

Investigating Factors Influencing Consumer Attitude toward SMS Advertising: An Empirical Study in Bangladesh

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Abstract

This study aims to empirically investigate the significant factors that influence consumer attitude toward SMS advertising in Bangladesh. At present, SMS advertising is being considered as a trendy mobile marketing channel to reach the consumer in an efficient manner. Though, many studies have been conducted to identify factors that impact the consumer perception regarding SMS advertisements, very few of them have considered Bangladeshi consumer. This study has developed and tested a conceptual model with a sample of 375 Bangladeshi students using Structural Equation Modelling. In addition, T-test is used to observe the differences in attitude based on gender. The results indicate that SMS credibility, advertiser credibility and incentive have positive significant influence, whereas irritation and consumer inertia have negative significant influences. Moreover, attitude toward SMS advertising is found similar among male and female consumer. This paper ends with a comparative discussion of relevant studies in SMS advertising context and provides recommendations for advertisers and future SMS advertising research.

Keywords: SMS advertising, mobile marketing, consumer attitude, structural equation modelling, Bangladesh

1. Introduction

Due to the highly competitive and constantly changing environment, today's organizations are struggling to reach consumers more frequently. However, the revolution in the context of information technology has provided different advertising opportunities at the same time. This advance in technology, in tandem with the market place's required increase in advertising, has directed to the fact that "Advertising is everywhere" (Cook, 2001, p. 1). Therefore, to secure the interest of target market, advertisers ought to be more innovative in the formulation of advertisements as well as selection of advertising mediums (Cappo, 2003). Internet played a significant role in advertising to prospective consumers until the introduction of mobile marketing in order to communicate with target market more effectively and efficiently (Carter, 2008). Recently, the rapid market penetration rate of mobile devices has grabbed the attention of advertising industries all over the world. As a result, usage of this medium as a means of marketing communication is still getting higher (Bauer et al., 2005). This scenario prevails not only in developed countries but also in developing countries. Emerging markets are more likely to give a positive response to mobile marketing (Rohm & Sultan, 2006) since mobile phone has become the first communication technology to have more users there. This fact is true in case of Bangladesh as well. The total number of mobile phone subscribers has reached 130.843 million at the end of August 2015 (BTRC, 2015) which has created new opportunities for many companies.

1.1 Definitions of SMS Advertising

One of the popular and major forms of mobile advertising is through Short-Message-Service (SMS) which is an instant messaging system supported by nearly all mobile phones. It allows mobile phone users to receive, store and forward alphanumeric text messages of up to 160 characters to any GSM phone (Leung, 2007; Xu, 2007; Turban et al., 2004). Since a mobile phone is hardly ever used by anyone except its owner, it is suitable for highly customized marketing messages (Bauer et al., 2005). Therefore, SMS advertising can be referred as the means through which marketing messages provide valuable information about products and services to consumers (Tsang et al., 2004). It also permits direct and interactive communication between organisation and

consumers (Dickinger et al., 2004).

The salient reason why advertisers are more interested to advertise via SMS is the high reading-ratio. Recipients read almost 99% of the text messages they receive daily whereas they have a tendency to read 90% of the received messages within three minutes after receiving (Ramnarain & Kamphuis, 2012). Besides these, the lucrative advantages of SMS as being immediate, customized, automated, direct, reliable, personal, and discreet, have made it much more impressive than any other marketing channel (Kondo et al., 2008).

1.2 Characteristics of SMS Advertising

Following distinctive features of SMS have made it a high demanding advertising tool.

1.2.1 Ubiquity

Mobile phone has become an indispensable tool of daily life. Thus, the mobile phone users cannot think even a single moment with no mobile phone and possibly will set aside it on standby for an average of 15 hours a day. Moreover, just about all mobile phones are featured with SMS receiving capacity which ensures mobile phone users' high probability of reading SMS. Thus SMS advertising can catch them nearly anytime and anywhere creating new prospects for advertisers (Khasawneh & Shuhaiber, 2013; Mirbagheri, 2010; Bauer et al., 2005).

1.2.2 Interactivity

The interactive nature of mobile phone helps advertisers to get instant replies of their delivered messages. Thus, advertisers can formulate directory of potential customers and have advertising end results without delay (Khasawneh & Shuhaiber, 2013; Mirbagheri, 2010; Waldt et al., 2009; Xu 2007; Haghirian & Madlberger, 2005).

1.2.3 Localization

Some latest innovations in geographic technologies such as GIS (Geographic Information Systems), GPS (Global Positioning System), satellite images, and remote sensing empower mobile operators to localize specific users and identify their accurate existing positions. Advertisers are using the opportunity to reach their potential consumers delivering marketing messages based on locations. As a result, consumers, who are within the spitting distance from product/service providers, tend to response more to SMS advertising than the consumers who live in far distance from the providers. Therefore, localization makes this advertising medium more useful and successful (Khasawneh & Shuhaiber, 2013; Xu, 2007; Bauer et al., 2005; Haghirian & Madlberger, 2005).

1.2.4 Personalization

Since a mobile phone user always keeps his/her phone for very personal usage, a one-to-one relationship exists between the two. This relationship enables advertisers to use the one-to-one marketing strategy through SMS. However, it is necessary to get the customers' attention by engaging them in a way that they enjoy most. Consumer preference can be identified easily using the history of consumer purchasing patterns from databases. Thus, personalized SMS advertisements can be sent to get the required attention. Consequently, consumers will be happy to have the customized information regarding product and services that they need most. Therefore, SMS advertising can be regarded as a direct and personalized consumer communication media (Khasawneh & Shuhaiber, 2013; Saadeghvaziri & Seyedjavadin, 2011; Xu, 2007; Bauer et al., 2005; Haghirian & Madlberger, 2005; Rettie et al., 2005).

1.2.5 Viral Marketing

SMS advertising has some viral effects that enable it to be used in viral marketing. According to Kaplan and Haenlein (2011), to make viral marketing work, advertisers must give the right message to the right messengers in the right environment. Using SMS advertising, personalized messages can be delivered to the consumers directly in time. Advertisers are creating marketing messages that are passed from one recipient to another through their social networks within a short period of time. If the messages appeal beneficial, the recipients tend to forward them to others and this results a high acceptance rate from the consumer base because SMS received from a well-known sender is expected to have greater stimulus on the receiver than a message sent directly from the advertiser. As a result, viral effects can broaden the consumers-reach base and enhance the SMS efficacy (Khasawneh & Shuhaiber, 2013; Mirbagheri, 2010; Karjaluo et al., 2007; Bauer et al., 2005).

The characteristics presented above are enough to show the potentiality of SMS advertising as an ideal marketing catalyst. Various studies (Khasawneh & Shuhaiber, 2013; Tsang et al., 2004) have been conducted regarding the factors that may influence consumer attitude toward mobile or SMS advertising. But the majority of research has been conducted in foreign countries where the findings, due to cultural differences and differences in the adoption of technology, may not be directly applied to the consumers of Bangladesh. Very few

studies (Hossain & Bahar, 2013; Chowdhury et al., 2006) have regarded the attitude of Bangladeshi consumer where only few constructs are taken into consideration. However, this study has solely focused on Bangladesh perspective and taken different constructs that are yet to be understood.

The main objective of this research is to provide broad insight into the factors that influence consumer attitude toward SMS advertising in Bangladesh. The next section presents relevant literature of SMS advertising through which hypotheses have been developed. Following this, the research framework and methodology are demonstrated. Subsequently, the result is analysed to have the better understanding of the relevant factors. Finally, the study concludes with a comparative discussion of relevant studies in SMS advertising context and provides recommendations for advertisers and future SMS advertising research in Bangladesh.

2. Literature Review and Hypotheses Development

Based on the existing literature on the related disciplines of mobile advertising and consumer attitude, this section presents the predominant factors that influence consumer attitude toward mobile and SMS advertising. Following factors are discussed to develop hypotheses in context of Bangladeshi consumer attitude toward SMS advertising.

2.1 Entertainment

Consumer attitude toward a specific advertisement is significantly shaped by the feeling of enjoyment associated with that advertisement (Shavitt et al., 1998). This is also true for mobile marketing, since messages containing entertainment encourage communication (Khasawneh & Shuhaiber, 2013). Thereby, it is essential that the message should be short and humorous to instantly capture consumer interest and increase consumer loyalty (Haghirian & Madlberge, 2005). Previous research shows that consumers like entertaining SMS advertisements (Waldt et al., 2009; Suher & Ispir, 2009; Grant & O'Donohoe, 2007; Haghirian & Madlberger, 2005) and thus entertainment factor is positively affecting consumer attitude toward mobile advertising (Bauer et al., 2005; Tsang et al., 2004). In other words, when consumers face a SMS advertisement, they will get impressed and entertained thus will have a positive attitude toward the product of the advertisement. Therefore, it is hypothesized that:

H1: Entertainment content of SMS advertisements has a significant positive influence on consumer attitude toward SMS advertising.

2.2 Informativeness

Since advertising has been considered as a medium of delivering information (Ling et al., 2010), advertisers generally aim to provide valuable information through the advertising messages (Gordon & Turner, 1997). In the conventional and mobile context of advertising, different studies (Khasawneh & Shuhaiber, 2013; Gao et al., 2010; Waldt et al., 2009; Suher & Ispir, 2009; Xu et al., 2008; Leung, 2007; Merisavo et al., 2007; Bauer et al., 2005; Haghirian et al., 2005; Tsang et al., 2004; Oh & Xu, 2003; Siau & Shen, 2003; Varshney, 2003; Ducoffe, 1996) show that informativeness of the message acts as a strongest dominant factor on consumer attitude. Specifically, when consumers get a SMS advertisement, they would consider this as a valuable source of timely information so that they could make a purchase decision when required. Based on the previous discussion, the following hypothesis is suggested:

H2: Informativeness of SMS advertisements has a significant positive influence on consumer attitude toward SMS advertising.

2.3 Irritation

According to Shavitt et al. (1998), consumer attitude toward advertising is greatly influenced by the people's feeling of dishonour when being addressed by advertisements. Due to comparatively low cost of SMS advertising, advertisers send collective short message without taking care of privacy or consumer concern. As a result, most people are irritated, disturbed and got confused about the information provided by those advertisements (Rittippant et al., 2009; Stewart & Pavlou, 2002; Xu, 2006). This confusion may lead them to react negatively toward SMS advertisements (Chowdhury et al., 2006). The fact is true for complex and unwanted mobile advertising message as well (Khasawneh & Shuhaiber, 2013; Haghirian et al., 2005). Previous studies show that there is a negative relation between irritation and attitude toward mobile advertising (Khasawneh & Shuhaiber, 2013; Tsang et al., 2004). Therefore, it is hypothesized that:

H3: Irritation has a significant negative influence on consumer attitude toward SMS advertising.

2.4 Credibility

Credibility, in context of advertising, has been defined as the consumers' trust on the advertised product

(MacKenzie & Lutz, 1989). Relevant studies have found that perceived advertisement credibility has significant positive influence on consumer attitude toward the advertising (Dahlén & Nordfält, 2004; Brackett & Carr, 2001; MacKenzie & Lutz, 1989). Even in the mobile marketing context, there is a positive correlation between the credibility of the advertising message and consumer overall attitude toward SMS advertisements (Waldt et al., 2009; Suher & Ispir, 2009; Chowdhury et al., 2006; Tsang et al., 2004). It provides that when the message content of SMS advertisement would be credible, it would positively impact the consumer attitude toward SMS advertising. Taking the above discussion into consideration, the following hypothesis is developed:

H4: Credibility of SMS advertisements has a significant positive influence on consumer attitude toward SMS advertising.

2.5 Consumer Inertia

Consumer inertia or resistance to change has been considered as an important behavioural phenomenon that has significant impact on diverse disciplines. It can be defined as a common tendency of consumer to abstain from making any purchase when it is best for them to act instantly (Zhao et al., 2012; Su, 2008). Greenfield (2005) identifies that inertia affects consumer trial of new product and technologies. It costs business not only in acquiring increased customer but also in winning customer from competitors. Thus, customer inertia brings lesser sales, lower adoption of technology and more competition (Saxena, 2011). Though inertia is not exceptional, it is almost always accompanied by negative consequences (Su, 2008). In context of SMS advertising, this is relatively a new idea to add consumer inertia as a major construct for measuring consumer attitude toward SMS advertising. However, consumer inertia has significant negative influence on consumer attitude toward mobile advertising (Punyatoya & Durgesh, 2011). It indicates that when the consumers will be very much busy or not interested, they are unlikely to check the advertising message received through mobile devices. Even consumer inertia may cause from the irrelevant offers to the consumer. From the discussion above, consumer inertia may have a negative influence on consumer attitude toward SMS advertising and thus, it has been taken into consideration for this study. It is hypothesized that:

H5: Consumer inertia has a significant negative influence on consumer attitude toward SMS advertising.

2.6 Consumer Control

Majority of the consumers consider mobile phone as their precious personal property (Bamba & Barnes, 2007; Barnes & Scornavacca, 2004; Barwise & Strong, 2002; Whitaker, 2001). Recently, marketers are using this media to reach them directly. Thus, it becomes a privacy concern for the consumers. Milne et al. (2004) reveal that consumers possess a trivial or no control over receiving unwanted commercial information. According to Tripathi and Siddiqui (2008), sending an advertisement without prior consent has already flawed the mobile advertising industry. Since, consumers tend to overlook advertisement that appears without prior permission (Wang & Wang, 2005; Denk & Hackl, 2004; Varshney, 2003), not only the advertisers but also the mobile operators should seek permission (Basheer & Ibrahim 2010; Sheehan & Hoy, 2000). It has been identified that consumers should have control over the content, time and frequency of the advertised messages (Khasawneh & Shuhaiber, 2013; Carroll et al., 2007; Merisavo et al., 2007). A wide range of relevant studies have found that consumers want to have control over the number, the selection of service and types of advertising messages they receive, and grant permission before receiving SMS advertisements which in turn positively influence their attitude toward mobile advertising (Noor et al., 2013; Beneke et al., 2010; Okazaki et al., 2009; Usta, 2009; Jayawardhena et al., 2009; Hanley & Becker, 2008; Wong & Tang, 2008; Sultan & Rohm, 2008; Merisavo et al., 2007; Carroll et al., 2007; Bamba & Barnes, 2007; Grant & O'Donohoe, 2007; Vatanparast & Asil, 2007; Maneesoonthorn & Fortin, 2006; Bauer et al., 2005; Scharl et al., 2005; Standing et al., 2005; Dickinger et al., 2004; Tsang et al., 2004; Barnes & Scornavacca, 2004; Kavassalis et al., 2003; Krishnamurthy, 2001; Milne & Rohm, 2000). Based on this, the researcher remarks that consumers will have positive attitude toward SMS advertising if they have control over the advertising. Therefore, it is proposed that:

H6: Consumer control toward SMS advertising has a significant positive influence on consumer attitude toward SMS advertising.

2.7 Perceived Risk

Since the perception of risk robustly dominates consumer behaviour, consumers are generally doubtful about the cost of a decision or an action (Bauer, 1976). In previous study, it has been identified that a consumer risk perception on a particular subject can strongly determine his or her behaviour (Mitchell, 1999). In case of the adoption of innovations, lack of experience with a new product makes consumer to perceive high risk (Bauer et al., 2005). These findings can be applied to the mobile advertising context. Since mobile advertising is a

relatively new phenomenon, a majority of consumers may consider it to be risky. Siau and Shen (2003) reveal that a large proportion of consumers are still quite awkward with the concept of mobile business and they are suspicious whether these businesses conducting mobile advertising are viable and safe. Furthermore, data security and consumer privacy related risks are associated with mobile marketing (Bauer et al 2005). Unwanted advertising message is commonly known as spam (Dickinger et al., 2004) which encroaches into consumer privacy and impedes consumer acceptance of mobile advertising (Haghirian & Madlberger, 2005). When mobile advertising messages are perceived as spam, consumers are likely to delete those and react negatively as their freedom to choose is endangered (Wong & Tang, 2008). From the above discussion, the researcher has an idea that risk perception negatively influences consumer attitude toward SMS advertising. Thus, it is hypothesized that:

H7: Perceived risk has a significant negative influence on consumer attitude toward SMS advertising.

2.8 Advertiser Credibility

Advertiser or firm credibility has gained an important concern in case of advertising (Goldsmith et al., 2000; Lafferty & Goldsmith, 1999; Goldberg & Hartwick, 1990). It can be defined as the consumer perception that a firm can provide satisfactory products and services and act as a credible source of information (Okazaki, 2004; Keller, 1998). MacKenzie and Lutz (1989) identify that the credibility of message content depends on the consumer's trust in the origin of the specific advertisement (the credibility of the advertiser). Although, a negative relationship exists between massive advertising and firms' trustworthiness, it can be minimized by delivering relevant information which will enhance trust between consumers and mobile operators (Basheer & Ibrahim 2010). In case of achieving the desired communication goal, advertisements for familiar brands are found to be more successful compared to the advertisements for unfamiliar brands (Coates et al., 2006; Kent & Allen, 1994; Snyder, 1989; Alba & Hutchinson, 1987). As previous studies show that advertiser credibility has a direct positive influence on the consumer attitude toward advertising (Choi & Rifon, 2002; Goldsmith et al., 2000), it would have a positive influence on consumer attitude toward SMS advertising as well. It means that when familiar and credible advertisers will send messages, the consumer will respond positively. Thus, the following hypothesis is developed:

H8: Advertiser credibility has a significant positive influence on consumer attitude toward SMS advertising.

2.9 Incentives

Incentives can be defined as the values or gains that benefit consumers when receiving SMS advertisements. Thus, in case of incentive-based advertising, consumers have feasible reasons to accept SMS advertisement. Previous research recommends different ways to execute this type of advertising such as monetary and nonmonetary incentives (e.g. extra points or free minutes, coupons, mobile devices, ringtones, airtime, connection time for listening to voice advertisements or discounted advertised products or services) (Hanley et al., 2006; Tsang et al., 2004). Moreover, there is a positive relationship between incentives and attitude toward SMS advertising where consumers tend to accept SMS advertisement with proper incentives (Basheer & Ibrahim, 2010; Hanley et al., 2006; Rettie et al., 2005; Tsang et al., 2004; Varshney, 2003). Based on the previous literature, the following hypothesis is developed:

H9: Incentive for receiving SMS advertisements has a significant positive influence on consumer attitude toward SMS advertising.

2.10 Social Norms

Subjective or social norms are defined as the person's viewpoint that most people who are important to him believe that he should or should not perform any behaviour in question (Fishbein & Ajzen, 1975). Previous literatures points out that there exists a positive and significant relationship between social norms and consumer attitude toward mobile advertising (Mansour, 2012; Shimp & Kavas, 1984) whereas Bauer et al. (2005) state that social norms have only a slight direct impact on the mobile marketing attitude. In opposition, Hosseini et al. (2011) indicate that consumers disagree with the influence of social norms on their attitude toward mobile advertising. As a result, the factor social norm is justifiable for this study. Considering these, the following hypothesis has been formulated:

H10: Social norms have a significant positive influence on consumer attitude toward SMS advertising.

2.11 Demographic Variable (Gender)

Gender is a major demographic variable that is relevant in forming overall attitude toward SMS advertising. Dedeoglu (2004) identifies that males and females perceive mobile phones and their usage in different ways.

Similarly, Ling (2001) reports that the role of the mobile phone varies based on gender. A research reveals that male consumers express a more favourable attitude toward advertisements than female consumers (Shavitt et al., 1998). Another study indicates that females show a high interest of sending an SMS to TV compared to their male counterparts (Trappey et al., 2005). Therefore, consumer attitude toward SMS advertising may differ based on their gender. It is hypothesized that:

H11: Attitude toward SMS advertising differs between male and female.

3. Research Framework

To have a good understanding of the consumer attitude toward SMS-based advertising in Bangladesh, Chowdhury et al. (2006) consider only four constructs: entertainment, informativeness, irritation and credibility. It is high time to notice whether there is any change in consumer attitude over time on those constructs and add some other factors that may influence the attitude of Bangladeshi people toward SMS advertisement. For this study, a theoretical model has been established using the developed hypotheses. The model exhibits the relationships among the focal constructs: the impact of message content related factors (entertainment, informativeness, irritation, credibility), consumer related factors (inertia, perceived control, perceived risk), advertiser related factors (advertiser credibility and incentives) and social norms on consumer attitude toward SMS advertising in Bangladesh (See Figure 1).

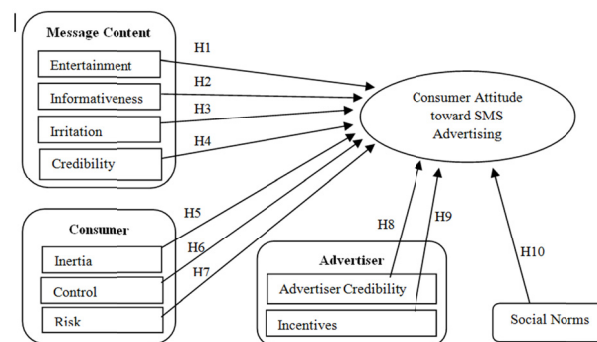


Figure 1. A conceptual model of consumer attitude toward SMS advertising

Source: The Authors (Developed for this research).

4. Research Methodology

A quantitative approach is used in this research.

4.1 Sampling and Data collection

In order to empirically test the model and hypotheses developed in the preceding section, a survey has been conducted on a convenience sample. The survey utilizes a questionnaire designed to collect data regarding consumer attitude toward SMS advertising. The general consensus among academics and practitioners is that SMS advertising is an ideal medium for reaching young consumers (Scharl et al., 2005). In Bangladesh, most university students possess mobile phones and are heavy users of SMS which depict them as a good target market for SMS advertising. Additionally, the lack of product familiarity is not supposed to impact their attitude toward SMS advertising greatly (Calder et al., 1981). Thus, the undergraduate students of a department of a business school at a public university are selected as a sample. A total of 387 responses are collected. The removal of outliers and records with missing values has left 375 responses. A total of 375 questionnaires are subsequently used for data analysis. The sample includes 232 males (61.9%) and 143 females (38.1%) who are undergraduate students of different years with the average age of 22.

4.2 Measurement and Scaling

The conceptualization and development of the questionnaire is based on the existing literature, resulted in total of 33 items. For capturing demographic information, three items are included (gender, age, and education level). Additional three items are incorporated to have the information of average SMS received daily and the expectation of the consumers. At last, one open ended question is added for capturing the consumer idea about SMS advertising. Respondents have been asked to state their level of agreement with the series of statements. A

typical 5-point Likert scale is used to measure the constructs presented in the proposed model (scores were ranged from 1='Strongly Disagree' to 5='Strongly Agree' with 'Neutral' score of 3).

4.3 Data Analysis Method

Structural Equation Modelling (SEM) has been used to analyse the data in this study. SEM is especially effective to handle the process of developing and testing theories and has already been considered as a quasi-standard in research (Hair et al., 2012; Ringle et al., 2012; Shook et al., 2004; Steenkamp & Baumgartner, 2000). In case of estimating the structural equation models, two different statistical methods are available: variance-based partial least squares path modelling (PLS-SEM) and covariance-based SEM (CB-SEM). PLS-SEM is a prediction oriented variance-based approach that focuses on endogenous target constructs in the model and aims at maximizing their explained variance (i.e., their R2 value). In contrast, CB-SEM is a confirmatory approach that focuses on the model's theoretically established relationships and aims at minimizing the difference between the model's implied covariance matrix and the sample covariance matrix. However, CB-SEM and PLS-SEM are different but complementary statistical methods for SEM, whereas the advantages of the one method are the shortcomings of the other, and vice versa (Jöreskog & Wold, 1982).

As exploratory factor analysis is associated with theory development, at the first phase of this study, PLS-SEM is used to find the factors affecting consumer attitude toward SMS advertising. In the second phase, the validity of the developed theory is tested using confirmatory factor analysis. In other words, CB-SEM is used to confirm the model and test the hypotheses. At last, an independent sample t-test is used to investigate the difference in attitude toward SMS advertising between male and female. SMART PLS 2.0, AMOS 16.0 and SPSS 20.0 software are used for data analysis.

5. Results Analysis

5.1 Exploratory Factor Analysis

In the first stage, an exploratory factor analysis is performed using the SMART PLS 2.0 software. The model has been diagrammed in PLS and a path modeling estimation is run. When the indicators are highly correlated and interchangeable, they are called reflective. In this case, their reliability and validity should be thoroughly examined (Hair et al., 2013; Petter et al., 2007; Haenlein & Kaplan, 2004). So, it is essential to establish the reliability and validity of the latent variables to complete the examination of the measurement model. Table 1 shows the results of reflective outer model.

Table 1. Refined items (purified analysis) on selected decision criteria with corresponding constructs

Latent Constructs	variables/ items	No of	Indicators	Indicator reliability	Composite Reliability	Average Variance extracted (AVE)
Entertainment	3		Ent1	0.9033	0.9094	0.7699
			Ent2	0.8825		
			Ent3	0.8456		
Informativeness	3		Info1	0.7952	0.8456	0.6461
			Info2	0.8031		
			Info3	0.8130		
Irritation	2		Irr1	0.8914	0.8802	0.7861
			Irr3	0.8818		
Credibility	3		Cred1	0.7758	0.8516	0.6571
			Cred2	0.7992		
			Cred3	0.8548		
Inertia	2		Inertia1	0.9031	0.8940	0.8082
			Inertia2	0.8949		
Consumer control	3		C.control1	0.8249	0.8687	0.6882
			C.control2	0.8519		
			C.control3	0.8114		
Perceived risk	3		P.risk1	0.7973	0.8576	0.6682
			P.risk2	0.8755		
			P.risk3	0.7761		
Social Norm	2		S.norm2	0.8611	0.8858	0.7953
			S.norm3	0.9214		

		Ad.cred1	0.7467		
Advertiser credibility	3	Ad.cred2	0.8767	0.8538	0.6616
		Ad.cred3	0.8115		
		Incentive1	0.7819		
Incentives	3	Incentive2	0.7688	0.8383	0.6338
		Incentive3	0.8360		
		Att.measure1	0.8317		
Attitude Measures	3	Att.measure2	0.8341	0.8566	0.6659
		Att.measure3	0.7813		

Source: The Authors (Developed from primary data).

5.1.1 Indicator Reliability

Generally, the individual indicator reliability value of 0.70 or higher is preferred. Hulland (1999) notes that 0.4 or higher is acceptable in case of exploratory research. In Table 1, only individual indicator reliability value of 0.70 or higher has been taken into consideration. As a result, some items had been deleted from the measurement model. These eliminated items included Irr2, S.norm1 and Inertia3.

5.1.2 Internal Consistency Reliability

Usually, “Cronbach’s alpha” is used to measure internal consistency reliability in social science research. But, in case of PLS-SEM, it tends to provide a conservative measurement. As a result, prior literature has suggested the use of “Composite Reliability” as a substitute (Hair et al., 2012; Bagozzi & Yi, 1988). Composite reliability should be 0.7 or higher even 0.6 or higher is acceptable in terms of exploratory research (Bagozzi & Yi, 1988). From Table 1, such values are shown to be larger than 0.8, so high levels of internal consistency reliability have been demonstrated among all reflective latent variables.

5.1.3 Convergent Validity

To check convergent validity, each latent variable’s Average Variance Extracted (AVE) is evaluated. AVE should be 0.5 or higher (Bagozzi & Yi, 1988). Again from Table 1, it is found that all of the AVE values are greater than 0.6, so convergent validity is confirmed.

5.1.4 Discriminant Validity

Fornell and Larcker (1981) suggest that the square root of AVE in each latent variable can be used to establish discriminant validity, if this value is larger than other correlation values among the latent variables. Table 2 shows that the discriminant validity of all latent variables is confirmed.

Table 2. Fornell Lurcker criterion (for confirming discriminant validity)

	Advertiser credibility	Attitude	Credibility	Entertainment	Incentive	Inertia	Informativeness	Irritation	Consumer control	Perceived risk	Social Norm
Advertiser credibility	0.813										
Attitude	0.143	0.816									
Credibility	0.036	0.328	0.811								
Entertainment	0.129	0.271	0.459	0.877							
Incentive	0.249	0.092	-0.091	-0.080	0.796						
Inertia	-0.037	-0.327	-0.195	-0.337	0.169	0.899					
Informativeness	0.178	0.228	0.300	0.441	0.107	-0.300	0.804				
Irritation	0.020	-0.428	-0.331	-0.335	0.073	0.297	-0.144	0.887			
Consumer control	0.146	-0.222	-0.265	-0.229	0.192	0.255	-0.040	0.360	0.830		

Perceived risk	0.070	-0.175	-0.164	-0.125	0.184	0.232	-0.004	0.206	0.270	0.817	
Social Norm	0.192	0.261	0.255	0.237	0.009	-0.226	0.209	-0.224	-0.076	-0.117	0.892

5.2 Confirmatory Factor Analysis

The measurement model had been validated using PLS-SEM. Now the next stage is to confirm the model structure. Structural equation modelling (SEM) using AMOS 16.0 has been used to perform the confirmatory factor analysis. Confirmatory factor analysis reveals that some measurement items are not loaded in accordance with the pattern revealed in the exploratory factor analysis. In case of items, three items (Info3, Cred2 and Incentive3) have been eliminated for poor loading of 0.5 or low. The rest of the measurement model is checked to notice the fitness.

5.2.1 Model Fit

The measurement model indicates an acceptable model fit of the data (CMIN= 277.75, DF =207, $p = 0.001$; CMIN/DF=1.342 (<5); CFI =0.975; TLI = 0.967; IFI = 0.976; NFI =0.911; PNFI =0.683; PCFI = 0.731 and RMSEA = 0.03). Besides, all indicators present significant loadings on the latent constructs. The fit indices values illustrate a rational fit of the measurement model with data (Byrne 2001). In short, the measurement model confirms the ten-factor structure.

Next, a confirmatory factor analysis on the measurement model consisting of the ten independent variables and one dependent variable has also been performed. The measurement model reveals an adequate model fit with the data (CMIN= 485.112, DF =279, $p < 0.001$; CMIN/DF=1.739 (<5); CFI =0.937; TLI = 0.921; IFI = 0.938; NFI =0.866; PNFI =0.688; PCFI = 0.745 and RMSEA = 0.044).

Table 3. Measurement model results

Latent Constructs	variables/ items	No of	Indicators	Indicator reliability	Composite Reliability	Average Variance extracted (AVE)
Entertainment	3		Ent1	0.861	0.854	0.662
			Ent2	0.847		
			Ent3	0.726		
Informativeness	2		Info1	0.835	0.775	0.775
			Info2	0.755		
Irritation	2		Irr1	0.797	0.730	0.575
			Irr3	0.718		
Credibility	2		Cred1	0.606	0.717	0.567
			Cred3	0.876		
Inertia	2		Inertia1	0.730	0.767	0.623
			Inertia2	0.845		
Consumer control	3		C.control1	0.714	0.777	0.539
			C.control2	0.814		
			C.control3	0.667		
Perceived risk	3		P.risk1	0.739	0.759	0.512
			P.risk2	0.730		
			P.risk3	0.677		
Social Norm	2		S.norm2	0.727	0.749	0.600
			S.norm3	0.819		
Advertiser credibility	3		Ad.cred1	0.641	0.751	0.503
			Ad.cred2	0.779		
			Ad.cred3	0.700		
Incentives	2		Incentive1	0.721	0.707	0.546
			Incentive2	0.757		
Attitude Measures	3		Att.measure1	0.681	0.759	0.512
			Att.measure2	0.768		
			Att.measure3	0.695		

5.2.2 Reliability of the Measurement Instrument

Evidence of the scale reliability is provided in Table 3, which shows that the composite reliability and average variance extracted scores of the different latent variables are obtained (Hair et al., 2006; Fornell & Larcker, 1981). Composite reliability (CR) of all the latent variables is greater than the acceptable limit of 0.70 (Carmines & Zeller, 1988). The AVEs for all the factors are greater than or equal to 0.5 which is acceptable (Fornell & Larcker, 1981).

5.2.3 Construct Validity

Construct validity is a measure that shows the extent to which a set of measured variables actually emulates the latent constructs (Hair et al., 2006). This validity has been developed in this study by establishing the face validity, convergent validity and discriminant validity.

Face validity has been established by using the measurement items from the existing literature and adapting them for this study. Convergent validity can be obtained by examining the factor loadings and AVE of the constructs (Fornell & Larcker, 1981). All the indicators have significant loadings on the relevant latent constructs ($p < 0.001$) with values varying between 0.606 and 0.876 (See Table 3). Besides, greater AVE ($AVE > 0.50$) for each construct confirms the convergent validity. Moreover, the discriminant validity is also confirmed for the constructs (See Table 4). Thus, the measurement model has sufficient reliability and constructs validity.

Table 4. Fornell Lurcker criterion (for confirming discriminant validity)

	Entertainment	Informativeness	Incentive	Credibility	Consumer Control	Advertiser Credibility	Perceived Risk	Irritation	Inertia	Social Norm	Attitude
Entertainment	0.814										
Informativeness	0.463	0.796									
Incentive	-0.166	0.115	0.739								
Credibility	0.558	0.160	-0.129	0.753							
Consumer Control	-0.289	0.043	0.253	-0.383	0.734						
Advertiser Credibility	0.166	0.279	0.252	0.003	0.199	0.709					
Perceived Risk	-0.159	0.027	0.310	-0.195	0.332	0.096	0.716				
Irritation	-0.420	-0.155	0.086	-0.480	0.455	0.021	0.268	0.759			
Inertia	-0.428	-0.338	0.266	-0.251	0.327	-0.037	0.300	0.410	0.790		
Social Norm	0.302	0.276	-0.020	0.321	-0.097	0.249	-0.133	-0.296	-0.298	0.774	
Attitude	0.306	0.208	0.084	0.393	-0.262	0.184	-0.208	-0.547	-0.394	0.318	0.716

Source: The Authors (Developed from primary data).

5.2.4 Impact of Ten Independent Variables on Consumer Attitude toward SMS Advertising

H1 to H10 are examined using AMOS 16.0. The final model is shown in Figure 2.

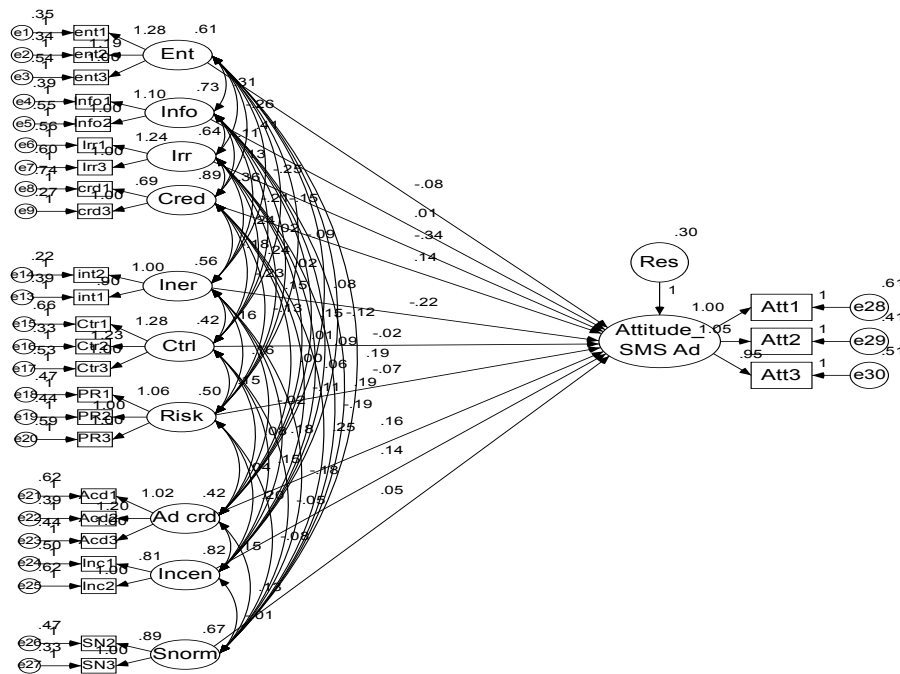


Figure 2. Final model of consumer attitude toward sms advertising

Source: The Authors (Developed from primary data).

Results of SEM indicate an adequate model fit with the data (CMIN= 375.406, DF=269, at $p < 0.001$; CFI= 0.967; TLI= 0.958; IFI =0.968; RFI =0.865; NFI =0.896 and RMSEA = 0.033). Results of the hypotheses testing are shown in Table 5.

Table 5. Results of hypotheses testing

Hypotheses	Hypothesized path	Unstandardized coefficient	path	p value	Results
H1	Attitude <--- Entertainment	-0.078		0.362	Rejected
H2	Attitude <--- Informativeness	0.008		0.902	Rejected
H3	Attitude <--- Irritation	-0.340		***	Accepted
H4	Attitude <--- Credibility	0.143		0.041	Accepted
H5	Attitude <--- Inertia	-0.217		0.008	Accepted
H6	Attitude <--- Consumer Control	-0.017		0.843	Rejected
H7	Attitude <--- Perceived Risk	-0.075		0.294	Rejected
H8	Attitude <--- Advertiser Credibility	0.163		0.040	Accepted
H9	Attitude <--- Incentive	0.140		0.024	Accepted
H10	Attitude <--- Social Norm	0.053		0.409	Rejected

Source: The Authors (Developed from primary data).

H1 states that the attitude toward SMS advertising will be positively affected by the entertainment content of SMS advertisements. However, the results shown in Table 5 indicate that the influence of entertainment on attitude toward SMS advertising is negative and not significant ($\beta = -0.078$, Sig. = .362) meaning H1 is rejected. Next, H2 predicts that the attitude toward SMS advertising will be positively affected by the perception of getting valuable information but the influence of informativeness is insignificant ($\beta = .008$, Sig. = .902) indicating H2 is rejected. Thirdly, the result supports the third prediction as the influence of irritation on

consumer attitude toward SMS advertising is negative and significant ($\beta = -.340$, Sig. $< .000$) and thus H3 is supported. Fourthly, a positive, significant relationship between message credibility and attitude toward SMS advertising has been found ($\beta = .143$, Sig. = .041), meaning H4 is accepted. The result of H5 supports the hypothesis indicating that the path between inertia and attitude toward SMS advertising is negative and significant ($\beta = -.217$, Sig. = .008). Then, the result shows a negative, insignificant ($\beta = -.017$, Sig. = .843) relationship between the consumer control and attitude toward SMS advertising suggesting to reject H6. The influence of perceived risk on attitude toward SMS advertising has been found negative and insignificant ($\beta = -.075$, Sig. = .294) opposing H7. The result of H8 suggests that advertiser credibility has a significant positive impact on consumer attitude toward SMS advertising ($\beta = .163$, Sig. = .040) meaning H8 is accepted. The result is also found to accept H9 showing a positive significant ($\beta = .140$, Sig. = .024) path between the incentive and consumer attitude. However, a positive insignificant ($\beta = .053$, Sig. = .409) path between the social norms and consumer attitude is found which rejects H10.

Table 6. Impact of gender on attitude

		Levene's Test for Equality of Variances	Test for t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Attitude toward SMS advertising	Equal variances assumed	2.736	.099	.560	373	.576	.04963	.08859	-.12457	.22384
	Equal variances not assumed			.576	327.163	.565	.04963	.08618	-.11991	.21918

Source: The Authors (Developed from primary data).

To test H11, an independent sample t-test is performed using SPSS 20.0 to observe the difference in attitude toward SMS advertising between male and female. The result is presented in Table 6. The Sig value (.099) in Levene's Test is greater than the level of significance 0.05, thus variances are equal. Besides, the Sig value in T test which equals .576 is also more than the significance level indicating the null hypothesis is accepted and H11 is rejected. Thus, there is no significant difference in attitude toward SMS advertising between male and female.

6. Discussion and Conclusion

The study has been conducted to spot the most significant factors influencing consumer attitude toward SMS advertising in Bangladesh. For this purpose, several constructs including entertainment, informativeness, irritation, credibility, inertia, perceived control, perceived risk, advertiser credibility, incentives, social norms, gender and consumer attitude toward SMS advertising are taken into account. The model and the hypotheses are developed based on the relevant literature and are tested quantitatively using a survey instrument. Ultimately, the result has identified that only five variables (irritation, message credibility, inertia, advertiser credibility and incentives) have significant influence on consumer attitude toward SMS advertising in context of Bangladesh.

Moreover, to identify whether this study is consistent with the previous research, a comparison of the results has been made. In case of the first hypothesis, it is stated that the entertainment aspect of the SMS advertisement should positively influence the consumer attitude toward SMS advertising in Bangladesh as previous studies (Khasawneh & Shuhaiber, 2013; Bauer et al., 2005; Tsang et al., 2004) show the similar results. Although, the finding of this research is inconsistent with those studies conducted in different countries, it is in harmony with a study (Chowdhury et al., 2006) conducted in the context of Bangladesh. Consumers of Bangladesh do not consider SMS advertisement as a medium of entertainment.

Following the empirical data, informativeness of the SMS advertisement does not have a positive significant influence on consumer attitude toward SMS advertising in Bangladesh. This finding is not coherent with previous studies within the SMS advertising context in various nations (Khasawneh & Shuhaiber, 2013; Gao et al., 2010; Waldt et al., 2009; Suher & Ispir, 2009; Xu et al., 2008; Leung, 2007; Merisavo et al., 2007; Bauer et al., 2005; Tsang et al., 2004; Oh & Xu, 2003; Siau & Shen, 2003; Varshney, 2003; Ducoffe, 1996). However, the

result is consistent with previous research conducted in Bangladesh (Chowdhury et al., 2006). Most likely, consumers in Bangladesh find that SMS advertising is not very informative.

The hypothesis regarding the irritation factor is backed by the finding of the current study. In addition, the finding is supported by previous SMS advertising researches (Khasawneh & Shuhaiber, 2013; Suher & Ispir, 2009; Xu, 2007; Haghirian & Madlberger, 2005; Tsang et al., 2004) which reveals that irritation caused by unwanted SMS advertisements affect negatively the attitude toward mobile advertising. However, the finding had not been confirmed by the research conducted in Bangladesh (Chowdhury et al., 2006). The reason behind the scenario can be explained by the consumer behavioural change. In 2006 the concept of SMS advertising was comparatively new to the consumers and thereby they were not annoyed to receive the SMS advertisements. But over the period, the mentality of the consumers has been changed a lot resulting irritation. So, marketers should send the SMS advertisement in a manner which will not bother and disrupt the consumers.

The finding of this study shows that credibility of SMS advertising has a significant positive influence on consumer attitude toward SMS advertising in Bangladesh. This result is coherent with prior research findings within the SMS advertising context conducted in different nations (Khasawneh & Shuhaiber, 2013; Punyatoya & Durgesh, 2011; Waldt et al., 2009; Suher & Ispir 2009; Tsang et al., 2004; Brackett & Carr, 2001) and even in Bangladesh (Chowdhury et al., 2006). Marketers should take credibility into consideration when forming the SMS advertisements so that they can reach consumers easily.

Further, consumer inertia as an influential factor still has not been considered in case of attitude toward SMS advertising in Bangladesh. The result of this study finds that consumer inertia has significant negative influence on Bangladeshi consumer attitude toward SMS advertising which is in harmony with the previous research carried by Punyatoya and Durgesh (2011) in context of mobile advertising in India.

Next, respondents have not considered perceived control factor having a positive impact on their attitude toward SMS advertisements which is not uniform with the majority of the earlier studies (Scharl et al., 2005; Tsang et al. 2004) within the SMS advertising context. However, the finding of the present study in Bangladesh is consistent with the studies conducted in Finland (Merisavo et al., 2007) and Jordan (Khasawneh & Shuhaiber, 2013). This result can be explained by the findings of Hossain and Bahar's (2013) study which states that when participants perceive the offers of SMS advertisements are relevant and useful to them, they are not reluctant to receive those SMS without permission. Despite the fact, the telecom regulator of Bangladesh is now preparing the guidelines where consumers will be able to block the unwanted calls and SMS (Ahmed, 2013).

Previous studies (Ramnarain & Kamphuis, 2012; Bauer et al., 2005) confirm that significant negative relationship exists between perceived risk and consumer attitude toward mobile advertising. The finding of this research is partly consistent with those findings in terms of negative relation but the result explains the relationship as non significant. The negative relation can be formed from the fear of losing privacy or getting unwanted messages.

In case of advertiser credibility factor, the result shows that it has a significant positive influence on consumer attitude toward SMS advertisement which is perfectly consistent with the previous studies in advertising context (Barwise & Strong, 2002; Goldsmith et al., 2000; Lafferty & Goldsmith, 1999; Goldberg & Hartwick, 1990). It indicates that the consumers of Bangladesh also like to get SMS advertisements from the reputed, familiar and reliable organizations. However, the finding is inconsistent with the study conducted in Jordan (Khasawneh & Shuhaiber, 2013) showing negative influence on attitude toward SMS advertising. Next, the finding of this study also points out that incentives included in the SMS advertisements have a significant positive impact on consumer attitude toward SMS advertising that is consistent with the previous studies (Saadeghvaziri & Seyedjavadin, 2011; Tsang et al., 2004). Thus, consumers are very likely to get some sort of rewards for receiving SMS advertisements. Marketers may provide financial or non financial benefits to the consumers.

Regarding the factor social norms, the study reveals that norms have no positive influence on consumer attitude toward SMS advertising which is inconsistent with the major previous research in mobile advertising milieu (Bauer et al., 2005; Mansour, 2012; Soroa-Koury & Yang, 2010). The finding is however supported by the study of Hosseini et al. (2012). Thereby, consumers do not think that the social norms are influencing their attitude toward SMS advertisements. In addition, Hossain and Bahar (2013) determine that few participants share SMS advertisements to their friends and family when they feel the messages are relevant.

In this research, only one demographic variable (gender) has been considered to notice whether consumer attitude toward SMS advertising differ based on their gender. Previous study has found that the attitude toward advertising varies by gender (Shavitt et al., 1998). However, the finding of the current study has not found any differences in attitude toward SMS advertising in male and female consumers.

In addition, the study reveals that 23.5% of the total respondents get on an average of five SMS advertisements per day whereas only 42.9% respondents are likely to get one SMS daily. However, 59.2% respondents want to get SMS advertisements on both product and services. In providing feedback on SMS advertising, some half of the respondents notes the factor timing. They suggest that SMS advertisements should be sent on weekend or at nights rather than at working hours. Respondents also want to get short, clear, reliable and relevant messages. They argue that sometimes SMS advertisements are sent very frequently which cause irritation and thus they delete these messages even without reading the content. This finding is similar to the findings of the study carried by Hossain and Bahar (2013).

In conclusion, the current research should make a number of academic and managerial contributions to the existing SMS advertising literature from the context of Bangladesh. The study has included not only the impact of message content related factors (entertainment, informativeness, irritation, credibility) but also the impact of consumer related factors (inertia, perceived control, perceived risk), advertiser related factors (advertiser credibility and incentives), social norms and gender on consumer attitude toward SMS advertising in Bangladesh. Advertisers in Bangladesh should create short, clear, reliable and relevant advertising messages with incentives that will not bother the consumer. Though, consumer control was not highly significant, it will be better for the advertisers to ask for permission before sending SMS advertisement as the consumers of Bangladesh are being very conscious gradually and may become irritated easily. Finally, they should be more cautious about the time when they are sending the messages.

7. Limitations and Future Research Directions

Since the data have been collected from a convenience sample of students in a public university, the study has the sampling biases. Thus, the generalization of the findings using student sample is difficult. The future research should focus on these issues. Another opportunity for future research is to extend the model to include other potential critical variables that have been excluded in this research. Even the influence of some demographic variables such as age, education on the consumer attitude can be studied further.

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