

## **INFLUENCING FACTORS OF CUSTOMER ATTITUDE TOWARDS SMS MARKETING- A CASE OF MOBILE TELECOMMUNICATION INDUSTRY IN BANGLADESH**

**Md. Al Amin<sup>1</sup>, Md. Mahathy Hasan Jewel<sup>2</sup> and Mahmudul Hasan Fouji<sup>3</sup>**

### **Abstract**

The telecommunication service sector has witnessed a phenomenal growth in Bangladesh crossing 156.9 million subscribers by the end of 2018 (BTRC, 2018). This rapid and sustained growth of telecom service users have gifted marketers with the opportunity to utilize SMS marketing as a means to access a large base of customers with relative ease. This study attempts to unravel the factors that influence consumers in their interaction with SMS advertisement. A conceptual framework that exhibits different customer clusters has been presented in this regard. Random probability sampling was applied to conduct a survey on a sample of 300 users from whom responses were collected using a structured questionnaire that contained 5-point Likert scale. Furthermore, depth interviews were also carried out to gain more insights from customers. Exploratory factor analysis was applied to analyze the collected data. The findings reveal three clusters of customers- time concerned customers, entertainment concerned customers and value concerned customers. Each cluster warrants for a unique strategy from the marketers to have the desired effect. The paper concludes with a set of recommendations for the marketing practitioners and with suggestions for further research.

**Keywords:** SMS marketing, customer attitude, telecommunications industry

### **1.0 Introduction**

In today's competitive business world having up-to-date information keeps one ahead of the competition. Advancement of technology has already proven to be the easiest of way of accessing latest Information from every corner of the world. Smartphone as a medium of communication with port less characteristics has become a convenient product of everyday life. Today people-especially the youth- cannot live even for a single day without a smart phone. High usage of mobile phones has drawn marketers' attention to mobile marketing. Mobile Marketing refers to such marketing functions taken by ubiquitous network in order to connect people via using personal mobile devices (Kaplan, 2012). Two important benefits provided by mobile communication technologies are Multimedia Messaging Service-MMS and Short Message Service-SMS(Öztaş, 2015). SMS marketing performs as direct marketing channel similar to direct selling, direct mailing and social media marketing to which marketers receive feedback immediately from customers (Amirkhanpour et al., 2014). Direct marketing also has an impact on permission based marketing (Amirkhanpour et al., 2014). According to (Kotler et al., 2009) Permission-based marketing includes such type of marketing activities that take prior permission from consumers before sending any marketing communications, where such

---

<sup>1</sup> Lecturer, Department of Marketing, Jagannath University.

<sup>2</sup> Assistant Professor, Department of Marketing, Jagannath University.

<sup>3</sup> Assistant Professor, Department of Marketing, Jagannath University.

communications may be sent via mobile phones, SMS, e-mails, interactive digital television. Along with (Brey et al., 2007) argues that permission marketing refers to all kinds of permission seeking from customers where they provide their approval to marketing communications. SMS Marketing ensures the application of permission-based marketing from customers. An example of SMS Marketing that ensures prior permission in terms of sending next SMS is when GP offers 4 GB internet free with 4 GB purchase of data for a recharge of TK 179- if not interested in further SMS, Dial 123 (Toll free).

## **2.0 An Overview of Mobile Telecommunication Industry in Bangladesh**

The telecommunications industry in Bangladesh has experience huge ups and downs over the years. During the post-independence period, Government of Bangladesh (GoB) promulgated Telegraph and Telephone Board Ordinance in 1979 to apply effective and efficient management practices in telegraphs and telephones services. GoB further revised the BTTB Ordinance in 1995 with some amendments. There was a reevaluation in Bangladesh Telecommunications Sector in 1989 after getting a license of private operator for the provision of cellular mobile services. There were significant changes in fixed and mobile services in the late 1990 (BTRC web site). In 1996, GoB offered GSM licenses to three different companies including Grameen Phone (GP), AKTEL and SHEBA Telecom in order to break down monopoly market. Along with these companies Pacific Bangladesh Telecom Limited (PBTL) brought “CityCell Digital” as new brand into market. Grameen Phone started formally its telecommunication service in 1997 on the independence day of Bangladesh. In the same year Telecom Malaysia International Bangladesh (TMIB) launched its operation under the brand name Aktel. Along with these two companies Sheba Telecom also started its services in the same year under the brand name of Sheba. Bangladesh Telecommunication Regulatory Commission (BTRC) was established under the Bangladesh Telecommunication Act, 2001, (Act no18 of 2001) published by the parliament in the Bangladesh Gazette on April 16, 2001. BTRC started its operation at 31<sup>st</sup> January 2002 in order to operate the functions of telecommunication companies in Bangladesh as an independent Regulatory Commission. After that The Telecommunication Act (Corrected) bill was proposed and approved in 2010. Based on this bill every telecommunication companies must take approval from government to offer any telecom services, to operate foreign calls, exporting and importing equipment relevant to telecommunication and finally in changing the ownership of such equipment. Teletalk Bangladesh Ltd., as a government owned mobile telecom company launched its service in 2005. In the same year the brand name Banglalink was launched by Orascom by owning Sheba Telecom. Warid Telecom launched a new brand name Warid in 2007 after getting GSM license in 2005. Japanese based company NTT DoCoMO bought 30% share from Aktel and renamed its brand as ROBI in 2008. Bharti Airtel purchased 70% share from Warid and renamed Warid as Airtel Bangladesh Limited in 2010 (Ishtiaque & Sarbabidya, 2016). Finally, Robi and India’s Bharti Airtel got “Order of Merger License’ from Bangladesh Telecommunication Regulatory Commission

(BTRC) in 2016 where Robi Axiata owns 68.7% stake, while Bharti Airtel holds 25 percent. Rest 6.3% share goes to existing shareholders.

*2.1 Mobile Phone subscribers list*

Number of active subscribers of mobile phone operators is shown in the table below-

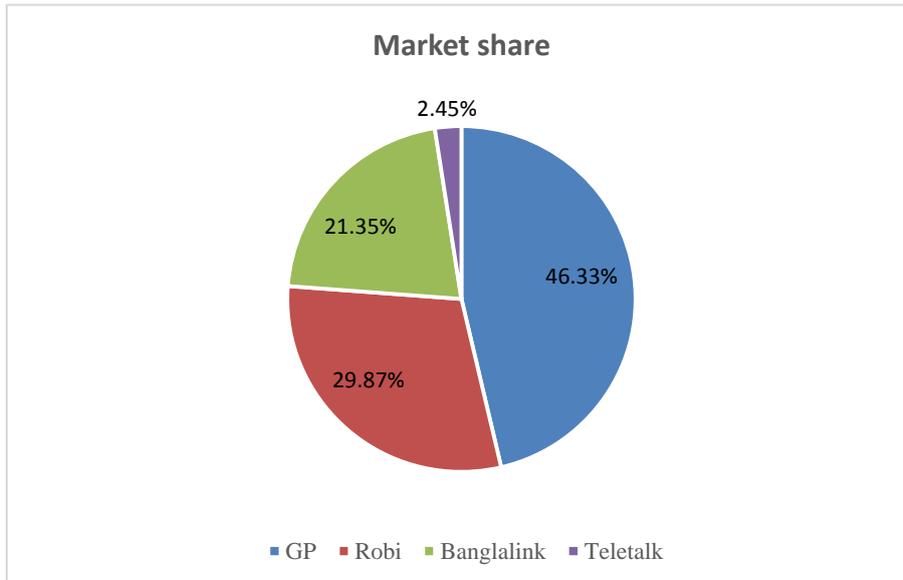
Operator	December, 2016	December, 2017	December, 2018
Grameen Phone Ltd. (GP)	57.954	65.327	72.732
Robi Axiata Limited (Robi)	33.831	42.908	46.886
Banglalink Digital Communications Ltd.	30.974	32.384	33.518
Teletalk Bangladesh Ltd. (Teletalk)	3.633	4.494	3.854
<b>Total</b>	<b>145.114</b>	<b>145.114</b>	<b>156.989</b>

\*Subscriber (in Millions)

\*Source: www.btrc.gov.bd

*2.2 Market share of mobile telecom companies in Bangladesh*

There are four active telecom operators in Bangladesh who are currently serving 156.989 million users at end of 2018. Grameen Phone is the market leader among these four operators based on their total sales volume and subscribers (Zamil and Hossen 2012). Robi Axiata Limited (Robi) got the second highest position according to the table below.



### 3.0 Objectives

The broad objective of this paper is to find out factors that affect attitudes among telecommunication service users regarding SMS marketing.

#### *Specific objectives*

- To find out telecommunication subscribers' perception regarding SMS advertisements.
- To know customers' behavior regarding SMS marketing.
- To suggest future actions to telecommunication companies that could be implemented for SMS advertisement.
- To evaluate the effective source of SMS marketing in Bangladesh.

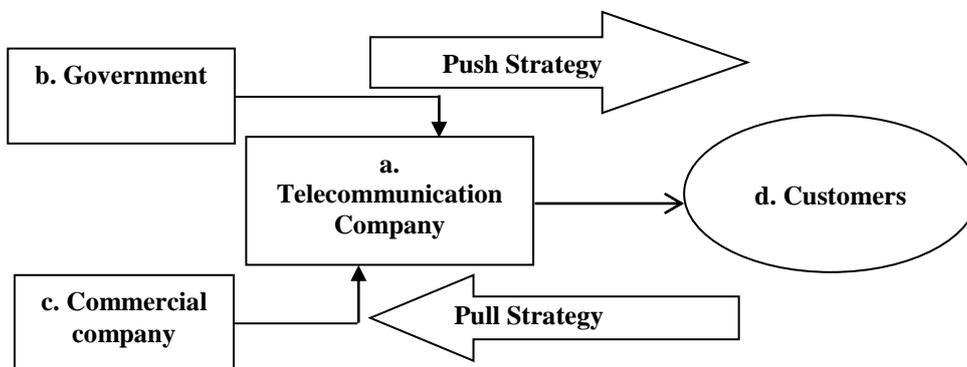
### 4.0 Literature Review

SMS Marketing means transmitting a limited size of binary or text information to any person which indicates a virtual conformance for relevant message necessary to receiver (Al-dalalmeh et al., 2018). There are two important objectives of using SMS marketing - (1) to deliver update, alters, warning messages to customers, (2) to provide any offers or promotional activities without considering location barriers (Al-dalalmeh et al., 2018). SMS Marketing is a source of direct marketing where sellers and buyers build a direct relationship with each other on an individual basis (Amirkhanpour et al., 2014). One important outcome of direct marketing is the application of permission absorbed marketing (Amirkhanpour et al., 2014). (Kotler et al., 2009) defined permission-based marketing as a marketing process that requires advance permission from clients before they are sent marketing communication. Through SMS Marketing marketers can apply permission based marketing because the customers have given their permission to be contacted via SMS (Amirkhanpour et al., 2014). (Amirkhanpur et al., 2014) also describe that most of the companies send text-based messages to target consumers linking a specific and common phone number (toll free call) or website link to receive immediate feedback denoted to intended ads or promotional activity. Survey conducted by (Moto Message, 2010) found that SMS marketing is an effective source in order to distribute short marketing promotional message compared to other mobile technologies like mobile applications (apps) or the mobile web because of low cost and high return rate. SMS marketing also performs as SoLoMo marketing such as (1) So(Social Media)- SMS can be used in social media, (2) Lo(Local based)- SMS can be sent based on customers locations, (3) Mo (Mobile)- SMS is an a part of mobile marketing (Amirkhanpour et al., 2014). SMS Marketing offers customized messages in order to build strong relationship between buyers and sellers (Drossos et al., 2013). According to the Mobile Marketing Association (2009), engagement in SMS Marketing can follow push or pull strategy depending on whether the SMS is initiated by the company/ marketer (Push strategy) or consumers (pull strategy). (Aslam et al., 2016) mentioned that appeal, entertainment, irritations, product involvement, permission, monetary benefits are key factors that affect attitude toward SMS marketing. When receiving

too many commercial SMS, consumers do not pay attention to it and are even willing to pay something to stop it (Lancaster and Reynolds, 2004). According to (Aydin et al., 2017), SMS messages have been widely used by consumers because of its cost efficient method and highest open and reading rates compared to any other similar marketing techniques like e-mail marketing. Moreover, (Barwise & Strong, 2002) mentioned that in developed countries generally all clients read the full messages of an SMS advertisement shortly after getting it. (Aydin & Karamehmet, 2017) identified several factors that influence consumers' attitude toward SMS and mobile marketing such as credibility, entertainment, informative, irritation, and advertising value.

#### *Sources of SMS Marketing*

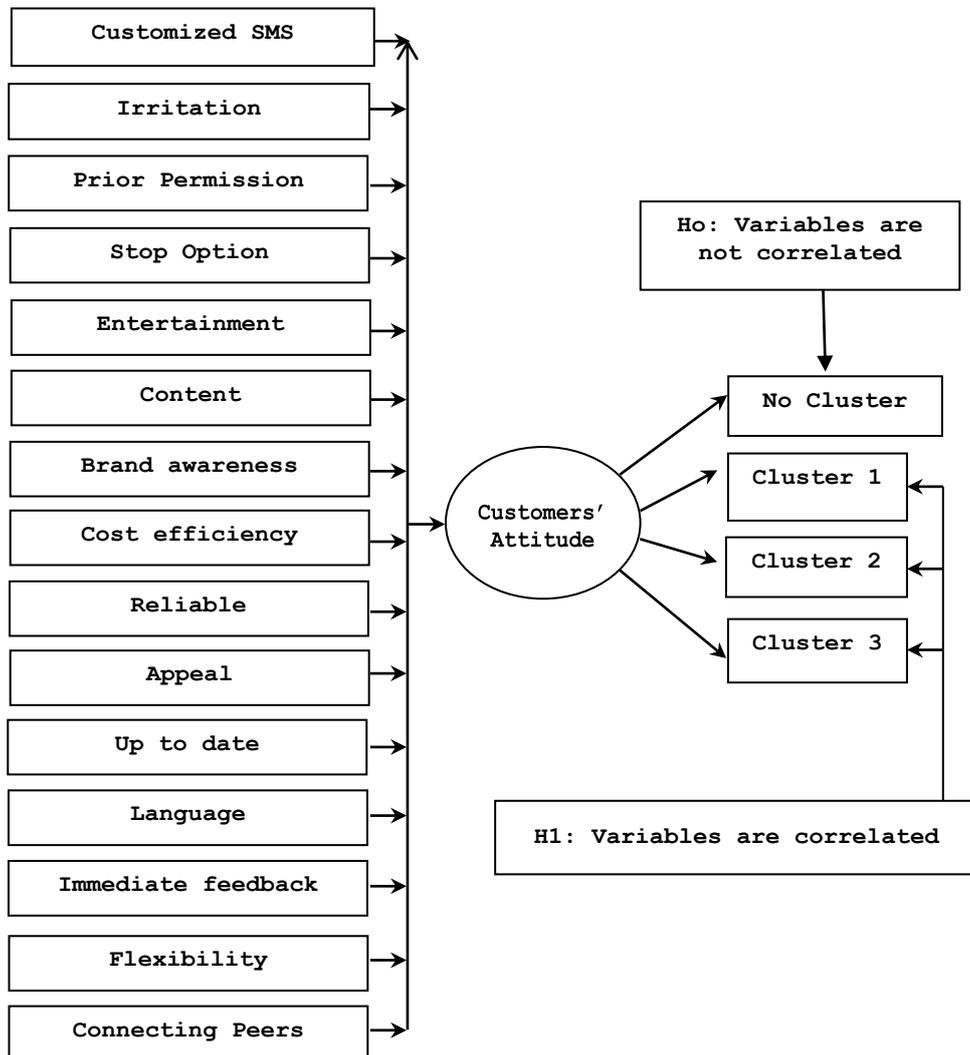
According to the (Mobile Marketing Association, 2009), engagement in SMS Marketing can be push or pull strategy depending on whether the SMS is initiated by Company/ Marketers (Push strategy) or consumers (pull strategy).



- a. Telecommunication companies such as GP, Robi, Teletalk directly communicate with customers in order to promote their brands. Example: 1 GB at 5 TK (1Day). This is an SMS sent by Robi.
- b. Government resorts to SMS communications through the telecommunication companies by having them delivering any common messages to customers for wellbeing of the country. . Example: government plans to launch E-Passport by 2018. This message was sent by GovtInfo in contract with Airtel.
- c. Different commercial companies also aligned with telecommunications companies in order to promote their brands to customer. . Example: UberBD sent sms, get 50% off on your next 20 PREMIER rides.
- d. Moreover, customers can also send any SMS messages to telecommunication companies/commercial company/government offices. . Example: Call or SMS to 333 number and get information regarding your NID, passport, birth certificate.

## 5.0 Conceptual Framework

In order to cluster all factors influencing customer choices on SMS marketing, a conceptual framework with relevant factors is proposed in this study.



## 6.0 Methodology, Data Collection and Sample Characteristics

### 6.1 Methodology

This study has collected both primary and secondary data from suitable sources. Secondary data were collected from articles, books, newspapers and websites. A structured questionnaire containing 15 variables was used to collect responses on a five-point (1-strongly disagree to 5-strongly agree) Likert scale. The questionnaire was sent to 340 respondents in their home address and via E-mail. Data were collected from three hundred samples and forty respondents did not provide any

answer. Therefore, the questionnaire response rate is 88%. Qualitative research design has also been applied in this study in the form of in-depth interviews of consumers to further strengthen the findings. Exploratory Factor Analysis (EFA) was conducted to analyze the data. SPSS -20 versions was used in this regard.

### 6.2 Data and characteristics of sample

Data were gathered through simple random sampling method from Dhaka city in Bangladesh from 15<sup>th</sup> October 2018 to 10<sup>th</sup> January 2019. To test the hypothesis, a survey was conducted on respondents who must have a mobile phone. Each response was scrutinized attentively, and improper answers were dropped out from the analysis. Final sample size was 300 users of telecommunication services in which 200 clients were male and 100 clients were female. Detailed profiles of the respondents are given below:

Measures	Items	N	%
<b>Gender</b>	Male	200	66.6
	Female	100	33.3
<b>Education Level</b>	SSC	23	7.7
	HSC	68	22.7
	Bachelor	134	44.7
	Master	65	21.6
	PhD	10	3.3
	Bellow 20	65	21.7
<b>Age</b>	20-30	122	40.7
	30-40	52	17.3
	Above 40	61	20.3
<b>Monthly Income</b>	Below BDT 20,000	45	15
	BDT 20,000-40,0000	98	32.7
	BDT 40,000-60,0000	72	24
	BDT 60,000-80,0000	46	15.3
	BDT 80,000-100,0000	39	13

### 7.0 Data Analysis and Discussion

Marketers need to consider a lot of variables to send SMS in order to attract target customers. According to (Malhotra & Das, 2011) factor analysis method is one of the effective methods to identify relevant and sufficient variables affecting users' choices.

#### Step 1: Hypothesis developed for this study:

H0: Variables affecting positive attitudes toward choosing SMS are not correlated.

H1: Variables affecting positive attitudes toward choosing SMS are correlated.

**Step 2: Decision on the hypothesis:**

**Kaiser-Meyer-Olkin and Bartlett's Test**

KMO Measure of Sampling Adequacy.		.865
Bartlett's Test of Sphericity	Chi-Square Test	6487.502
	df	95
	Sig.	.000

An analysis of Kaiser-Meyer-Olkin and Bartlett's Test shows the result of chi-square statistic 6487.502 with 95 degree of freedom where level of significance is .000. It is noted that null hypothesis is rejected because significance level is less than 0.05, Therefore variables affecting positive attitudes toward choosing SMS marketing have correlated each other. KMO test also indicates the validity and appropriateness of factor analysis which result is .865. The value (.865) of KMO test is larger than 0.50 that indicates factor analysis method is appropriate in this study in order to identify relevant factors.

**Step 3: Identifying the number of factors.** Eigenvalue, parentage of variance and scree plot were used to identify the component numbers with grouped factors:

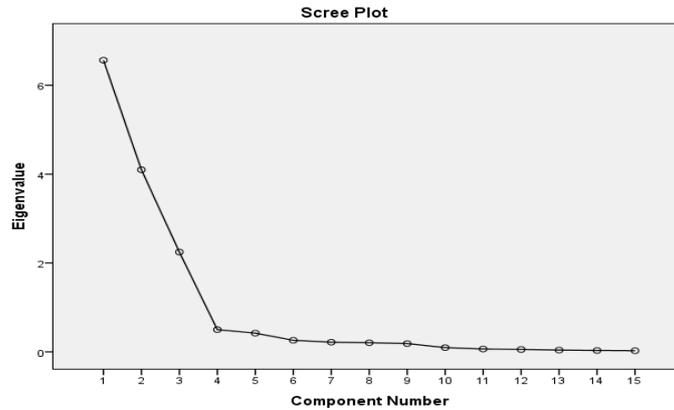
- **Determination of factors based on Eigenvalue:** (Malhotra & Dash, 2015) mentioned that eigenvalue more than one (1.00) has been selected as a factor. Factor analysis shows three factors with more than one (1.00) eigenvalue from total variance explained table: Factor 1: 4.583, Factor 2: 4.356, Factor 3: 3.972.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	<b>6.565</b>	43.766	43.766	<b>6.565</b>	43.766	43.766	<b>4.583</b>	30.551	30.551
2	<b>4.099</b>	27.325	71.091	<b>4.099</b>	27.325	71.091	<b>4.356</b>	29.039	59.590
3	<b>2.247</b>	14.980	<b>86.071</b>	<b>2.247</b>	14.980	<b>86.071</b>	<b>3.972</b>	26.481	<b>86.071</b>
4	.499	3.326	89.397						
5	.420	2.802	92.199						
6	.259	1.727	93.926						
7	.217	1.446	95.372						
8	.204	1.361	96.733						
9	.186	1.240	97.973						
10	.095	.631	98.604						
11	.063	.421	99.025						
12	.053	.351	99.375						
13	.039	.259	99.635						
14	.030	.203	99.838						
15	.024	.162	100.000						

Extraction Method: Principal Component Analysis.

- **Determination of factors based on percentage of variance:** From the view point of (Malhotra & Dash, 2011), it is observed that the recognized factors must have at least 60% of the total variance. The above analysis shows **86.071** cumulative percent of variance among three factors.
- **Determination of factors based on Scree plot:**



Graphical representation of eigenvalue is known as scree plot (Malhotra & Dash, 2011). The shape of curve in scree plot indicates the number of factors. According to scree plot, three (3) factors would be selected where each factor shows eigenvalue of more than 1.00.

**Step 4: Comparison between component matrix and rotated component matrix.**

Component Matrix			
	Component		
	1	2	3
Cost efficiency	.691	.540	-.423
Brand Awareness	.824	.100	.503
Prior Permission	-.629	.741	.181
Customized Promotions	.693	.270	.301
Entertainment	.700	.480	-.322
Up-To-Date	-.547	.717	-.052
Immediate Feedback	-.576	.749	.262
Appeal	.655	.504	-.391
Language	.635	.509	-.388
Contents of SMS	.630	.214	.502
Reliable	.780	.100	.539
Irritating	.714	-.057	.622
Flexible	-.550	.741	.290
Connecting Peers	.651	.478	-.366
Stop SMS	-.581	.721	.258
Extraction Method: Principal Component Analysis.			

From the above table it has been revealed that **Component 1** has some correlation with Cost efficiency, Brand awareness, Prior permission, Customized promotions, Entertainment, Attractive appeal, Language, Content of SMS, Reliable, Irritating and Connecting peers. Whereas **Component 2** has some coefficient with Brand awareness, Prior permission, Up to date, Immediate feedback, Reliable, Flexibility and Stop SMS as per customer choice. Finally, **Component 3** also has good relationship with Content of SMS, Reliable and Irritating.

Rotated Component Matrix			
	Component		
	1	2	3
Cost efficiency	-.029	.957	.174
Brand Awareness	-.194	.257	.916
Prior Permission	.973	-.056	-.164
Customized Promotions	-.046	.391	.700
Entertainment	-.054	.871	.250
Up-To-Date	.846	.112	-.295
Immediate Feedback	.976	-.067	-.068
Appeal	-.032	.897	.172
Language	-.017	.886	.162
Contents of SMS	-.002	.207	.807
Reliable	-.161	.209	.916
Irritating	-.232	.034	.919
Flexible	.964	-.071	-.031
Connecting Peers	-.043	.866	.185
Stop SMS	.954	-.083	-.077
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. <sup>A</sup>			

(Henson & Roberts, 2006) suggested to use rotated component matrix with a view to summarize correlated factors and extract non correlated factors. From rotated component matrix, it is noted that **Component 1** has strong relationship with Prior Permission (.973), Up to Date (.846), Immediate feedback (.976), Flexible (.964), Stop SMS option (.954). **Component 2** consists of Cost efficiency (.957), Entertainment (.871), Appeal (.897), Language (.886), Connecting peers (.866). **Component 3** has strong relationship with Brand awareness (.916), Customized promotions (.700), Contents of SMS (.807), Reliable (.916), Irritating (.919).

#### Step 5: Analyzing the factors:

<b>Component 1</b>	Time Concern Customer (TCC)	V3: Prior Permission, V6: Up to Date, V7: Immediate feedback, V13: Flexible, V15: Stop SMS option
<b>Component 2</b>	Entertainment Concern Customer (ECC)	V1: Cost efficiency, V5: Entertainment, V8: Appeal, V9: Language, V14: Connecting peers.
<b>Component 3</b>	Value Concern Customer (VCC)	V2: Brand awareness, V4: Customized promotions, V10: Contents of SMS, V11: Reliable, V12: Irritating

- **Component 1** is highly rotated with V3: Prior Permission, V6: Up to Date, V7: Immediate feedback, V13: Flexible, V15: Stop SMS option. Therefore factor 1 can be labeled as Time Concern Customer (TCC)

- **Component 2** has high coefficient with V1: Cost efficiency, V5: Entertainment, V8: Appeal, V9: Language, V14: Connecting peers. Hence factor 2 can be named as Entertainment Concern Customer (**ECC**)
- **Component 3** has strong correlation with V2: Brand awareness, V4: Customized promotions, V10: Contents of SMS, V11: Reliable, V12: Irritating. Thus, Factor 3 may be labeled as Value Concern Customer (**VCC**).

**Step 6: Determining model fit:**

According to (Malhotra & Dash, 2015), Residuals are used in order to justify the model fit. The differences between the observed correlations matrix (input data) and the reconstructed correlations matrix (estimated factor matrix) are called residuals. Residuals are applied to determine whether the factor analysis model is fit or it consider the residuals value less than 0 .05 (Al Amin & Islam, 2017). In this study, the residuals between cost efficiency and brand awareness is .011 which is less than 0.05 whereas residuals between cost efficiency and prior permission is .004 which also less than 0.05. Rest of the residuals is shown in the table below. There are only

		CE	BA	PP	CP	EN	UD	IF	AP	LA	CS	RE	IM	FL	CNP	SM
<b>Reproduced Correlation</b>	CE	.948 <sup>a</sup>	.411	-.111	.498	.879	.031	-.104	.890	.877	.339	.365	.200	-.102	.863	-.121
	BA	.411	.942 <sup>a</sup>	-.353	.750	.463	-.405	-.268	.394	.379	.793	.923	.896	-.233	.400	-.277
	PP	-.111	-.353	.978 <sup>a</sup>	-.181	-.143	.866	.965	-.110	-.093	-.146	-.319	-.379	.947	-.121	.946
	CP	.498	.750	-.181	.645 <sup>a</sup>	.518	-.201	-.118	.473	.461	.646	.730	.667	-.094	.470	-.130
	EN	.879	.463	-.143	.518	.825 <sup>a</sup>	-.022	-.128	.827	.814	.382	.420	.273	-.122	.803	-.144
	UD	.031	-.405	.866	-.201	-.022	.816 <sup>a</sup>	.838	.023	.037	-.217	-.383	-.464	.817	.006	.821
	IF	-.104	-.268	.965	-.118	-.128	.838	.962 <sup>a</sup>	-.103	-.087	-.070	-.233	-.291	.948	-.113	.942
	AP	.890	.394	-.110	.473	.827	.023	-.103	.836 <sup>a</sup>	.824	.325	.351	.197	-.100	.810	-.119
	LA	.877	.379	-.093	.461	.814	.037	-.087	.824	.812 <sup>a</sup>	.314	.337	.184	-.085	.799	-.103
	CS	.339	.793	-.146	.646	.382	-.217	-.070	.325	.314	.694 <sup>a</sup>	.783	.750	-.042	.329	-.082
	RE	.365	.923	-.319	.730	.420	-.383	-.233	.351	.337	.783	.908 <sup>a</sup>	.886	-.198	.358	-.242
	IM	.200	.896	-.379	.667	.273	-.464	-.291	.197	.184	.750	.886	.900 <sup>a</sup>	-.255	.210	-.296
	FL	-.102	-.233	.947	-.094	-.122	.817	.948	-.100	-.085	-.042	-.198	-.255	.935 <sup>a</sup>	-.109	.928
	CNP	.863	.400	-.121	.470	.803	.006	-.113	.810	.799	.329	.358	.210	-.109	.786 <sup>a</sup>	-.128
	SM	-.121	-.277	.946	-.130	-.144	.821	.942	-.119	-.103	-.082	-.242	-.296	.928	-.128	.924 <sup>a</sup>
	<b>Residual<sup>b</sup></b>	CE		.011	-.004	-.036	.003	.024	.000	-.004	-.018	-.019	.016	.023	.000	-.029
BA		.011		-.003	-.035	.009	.023	.002	-.016	-.024	-.086	.028	.020	-.002	.029	.003
PP		-.004	-.003		.005	.003	-.008	-.003	.003	.005	.006	-.007	.001	-.010	-.007	-.003
CP		-.036	-.035	.005		-.057	-.068	.011	.010	.005	-.051	-.073	-.113	.010	-.023	.000
EN		.003	.009	.003	-.057		.011	.000	-.048	-.065	.010	.015	-.003	-.002	-.049	-.005
UD		.024	.023	-.008	-.068	.011		-.045	-.015	-.036	-.018	.041	.055	-.044	-.004	-.043
IF		.000	.002	-.003	.011	.000	-.045		.005	.007	-.012	-.009	-.005	.009	-.004	-.007
AP		-.004	-.016	.003	.010	-.048	-.015	.005		-.051	.015	-.015	.011	.006	-.063	-.005
LA		-.018	-.024	.005	.005	-.065	-.036	.007	-.051		.058	-.021	-.013	.007	-.052	-.003
CS		-.019	-.086	.006	-.051	.010	-.018	-.012	.015	.058		-.094	-.056	-.019	-.064	-.008
RE		.016	.028	-.007	-.073	.015	.041	-.009	-.015	-.021	-.094		.026	.009	.023	-.004
IM		.023	.020	.001	-.113	-.003	.055	-.005	.011	-.013	-.056	.026		-.014	.019	-.003
FL		.000	-.002	-.010	.010	-.002	-.044	.009	.006	.007	-.019	.009	-.014		-.004	-.027
CNP		-.029	.029	-.007	-.023	-.049	-.004	-.004	-.063	-.052	-.064	.023	.019	-.004		.035
SM		-.009	.003	-.003	.000	-.005	-.043	-.007	-.005	-.003	-.008	-.004	-.003	-.027	.035	

a. Reproduced communalities  
 b. Residuals are computed between observed and reproduced correlations.  
 14.0% non-redundant residuals with absolute values greater than 0.05. Based on analysis of residuals value it is observed that estimating factor analysis model is fit for this study.

## 8.0 Recommendations

This study suggests some recommendations for telecommunication marketers in order to perform SMS marketing for customers. There are three different clusters among customer in telecommunication industry of Bangladesh who consider different factors in term of choosing SMS Marketing. Cluster 1 focuses on Time Concern Customer (TCC) who are more concerned about prior permission before sending any SMS, up to date SMS, immediate feedback, flexibility and stop option to close SMS. To attract Cluster 2 -Entertainment Concern Customers; marketers need to deliver a bundle offer for SMS package, to provide SMS regarding sports, movie and drama, to bring new appeal in contents, to consider mother language, and to offer connecting peer groups. For *Cluster 3- Value Concern Customer*, Organization needs to create brand awareness, offer customized SMS, bring different contents of SMS, ensure reliability of SMS and not to send too many SMS per day. Along with recommendations, This paper also indicates a key point regarding sources of SMS provided by different organizations. Respondents were given a rank order question with a view to identify the most preferable source. 63% users among 300 respondents agreed that they prefer short promotional SMS delivered by aligned company where second and third choices goes to 22% for government source, 15% for telecommunication companies. Aligned companies offer text messages to target audience via using telecommunication service operations. It has been revealed that marketers also need to concentrate on promotion relevant SMS rather than just annoying people by providing too many unnecessary SMS.

Sources of SMS	N	Preference Level (%)
Telecommunication operators	44	15%
Government	67	22%
Aligned company	189	63%

## 9. Conclusion

This study has provided insights into consumer attitudes towards SMS marketing by identifying three different customer groups who evaluate 15 variables into three different categories. Firstly, Time conscious customers or time saving customers view SMS marketing as up to date, immediate feedback, and flexible. They also emphasize that companies should take prior permission whether they will send any promotional offers or not. This customer group also demands an option to stop SMS that are not relevant for them. On the other hand, Entertainment focused customers want to see SMS marketing as new appeal, entertaining and creating new friends and peers. This group also demand Bangla language SMS for better understanding. Finally Value based customers emphasize on additional benefits such as customized SMS offerings, reliable and new contents of SMS. This user group also prefers well-established and recognized telecommunication services companies and become irritated to receive more than five SMS per day.

### 10.0 Limitations of the Study

This paper emphasizes on measuring customer attitude toward SMS Marketing in Bangladesh. Nevertheless, it has some limitations. Firstly, this paper emphasizes only on SMS marketing rather than voice call and MMS marketing. Secondly, this study collected data only from Dhaka city though respondents are available throughout Bangladesh. Thirdly, only Exploratory Factor Analysis (EFA) is used as data analysis tool. Structural Equation Modeling (SEM) can be another effective method to analyze data regarding customer attitudes. Future research may consider taking a sample from the whole country and also apply SEM for data analysis.

### 11.0 Ethics and Conflict of Interest

This paper is an authentic and original paper of the authors regarding customer attitude toward SMS Marketing in Bangladesh. In addition, it has been noted that this article is not printed or published in any journals or books. Finally, there is no conflict of interest with any other papers or study.

### References

- Al-Dalahmeh, M., Al-Shamaileh, O., Aloudat, A., & Obeidat, B. (2018). The Viability of Mobile Services (SMS and Cell Broadcast) in Emergency Management Solutions: An Exploratory Study. *International Journal of Interactive Mobile Technologies*, 12(1).
- Al Amin, M., & Islam, M. (2017). Factors leading to Market Segmentation of fashion house business based on customer behavior: Evidence from Bangladeshi Fashion Industry *International Journal of Business and Technopreneurship*, 7(3), 251-272.
- Amirkhanpour, M., Vrontis, D., & Thrassou, A. (2014). Mobile marketing: a contemporary strategic perspective. *International Journal of Technology Marketing* 5, 9(3), 252-269.
- Aslam, W., Batool, M., & Haq, Z. U. (2016). Attitudes and behaviour of the mobile phones users towards SMS advertising: a study in an emerging economy. *Journal of Management Sciences*, 3(1), 63-80.
- Aydin, G., & Karamehmet, B. (2017). A comparative study on attitudes towards SMS advertising and mobile application advertising. *International Journal of Mobile Communications*, 15(5), 514-536.
- Barwise, P., & Strong, C. (2002). Permission-based mobile advertising. *Journal of interactive Marketing*, 16(1), 14-24.
- Brey, E. T., So, S. I. A., Kim, D. Y., & Morrison, A. M. (2007). Web-based permission marketing: segmentation for the lodging industry. *Tourism Management*, 28(6), 1408-1416.
- Drossos, D. A., Giaglis, G. M., Vlachos, P. A., Zamani, E. D., & Lekakos, G. (2013). Consumer responses to SMS advertising: Antecedents and consequences. *International Journal of Electronic Commerce*, 18(1), 105-136.
- Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological measurement*, 66(3), 393-416.
- Ishtiaque, A. N. A. and Sarbabidya, S. (2016), Impact of relationship marketing on the business growth of mobiletelecom industry: an empirical study from bangladesh perspectives. D.U. Journal of Marketing, Vol. 17, June2014 (Published in June 2016).
- Kaplan, A. M. (2012). If you love something, let it go mobile: Mobile marketing and mobile social media 4x4. *Business horizons*, 55(2), 129-139.
- Kotler, P. (2009). *Marketing management: A south Asian perspective*. Pearson Education India.

- Lancaster, G., & Reynolds, P. (2005). *Management of marketing*. Routledge.
- Malhotra Naresh, K., & Dash, S. (2015). *Marketing Research, An Applied Orientation, 7e*. Pearson India.
- Moto Message (2010) What is the Future of SMS Marketing?, Moto Message – Text Message Marketing [online] <http://www.motomessage.com/future-sms-marketing/> (accessed April 2012).
- Öztaş, Y. B. B. (2015). The increasing importance of mobile marketing in the light of the improvement of mobile phones, confronted problems encountered in practice, solution offers and expectations. *Procedia-Social and Behavioral Sciences*, 195, 1066-1073.
- Zamil, F., & Hossen, M. M. (2012). Problems and Prospects of Telecommunication Sector of Bangladesh: A Critical Review. *The International Institute for Science, Technology and Education*, 4(1), 16-25.
- Mobile Marketing Association. (2009). MMA updates definition of mobile marketing. Available in: <http://mmaglobal.com/news/mma-updates-definition-mobile-marketing>.
- <http://www.btrc.gov.bd/content/mobile-phone-subscribers-bangladesh-december-2018> (accessed on 5<sup>th</sup> July, 2018.)