect towards intention decision with regression weight of .52 in this study. This result was consistent with Wu and Wang's (2005) findings and they attributed their result to users' previous experience with online services which may imply that consumers are more aware of the existence of potential risk and have a better understanding of the mobile commerce context. This result also supports Ulivieri's (2004) argument that a consumer goes on doing something that initially seemed to be risky or dangerous but little by little she/he becomes more confident; it is a form of basic trust derived from habit and from the decreasing perceived probability of damage. According to Kim (2008), consumers are often faced with at least some degree of risk or uncertainty in using mobile technology, however risk is not the only factor consumers are sensitive to, but relates the perceived benefit that provides consumer with an incentive to use the mobile technology. Permissibility was statistically significant in influencing decision intention (c.r = 6.116) with a regression weight of .46. Through users' permission, companies can develop an iterative product development approach that can incorporate demand requirements while familiarising the customer with the technology dimension of a mobile marketing campaign (Kavassalis, et al., 2003). The significant relationship between permissibility and intention to adopt also supports Barwise and Strong's (2002) findings that consumers' explicit permission is essential for a high level of acceptance and satisfaction of mobile marketing.

Trustworthiness with a regression weight of .46 was also significant in influencing consumers' intentions to adopt mobile marketing. The nature of the innovation determines what specific type of relative advantage is important to the adopters (Rogers, 2003). At this stage respondents may perceived that by trusting on the service, they might receive better and up-to-date information about their interest/s and relating this information within their circle of friends. If mobile marketing is to be an effective and lucrative industry, it has to deliver relevant, requested (trusted), and interactive content to customers (Kavassalis, et al., 2003).

9. Research limitation and recommendation for future research

First, the research for this study only looked at the adoption of mobile marketing services through one type of mobile device (i.e. mobile phones) and not through other mobile devices (i.e. PDAs, Palms etc). Other consumers using other types of mobile devices may have a different response if they had been included in the study. For example, on October 24 2008, the Oprah Winfrey Show introduced "Kendall" by built by Amazon, which is a portable, wireless electronic book that could download about 7,000 books at half the price of the shelf price. Kendall is also capable of downloading newspapers and getting definitions of words instantly from the Internet at the user's convenience. New mobile devices will continue to be introduced; therefore this study has limited its finding to mobile phones only. Second, the research only looked at one community (social system) to represent the adoption process by which an innovation is communicated through certain channel over time among members of a social system. In addition, owing to resource limitations the research did not survey respondents outside of the social system chosen for the study.

Focusing on the implications for future research this study data strongly suggest that perceived risk is more than just risk in general and should focus on data security and privacy concerns for mobile marketing research. Although a universally-agreed theoretical definition still eludes marketing academia for perceived risk, good models of perceived risk can only be judge on what the researcher is attempting to achieve by designing the model(Mitchell, 1999). Previous researchers may have used perceived risk in their models (Teo & Pok, 2003), but tend to treat perceived risk as a general construct (i.e. risk). In this study, perceived risk was based on security and privacy risk faced by mobile phone users in m-marketing. The result of this study suggest that low perceived risk was associated with m-marketing when questioned regarding security and privacy issues faced by potential users of m-marketing. When perceived risk is low, significant relationship was found on trustworthiness of the service. In terms of perceived risk, then, low or high perception of specific risks (i.e. security and privacy) can be seen as an active process of engagement in the adoption process.

10. Conclusion

This paper explored the potential factors that may influence the intention of mobile phone users to adopt mobile marketing services through seven perceived characteristics namely; relative advantage, compatibility, complexity and trialability, perceived risk, trustworthiness and permissibility that may play important roles in determining consumer decision intention to adopt mobile marketing. Although the constructs in this study have been represented by a strong direct significant relationship towards decision intention, nonetheless, future research should incorporate the Theory of Reasoned Action (TRA) or the Theory of Planned Behaviour (TPB) to better understand the innovation-decision process, because the study's proposed model did not allow the researcher to explore the effects of attitude and intention measurement to determine what factors amplify or disrupt the adoption process.

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Notes

Note 1. Figure 1: Theoretical Research Framework and Hypothesis Paths

Note 2. Table 1: Definition of Constructs

Note 3. Table 2: Reliability Analyses by Sections

Note 4. Table 3: Factor Loadings and Assessment of Construct Reliability

Note 5. Table 4: Goodness-of-Fit Statistics

Note 6. Figure 2: Structural Relationship among the variables and standardized path coefficients.

Note 7. Table 5: Summary of Research Findings

Table 1. Definition of Constructs

Variables	Definition of Construct	Adapted from
Permission marketing	*A marketing approach that offers the consumer an opportunity to volunteer to receive marketing messages*	(Godin, 1999)
Perceived risk	*Consumers' subjective belief of suffering a loss in pursuit of a desired outcome. Risk in this context is related to subjective assessment of potential risk (i.e. security and privacy) rather than "real world" (objective) risk*	(Bauer, 1960)
Trust	*Emerges from the identification of a need that cannot be met without the assistance of another and some assessment of risk involved in relying on the other to meet this need. Trust is a willing dependency on another's action, but it is limited to the area of need and subject to overt and covert testing. The outcome of trust is an evaluation of the congruence between expectations of the trusted person (party) and actions*	(Hupcey, et al., 2001);
Relative advantage	*the degree to which an innovation is perceived as being better than the idea it supersedes*	(Rogers, 2003, p.229).
Compatibility	*the degree to which an innovation is perceived as consistent with the existing values, past experiences, and the needs of potential adopters*	(Rogers, 2003, p.240).
Complexity	*the degree to which an innovation is perceived as being relatively difficult to understand and use*	(Rogers, 2003, p.257).
Trialability	*the degree to which an innovation may be experimented with on a limited basis*	(Rogers, 2003, p.258).
Intention to Use (Decision Stage)	*when an individual (or other decision –making unit) engages in activities that lead to a choice to adopt or reject an innovation*	(Rogers, 2003, p.177).

Table 2. Reliability Analyses by Sections

Section	Cronbach's Alpha	N of Items
Perceived Risk	.654	4
Permissibility	.790	4
Trust	.827	4
Relative Advantage	.906	3
Compatibility	.887	3
Complexity	.853	3
Trialability	.891	3
Intention Decision	.699	3
		27 items

Table 3. Factor Loadings and Assessment of Construct Reliability

	ITEMS	*Loading*
	Factor 1 - Complexity y (Cronbach's alpha reliability = .894)	
CPLX1	Learning to use mobile marketing services would be easy for me.	.819
CPLX2	If I were to adopt mobile marketing services, it would be easy for me to adapt.	.862
CPLX3	If I were to adopt mobile marketing services, it would be easy due to my previous experience with mobile phone usage.	.705
	Factor 2 - Compatibility (Cronbach's alpha reliability = .884)	
COM1	If I were to adopt mobile marketing services, it would be compatible with my internet searching methods.	.671
COM2	If I were to adopt mobile marketing services, it would fit my product and services information gathering style.	.825
COM3	If I were to adopt mobile marketing services, it would fit well with the way I like to seek relevant product and services information.	.689
	Factor 3 - Trialability (Cronbach's alpha reliability = .868)	
TRY1	Before deciding on whether or not to adopt mobile marketing services, I would be able to use it on a trial basis.	.724
TRY2	Before deciding on whether or not to adopt mobile marketing services, I would be able to test the suitability of the services.	.812
TRY3	I would be permitted to use mobile marketing services on a trial basis long enough to see what it can do.	.719
	Factor 4 - Permissibility (Cronbach's alpha reliability = .777)	
PM1	I would consider the importance of obtaining my permission before marketing companies can send their mobile marketing messages to me	.537
PM2	I would consider giving my permission to receive mobile marketing messages if the messages are relevant.	.699
PM3	I would consider giving my permission to receive mobile marketing messages if I anticipate the content of the message.	.697
PM4	I would consider giving my permission to receive mobile marketing messages if the messages are personalised.	.716
	Factor 5 – Trustworthy (Cronbach's alpha reliability = .764)	
T1	I consider mobile marketing is a reliable way to receive relevant information.	.583
T2	Mobile marketing services are a trustworthy source of information.	.543
T3	Mobile marketing services are a trustworthy source of personalised marketing messages.	.585
T4	Mobile marketing services are reliable because messages are up-to-date.	.631
	Factor 6 - Relative Advantage (Cronbach's alpha reliability = .888)	
RA1	If I were to adopt mobile marketing services, it would enable me to get information more quickly.	.572
RA2	If I were to adopt mobile marketing services, the quality of my information would improve.	.718
RA3	If I were to adopt mobile marketing services, it would enhance my effectiveness on information gathering.	.742
	Factor 7 - Perceived Risk (Cronbach's alpha reliability = .744)	
RISK1	It is safe to accept and reply to mobile marketing messages via mobile phone	.682
RISK3	There is no more privacy risk involved in receiving marketing messages via mobile phone than there is when getting marketing messages via email or TV advertisement.	.573
RISK4	I do not consider mobile marketing to be a privacy risk way to receive marketing messages.	.667
	Factor 8 - Decision Stage (Cronbach's alpha reliability = .700)	
DS1	I intend to accept mobile marketing messages ***occasionally*** from my current service provider in the next 6 months.	.427
DS2	I intend to accept marketing messages from my current service provider ***frequently*** in the next 6 months.	.406
DS3	I intend to use my mobile phone to get relevant marketing messages in the next 6 months.	.843

Table 4. Goodness-of-Fit Statistics

Statistic	Recommended criteria	Value
Goodness-of-fit index (GFI)	>.90	.907
Adjusted goodness-of-fit index (AGFI)	>.80	.888
Comparative Fit Index (CFI)	>.95	.966
Tucker –Lewis index (TLI)	>.95	.962
Normed fit index (NFI)	>.90	.904
Root mean square of approximation (RMSEA)	<0.05	.038

Source: AMOS 7.0 output

Table 5. Summary of Research Findings

Hypothesis	**Influence direction**	**Critical ratio**	**Findings**
H_1. Relative Advantage has a direct effect on intention decision	+	9.776***	Supported
H_2. Compatibility has a direct effect on intention decision	+	9.324***	Supported
H_3. Complexity has a direct effect on intention decision	+	7.840***	Supported
H_4. Trialability has a direct effect on intention decision	+	7.878***	Supported
H_5 Perceived risk has a direct effect on intention decision	+	6.362***	Supported
H_6. Trustworthiness has a direct effect on intention decision	+	7.482***	Supported
H_7. Permissibility has a direct effect on intention decision	+	6.116***	Supported

Author's biographical note:

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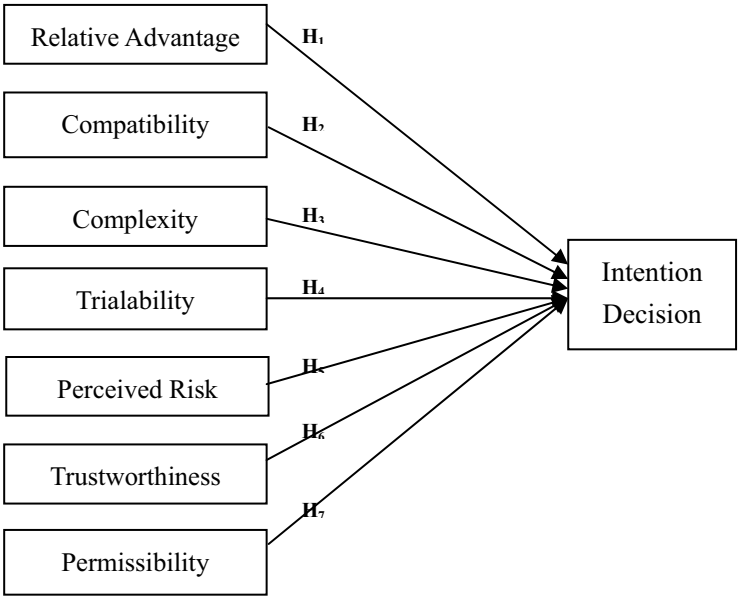

Figure 1. Theoretical Research Framework and Hypothesis Paths

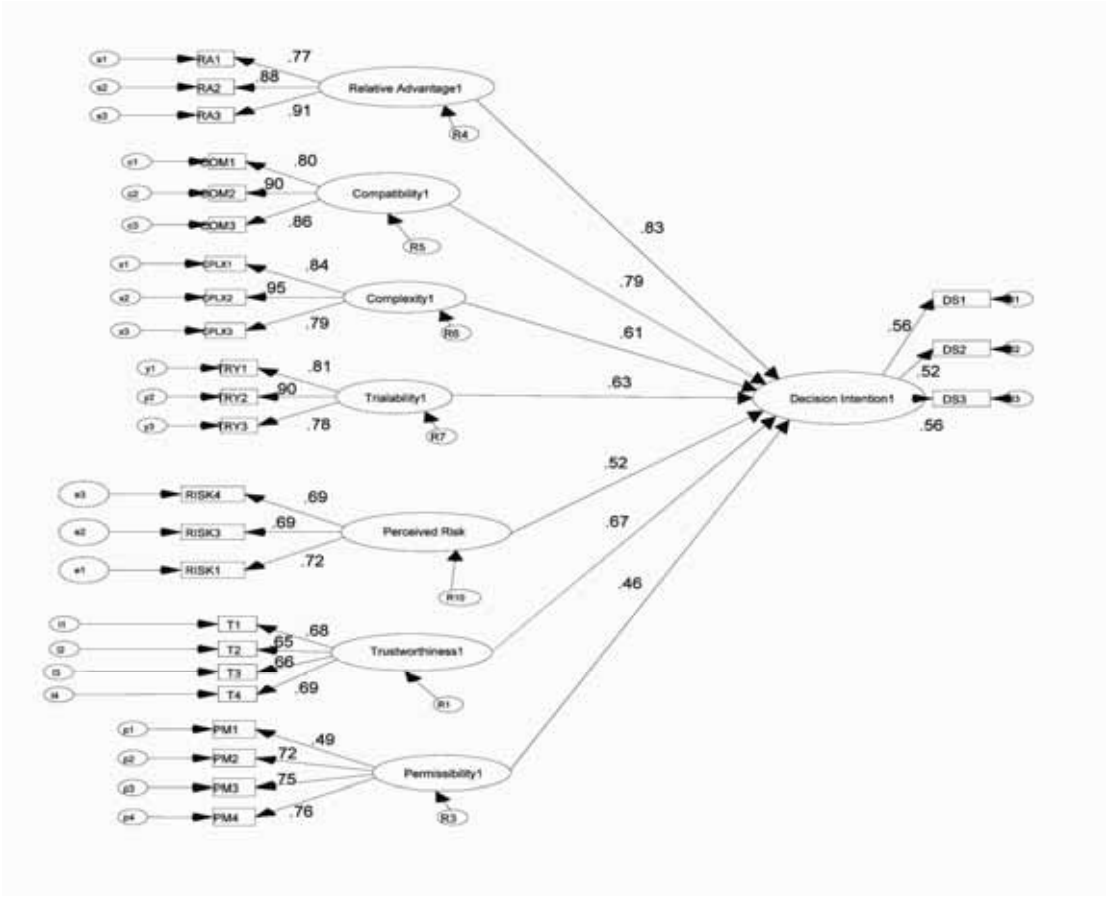

Figure 2. Structural Relationship among the variables and standardized path coefficients