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# Effectiveness of Sms Advertising in Bangladesh: Drawing on Hierarchy of Effects Model

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**ABSTRACT**

**The study explored the effectiveness of Short Message Service (SMS) advertising on customers' purchase decision focusing *awareness, knowledge, liking, preference, conviction*, and *purchase* attributes of Hierarchy of Effects Model. A total of 180 mobile phone subscribers were surveyed adopting non-probability convenience and judgmental sampling techniques through a structured questionnaire. It is found that none of the attributes have positive impact on the subscribers' behavior. Purchase is found to be the most ineffective attribute followed by Conviction and Liking. Awareness, Knowledge, and Preference are least ineffective ones. However, SMS ad which explicitly mentions the company name and offers in the title, somewhat gets subscribers' attention. It is noted that the SMS ads do not provide enough information, accessibility, and convenience. Brand loyalty and brand image of the products advertised have weak positive impact on consumer preference. The respondents view SMS ads mostly unconvincing and ineffective; but call rate packages, internet purchases and product discount purchases fared not so poorly. However, there are situations where SMS can be utilized effectively. As SMS advertising do not really incur much additional cost for the telecom companies, it can provide an avenue for information dissemination, as well as, to generate revenue from offers they promote.**

**Key words:** awareness, conviction, knowledge, liking, preference, purchase

## BACKGROUND

Short Message Service (SMS) advertising has skyrocketed and gained prominence globally in recent years (Wilkinson, 2021). Business-to-consumer (B2C) text messaging is growing rapidly. Global mobile business messaging traffic hit 2.7 trillion in 2020, up 10% from 2019 (Goldman, 2021). Brands are using SMS in various customer communication applications, including marketing messages, customer support, transactional messages, and more. Mobile phone users are bombarded with daily promotions from telecom service operators and third-party service providers (Hossan, Akter, & Ferdous, 2015; Watson, McCarthy, & Rowley, 2013). All telecom operators frequently utilize SMS advertising as part of their market mix. Taking cue from telecom service providers, several organizations have understood the potential of SMS advertisements. Apart from telecom operators, retail stores, FMCG companies, Business to Business (B-B) and Business to consumers (B-C) companies, hotels, restaurants, airlines, etc., have started utilizing SMS ads for promotion (Bert et al, 2015; Reddy, 2001).

As one of the fastest-growing tools in a marketer's arsenal, SMS can be a highly effective customer communication channel, but it also comes with its own set of challenges (Goldman, 2021). There are observations of widespread discontent of mobile phone users with daily promotions through SMS advertisements not relevant to their needs (Hossan, et al., 2015; Khalil et al., 2020). Hence, it is important to have insight into the attributes of SMS advertising that are effective and thus making the ads more relevant to the consumers, consequently mitigating their discontent to a significant extent, and further enabling the decision makers to manage their marketing communication budgets accordingly. This will benefit the mobile operators and third-party service providers (clothing stores, cafés & restaurants, etc.) who use SMS advertising as part of their marketing communication mix. Information in this regard will allow marketing managers to better target promotions using SMS to segments most likely to be malleable to promotions through the medium.

The study of effectiveness of SMS ads in relation to the Bangladesh telecom market is of utmost importance. The scope of SMS ads in Bangladesh can be wide and huge. Bangladesh has a population of 167 million (BBS, 2020). As per mobile service providers, till July 2021, Bangladesh has 90 million unique subscribers with 170 million mobile connections giving a penetration rate of 54 percent (BTRC, 2021). Still about 47 percent of subscribers use 2G connections and 25 per cent 3G connections. Huge growth in the telecom industry has insured this many people in Bangladesh now use mobile phones as their most favored means of communication and scope of SMS advertisement. Since SMS ads constitute a growing portion of many organizations' marketing budget, judging the effectiveness of SMS ads have become increasingly important (Chowdhury, Islam, & Rana, 2016). Research on the effectiveness of SMS ad is few and far between. Moreover, in Bangladesh the situation is direr and not much is known about SMS advertisements especially in the Bangladeshi market context (Bose et al., 2010, Khalil et al., 2020).

Considering above, this study attempts to shed light on the factors that constitute the effectiveness of SMS advertisements using the Hierarchy of Effects Model, a cognitive communication model that states that people perceive information in a process passing linearly through the stages of *awareness, knowledge, liking, preference, conviction, and purchase* (Lavidge & Steiner, 1961). These micro stages are broadly divided into three major stages: i) the cognitive stage (awareness, knowledge), ii) the affective stage (liking, preference, conviction), and iii) the behavioral stage (purchase). The study analyzes the impact of SMS ads in each of the six stages. The findings of the study will shed light for companies to better design their marketing communication strategies. This will not only save organizations their precious funds but will also allow them to accurately tailor marketing communication to different market segments.

## OBJECTIVES OF THE STUDY

The broad objective of the study is to determine the effectiveness of SMS advertising on subscribers' purchase behavior. Specifically, the study tried to i) identify ideal time for receiving SMS ads, ii) ascertain the consumers' liking for various services and offers, iii) find out the attainment of the SMS ads focusing six factors of Hierarchy of Effects Model *(awareness, knowledge, liking, preference, conviction, and purchase),* iv) determine the effectiveness of SMS ads demographically, and v) provide recommendations for improving the effectiveness of SMS advertising.

## METHODOLOGY

### Research Design

This empirical study is exploratory in nature. The study includes both primary and secondary data and pertinent literature review. Primary data was mainly collected using a structured questionnaire. The secondary data is collected through literature review of journal articles, books, conference proceedings, and research papers. A non-probability convenience and judgmental sampling techniques are used to identify the respondents. The sample size of the study is 180 mobile phone subscribers using different mobile services. The questionnaire was designed after developing the coordination schema (Appendix 1). The schema identified 26 simple variables converging into six attributes to measure the parameter 'effectiveness of SMS advertisements focusing Hierarchy of Effects Model'. Effectiveness of SMS advertisements might be related to other factors not included in the Hierarchy of Effects Models. The draft questionnaire is pretested on five mobile phone users and adjusted accordingly.

Sample population of the study has been taken from the urban areas of Dhaka city, the capital of Bangladesh. Dhaka being the cultural, economic, and political center of Bangladesh has representation of people from all corners of the country, if not, true country representation. Sample was taken from people between the ages of 18 and above having a minimum education of Secondary School level. The study used face validity to identify the variables, implying that the items chosen to measure a variable are logically related to it. The cronbach's alpha value of 0.89 (>0.7) indicated that the data is highly reliable and internally consistent. Statistical tests including index analysis, descriptive statistics, correlation analysis, and ANOVA are used to analyze the data.

### The Objectivity of Hierarchy of Effects Model

Industry practitioners and social scientists throughout the world have long sought to determine the effectiveness of advertising in this multi-billion-dollar industry. One suggested explanation of how advertisements work is the hierarchy of effects - that body of literature theorizes that audiences go through a variety of stages, namely cognitive (*awareness, knowledge*), affective (*liking, preference, conviction*), and behavioral/conative (*purchase*), in responding to advertising, and other persuasive marketing messages (Barry & Howard, 2015). So, the hierarchy of effects model is in line with the objective of the study, i.e., to determine the effectiveness, as well as attainment, of SMS advertising on subscribers' purchase behavior.

Effectiveness of SMS ads depend on subscribers' reaction to elements of each stage as the "hierarchical" model posits that the number of consumers reduces while moving from one stage to the next. There may be a lot of consumers that notice the product ad but not everyone will make a purchase. It takes a lot of effort to take a consumer from awareness to the final stage of purchase; so, companies need to give their best to get customers from conviction to complete the purchase. Using the model, the study may understand the concerns of the transitions in customers' behavior from being unaware about product or brand to understanding and liking it, and ultimately acting for purchase.

Hierarchy of effects model is an advanced strategy which approaches the sales of product via properly designed and persuasive advertising messages (Wijaya, 2012). The instrument will also help understand how effectively the messages created wide brand awareness over the time and guide customers in their process of decision-making. But the scholars belonging to

cognitive psychology have argued that consumers are exposed to a large range of information in real world which influence their final buying decision (Barry & Howard, 2015). They also criticized the model for its feasibility to understand each stage of buying behaviors and its ignorance of different advertising goals. Getting an idea about how the advertising message gets processed at every stage in consumer mind becomes almost impossible due to extensive background noise.

## LITERATURE REVIEW

### Mobile Advertising

Advertising is a method of marketing that provides information about goods, services, and businesses. Goals of advertising are to build product image and to stimulate direct purchase. Advertising has evolved with the emergence of new technologies (Goldman, 2021). Radio and TV are still traditional mediums for advertisements; but internet and mobile networks have emerged as new growing media for promotion (Watson et al., 2013). Mobile advertising is any form of advertising that appears on mobile devices such as smartphones and tablets using wireless connections. Companies advertise through text ads via SMS or through banner advertisements that appear embedded on a mobile web site. Mobile advertising is defined as the usage of interactive media (e.g., cell phones, pagers, PDAs, wireless networking, GPS based location device and maps) to transmit promotional messages in the form of time and location sensitive personalized information to market goods and services (Dix, 2009).

Mobile advertisements can be categorized into four major types: communication type, presentation type, business type, and message type (Tasyurek, 2021). Push type direct purchase advertising medium mainly consists of i) SMS (Short Message Service) and ii) MMS (Multimedia Messaging Service). SMS advertisements consisting only of text are currently more popular. MMS advertisements are more technologically complex consisting of sound, animations on text messaging capabilities. It is highly likely that soon the MMS taking precedence over SMS (Table 1). Advertising messages consist of different content according to the needs of marketing. Promotional offers and coupons are used for immediate increase of sales, whereas advertisements for building brand image and loyalty demand different approach (Bart, Yakov, Stephen & Sarvary, 2014).

**Table 1: Types of Mobile Advertisements**

| Communication Type | Presentation Type | Business Purpose | Message Type |
|---|---|---|---|
| Push | Message (SMS/EMS/MMS) | Direct purchase | Pure advertisement |
| Pull | Mobile banner | Coupon/Promotion | Attached advertisement |
| Interactive | Ring tone<br>Application (Screen saver/ Wall paper/ Mobile game) | Information<br>Transfer<br>Brand Imaging | Communicating/ Shared |

Mobile advertising is a rapidly growing advertising format. In 2020, over $240 billion expected to spend on mobile ads worldwide, with the United States seeing the lion's share of expenditures and roughly 46 percent of the total mobile ad spend was attributed to retailers (Statista, 2021). Surprisingly, according to a study, even with the rapid proliferation of smart phone handsets in the market, low quality display advertising which is known for its limited


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information capability still commands most of the mobile advertising spending (Bart et al., 2014). Low fidelity advertising has been shown to be effective for products that require further thought and consideration and products that are high involvement and utilitarian - as opposed to hedonic.

**SMS Advertising**

SMS ads provides interesting possibilities for marketers since it allows one to one communication with the customer. Personalized information tailored to a specific individual and aided by time and location sensitive information can provide value to both the consumer and the producer (Binkley, 2012). SMS has been in use for more than two decades. However, the marketing application of SMS was understood far later. Ubiquity, low cost, personalization, high response rates are what makes short text message ads an interesting and potentially lucrative marketing medium (Tasyurek, 2021).

Now-a-days mobile phone devices are extremely popular all over the world. The large potential audience and the access to remote areas provided by mobile cellular phones made marketers unprecedented access to a larger portion of the population than ever before. SMS allows people to send short text messages with limited graphics capability at a very low cost. Bulk SMS services allow corporations to send the same message to a large group of people. Information tailored to a target market or even better an individual is key to the success of SMS advertising (Grewal, Bart, & Spann, 2016).

There are many problems that might affect the growth of mobile advertisements, chief among them are spam messages and privacy (Khalil, 2020). Researchers fear that spam messages might deteriorate the quality of SMS advertisements as it has done with email messages. Since SMS advertisements are seen as private forms of communication, consumer perceptions of violations of privacy can easily be breached. This is especially true during location-based marketing and consumer information gathering (Rau, Zhang, Shang, & Zhou, 2011).

**Consumer Attitude towards SMS Advertising**

Different companies, irrespective of brand, are increasingly turning to short text message advertising to capture the customer attention. The Covid-19 scenario have made the firms increasingly resorting to text messaging to conduct everyday social interactions (DMA, 2020). Text messaging is seen as being spam free as opposed to email advertising (Binkley, 2012). Teens, adults and even old are responding to SMS advertising with alacrity. Not only does SMS advertising reaches more people, but it is also more effective in capturing their attention. Culture also has a positive correlation with the use of SMS technology (Muk, 2007).

The SMS advertising has existed and implemented for quite a few years now. Majority of consumers have responded positively to SMS advertisements if their preferences are taken in account before receiving the messages (Grewal et al., 2016). Some respondents have reacted negatively to SMS advertisements too. Individuals complain of receiving messages at inconvenient times and are irritated of rampant texting invading their privacy. Some respondents have even complained of spams. Several studies highlight the importance of integrating permission-based strategies in SMS ads (Rau et al., 2011). Preferences of consumers must be respected before sending SMS messages. This will not only garner greater acceptance but also possibly increase sales. A study conducted in Bangladesh have shown that people have

an extremely positive perception of SMS advertising and its prospect (Khalil et al., 2020). The study has shown that SMS advertisement has positive correlation with accessibility, applicability, cost effectiveness, brand recall, generation of awareness and client growth.

**Critical Review and Future Direction of SMS Advertising**

SMS advertising is seen as a push form of wireless advertising. Furthermore, SMS advertising is also seen as a direct form of communication that has been used in the marketing mix of numerous companies, particularly in the FMCG category to target young consumers (Wilkinson, 2021). Researchers are unable to agree whether SMS advertising is effective advertising medium, due to it being dependent on other factors such as product quality, content of the advertising message, etc. Consumer acceptance of SMS advertisements were measured using variables such as utility, context, irritation, and permission (Drossos, Giaglis, Viachos & Zamani, 2013). Culture also plays an important role in designing SMS ads (Muk, 2007).

According to research carried out in different countries, the key indicators that affected consumer attitude towards SMS advertisements were found to be permission, wireless service provider control, mobile advertising trust, perceived irritation, information, entertainment, credibility, and delivery of message (Suher, 2009). Even then, gaps and contradictions in findings in the field of mobile advertising caused confusion. A decade ago Dix (2009) felt the need of further research in this field to get a thorough understanding of the subject.

**Demographic Response to Mobile Advertising and Message Characteristics**

The prospect of mobile advertising was predicted a decade back (Coursaris & Swierenga, 2010). Market analysis support for the positive effects of mobile ads' message length on the perceived information and entertainment of the mobile ad, which in turn positively influence both attitudes toward the mobile ad and the mobile user's intention to click through it and learn more about the advertised brand (Drossos et al., 2013). Gender effects regarding perceptions of a mobile ad's information found women reporting higher levels for all dependent constructs (i.e., information and entertainment of the mobile ads, attitude toward the ads, and intention to click through and learn more). Age wise the older subscribers found to score lower values regarding the mobile ad's value, their outlook toward the ads, and their likelihood to click through than younger users (Coursaris & Swierenga, 2010).

Further, research results noted that women are more active than men in their responses to SMS purchase ad campaigns. The results also indicated that mobile advertising is irrespective of age and not concentrated only towards teenagers. Consumers in the 36-45 age group are most likely to respond to SMS calls-to-action in a television program and participate in SMS lottery and other competitions. The youngest consumers found most actively ordered mobile services using SMS. Furthermore, it was found that employment status had a substantial impact on consumers' SMS campaign activity (Leppäniemi & Karjaluoto, 2008).

**Content Relevance and Delivery Time of SMS Advertising**

The influence of content relevance and delivery time on Short Message Service (SMS) advertising effect, which was measured in terms of attitude, purchase intention, and involvement, was studied in detail by noting participants' perception by sending advertisement text messages at different times of a day and on different days of a week during course of the study (Rau et al., 2011). Results indicated that higher content relevance is associated with


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higher attitude and more positive behavior intention. Also, delivery time significantly affects the effectiveness of SMS advertising. Best time for SMS to occur are on extended weekends. Additionally, the participants showed higher acceptance, accessibility and purchase intention in afternoon and evening hours, rather than in morning hours.

## DATA ANALYSIS AND FINDINGS

This study objectively made use of the six factors of Hierarchy of Effects Model (awareness, knowledge, liking, preference, conviction, and purchase) to determine the effectiveness of SMS advertising in Bangladesh. As noted, a total of 180 mobile-phone subscribers responded to the study. The following sub-sections detailed the analysis and findings. The sub-sections are demographic features of the respondents, effectiveness of SMS advertising focusing Hierarchy of Effects Model attributes, comparison of the results regarding the attributes, and demographic findings regarding effectiveness of SMS ads.

### Demography of the Respondents

Gender wise the study found that out of the 180 respondents, 109 were males (39%) and 71 were females (61%). The mean age of the respondents' is 29.43 years (std. dev. 9.08) ranging from 18 to 67 years and skewed positively to right (+2.234). The distribution was rather shrewd towards the youth with 75% of the subscribers aged below 30 years and the rest 25% were 30 years and above. Education wise it is observed that majority of the respondents are postgraduates (56.7%) while a significant portion (37.2%) have undergraduate degrees (Table 2).

**Table 2: Education distribution**

| Education level | Frequency (f) | Relative frequency (%) | Cumulative relative frequency (%) |
|---|---|---|---|
| a) SSC | 5 | 2.8 | 2.8 |
| b) HSC | 6 | 3.3 | 6.1 |
| c) Bachelor | 67 | 37.2 | 43.3 |
| d) Masters or above | 102 | 56.7 | 100.0 |
| Total | 180 | 100.0 | - |

Occupational distribution showed that 47% of the respondents are students (38.9%) and homemakers (7.8%), while the employed respondents constituted 53.3% of the respondents (10% businesspersons, 37.2% private, and 6.1% public job holders) (Table 3). The income distribution of the respondent household derived that 46.6% of the respondents have income within $588, about 26.4% between $588-1176, and the rest 27% represented the group earn above $1176/month. The average monthly income was $1734 (std. dev. $2946) and highly skewed to right (4.396).

**Table 3: Occupation Type**

| Occupation Type | Frequency (f) | Relative frequency (%) | Cumulative relative frequency (%) |
|---|---|---|---|
| a) Student | 70 | 38.9 | 38.9 |
| b) Businessperson | 18 | 10.0 | 48.9 |
| c) Private Job Holder | 67 | 37.2 | 86.1 |
| d) Public Job Holder | 11 | 6.1 | 92.2 |
| e) Homemaker | 14 | 7.8 | 100.0 |
| Total | 180 | 100.0 | - |

## Features of SMS Advertising

### *Ideal Time for Receiving SMS Ads*

The study noted that the receiving time of SMS advertisements varied widely (Table 4). Majority of the respondents (31%) are most amicable to receiving SMS advertisements in the evening (4 pm - 8 pm). A significant portion of the respondents (25%) stated that they would prefer to receive SMS advertisements at night (8 pm - 12 pm) and almost equal number (23%) preferred to receive the SMS in the afternoon (12 pm - 4 pm). Whereas very few respondents showed preference (7%) for receiving any form of SMS advertisements in the morning (8 am - 12 pm). About 14% preferred for 'other' timings. Very important to note that almost 90% of the responses in 'others' was specified as 'none', implying that they are indifferent to receive SMS advertisements in any time of the day.

**Table 4: Preferred time for receiving SMS ads (Multiple options given)**

| Preferred time | Frequency (f) | Relative frequency (%) |
|---|---|---|
| a) Morning (8 am -12 pm) | 15 | 7% |
| b) Afternoon (12 pm - 4 pm) | 48 | 23% |
| c) Evening (4 pm – 8 pm) | 64 | 31% |
| d) Night (8 pm -12 pm) | 52 | 25% |
| e) Others | 28 | 14% |
| Total | 207 | 100% |

### *Consumers' Liking for Various Services and Offers*

The study identified the respondents' preference for specific services and offers promoted through SMS ads. Better insight into consumer taste led to effective targeting of SMS advertisements in services where consumers show high liking. Services and offers is divided into two parts: i) utility service offers by mobile-operators themselves and ii) other promotional offers by third parties in partnership with the mobile-operators.

### ***Liking for utility service offers by mobile operator***

Assuming respondents had varied tastes, they were allowed to select multiple utility services when giving the choices (Table 5). Subscribers showed highest enthusiasm (18%) for receiving traffic updates through short text messages. Sports update (16%), job news/finder (16%), healthcare/beauty tips (16%), and music station (12%) services received double digit affirmation from respondents surveyed. Celebrity news (6%) and horoscope type utility (7%)

services received poor responses. About 10% of the respondents chose others, where majority mentioned they want no specific service.

**Table 5: Liking for utility services (Multiple options given)**

| Utility services | Frequency (f) | Relative frequency (%) |
|---|---|---|
| a) Sports update | 51 | 16% |
| b) Celebrity news | 20 | 6% |
| c) Horoscope | 21 | 7% |
| d) Music station | 37 | 12% |
| e) Job news/finder | 51 | 16% |
| f) Health care/ beauty tips | 50 | 16% |
| g) Traffic update | 56 | 18% |
| h) Others | 31 | 10% |
| Total | 317 | 100% |

***Liking for third-party service offers***

Respondents showed strong preference for receiving third party service offers from cafes (26%) and clothing and footwear stores (22%), which far outstripped preference for other types of third-party service offers (Table 6). Coming at a distant third with 16% of the preference is given to super stores. Third party service offers from jewelry (6%), beauty parlors (7%), hotels (7%), airlines (9%) and others (6%) received single digit scores from respondents indicating low preference for these.

**Table 6: Liking for third-party offers (Multiple options given)**

| Third-party offers | Frequency (f) | Relative frequency (%) |
|---|---|---|
| a) Clothing & footwear | 88 | 22% |
| b) Superstores | 65 | 16% |
| c) Jewelry | 26 | 6% |
| d) beauty parlors | 30 | 7% |
| e) hotels | 29 | 7% |
| f) cafes, restaurants | 106 | 26% |
| g) airlines | 37 | 9% |
| h) others | 24 | 6% |
| Total | 405 | 100% |

**Effectiveness of SMS Advertising Ads**

Bangladeshi firms in recent years have ramped up promotions of products and services using SMS texting. This section addresses the issues of effectiveness of SMS advertising focusing six attributes of Hierarchy of Effects Model (awareness, knowledge, liking, preference, conviction, and purchase) in a 5-point Likert scale (-2: strongly disagree, -1: disagree, 0: indifferent, +1: strongly agree, +1: agree). Each respondent (mobile-phone subscriber) is given option to show their agreement to the 26 simple variables used to measure the effectiveness of SMS advertising based on the six attributes. All the variable statements in the questionnaire are drafted in a

positive tone favoring advertised product features. Any negative rating implicated the extent of ineffectiveness, and any positive rating showed the extent of effectiveness of SMS advertising. The findings are analyzed in the following sub-sections.

### i) Awareness

The *awareness* attribute of SMS advertising has six simple variables which mainly focuses noticing (reading) of the SMS ads (Table 7). It is noted that majority of the mobile-phone users do not always read SMS ads when they receive them (-0.33); The frequency at which an SMS ad is sent proves to be ineffective too (-0.63). The number in the title of the SMS found no influence in reading the content (-0.94). Important to note that the respondents disagreed with the statement that they never wanted to block SMS ads (-0.60). However, SMS ad which explicitly mentions the company name (+0.33) and the offers in its title (+0.37), somewhat effectively gets the attention of the subscribers. Overall, it can be said that the awareness attribute does not effectively make the subscribers notice the text messages, i.e., mobile-operators text messages are found somewhat ineffective in getting the attention of the subscribers. (-0.201).

**Table 7: The effectiveness of awareness attribute**

| Awareness attribute variables (Overall Mean = -0.201) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| 1) Always read SMS ads when received | 180 | -0.33 | 1.237 | 0.000 |
| 2) The company name mentioned in the title of the SMS (e.g. Airtel/Diamond World) influences to read the content | 180 | 0.33 | 1.210 | 0.000 |
| 3) The offer mentioned in the title of the SMS (e.g., 10% discount at Cream & Fudge!) influences to read the content | 179 | 0.37 | 1.254 | 0.000 |
| 4) The number in the title of the SMS (e.g., 5858, 2222, etc.) influences to read the content | 180 | -0.94 | 1.061 | 0.000 |
| 5) More likely to read an SMS ad if it is sent more frequently | 179 | -0.63 | 1.222 | 0.000 |
| 6) Never wanted to block SMS ads that did not interest you in the first place | 179 | -0.60 | 1.355 | 0.000 |

### ii) Knowledge

As far as *knowledge* is concerned, the attribute has two variables: i) SMS ads provide enough information about the offer and ii) Information is easily accessible if any clarification is needed (Table 8). Both the variables came out to be somewhat ineffective as the respondents showed equal disagreement with both the statements (-0.28). Overall, it can be said that the knowledge attribute does not effectively make the subscribers inform through the text messages about the products (-0.286). In fact, most of the SMS ad offers consumers receive seem to be conditional and a bit "deceptive" as enough information on usage charges and validity is not customarily given. And when information clarification is desired, consumers need to call the customer helpline, which is not free of charge, and might have to wait for a while to get the appropriate response.

**Table 8: The effectiveness of knowledge attribute**

| Knowledge attribute variables (Overall Mean = -0.286) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| 1) SMS ads provide enough information about the product/service | 180 | -0.28 | 1.064 | 0.000 |
| 2) One can easily get more information about the offered product/service if they need clarification | 179 | -0.28 | 0.949 | 0.000 |

### iii) Liking

The *liking* attribute of SMS advertising has six variables which mainly focuses promotional SMS ads (Table 9). Regarding *liking,* respondents showed overwhelmingly negative reactions to all but one of the attributes used to measure the parameter. Liking for product discount promotion type SMS ad is the only attribute found to be slightly effective (+0.23). Competition type SMS advertisements fared the worst in terms of consumer and prospect liking for the advertisements (-0.70). Other attributes studied also received poor ratings from the respondents. Data attained from the surveys conducted by the sample population lead us to infer that SMS advertisements are ineffective in impacting consumer attitude positively towards products that are being promoted through this medium (-0.358).

**Table 9: The effectiveness of liking attribute**

| Liking attribute variables (Overall Mean = -0.358) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| 3.0 Like SMS ads that promote call rate packages | 179 | -0.33 | 1.198 | .000 |
| 4.0 Like SMS ads that promote internet packages | 178 | -0.26 | 1.165 | .003 |
| 5.0 Like SMS ads that promote utility services (e.g., sports news/ celebrity news/ music station, etc.) | 180 | -0.52 | 1.150 | .000 |
| 6.0 Like SMS ads that promote competitions (e.g., answer to quizzes to win a mobile handset, etc.) | 179 | -0.70 | 1.121 | .000 |
| 7.0 Like SMS ads that promote product discounts (e.g., discounts from superstores/ jewelry/ restaurants) | 180 | +0.23 | 1.190 | .011 |
| 8.0 Like SMS ads that give you a chance to win prizes on its usage | 180 | -0.57 | 1.153 | .000 |

### iv) Preference

The preference attribute of SMS advertising has two variables which mainly focuses brand preference (Table 10). Brand loyalty (0.22) and brand image (0.12) of the third-party products advertised are found to have weak positive impact on consumer preference; but brand image mean index is not significant at 5% level of significance. People are more likely to prefer well known branded products than ones that not so known when receiving promotions through SMS. Overall, it can be said that the brand preference attribute to some extent make the subscribers inform through the text messages about the products (0.167).

**Table 10: The effectiveness of preference attribute**

| Preference attribute variables (overall Mean = 0.167) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| 1 The brand image of the product promoted is most influential in purchase decision | 180 | 0.12 | 1.211 | 0.198 |
| 2 Personal brand preference is most influential in purchase decision | 178 | 0.22 | 1.152 | 0.010 |

## v) Conviction

The conviction attribute of SMS advertising has three variables which mainly focuses purchase decision of the subscribers (Table 11). The respondents' view regarding effectiveness of SMS advertisements in convincing subscribers in purchase decision, showed mostly unconvincing and ineffective (-0.68). Inclusion of the feature allowing respondents to opt-out from the promoted offer seems slightly ineffective in purchase decision, but statistically insignificant (-0.09). One interesting insight is that the frequency of SMS advertisement in this regard had strong negative impact (-0.94). Overall, the conviction attribute does not effectively make the subscribers inform through the text messages about the products (-0.567).

**Table 11: The effectiveness of conviction attribute**

| Conviction attribute variables (Overall Mean = -0.567) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| 1) The frequency of receiving the SMS ad is most influential in purchase decision | 179 | -0.94 | 1.018 | 0.000 |
| 2) SMS ads can convince to make a purchase decision | 179 | -0.68 | 1.042 | 0.000 |
| 3) SMS ads which give an option to opt-out from the promoted service are more likely to convince to make a purchase decision | 178 | -0.09 | 1.091 | 0.273 |

## vi) Purchase

The purchase attribute of SMS advertising has seven variables which mainly focuses product purchase (Table 12). It is noted that all the purchase variables, except one, are significantly ineffective. The responses regarding SMS advertising to make them ultimately buy promoted products should come as no surprise after receiving proof of the ineffectiveness of SMS advertising in positively impacting all the steps in hierarchy of effects model preceding purchase action. The degree of ineffectiveness varied somewhat from product-to-product. SMS advertisements are most ineffective in competition-based offers (-0.94), followed by utility service purchases (-0.83) and prize-winning offers (-0.69). Other products did not fare so poorly. Call rate packages (-0.39), and internet purchases (-0.19) are less ineffective. Product discount purchases (-0.14) are found statistically insignificant (α=0.05). Overall, the purchase attribute does not effectively make the subscribers inform through the text messages about the products (-0.498).

**Table 12: The effectiveness of purchase attribute**

| Purchase attribute variables (Overall Mean = -0.498) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| 1) Mostly purchases call-rate package offers | 180 | -0.39 | 1.207 | .000 |
| 2) Mostly purchases internet package offers | 180 | -0.19 | 1.273 | .042 |
| 3) Mostly purchases utility service offers (e.g., sports news/ music station/ jobs finder etc.) | 180 | -0.83 | 1.087 | .000 |
| 4) Mostly purchases competition-based offers (e.g., answer to quizzes to win mobile sets etc.) | 178 | -0.94 | 1.067 | .000 |
| 5) Mostly purchases product discount offers (e.g., discounts from superstores/clothing, etc.) | 180 | -0.14 | 1.306 | .156 |
| 6) Mostly purchases a promoted offer which was valid for a limited period | 180 | -0.32 | 1.189 | .000 |
| 7) Mostly purchases a promoted offer which give a chance to win prizes on its usage | 180 | -0.69 | 1.115 | .000 |

## Comparison of Six Attributes

In this section a comparison of all six attributes is made. The results of the repute, dispute the faith that companies place on the medium. Judging from data gathered the SMS advertisements are found ineffective in positively interjecting in the Hierarchy of effects decision making process (awareness, knowledge, liking, preference, conviction, and purchase). The comparative analysis is made in terms of mean index of the attributes and correlation among the attributes.

### ***Mean Index Analysis***

From the mean index analysis, it is noted that in each step of the consumers' decision-making process, SMS advertisements are found ineffectual in having a positive impact (Table 13). As can be seen, purchase is the most ineffective attribute (-0.498) followed by conviction (-0.383) and liking (-0.358). The ineffectiveness indices of other three attributes awareness, knowledge and preference are -0.297, -0.286 and -0.202 respectively. The SMS advertisement found not effective (-0.359) in influencing consumers' decision making using the Hierarchy of Effects Model as cognitive steps that consumers go through when making purchases.

**Table 13: Effectiveness of all six attributes**

| Attributes | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|
| 1. Awareness | -0.201 | 0.745 | 0.000 |
| 2. Knowledge | -0.286 | 0.780 | 0.000 |
| 3. Liking | -0.358 | 0.757 | 0.000 |
| 4. Preference | 0.167 | 0.973 | 0.023 |
| 5. Conviction | -0.567 | 0.791 | 0.000 |
| 6. Purchase | -0.498 | 0.821 | 0.000 |
| Overall | -0.359 | 0.607 | 0.000 |

***Correlation Analysis***

A Pearson's correlation analysis is performed in pairs among the data of the six attributes of Hierarchy of Effects Model along with the *overall effectiveness* value derived from the subscribers' responses. As noted, each pair of attributes are found significantly correlated with varied strength at 5% level of significance (Table 14). It is deduced that overall effectiveness is strongly correlated with awareness (0.757), liking (0.880), and purchase (0.878) attributes of Hierarchy of Effects Model. On the other hand, liking and purchase attributes have shown strong positive correlation between each other (0.806). The rests have moderate to strong correlation. This means that if an attribute of a SMS ad is liked by a consumer, there is a high chance of purchasing the promoted offer and vice versa.

**Table 14: Pearson correlation output among the attributes**

| Attributes | Statistics | Overall | Awareness | Knowledge | Liking | Preference | Convenience | Purchase |
|---|---|---|---|---|---|---|---|---|
| Overall | Pearson r | 1 | .757** | .412** | .880** | .658** | .673** | .878** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 | .000 |
| | N | 180 | 180 | 180 | 180 | 180 | 180 | 180 |
| Awareness | Pearson r | | 1 | .252** | .537** | .490** | .516** | .462** |
| | Sig. (2-tailed) | | | .001 | .000 | .000 | .000 | .000 |
| | N | | 180 | 180 | 180 | 180 | 180 | 180 |
| Knowledge | Pearson r | | | 1 | .281** | .187* | .365** | .257** |
| | Sig. (2-tailed) | | | | .000 | .012 | .000 | .000 |
| | N | | | 180 | 180 | 180 | 180 | 180 |
| Liking | Pearson r | | | | 1 | .475** | .435** | .806** |
| | Sig. (2-tailed) | | | | | .000 | .000 | .000 |
| | N | | | | 180 | 180 | 180 | 180 |
| Preference | Pearson r | | | | | 1 | .439** | .450** |
| | Sig. (2-tailed) | | | | | | .000 | .000 |
| | N | | | | | 180 | 180 | 180 |
| Convenience | Pearson r | | | | | | 1 | .526** |
| | Sig. (2-tailed) | | | | | | | .000 |
| | N | | | | | | 180 | 180 |
| Purchase | Pearson r | | | | | | | 1 |
| | Sig. (2-tailed) | | | | | | | |
| | N | | | | | | | 180 |

** Correlation is significant at 0.01 level (2-tailed), * Correlation is significant at 0.05 level (2-tailed),

## Comparison of Demographic Findings regarding Effectiveness of SMS Ads

### *Gender*

Gender wise no significant difference of means is observed among the 26 variables except four cases (α=5%). These are i) the company name influences to read the content (female 0.55 vs. male 0.19), ii) the offer mentioned influences to read the content (female 0.68 vs. male 0.18), iii) more likely to read more frequently sent ads (female -0.37 vs. male -0.79), and iv) like ads that promote product discounts (female 0.49 vs. male 0.06). As can be seen in each of the cases females are more positive (or less negative) than the males.

Further, the means of the effectiveness of six attributes for both genders were compared using independent samples t-test. The study found that only awareness attribute of effectiveness of SMS ads have a significant gender difference at 5% significance level (female +0.027 vs. male -0.350) meaning that the females have more positive awareness of SMS ads than males. Also, no gender wise difference is observed in the overall means of the responses.

### *Age*

The correlation between age and six of the 26 variables showed significant weak correlation at 5% significance level. These are i) always read the SMS (0.162), ii) never wanted to block SMS ads (0.206), iii) like SMS ads that promote internet packages (-0.236), iv) like SMS ads that promote utility services (0.149), v) mostly purchases call-rate package offers (-0.189), and vi) mostly purchases internet package offers (-0.262). As noted, more aged subscribers always like to read the SMS, never wanted to block SMS, and like SMS ads that promote utility services. On the other hand, more youngers like SMS ads that promote internet packages, mostly purchases call-rate and internet package offers. Further no correlation is observed between age and any of the six attributes.

### *Occupation*

Five different occupational groups were identified in the study: i) private-job holder, ii) public-job holder, iii) businessperson, iv) students, and v) homemaker. ANOVA test was conducted to see if, occupation wise, there are differences of means in the subscribers' responses regarding the 26 variables. The study found in only three cases the means are significantly different. There are i) never wanted to block SMS ads, ii) like SMS ads that promote utility services, iii) Mostly purchases product discount offers. Further, occupation wise no significant mean difference is observed between occupation and any of the six attributes.

The occupations of the respondents are also divided into two categories: i) Employed, and ii) Unemployed. The students and homemakers were put in the unemployed category and the rest occupation groups in the employed category. Hence, occupation is regarded as employment status in the analysis. Here, in only three cases the group means are found significantly different. These are i) always read SMS ads (unemployed -0.89 vs. employed -0.35), ii) never wanted to block SMS (unemployed -0.54 vs. employed -0.16), iii) like SMS ads that promote utility services (unemployed -0.82 vs. employed -0.26). As can be seen in each of the cases employed subscribers are less negative than the unemployed subscribers. Further, the employment status found to have significant mean difference in two of the six attributes at 5% significance level. These are purchase (employed -0.468 vs unemployed -0.468) and overall (employed -0.319 vs unemployed -0.405).

***Income***

Income is found to be weakly positively correlated with only three simple variables. These are i) more likely to read more frequently send SMS (0.179), ii) mostly purchases product discount offers (0.195), and iii) mostly purchases product promoted offer to win prizes (0.203). This means that higher income subscribers are more likely to read more frequently send SMSs and they mostly purchase product discount offers and product promoted offer to win prizes. Further, it is found that none of the six attribute has any significant association with monthly income of the subscribers.

**Simple Variable Wise Findings**

This study has considered 26 simple variables grouped into six attributes to measure the effectiveness of SMS advertising (Appendix 3). The study noted that of the 26 variables mean value of three of them are significantly different from 0 (indifferent) (at α=5%). These are (i) SMS ads which give an option to opt-out are more likely to convince to make a purchase decision (-0.09), and (ii) mostly purchases product discount offers (-0.14), are not significant (at α=5%), and (iii) the brand image of the product promoted is most influential in purchase decision (0.12). Also, of the 26 variables 21 of them has negative mean indices and the rest five has positive mean value. This indicates that most of the constructs of SMS ads are ineffective.

The five variables which has positive mean indices are (i) the company name mentioned in the title of the SMS influences to read the content (0.33), (ii) the offer mentioned in the title of the SMS influences to read the content (0.37), (iii) like SMS ads that promote product discounts offers (0.23), (iv) the brand image of the product promoted is most influential in purchase decision (0.12) and (v) personal brand preference is most influential in purchase decision (0.22). These five mainly focuses company name and offer in the title, and discount and brand related purchase offers. Overall, the mean index of the 26 variables shown significant ineffectiveness (-0.359).

## SUMMARY, CONCLUSION AND RECOMMENDATION

Short Message Service (SMS) advertising has gained prominence in Bangladesh in recent years. Organizations have understood the potential of SMS ads and have started utilizing this medium for promotion. Still, not much is studied or theorized about SMS advertisements in the Bangladeshi market context. This study tried to explore the effectiveness of SMS advertising on customers' behavior using 26 objective features focusing six stages of Hierarchy of Effects Model (awareness, knowledge, liking, preference, conviction, and purchase). A total of 180 mobile-phone subscribers' response, using a structured questionnaire, is used to explore the effectiveness of SMS advertising in Bangladesh. A non-probability convenience and judgmental sampling technique is used to identify the respondents.

It is found that the *awareness* attribute does not effectively make the subscribers read the text messages. However, SMS ad which explicitly mentions the company name and the offers in the title, somewhat effectively gets the attention of the subscribers. It is noted that majority of the mobile-phone users do not always read SMS ads, neither the frequency of SMS ad proved to be effective. The number in the title of the SMS found no influence in reading the contents. In extreme cases the subscribers block SMS ads. It is noted that the *knowledge* attribute, does not effectively make the subscribers inform through the text messages about the products. It is gathered that the SMS ads do not provide enough information about the offer and the

information is not easily accessible if any clarification is needed. In fact, most of the SMS ad offers consumers receive seem to be conditional and a bit "deceptive" as enough information on usage charges and validity is not usually given.

The *liking* attribute of SMS advertising also found ineffective in impacting consumer attitude positively towards the products. The subscribers showed overwhelmingly negative reactions to the variables used to measure the attribute, except product discount promotion type SMS ads which found to be slightly effective. Competition type SMS advertisements fared the worst in terms of consumer liking. Only the *preference* attribute of SMS advertising has shown positive influence on subscribers' purchase decision. Brand loyalty and brand image of the third-party products advertised have weak positive impact on product preference. People are more likely to prefer well known branded products than ones that not so known when receiving promotions through SMS.

The *conviction* attribute of SMS advertising also has no significant impact on the subscribers' purchase decision. The respondents' view SMS advertisements in persuading subscribers mostly unconvincing and ineffective. The *purchase* attribute of SMS advertising which mainly focuses product purchase does not effectively make the subscribers motivate to buy. SMS advertisements are least effective in influencing competition, utility service purchases, and prize-winning offers. But call rate packages, internet purchases, and product discount purchases did not fare so poorly. The weak responses regarding SMS advertising to make the subscribers ultimately buy promoted products came as no surprise after receiving mostly ineffectiveness of SMS ads in positively impacting all the stages in hierarchy of effects model preceding purchase action.

As noted, in each step of the consumers' decision-making process, SMS advertisements were ineffectual in having a positive impact. *Purchase* is found to be the most ineffective attribute followed by *Conviction* and *Liking*. *Awareness*, *Knowledge*, and *Preference* are also ineffectiveness but in a lower scale. Further, each pair of attributes are found significantly correlated with varied strength. This means that if an attribute of a SMS ad is liked by a consumer, there is a high chance of purchasing the promoted offer and vice versa. The demography wise analyses do suggest that even though SMS advertisements are mostly ineffective, there are some situations where they can be utilized effectively. Women are more likely to be aware of SMS advertisements than their male counterparts. People with higher income or more disposable income were relatively more amicable to purchase products advertised through SMS.

The study further noted that the most amicable time for receiving the SMS advertisements is found to be evening, night, and afternoon. Subscribers showed highest enthusiasm for receiving traffic updates through SMS, followed by sports update, job news, healthcare/beauty tips, and music station services. Celebrity news and horoscope type utility services received poor responses. Respondents showed strong preference for receiving third party service offers from cafes and clothing and footwear stores, which far outstripped preference for other types of third-party service offers. Coming at a distant the preference is given to super stores. Third party service offers from jewelry, beauty parlors, hotels, airlines, and others received low preference.

Overall, the SMS as an advertising medium is found to be mostly ineffective in Bangladesh. SMS advertisement has minute influence on consumers and prospects as determined using the Hierarchy of Effects Model, yet it has some merit. SMS advertising do not really incur much additional cost for the telecom companies, but rather provides an avenue to generate revenue from whatever offers they promote. Moreover, consumers do not really have any option but to bear with their incessant SMS ads because there is no reason to switch to another mobile operator since all of them do such promotions pretty much in similar way.

Finding of this study may allow companies to use SMS advertisements efficiently and effectively as part of their marketing communication mix. Better insight regarding this new and often misunderstood medium would hopefully allow the mobile operators convert SMS advertising into a more favored and convenient source of product information for the consumers. The effectiveness of SMS ads is mostly depended on being aware of the product, liking the product and most importantly purchasing the product. Actual purchase by a consumer of a product promoted through SMS ads is mostly determined by liking of the promoted offer. Hence, it is recommended that:

- ✓ When designing SMS advertisements, be sure to mention the name of the company and the offer in the title of the SMS,
- ✓ Use SMS advertisements focusing mainly third-party product discount offers,
- ✓ Promote those third-party special offers who have favorable brand image,
- ✓ Use SMS advertisements more to promote utility offers such as health care/beauty tips, job finder, sports, and live traffic updates,
- ✓ Third party offers from superstores, cafes/restaurants and clothing firms should be given preference,
- ✓ Send SMS ads during the evening (4pm-8pm) and night (8pm-12pm).

## APPENDIXES

### Appendix 1: Coordination Schema

| Parameter | Complex Variables | Simple Variables |
|---|---|---|
| **Effectiveness of SMS Ads focusing Hierarchy of Effects Model** | Awareness | 1) Always read SMS ads when received |
| | | 2) The company name in the title of the SMS influences to read the content (e.g., Airtel/Diamond World) |
| | | 3) The offer mentioned in the title influences to read the content (e.g., 10% discount at Cream & Fudge!) |
| | | 4) The number in the title influences to read the content (e.g., 5858, 2222, etc.) |
| | | 5) More likely to read frequently sent SMS ads |
| | | 6) Never wanted to block ads that did not arouse interest first |
| | Knowledge | 1) SMS ads provide enough information about the product |
| | | 2) One can easily get more needed information about the product |
| | Liking | 1) Like SMS ads that promote call rate packages |
| | | 2) Like SMS ads that promote internet packages |
| | | 3) Like SMS ads that promote utility services (e.g., sports news/ celebrity news/ music station, etc.) |
| | | 4) Like SMS ads that promote competitions (e.g., answer to quizzes to win a mobile handset, etc.) |
| | | 5) Like SMS ads that promote product discounts (e.g., discounts from superstores/ jewelry/ restaurants) |
| | | 6) Like SMS ads that give chance to win prizes |
| | Preference | 1) Brand image of the product is most influential in purchase decision |
| | | 2) Personal brand preference is most influential in purchase decision |
| | | 3) The frequency of the SMS is most influential in purchase decision |
| | Conviction | 1) SMS ads can convince to make a purchase decision |
| | | 2) SMS ads which give an option to opt-out are more likely to convince to make a purchase decision |
| | Purchase | 1) Mostly purchases call-rate package offers |
| | | 2) Mostly purchases internet package offers |
| | | 3) Mostly purchases utility service offers (e.g., sports news/ music station/ jobs finder etc.) |
| | | 4) Mostly purchases competition-based offers (e.g., answer to quizzes to win mobile sets etc.) |
| | | 5) Mostly purchases product discount offers (e.g., discounts from superstores/clothing, etc.) |
| | | 6) Mostly purchases a promoted offer which was valid for a limited period |
| | | 7) Mostly purchases a promoted offer which give a chance to win prizes on its usage |

## Appendix 2: The Hierarchy of Effects Model in Brief

Robert J. Lavidge and Gary A. Steiner created the Hierarchy of Effects Model (Lavidge & Steiner, 1961). This predictive marketing communication model suggests six steps from noticing a product advertisement to product purchase, that the advertiser should encourage the customers to go through and purchase the product. The first step *Awareness* makes the customer notice the product through advertising. This is a puzzling step, as there is no guarantee that the customer will be aware of the brand after they view the ad. The second step *Knowledge* makes the customer inform about the product. Consumers may move to contender brands if the information is not convenient and accessible. The promoter's job is to warrant product information easily available. This third step *Liking* is about ensuring that the customer likes the product. It is important to distinguish the features that will boost the customer to like the product.

In the fourth step *Preference* the consumers have the option to compare more brands and may end up choosing any of them. Advertisers should repeatedly highlight their brand's benefits and unique features so that the consumers can differentiate it from competitor brands. *Conviction*, the fifth step, is about creating the customer's desire to purchase the product. Advertisers may encourage conviction by allowing consumers to test or assess the product sample. The sixth and final step is, of course, product *Purchase.* Having advanced through the previous stages, the promoter now wants the customer to purchase their product. This stage needs to be simple, easy, and available, otherwise the customer will get bored and walk away without a purchase.

## Appendix 3: Descriptive statistics of the variables of the attributes

| Attributes (Number of Variables) | Sample size (n) | Mean (μ) | Std. Dev. (σ) | Sig. (2-tailed) (μ=0) |
|---|---|---|---|---|
| **A. Awareness (6 variables)** | 180 | -0.201 | 0.745 | 0.000 |
| 1) Always read SMS ads when received | 180 | -0.330 | 1.237 | 0.000 |
| 2) The company name mentioned in the title of the SMS (e.g., Airtel/Diamond World) influences to read the content | 180 | 0.330 | 1.210 | 0.000 |
| 3) The offer mentioned in the title of the SMS (e.g., 10% discount at Cream & Fudge!) influences to read the content | 179 | 0.370 | 1.254 | 0.000 |
| 4) The number in the title of the SMS (e.g., 5858, 2222, etc.) influences to read the content | 180 | -0.940 | 1.061 | 0.000 |
| 5) More likely to read an SMS ad if it is sent more frequently | 179 | -0.630 | 1.222 | 0.000 |
| 6) Never wanted to block SMS ads that did not interest in the first place | 179 | -0.600 | 1.355 | 0.000 |
| **B. Knowledge (2 variables)** | 180 | -0.286 | 0.780 | 0.000 |
| 1) SMS ads provide enough information about the product/service | 180 | -0.280 | 1.064 | 0.000 |
| 2) One can easily get more information about the offered product/service if they need clarification | 179 | -0.280 | 0.949 | 0.000 |
| **C. Liking (6 variables)** | 180 | -0.358 | 0.757 | 0.000 |
| 1) Like SMS ads that promote call rate packages | 179 | -0.330 | 1.198 | 0.000 |

| | | | | |
|---|---|---|---|---|
| 2) Like SMS ads that promote internet packages | 178 | -0.260 | 1.165 | 0.003 |
| 3) Like SMS ads that promote utility services (e.g., sports news/ celebrity news/ music station, etc.) | 180 | -0.520 | 1.150 | 0.000 |
| 4) Like SMS ads that promote competitions (e.g., answer to quizzes to win a mobile handset, etc.) | 179 | -0.700 | 1.121 | 0.000 |
| 5) Like SMS ads that promote product discounts (e.g., discounts from superstores/ jewelry/ restaurants) | 180 | 0.230 | 1.190 | 0.011 |
| 6) Like SMS ads that give a chance to win prizes on its usage | 180 | -0.570 | 1.153 | 0.000 |
| **D. Preference (3 variables)** | 180 | 0.167 | 0.963 | 0.018 |
| 1) The brand image of the product promoted is most influential in purchase decision | 180 | 0.120 | 1.211 | 0.198 |
| 2) Personal brand preference is most influential in purchase decision | 178 | 0.220 | 1.152 | 0.010 |
| **E. Conviction (2 variables)** | 176 | -0.567 | 0.791 | 0.000 |
| 1) The frequency of receiving the SMS ad is most influential in purchase decision | 179 | -0.940 | 1.018 | 0.000 |
| 2) SMS ads can convince to make a purchase decision | 179 | -0.680 | 1.042 | 0.000 |
| 3) SMS ads which give an option to opt-out are more likely to convince to make a purchase decision | 178 | -0.090 | 1.091 | 0.273 |
| **F. Purchases (7 variables)** | 180 | -0.498 | 0.821 | 0.000 |
| 1) Mostly purchases call-rate package offers | 180 | -0.390 | 1.207 | 0.000 |
| 2) Mostly purchases internet package offers | 180 | -0.190 | 1.273 | 0.042 |
| 3) Mostly purchases utility service offers (e.g., sports news/ music station/ jobs finder etc.) | 180 | -0.830 | 1.087 | 0.000 |
| 4) Mostly purchases competition-based offers (e.g., quizzes to win mobile sets, etc.) | 178 | -0.940 | 1.067 | 0.000 |
| 5) Mostly purchases product discount offers (e.g., discounts from superstores/clothing, etc.) | 180 | -0.140 | 1.306 | 0.156 |
| 6) Mostly purchases a promoted offer which was valid for a limited period | 180 | -0.320 | 1.189 | 0.000 |
| 7) Mostly purchases a promoted offer which give a chance to win prizes on its usage | 180 | -0.690 | 1.115 | 0.000 |
| **G. Overall (26 variables)** | 180 | -0.359 | 0.607 | 0.000 |

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