Consumer Perception and Attitude on Mobile Phone Market in Tanzania

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Abstract
Over the past era expansions in telecommunication technology have created opportunities for new and interactive electronic marketing channels, such as the mobile phone. In particular, the omnipresent and personal nature of this device suggests strong potential for its use as an advertising and direct marketing platform. Despite of several concerns surround the use of this device for marketing purposes, and as such, consumer acceptance of mobile phones as an electronic marketing medium remains relatively low. This study explores Tanzania consumers' perceptions of mobile phone marketing, defined here as an electronic marketing innovation. From the theory of Innovation attribute of Rogers (1995), this research study makes an important contribution of understanding how consumer perceptions of the attributes related with this innovation affect their acceptance of mobile phone marketing operations. In the research, three attributes were tested: relative advantage, compatibility and complexity. Statistical analysis using a multiple hierarchical regression model discovered that consumers' perceptions of compatibility and relative advantage were considerably associated with their perceptions of mobile phone marketing. The identification of compatibility as the key driver of acceptance supports previous research which identified control, delivery of message, permission and privacy, as vital drivers of mobile phone marketing acceptance. However, consumers' perceptions of the complexity related with mobile phones had a positive rather than negative relationship with their acceptance of this marketing strategy.

1. Introduction

Since the mid-1990s, the penetration of mobile phones in developed economies has been explosive. Whereas in 1997 only 215 million individuals were using mobile communication devices worldwide, through 2001 this had grown to a massive 961 million, further growing to 1.16 billion by 2003. The mobile market in Africa is booming. With above 620 million mobile networks as of September 2011, Africa has surpassed Latin America to become the second leading mobile market in the world, after Asia. Over the past 10 years, the number of mobile connections in Africa continent has grown an average of 30% per year and is forecast to reach 735 million by the end of 2012.

Mobile phone market is the most growing technology on the continent, according to the report of World Bank; Sub-Saharan Africa is now home to approximately 650 million mobile phone subscribers, a number that exceeds the United States and European Union, and represents an explosion of new communication technologies that are being tailored to the emerging world. More people have right to use to mobile phones and hence communication," says Samia Melhem, 2013; the World Bank's Regional Coordinator for Information and Communications Technologies for Africa.

The mobile business in Tanzania is an enabler of economic growth far beyond its immediate domain. Mobile operators have ambitious the emergence of a unique industry in inventive mobile services in the country. Mobile Value-Added Services have been propelled throughout the country to facilitate and support agriculture, banking, education, health care and gender equality. In particular, the advent of mobile money transfers and mobile banking puts Tanzania firmly at the vanguard of the Africa Continent Mobile Money industry. Further than mobile services, the mobile industry is also contributing to rural electrical distribution with lower carbon emissions and smoothing the work of NGOs across the country. Tanzania government has highlighted ICT policy as a key driver for development.

2. Literature Review

The fast pace of development within the mobile commerce industry has brought about a new field of academic exploration, in which studies have scrutinized the variety of factors persuading the acceptance of mobile phone marketing from both consumer and organization outlooks. Yet, the current literature remains largely inconsistent and fragmented. One main research stream focuses on consumer acceptance and adoption of mobile services in general, such as multimedia messaging service, online gaming and other wireless services (Foulds and Burton, 2006; Hung et al., 2003; Kleijnen et al., 2004). Another more precise field of research focuses on consumer perceptions and attitudes towards the use of the mobile phone for marketing and commercial application (Barnes and Scornavacca, 2004; Barwise and Strong, 2002; Bauer et al., 2005; Carroll et al., 2007; Leppäniemi and Karjaluoto, 2005).

The primary focus of this research is on three innovation attributes found by Tornatzky and Klein (1982) to exert significant influence over an individual's adoption decision: relative advantage, compatibility and complexity.

Relative advantage discusses the degree to which an innovation is perceived as being better than the innovation it replaces; compatibility refers to the degree that an innovation is considered compatible with the existing values, past familiarities and needs of the potential adopter; and complexity refers to the level of complexity associated with understanding and using the innovation (Rogers and Shoemaker, 1971). These three innovation attributes form a significant part of Rogers's (1995) innovation attribute framework, which suggests that an individual's combined perception of the innovation's attributes will largely drive their adoption decision. Previously, researchers have used this, and other innovation diffusion theories to expound the adoption of technology driven innovations and for understanding consumer behavior in relation to new product development (Chen et al., 2002; de Ruyter et al., 2001; Hung et al., 2003).

Whereas Rogers's 1995 innovation attribute theory offers a valid context for examining consumer adoption of mobile phone marketing, (Thong, 1999) recommends researchers combine Rogers's, 1995 theory with other theories to provide a richer and potentially with a more explanatory model. For this motive, the suggested relationship between a consumer's level of involvement with their mobile phone or product involvement and their adoption of mobile phone marketing will also be examined by this study research.

3. Conceptual framework and hypotheses

The literature engaged is significant to the study and sheltered four main areas. First, the extant research in the field of mobile phone marketing was reviewed. This was followed by a consideration of the theory behind innovation adoption and the core innovation attributes. Last but not least, the literature relating to the concept of product contribution and how this may influence a consumer's perception of an innovation was looked into.

3.1 Mobile phone marketing

Various definitions for the comprehensive concept of mobile marketing exist (Mort and Drennan, 2002; ; Salo and Tähtinen, 2005 Pousttchi and Wiedemann, 2006). In opinion of these, mobile phone marketing is defined as the use of mobile phones to provide consumers with time and location specific, personalized data, which promotes goods, services and ideas. The novel status of the mobile phone as a one-to-one communication device suggests mobile phone marketing is important for an innovative form of direct marketing. Several academicians have studied the elements which influence consumer acceptance of marketing messages sent via this medium (Barwise and Strong, 2002; Kavassalis et al., 2003; Barnes and Scornavacca, 2004; Bauer et al., 2005; Leppäniemi and Karjaluoto, 2005 Carroll et al., 2007;). Generally, their findings reveal consistent support for three main aspects: whether the user has given their consent to receive marketing messages to their mobile phone; the level of control the service provider retains during the transaction, and degree to which the user trusts the brand being marketed. Similar studies of literature have found the characteristics of the marketing message and its delivery to be key aspects driving the consumer's level of acceptability (Merisavo et al., 2007; Trappey and Woodside, 2005). Yet, until now, there has been little research dedicated to examine the nature of this medium, and whether this impacts a consumers' decision to accept or reject marketing communications sent directly to their mobile phone.

3.2 Innovation adoption

Innovation adoption refers to “a choice to make complete use of an innovation as the best course of action accessible” (Rogers, 1995, p. 21). In research relating to an innovation's diffusion within people, researchers have suggested a number of models that purpose to predict the rate of adoption and an individual's adoption decision, according to the innovation attributes and the personal features of the potential adopter.

The principal theoretical framework for analyzing the relationship between an innovation's attributes and its rate of adoption is the diffusion of innovation (DOI) model developed by Rogers (1995). Basically, (Rogers'1995) DOI theory proposes that when a concept is perceived as new, an individual utilizes communication tactics within their social systems to reach at a decision point of either adoption or rejection of the innovation. The innovation's attributes or characteristics assist as an essential influence over the individual's adoption decision and the speed of innovation diffusion within society. Generally, innovation attribute framework suggests that if a potential adopter holds positive perceptions of the combined innovation attributes, then they will be more likely to adopt, or accept, the innovation (Rogers' 1995). Prior researchers have advocated that DOI model 1995 by Rogers is easy to use, offers mutually exclusive and exhaustive categories allowing results to be compared, and is a appropriate framework for replicating and generalizing innovation adoption through studies (Mahajan et al., 1990. Black et al., 2001;).

In recent studies, most of innovation diffusion studies have dedicated on the adoption of technology or tangible products. Such as number of scholars have used (Rogers's 1995) framework for studying consumer adoption of innovative product technologies (Foulds and Burton 2006) for multimedia messaging services;(Kleijnen et al.,2004) for mobile gaming; (Lin and Yu.,2006) for the internet as a communication channel for mobile internet services (Pedersen .,2005)). In contrast, there are fewer studies that have focused on the adoption of intangible, process-like innovations, such as thought or ideas, concepts or services. However in this research, the researcher has conceptualized mobile phone marketing to be a process-like innovation, which differentiates it from the mobile phone; a product innovation.

3.3 Innovation attributes

In (Rogers. 1995) ponders that an individual's combined perception of the five innovation attributes (relative advantage, compatibility, complexity, trialability and observability) will mostly drive the individual's adoption judgment. As stated earlier, the innovation attributes applicable to mobile phone marketing in this study are: relative advantage, compatibility and complexity. The remaining two attributes; trialability and observability, refer to the stage to which an innovation can be tested with prior to its adoption, and the degree to which the results of the innovation are visible to others (Rogers and Shoemaker, 1971). These two attributes are excluded from this study because mobile phone marketing cannot be tested with by the consumer prior to their adoption, and the results of mobile phone marketing are not directly observable to the rest of society.

Relative advantage may refer to the degree to which an innovation is perceived as being better than the idea it supersedes (Rogers and Shoemaker, 1971). In the situation of mobile phone marketing, relative advantage is conceptualized as the degree to which consumers perceive this channel to be better than its substitutes, such as direct mail and email.

The updated innovative literature has recognized that relative advantage is one of the best and most reliable predictor of innovation adoption (Onkvisit and Shaw, 1989; Plouffe et al., 2001; Robinson, 1990; Teo and Pok, 2003; Tornatzky and Klein, 1982). Such as, in the context of mobile service innovations, (Teo and Pok 2003) established a foundation of relationship between consumer perceptions of relative advantage and their adoption of wireless application protocol (WAP) enabled mobile phones. Prior to this, (Plouffe et al. 2001) found both consumers' and merchants' perceptions of relative advantage were crucial driver for intentions to adopt a new electronic payment system. Obviously, these findings and the perceived advantages of receiving marketing communications via a mobile phone, it is anticipated that a consumer's perception of the relative advantages allied with mobile phone marketing will be positively linked to their adoption decision:

H1. Relative advantage is absolutely and significantly linked to consumer adoption of mobile phone marketing.

The next innovation attribute to be examined in the research paper is compatibility, which define the degree to which to an innovation is perceived as compatible with the existing values, past experience and needs of potential adopters (Rogers and Shoemaker, 1971). In terms of mobile phone marketing, this construct may simply denote a consumer's awareness, or level of comfort with this type of direct marketing. Former research established a clear and consistent relationship among compatibility and the adoption of technology driven innovations (Agarwal and Prasad, 1997; Black et al., 2001). Among other things, user consent and their control of communication have also been found to be key drivers of consumer acceptance of mobile phone advertising (Barnes and Scornavacca, 2004; Barwise and Strong, 2002). However in this study, the personal nature of the mobile phone suggests that the degree of compatibility between a consumer's own values, and that which they perceive to be associated with mobile phone marketing, will be positively linked to their adoption choice.

H2. Compatibility is absolutely and significantly related to consumer adoption of mobile phone marketing.

The ultimate innovation attribute to be included into this paper is complexity, which refers to “the degree to which an innovation is perceived as relatively difficult to understand and use” (Rogers and Shoemaker, 1971) and it’s also referred to have close meaning to the “perceived ease of use” factor acknowledged in (Davis's 1989) technology acceptance model. A number of studies have established a clear association between complexity and innovation adoption (Kleijnen et al., 2004; Pagani, 2004; Teo and Pok, 2003). Given the perceived details associated with mobile phone technology, it is anticipated that consumer perceptions of complexity will be negatively linked with their adoption of mobile phone marketing:

H3. Complexity is negatively and significantly related to consumer adoption of mobile phone marketing.

3.4 Product contribution

The concept of product contribution has received extensive attention in the marketing realm from the time of 1980s, particularly in relation to advertising and consumer behavior (Andrews et al., 1990; Neal et al., 2004). Product contribution refers to the way in which consumer’s point of view on different product categories, with regards to their feelings, thoughts and behavioral responses (Gordon et al., 1998). In the field of consumer behavior, prior researchers have found that a consumer's level of product contribution can influence their behavior through its outcome on information search and processing (Andrews et al., 1990; Bloch et al., 1986; Mantel and Kardes, 1999). Of particular weight is a study by(Bauer et al. 2006), who set up strong support for the relationship between consumer decision-making styles and product contribution across a number of product category. In particular, they mentioned three main factors influencing the consumer's level of product contribution: importance; pleasure and value. Though, (Drossos et al. 2007) stated that a consumer's attitude towards SMS advertising differed according to whether the product being advertised was a high or low contributing to the product.

There so, in this paper it is surmised that mobile phones are a useful and capable channel for companies to communicate product and promotional information to consumers, thus influencing their adoption choice. Hence, consumers who place considerable importance and value on their mobile phone such as: enjoy having the latest model are more likely to perceive mobile phone marketing to be compatible with their lifestyle and preferences.

Thus, it is proposed that a consumer's level of contribution with their mobile phone will influence their choice to adopt or reject marketing communications sent via this channel:
H4. Product contribution is absolutely and significantly related to consumer adoption of mobile phone marketing.

4. Research methodology

In viewing the above-mentioned research questions and hypotheses, a deductive, quantitative methodological tactic was adopted. Data were collected from a non-random sample of university students at Dar es salaam University. The students were chosen primarily for their accessibility, but additionally because they represent a key target market for mobile phone marketing due to the majority having grown up in the technological age. A self-administered questionnaire was developed, and then pretested with a separate group of respondents to enhance its overall design. Results of the pretest revealed minor instances of ambiguous wording which were then changed and confirmed the expected completion time for the questionnaire. To confirm a common frame of reference, the first section of the questionnaire contained a meaning and brief explanation of mobile phone marketing. A total of 252 questionnaires were distributed, of which 235 were returned and considered valid for data analysis, representing a response rate of 94.2 per cent. (Bernard, 2010) suggests that a valid response rate for face-to-face surveys, as were used here, is approximately 80 per cent.
Both of the independent variables and the dependent variable were measured in subsequent sections of the questionnaire. Also, demographic data were also collected to allow the researcher to obtain a deeper understanding of the participants' responses. As shown in the table below, the majority of respondents were aged 26 to35 years (41.6 per cent) with an additional 35.3 per cent aged between 36 and 45 years old and 23.1 per cent aged between 21-25 years old. More than 49.9 per cent earned an annual gross income of $10,000 or less, which was expected, as a university student in Dar-es-salaam, Tanzania to maintain a permanent or high paying career is after a degree completion.

	Demographic Frequency	Percentage
Gender		
Male	109	42.3
female	126	57.7
Age		
21-25	25	23.1
26-35	115	41.6
36-45	95	35.3
Annual gross income		
Less than 10,000	105	49.9
10,001-15,000	57	11.7
20,001 and more	73	38.4

Table1; respondent profile

The innovation attributes of relative advantage and complexity were measured using multi-item index scales, which were modified versions of those used in other empirical studies of technology driven innovations (Davis, 1989;; Moore and Benbasat, 1991; Pavlou, 2003; Merisavo *et al.*, 2007). Compatibility, the third innovation attribute, was also measured with a multi-item scale. Though, in this case, the scale was originally developed by the researcher to suit the distinctive requirements of the current research location. Although the researcher look at several measurement scales for this construct, many of the already established items could not be suitably modified to measure an individual's compatibility with an intangible, service-like innovation such is mobile phone marketing.
A consumer's level of contribution with their mobile phone (i.e. product contribution) was sedate using a modified version of the multi-item index used by (Bauer *et al.* 2009), which revealed the importance, pleasure, and sign value a consumer places on a particular product. As a final point, the dependent variable, consumer adoption of mobile phone marketing, was measured by three items replicating the consumer's perception of, and commitment to, mobile phone marketing. In all cases, a seven-point Likert scale was used, where 1="strongly disagree" and 7="strongly agree".
Prior to performing correlation and regression analysis on the data, all five measurement scales were subject to exploratory principal components factor analysis with varimax rotation. (Field, 2008) proposed that this is an suitable method for checking the validity of questionnaire items. The results of the factor analysis revealed that all three items used to measure consumer adoption of mobile phone marketing loaded substantially >0.40 on the extracted factor. However, all but three of the 15 items used to measure the innovation attributes loaded substantially on their respective issues. Hence, approximately all of the dimensions initially suggested by the researcher were represented.

An exploratory principal components factor analysis was also performed on the five items used to measure the participants' involvement with their mobile phone. This analysis generated one principal component with an eigenvalue of 2.25, explaining 44.94 per cent of variance in this factor. All five product contribution items had substantial loadings on the extracted factor, and as a result the validity of the initial scale was formed.
The next factor analyses were the data were checked for reliability using Cronbach's α coefficient. As shown in Table 2 below, the outcomes of this test shown that each of the scales used to measure the independent variables and the dependent variable, offered acceptable levels of reliability that is, above the minimum level of 0.60 as suggested by Nunnally, 1967.

Variable	Mean	SD	Cronbach's α
Compatibility	3.21	1.10	1.10
Relative advantage	3.10	1.30	0.86
Complexity	5.03	1.42	0.71
Product involvement	3.63	1.04	1.21
Adaptation	2.80	1.41	0.89

Table2; Means, standard deviations and cronbach's α values for key constructs

5. Research findings

All the four hypotheses were first tested by a series of simple correlation analyses. Upon inspection of the correlation matrix for the innovation attributes and consumer adoption of mobile phone marketing, it was discovered that relative advantage had a significant and positive correlation with a consumer's decision to adopt mobile phone marketing (r=0.75, p<0.01). So, *H1* is supported. Compatibility also had a significant and positive correlation with the dependent variable (r=0.78, p<0.01), therefore supporting *H2*. Conversely, despite its significance, the direction of the relationship between complexity and adoption was positive (r=0.20, p<0.01), thus offering no support for *H3*. (Table III). As shown in table 3 below.

Variable	1	2	3	4
Compatibility	0.781**	0.701**	1.00	
Relative advantage	0.745**	1.00		
Complexity	0.204**	0.154*	0.218	1.00
Adaptation	1.00			
Correlation are based on n=254 *p<0.05; **p<0.01				

Table 3; Correlation matrix for innovation attributes and adoption

Amongst the independent variables, relative advantage and compatibility also displayed very strong correlations with each other, and thus the threat of multicollinearity existed. For this purpose, the variance inflation features associated with each variable were examined, both of which were well below the ten point cut-off recommended by (Myers, 1990) and hence, the threat was refuted. The correlation matrix in Table 3 was also examined for the purpose of endorsing the order in which the innovation attributes would be regressed against the dependent variable.
The following stage of data analysis involved multiple hierarchical regression of the innovation attributes and the dependent variable, consumer adoption of mobile phone marketing. This sort of analysis was performed to determine the strength and direction of the relationships between all four variables when all were accounted for. In doing so, the researcher was able to advance analysis *H1*, *H2* and *H3*. The results of the multiple regression analysis are shown in Table 4.

Variable	Stage 1	Stage 2	Stage 3
Compatibility	0.781*	0.509*	0.502*
Relative advantage		0.388*	0.388*
Complexity			0.035
ΔR^2		0.076*	0.001
R^2	0.611*	0.687*	0.688
F	3950258*	275.867*	184.156*
n	253	253	253
Standardize coefficients are reported *p<0.001			

Table 4; Results of multiple regression analysis for consumer adoption of mobile phone marketing

At the final stage of the regression model, only relative advantage and compatibility were identified as significant predictors of consumer adoption of mobile phone marketing, thus offering further support for *H1* and *H2*. Though, the variables relative advantage and compatibility also formed relatively strong and significant coefficients at steps 2 and 3 of the regression model, which recommends that the utmost proportion of variance in consumers' adoption of mobile phone marketing can be explained when both these variables are accounted for.

Still, to determine which of these attributes has the greatest affect on a consumer's adoption decision, the standardized regression coefficients for relative advantage and compatibility were examined simultaneously. As presented in stage 3 of the regression model, when compared with relative advantage (β=0.388), compatibility (β=0.502) produced a slightly larger consistent regression coefficient. As a result, the degree of compatibility a consumer perceives to exist between their own values and those related with mobile phone marketing, has the greatest affect on their choice to adopt or reject marketing communication sent via this medium.

The outcome of the multiple regression analysis for the innovation attributes and the dependent variable seems to largely confirm previous research findings. Namely, the impact of compatibility on the adoption decision is not overly astonishing given that user permission, privacy, service provider control and brand trust are all key factors that have previously been found to drive consumer acceptance of mobile phone marketing (Barwise and Strong, 2002; Barnes and Scornavacca, 2004;Bauer *et al.*, 2005; Carroll *et al.*, 2007).

However, the lack of support for the impact of complexity on the adoption decision contests the findings established by past technology innovation literature (Kleijnen *et al.*, 2009; Teo and Pok, 2003). Possible explanations for this explanation are in the nature of the innovation examined here and the age structure of the sample used. Over all, the actions involved in responding to a mobile phone marketing message do not vary from those required to perform day-to-day tasks such as making a phone call or sending a text message. As a result, consumers are not obliged to develop new skills in order to adopt this innovation, a fact which is likely to reduce the influence of this attribute on the adoption decision (Rogers, 1995). Furthermore, middle-aged consumers are more likely to be proficient users of mobile phone technology (Ling and Yttri, 2002), having been surrounded by such telecommunication devices since a relatively young age. This being the case, any complexities associated with mobile phone marketing are likely to be less of a concern to this age group than the level of compatibility this marketing channel presents.

To test the hypothesized relationship between a consumer's contribution with their mobile phone and their adoption of mobile phone marketing, a correlation matrix of these two variables was formed and studied. This revealed that although there is only a weak level of association between product involvement and adoption (r=0.25, p<0.01) the relationship is positive, and thus *H4* is supported.

However, to observe this relationship further, simple linear regression was performed on the consumer contribution and adoption variables as shown in table 5 below for the results of this analysis. Generally, the regression model accounted for 63 per cent of the variance in the prediction of a consumer's adoption mobile phone marketing, F (1, 252) =17.04, p<0.001. Additional inspection of the regression coefficients revealed that consumer contribution is a statistically significant predictor of mobile phone marketing adoption, β=0.252, t (252) =4.13, p<0.001. Therefore, the more a consumer is involved with their mobile phone, the more likely they will accept marketing communications sent via this medium.

Variable	***B***	**SE*B***	**β**
Constant	1.555	0.311	
Product involvement	0.340	0.082	0.252*
Point R^2=0.063 *P<0.001			

Table 5; Results of simple linear regression analysis for adoption

This finding is consistent with the themes outlined in the literature review, in particular the relationship between product contribution and consumer behavior (Celsi and Olson, 1988; Lee and Miller, 2006; Warrington and Shim, 2010). Moreover, the findings here have verified that a consumer, who places a high level of importance and sign value on their mobile phone, is more likely to consent this innovation as a direct marketing channel. Enlightenment for this derives from the ability of marketers to provide consumers with, or for consumers to request, up-to-date product information via their mobile phone. In this sense, it was assumed that the mobile phone offers consumers a valuable tool for achieving efficient and effective information search as part of their overall purchase decision.

So far despite this, the low mean score for product involvement (3.63 out of 7) found here point out that predominantly the consumers surveyed had little or no contribution with their mobile phone as a outcome that was somewhat unexpected given the predominantly middle age of the sample. As such, the weak relationship among product involvement and consumer adoption of mobile phone marketing, and the low overall score for product involvement, proposes that the extent that product involvement can be used to predict a consumer's intent to adopt mobile phone marketing is somewhat inadequate. However, the mere presence of a significant finding does provide impetus for further research in this area.

6. Managerial implications

Data as regards to consumer perceptions of mobile phone marketing are priceless to many organizations, particularly those who target a youth and middle aged market and can afford to deliver classy mobile phone marketing campaigns. The data presented here recommend a number of implications for practitioners, of which two appear to be most predominant. First, the presence of a momentous relationship between a consumer's

perception of the relative advantages of mobile phone marketing and their adoption of mobile phone marketing suggests that managers should promote the benefits this innovation offers over other channels it replaces. For example, for many consumers, receiving marketing communication to their mobile phone is more convenient, timely, useful and interactive than other methods such as email or direct mail. Therefore, if managers wish to increase the likelihood of consumers responding favorably to their mobile phone marketing campaigns, they should confirm that all direct communication sent to their consumers' mobile phones represents these factors.

Second, the relationship between compatibility and consumer adoption of mobile phone marketing proposes that gaining user permission and sending relevant messages buttress successful mobile phone marketing campaigns. Consumers, who do not give organizations permission to receive marketing messages to their mobile phone, are more likely to outlook marketing communication sent via this channel as an invasion of their privacy. If organizations choose to ignore this, then they risk consumers perceiving mobile phone marketing to be as intrusive as telemarketing and email spam, as well as conveying the same negativity to their product or brand.

The significant and constructive relationship found between a consumer's level of involvement with their mobile phone, and their intention to adopt marketing communication sent via this medium also has important managerial implications. For instance, organizations that target products to an audience that are mobile phone savvy and place significant status on their mobile phones may benefit from using this medium in their direct marketing campaigns.

Finally, the age of the participants of this study provides some remarkable insight for managers. Namely, because the majority of the study's participants were between the age of 26-35 years of age (82.2 per cent), the findings discovered here serve as a valuable framework for developing mobile phone marketing campaigns targeted at a youth and middle aged market. Prior studies have confirmed the existence of a relationship between mobile phone marketing acceptance and consumer age (Barwise and Strong, 2002; Merisavo *et al.*, 2007). In particular, researchers have found that younger and open minded consumers are more likely to accept marketing or advertising messages sent to their mobile phone, a finding which is perhaps linked closely with generation Y's overall fascination and familiarity with this product compared to other age groups.

In line with these findings, this research explored consumer perceptions of three innovation attributes, and how these were related to their intentions to accept mobile phone marketing. General, the participants' perceptions of the innovation attributes were related to their intents to adopt mobile phone marketing. Nevertheless, the mean scores across all of the innovation attributes were relatively low, signifying that, on average, the sample used here did not view mobile phone marketing favorably. This may indicate that "extra work needs to be done" before managers can rightly assume that young and middle aged consumers in general favor this form of direct marketing.

7. Conclusions and future research

The rationale of this study was to explore consumer perceptions of mobile phone marketing. Given the innovative nature of the mobile phone, and its recent application as a direct medium for marketing communication, it was hypothesized that a consumer's perception of three innovation attributes and their level of involvement with their mobile phone would impact their intention to accept this new form of direct marketing. The research findings confirmed three out of the four hypotheses tested, with strong support found for the effect of relative advantage and compatibility on the consumer adoption choice.

In addition, this research found (Rogers' 1995) innovation attribute theory to be a valid and sturdy framework for analyzing the acceptance, and adoption, of marketing innovations. In precise, a key contribution lies in the newly composed measurement scales, of which one was established by the researcher to suit the unique requirements of the research location. The proven reliability and validity of these scales offers future innovation researchers a strong foundation from which they can adapt their own questionnaire items.

Though, because this research was exploratory type, the preliminary findings uncovered here do warrant further empirical testing. In particular, future research could examine in further detail consumer perceptions of each of the three innovation attributes, and link these findings to their adoption behavior. Research of this type would benefit from using a longitudinal research strategy, thus permitting a detailed examination and determination of the actual adoption rate, and consumer perceptions over the progress of the diffusion cycle.

The backed relationship between a consumer's level of product involvement and their intent to adopt mobile phone marketing reveals another avenue for further research. For example, researchers could examine the extent that each component of product involvement studied here such as importance, pleasure and sign value affects a consumer's intention to consent marketing messages sent via their mobile phone.

Finally, while this research makes some contributions to theoretical and practitioner understanding, this knowledge should be measured in view of the research limitations. First, the age structure of the student sample used here limits the generalizability of this study to consumers of all age groups 82.2per cent were aged 26-35 years. Previous research has supported differences in the adoption behavior of old and young consumers (Leppäniemi *et al.*, 2009) and hence, a similar finding would have been expected here had the sample permitted this type of analysis. Also, it should be noted that the key constructs examined here are not considered in-depth

of all the possible drivers of consumer adoption of mobile phone marketing. Rather, the research findings confirm the presence of a significant relationship between three of (Rogers's 1995) innovation attributes and a consumer's overall perception of mobile phone marketing, and in doing so, assists as a catalyst for further research in this part.

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