



# THE ROLE OF SMS'S FRONTLINES IN MOBILE ADVERTISING BASED ON CONSUMER ATTITUDE

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## ABSTRACT

Information technology (IT) formed the commerce and the marketing strategy for the companies. One side of the marketing that is affected by IT is the advertising. Short Messaging Service (SMS) is one of the channels that is using for marketing. It is becoming important to reach the possible customers via mobile phones. The attitude towards mobile advertising strongly depends on the message characteristics. Therefore, too much work needs to be performed concerning the advertising by using SMS to make it more attractive, creative and effective. The lack of studies which give rich knowledge about the role of the frontlines in SMS messaging and how can affect the consumer attitude toward mobile advertising is very remarkable. This study reviewed the existing factors that affecting the consumer attitude towards mobile advertising, and proposed a research model regarding the factors that affect the SMS's frontlines in mobile advertising based on consumer attitude. This model was based on systematically analyzing and extracting all the factors affecting the attitude towards mobile advertising and then developed the model according to these models and the understanding of the researcher from the literature. To effectively evaluate the research model, a quantitative research was adopted. Data was collected by survey questionnaires from 153 respondents. The SmartPLS tool was used for data analysis. In sum, the results of this research show that all factors have a significant impact on the attitude towards mobile advertising in the domain of SMS's frontline. The proposed model will be beneficial to the marketers and researchers by understanding the main factors influencing the consumer attitude towards mobile advertising concerning the frontlines of the SMS. Moreover, it will encourage more researchers in this field to uncover the lacks and find the better solutions.

**Keywords:** mobile advertising, consumer attitude, short messaging service (SMS), SMS's frontlines.

## INTRODUCTION

Nowadays, nearly everything is influenced by the information technology (IT). IT formed the commerce and the marketing strategy for the companies. One side of the marketing that is affected by IT is the advertising. Advertising through mobile devices (mobile advertising) can be defined as "the transmission of message related to products, services and opinions for promotional purposes via mobile devices" [1]. It also can be defined as "the presentation of product, service or ideas with personalized information to the target group by using mobile means of communication" [2]. Advertisements are sent directly to mobile applications. Consumers receive these promotions through individual messages at any time and place. This does not only profit the customers, but also the stakeholders [3]. Mobile advertising is adopted by many big organizations such as Procter and Gamble, Microsoft, Disney, Coca-Cola, Sony Pictures, and McDonalds. Short Messaging Service (SMS) is one of the channels that is using for marketing. It is becoming important to reach the possible customers via mobile phones. A. T. Kearney has done several numbers of surveys which show that a remarkable increase in the use of SMS since 2001 [4]. A mental inclination shaped after obtaining an advertising message, and then starting a psychological reaction and cognitive thought are the things that can refer to as a consumer attitude towards advertising. The attitude towards product brand and the desire for purchasing can be influenced by this tendency [5]. Therefore, study the

factors that affecting the consumer attitude toward mobile advertising is very important for marketing. The front term means the side of something you look at first [6], therefore, the frontlines of the message means the first or the beginning lines in the message.

## SMS ROLE IN ADVERTISING

Zabadi, Shura [7] claim that it is generally accepted that mobile advertising successfully reaches customers. One of its many benefits is that customers are reachable at anytime and anywhere in real time [8]. Because of the personal nature of the mobile phone, advertisements are almost guaranteed to reach customers [9], especially the younger group of customers who are always on the go; thus, making it the most reliable marketing tool [8]. SMS advertising is not only cheap if carefully laid out, it also reaches the targeted group with appropriate information that is received more positively; hence, cutting back wastage [9].

## RELATED WORK

Several studies have been conducted to examine the attitude toward mobile advertising in different perspectives. In Sabokwigina, Malima [10] study, they focused on the SMS-based advertising by examining the factors and the attitude toward it, as well as the relationship between them. What different in Zabadi, Shura [7] is that they studied the antecedents of consumer attitude in the same context (SMS-based advertising) and



the variables influencing it. However, in Tsang, Ho [8] research, the relationship between the attitude and behavior was investigated. In the study of Ünal, Ercis [11], they determined the differences between adult and youth toward mobile advertising. Identifying the elements make up the attitudes was the work of Leung and Cheung [12]. Another research studied the message content, consumer permission, and personalization [13], while comparing between advanced and developed markets was done in Haghirian, Madlberger [14] research. The significance of the research of Lee and Hsieh [15] was that their study about self-efficacy for the mobile concerning the consumers. What is remarkable in Saadeghvaziri and Hosseini [16] research is the monetary benefit that they explored related to the factors affecting the attitude toward mobile advertising. Last but not least, the attitude of the consumers toward mobile phones advertising and its relevance to the content of the message, the value of advertising, the demographics of the consumers, and the frequency of exposure were studied in Haghirian and Madlberger [17] research. The studies that are mentioned above were conducted in different scopes. Nevertheless, they share some factors in common such as entertainment, informativeness, irritation, and credibility.

As we can see from the above mentioned studies, several different researches have been conducted regarding the attitude towards mobile advertising. These studies revealed of some issues and considerations which lead to the research motivation. These consideration and issues could be summarized as follows; firstly, there are several communication technologies such as Twitter, Facebook, and other social networks that can create a direct contact with audience. However, one of these technologies and more powerful than Twitter and Facebook is Text Message Marketing [10], and according to the results from the same study, the attitude towards mobile advertising strongly depends on the message characteristics. Therefore, too much work needs to be performed concerning the advertising by using SMS to make it more attractive, creative and effective. Then after that, the study that done by Sabokwigina, Malima [10] resulted in that the respondents who were asked to indicate the action they do when receiving SMS advertisement, the majority of them said they would read the advertising SMS, but the main point here is that some of them said they would read the SMS immediately, while others would read halfway and delete. Reading halfway means reading the first lines (frontlines) of the message and then ignoring or deleting the message. That due to they may not find what attract them in the frontlines of the message. The above points were therefore, the motivations for this study and lead the researcher to investigate the role of the SMS's frontlines and how can influence the consumer attitude towards mobile advertising.

## **FACTORS AFFECTING THE CONSUMER ATTITUDE TOWARD MOBILE ADVERTISING BASED ON SMS'S FRONTLINES**

There are several factors that can affect the beginning lines of the message which is sent on the mobile phone. SMS message contains only texts that consist of up to 160 characters. In this study the researcher proposed some factors that may influence the consumer attitude towards mobile advertising based on SMS's frontlines. The factors are as follows:

### **Getting benefit**

One of the successful tactics to keep the users of the mobile phone attracted to the SMS advertising by providing games and prizes in the advertisements [7]. Especially, many games can be played via text messages taking the interactive games as an example. These characteristics can be utilized to involve consumers deeper and cause them to become more acquainted with the advertised services or product [18]. The advertising message will be more acceptable by people when it contains incentives [8]. What is more is that in the study done by Jingjun Xu [19], they claim that the data that is delivered to people through mobile devices should offer benefits to them. Furthermore, the study conducted by Usta [20] indicates that incentive-based advertising is an essential element to improve the efficiency of advertising via mobile devices. By using this tactic of advertising (incentive-based advertising), financial rewards can be given to consumers who agree to receive advertisement message related to a specific promotion or campaign. Therefore, people generally present favorable attitudes at SMS advertisements supported by rewards. Financial incentives can significantly increase the involvement of consumers in mobile advertising decision [21]. In the study conducted by Tsang, Ho [8], the respondents were asked about their readiness to get mobile ads if specific benefits, such as for instance free telephone time, were offered, the answer were 188 "YES" and 148 "NO". Having known the important role that the benefit factor played in affecting the consumer attitude toward mobile advertising, the researcher wants to investigate how this factor can influence the consumer attitude based on SMS's frontline. The following hypothesis can therefore be stated:

**H1:** Getting Benefit factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising.

From the literature review the researcher found that games and prizes come under entertainment factor [7]. While incentives is a type of advertising called incentive-based advertising [8, 11] and these studies said incentives can be rewards or promotions. What is more is that the monetary benefit factor in the current models is known as incentive-based advertising [22], therefore, it is considered as incentives. Finally, in the study done by Zabadi, Shura [7], they consider the financial incentives as an item of



credibility factor. From these mentioned items; the customer will get the benefit from them. According to these reasons the researcher combined them in individual factor which is called "Getting Benefit".

### Giving benefit

People usually like to get benefit from receiving SMS advertisements such as incentives, games and prizes as this study illustrated in the (Getting Benefit) factor section. However, what if people give the benefit to another people who in need as a help or humanity purposes. Examples of that can be charity, donation, or volunteering. Organizations which interest in charity (charitable organizations) center on helping others. These organizations get the money from donations, which can be individuals volunteering time or money [23]. The research done by Brunel and Nelson [24], Brunel and Nelson [25] resulted in the fact that the women are more likely than men to respond to the advertising that emphasizes helping others. Nevertheless, in this study, the researcher is investigating the importance of finding information related to helping others in the SMS's frontlines and how can impact the attitudes of people toward the mobile advertising. The following hypothesis can therefore be stated:

**H2:** Giving Benefit factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising.

### Language format

The result of the study that conducted by Rajyalakshmi [26] uncovered that the attitude of consumer at SMS advertising are reflected in terms of many factors and one of them is the local language. In the mentioned study, (61.9%) of the respondents said SMS ads are more convenient in their respective local language. What is more is that the same study claimed that the content of ads should be easy to read and remember. This leads to the fact that the format of the wording used should be clear and easy to understand and remember. The format of the text is usually applied for the whole text including the frontlines which is the concern of this research. As well as the language used in the SMS takes the same situation, since it is applied on the whole message but it affects partially on the frontlines which then influence the consumer attitude. Zabadi, Shura [7] indicates that the marketers should take into considerations the profile and the anticipation of the desired consumers, and this include the language and the content of the SMS advertisement which should be related to their profiles. Messages should be containing an attractive idea and that idea should be communicated concisely by using the language and wording understood by the target group of mobile users and utilizing the available 160 characters effectively [27]. The following hypothesis can therefore be stated:

**H3:** language format factor of SMS's frontline has a significant effect on the consumer attitude toward

mobile advertising. From the above description it is clear that the language used come within the message content, and it is also can be under personalization factor, while the wording used comes within the message content. Therefore, this research combined them under the name of "Language Format".

### Relevance

The relevant content is a key in advertising through mobile devices, while irrelevant mobile ads might have least effect on desired consumers [28]. In the same study they considered the message content as different factor from personalization factor, and the relevant content is a key in the message content. What is more the relevance is considered as an informativeness item in the study conducted by Leung and Cheung [12]. The following hypothesis can therefore be stated:

**H4:** Relevance factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising. While in the questionnaire of the study that done by Saadeghvaziri and Hosseini [16], items such as (relevant to user's need/ relevant to users job and activities) come under personalization. Based on these studies the career-related and education-related items can be considered as either informativeness or personalization items. Therefore, this study only considered them as relevance information, and tries to see how they can influence this study.

### Organization

Type of business and the brand name are two items will be investigated to show how they can affect consumer's attitude towards mobile advertising based on message's frontlines. According to Fishbein attitude theory [29], a stimulus, such as SMS advertisement of a particular brand, has an effect on a consumer's belief system which in turn influences and leads to the consumer developing a specific attitude towards the advertised brand. The attitude which a consumer has with regards to a brand has an impact on consumer's intention to purchase the brand offering. The brand trust is one of the key impacting factors in the consumers' acceptance of mobile advertising [30]. Based on the literature review and the researcher knowledge, there are no studies covered the type of business in general regarding consumer attitude towards mobile advertising, however, the following hypothesis can therefore be stated:

**H5:** Organization factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising.

Brand name was investigated in some previous studies concerning the credibility as in study conducted by Zabadi, Shura [7], and the personalization as in the definition of personalization that is given in study conducted by Jingjun Xu [19]. Therefore, the researcher combined them under the name of "organization".



Furthermore, this study will investigate how the organization factor can influence the SMS's frontlines based on consumer's attitude toward mobile advertising.

### RESEARCH MODEL

The next is the initial model for this study which is developed based on the literature review and the understanding of the researcher.

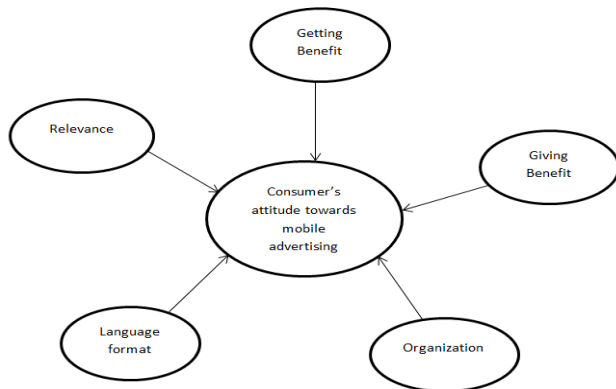


Figure-1. Research model.

### RESEARCH METHODOLOGY

#### DATA COLLECTION AND ANALYSIS

To test the hypotheses, firstly, the measurement items that used in other studies were extracted and changed according to the domain of this study, additionally; some of the measurement items created by the researcher depending on the understanding of the literature (see Table-1). Four experts were consulted in the purpose of content validation of the constructs, to make sure that the measurement items are related to each variable and suitable for SMS's advertising based on frontlines of the message. Next step is the face validation, which 10 postgraduate students were asked to read and fill in the questionnaires and then their suggestions were collected, so that the questionnaires were revised.

Secondly, 30 questionnaires were distributed among 30 students (postgraduates) from the faculty of computing in the University Technology Malaysia (UTM) in the purpose of checking the reliability of the questionnaire.

### SAMPLING STRATEGY

The respondents must be mobile phone users and have experience with SMS advertising. In order to achieve a valid sample two criteria need to be fulfilled: the sample must be sufficient, and the sample should be representative, in that the observations, the total population, and the significant relationships between them are carefully defined [31].

Jackson [32] noted a sufficient sample size depends on the complexity of the hypothesized model and sample of  $n=100$  are enough when the model has a simple structure. In addition, Ifinedo [33] stated that for small sample sizes, the PLS software is appropriate such as  $n=100$ . Hence, our sample selection is adequate for data analyzing. The respondents of this study were mobile phone users who are familiar with SMS advertising. To confirm the sufficiency of the sample size, the PLS rule of thumb for the minimum desired sample size was applied. The rule stated "PLS minimum size should be equal to the larger of the following : (a) ten times the largest number of formative indicators used to measure one construct; or (b) ten times the largest number of the structural paths directed to a particular dependent construct from independent variables in the structural model." [34]. In this study, the maximum number of formative indicators is 4, which are the indicators of each of these constructs: Getting Benefit, Giving Benefit, and Relevance. While the total of the independent construct is 5. Therefore,  $5 \times 10 = 50$  respondents are enough for analyzing with smartPLS and take the reliable result. Therefore, in this study, the sample size could be as low as 50 respondents based on PLS sample size rule of thumb. Thus, 153 collected responses in this study are acceptable and even larger than what is required.

**Table-1.** Factors and its measurement items.

CONSTRUCTS AND ITEMS	SCALE	ADOPTED from
<b>GETTING BENEFIT</b>		
I like to read the SMS in when I find prizes provided in the frontlines of the message.	5-point Likert scale	By researcher
I like to read the SMS in full when I find entertainment services (games, videos, and photos) provided in the frontlines of the message.	5-point Likert scale	[7]/ [16]/ [35]/ [19]
I like to read the SMS in full when I find incentives provided in the frontlines of the message.	5-point Likert scale	[11]/ [7]
Overall, when I find any benefits in the SMS's frontlines, I will continue reading the full message.	5-point Likert scale	By researcher
<b>GIVING BENEFIT</b>		
I like to read the SMS in full when I find charity task provided in the frontlines of the message.	5-point Likert scale	By researcher
I like to read the SMS in full when I find donation news provided in the frontlines of the message.	5-point Likert scale	By researcher
I like to read the SMS in full when I find volunteering jobs provided in the frontlines of the message.	5-point Likert scale	By researcher
Overall, when I find any news to help others in the frontlines of the SMS, I will continue reading the full message.	5-point Likert scale	By researcher
<b>LANGUAGE FORMAT</b>		
When I open the SMS ads, if I see the message in my local language since the beginning, I continue reading the message	5-point Likert scale	[26]
The wording used in the frontlines of SMS-ads can attract me to read the rest of the message.	5-point Likert scale	[26]
Overall, the language format can affect my willing to read the full SMS.	5-point Likert scale	By researcher
<b>RELEVANCE</b>		
I like to continue reading the SMS-ads if I find information related to my career in the beginning of the message	5-point Likert scale	[16]
I like to continue reading the SMS-ads if I find information related to my education in the frontlines of the message.	5-point Likert scale	By researcher
I like to continue reading the SMS-ads if I find information related to my hobbies in the frontlines of the message.	5-point Likert scale	[16]
Overall, I feel I want to read the full message if I find the frontlines of the message is relevant to me.	5-point Likert scale	[26]
<b>ORGANIZATION</b>		
In SMS ads that related to organization, if I found the type of business that I like in the SMS frontlines, I would like to read the full message.	5-point Likert scale	By researcher
When I find specific brand names in the SMS's frontlines, I would be motivated to read the rest of the message.	5-point Likert scale	[36], [37]
Overall, the organization factor can affect my willing to read the full SMS advertisement.	5-point Likert scale	By researcher

By doing the pilot study, this research did make sure of the reliability of the questionnaire, therefore, the researcher stepped forward by distributing the survey questionnaire among 153 respondents through the social networks, in specific, the Facebook website by using the google docs, and also the survey questionnaires were distributed in the faculty of computing and the library of UTM. 112 responses were gotten from the google docs, and 41 responses from the faculty of computing and

library of UTM, therefore, the total of the real study is 153 respondents. Both the convergent validity and the discriminant validity were checked in the real study. The measures of the internal consistency, discriminant validity and convergent validity of the research model can be used by using the PLS technique. These measures assess the associations' power among the particular constructs [38]. These three perceptions are the basics that the research model needs to have. The data were analyzed, then the





descriptive statistics and the demographics were shown, after that the path analysis were started by using SmartPLS and based on SEM method, then the T-values are obtained which appear on the paths showing that whether the hypotheses are supported or not.

## RESULTS

### Internal consistency

After conducting the real study with the complete sample (N=153), and running the PLS algorithm, the following results are revealed, so that the results reported a confirmation of the internal consistency for all constructs, and that because of the following two reasons:

1. The composite reliability of all constructs is greater than the recommended value (more than 0.7) (see table 2). Therefore, they are acceptable values and they support the adequate internal consistency.

2. The item loadings of all measures with their respective construct are more than 0.7 (see tables 3, 4, 5, 6, 7, 8).

**Table-2.** Composite reliability of the real study (N=153).

CONSTRUCT	COMPOSITE RELIABILITY
GETTING BENEFIT	0.895644
GIVING BENEFIT	0.890615
LANGUAGE FORMAT	0.886851
ORGANIZATION	0.874880
RELEVANCE	0.902125
CONSUMER ATTITUDE TOWARDS MOBILE ADVERTISING	0.947792

**Table-3.** Item loading for getting benefit.

CONSTRUCT: GETTING BENEFIT		
MEASURES	ITEM LOADING	N
GET	0.776700	153
GET1	0.881188	153
GET2	0.842100	153
GET3	0.800957	153

**Table-4.** Item loading for giving benefit.

CONSTRUCT: GIVING BENEFIT		
MEASURES	ITEM LOADING	N
GIVE	0.785999	153
GIVE1	0.865329	153
GIVE2	0.810930	153
GIVE3	0.811894	153

**Table-5.** Item loading for language format.

CONSTRUCT: LANGUAGE FORMAT		
MEASURES	ITEM LOADING	N
LF	0.839748	153
LF1	0.849641	153
LF2	0.861734	153

**Table-6.** Item loading for organization.

CONSTRUCT: ORGANIZATION		
MEASURES	ITEM LOADING	N
ORG	0.893262	153
ORG1	0.783776	153
ORG2	0.829999	153

**Table-7.** Item loading for relevance.

CONSTRUCT: RELEVANCE		
MEASURES	ITEM LOADING	N
REL	0.820028	153
REL1	0.876209	153
REL2	0.797565	153
REL3	0.845094	153

**Table-8.** Item loading for consumer attitude towards mobile advertising.

CONSTRUCT: CONSUMER ATTITUDE TOWARDS MOBILE ADVERTISING		
MEASURES	ITEM LOADING	N
ATT	0.939496	153
ATT1	0.926759	153
ATT2	0.912727	153



### Convergent and discriminant validity

The next step after internal consistency is to test the construct validity, hence, two tests are conducted, the first is the convergent validity, which is measured by the Average Variance Extracted value (AVE), hence an (AVE) greater than 0.5 is desirable, and then the Convergent Validity can be confirmed [33, 39]. Table-9 shows the AVE values for each construct, and all constructs fulfill the condition of convergent validity. The second test is the discriminant validity, the aim of discriminant validity is to evaluate whether the indicator of a given construct are distinct from other constructs' indicators [40]. One way to test discriminant validity is to check if there are any cross-loading items. The result shows that there is no cross loading between indicators of the construct, and the indicators of each construct are clearly distinguishable from other constructs' indicators, so by testing both: convergent and discriminant validity, we can say that the constructs validity of our model is proven.

**Table-9.** AVE for all constructs.

CONSTRUCT	AVE
CONSUMER ATTITUDE TOWARDS MOBILE ADVERTISING	0.858201
GETTING BENEFIT	0.682605
GIVING BENEFIT	0.670842
LANGUAGE FORMAT	0.723217
ORGANIZATION	0.700374
RELEVANCE	0.697620

**Table-10.** The cross loading for all constructs.

	CA towards MA	GetB	GiveB	Language Format	Organization	Relevance
ATT	0.939496	0.57662	0.510744	0.510686	0.454575	0.34745
ATT1	0.926759	0.542232	0.486918	0.499024	0.517585	0.365198
ATT2	0.912727	0.563422	0.473826	0.527719	0.520115	0.44338
GET	0.457399	0.7767	0.4705	0.596172	0.348385	0.518614
GET1	0.543992	0.881188	0.491501	0.534494	0.405766	0.477323
GET2	0.563256	0.8421	0.453284	0.530296	0.484079	0.409631
GET3	0.412103	0.800957	0.464383	0.464803	0.355934	0.496107
GIVE	0.325044	0.461277	0.785999	0.344948	0.321095	0.427269
GIVE1	0.425286	0.458401	0.865329	0.383713	0.372684	0.363128
GIVE2	0.435809	0.477477	0.81093	0.438898	0.391949	0.281457
GIVE3	0.510126	0.462078	0.811894	0.467235	0.514501	0.446795
LF	0.389008	0.505742	0.464978	0.839748	0.560725	0.598363
LF1	0.518558	0.544027	0.364004	0.849641	0.453862	0.548459
LF2	0.485328	0.583671	0.476196	0.861734	0.597499	0.703493
ORG	0.535823	0.455705	0.43437	0.596783	0.893262	0.524012
ORG1	0.402052	0.431365	0.45692	0.486427	0.783776	0.586039
ORG2	0.386735	0.326071	0.365633	0.475156	0.829999	0.415469
REL	0.334682	0.452654	0.385374	0.624391	0.570647	0.820028
REL1	0.386794	0.54796	0.44902	0.646257	0.5032	0.876209
REL2	0.250623	0.436899	0.334722	0.598825	0.461226	0.797565
REL3	0.386653	0.453481	0.365026	0.560311	0.494517	0.845094

### Structural model assessment

Once the validity and reliability of the model were proven, path analysis of the variables was conducted. The information about T-values, Path Coefficients ( $\beta$ ), P-values (P), Squared R ( $R^2$ ) are given with respect to the assessment of the structural model. The  $R^2$  indicates the percentage of a construct's variance in the model; the predictive power of the model for dependent variables highlighted with it [33, 39, 41]. What is more is that the  $R^2$  value it can be between 0 and 1, so that the higher levels can indicate higher levels of predictive accuracy, and it is difficult to provide rules of thumb for acceptable  $R^2$  values as this relies on the model complexity and the research disciplines [42]. Whereas  $R^2$  values of 0.20 are considered high in disciplines such as consumer behavior, in success driver studies (e.g., in studies that aim at explaining customer satisfaction or loyalty) [42]. In scholarly research that focuses on marketing issues,  $R^2$  values of 0.75, 0.50, or 0.25 for endogenous latent variables can, as a rough rule of thumb, be respectively described as substantial, moderate, or weak [34, 43]. The path Coefficients ( $\beta$ ) indicates the strengths of the relationship between independent and dependent variables [44]. The hypotheses testing were done by following Chin [45] guidelines; he recommended that the path significance can be estimated through t-tests values by using the bootstrapping procedure. Normally, t-value > 2 means significant level. Additionally, based on previous studies, P-value < 0.05 confirms that related hypothesis is



significant [33]. The results reported in Table-9 and Figure-2 include (1) the path coefficients ( $\beta$ ) between 5 independent constructs and consumer attitude toward mobile advertising in the context of SMS's frontlines, (2) the path's corresponding t-value with a notation of the associated level of significance, (3) the P-values were used to indicate whether the relationship of the constructs were significantly or insignificantly correlated. The PLS bootstrapping technique was utilized to measure significance as indicated by t-values in the PLS output. Because the PLS method does not offer significance tests as a part of the general evaluation procedure, this approach is consistent with recommendations and use in previous studies published in information systems journals [39].

**Table-11.** Summary of results.

HYPOTHESIS	PATH COEFFICIENT	T-VALUES	P-VALUES	RESULTS
H1: GETTING BENEFIT	0.3423	4.1454	0.000	Supported***
H2: GIVING BENEFIT	0.1834	2.1865	0.030	Supported*
H3: LANGUAGEFORMAT	0.1991	2.0184	0.045	Supported*
H4: RELEVANCE	-0.1601	2.0487	0.042	Supported*
H5: ORGANIZATION	0.2504	2.6898	0.007	Supported**

( $P < 0.05$  \* /  $P < 0.01$  \*\* /  $P < 0.001$  \*\*\*)

Briefly, the outcomes of hypotheses testing are as below:

1. First hypothesis, Getting Benefit factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising, the construct was fully supported ( $\beta=0.3423$ ,  $T\text{-value}=4.1454 > 1.96$ ,  $P=0.00005617 < 0.001$ ). The  $\beta$  value of the Getting Benefit to the consumer attitude toward mobile advertising was the highest at 0.3423 ( $P < 0.001$ ). The result shows that the Getting Benefit of SMS's ad is significantly related to the consumer attitude toward mobile advertising in the context of SMS's frontline.

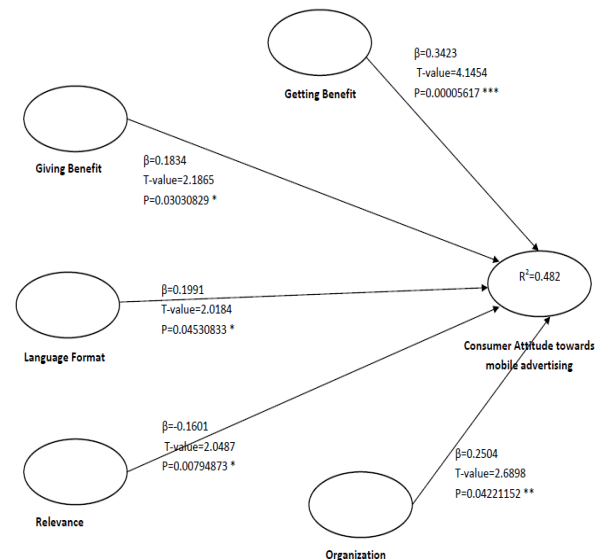
2. Second hypothesis, Giving Benefit factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising, the construct was supported ( $\beta=0.1834$ ,  $T\text{-value}=2.1865 > 1.96$ ,  $P=0.03030829 < 0.05$ ). The result shows that the Giving Benefit of SMS's ad is significantly related to the consumer attitude toward mobile advertising in the context of SMS's frontline.

3. Third hypothesis, language format factor of SMS's frontline has a significant effect on the consumer

attitude toward mobile advertising, the construct was supported ( $\beta=0.1991$ ,  $T\text{-value}=2.0184 > 1.96$ ,  $P=0.04530833 < 0.05$ ). The result shows that the Language Format of SMS's ad is significantly related to the consumer attitude toward mobile advertising in the context of SMS's frontline.

4. Fourth hypothesis, Relevance factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising, the construct was supported ( $\beta=-0.1601$ ,  $T\text{-value}=2.0487 > 1.96$ ,  $P=0.00794873 < 0.01$ ). The result shows that the Relevance of SMS's ad is significantly related to the consumer attitude toward mobile advertising in the context of SMS's frontline.

5. Fifth hypothesis, Organization factor of SMS's frontline has a significant effect on the consumer attitude toward mobile advertising, the construct was supported ( $\beta=0.2504$ ,  $T\text{-value}=2.6898 > 1.96$ ,  $P=0.04221152 < 0.05$ ). The result shows that the Organization factor of SMS's ad is significantly related to the consumer attitude toward mobile advertising in the context of SMS's frontline.



**Figure-2.** The SmartPLS 2.0 results for the tested relationships.

In summary, according to the results, it can be seen that all the constructs considered 48% of the variance in the dependent construct: Consumer attitude towards mobile advertising ( $R^2=0.482$ ). The Getting Benefit ( $\beta=0.3423$ ,  $T\text{-value}=4.1454 > 1.96$ ,  $P=0.00005617 < 0.001$ ) and Organization ( $\beta=0.2504$ ,  $T\text{-value}=2.6898 > 1.96$ ,  $P=0.04221152 < 0.05$ ) were found to have the greatest impact on the consumer attitude towards mobile advertising based on SMS's frontline, however, the impact of Giving Benefit ( $\beta=0.1834$ ,  $T\text{-value}=2.1865 > 1.96$ ,  $P=0.03030829 < 0.05$ ) and Language Format ( $\beta=0.1991$ ,  $T\text{-value}=2.0184 > 1.96$ ,  $P=0.04530833 < 0.05$ ) and Relevance ( $\beta=-0.1601$ ,  $T\text{-value}=2.0487 > 1.96$ ,  $P=0.00794873 < 0.01$ ) are less impact on the consumer attitude towards mobile





advertising based on SMS's frontline. Nevertheless, all five hypotheses (H1, H2, H3, H4, and H5) were supported. We discuss about the results in the next section.

## CONCLUSIONS

The purpose of this research was to identify the role that can be played by the SMS's frontline in mobile advertising based on consumer attitude. To measure that this research identified a number of factors and they are; Getting Benefit, Giving Benefit, Language Format, Relevance, and Organization, then studied the influences of them on the mobile advertising concerning the consumer attitude. It presented a research model and proposed five hypotheses. After managing the collected data and statistical analysis, the current study demonstrated that all hypotheses were supported. The research model possessed enough predictive power to show that the research had significance. The research's factors described a percentage of variance (48.2%) in the dependent variable of the model to stand up for the relevance of the study and this number ( $R^2 = 0.482$ ) is considered moderate level. In other words, the results indicates that the five predictors explained 48.2 percent of the variation in the attitude towards mobile advertising ( $R^2=0.482$ ). Getting Benefit, Giving Benefit, Language Format, and Organization were found to significantly and positively influence the prediction customers attitude towards mobile advertising ( $\beta=0.3423$ ,  $P=0.00005617$ ), ( $\beta=0.1834$ ,  $P=0.03030829$ ), ( $\beta=0.1991$ ,  $P=0.04530833$ ), and ( $\beta=0.2504$ ,  $P=0.04221152$ ) respectively while Relevance construct was found to significantly and negatively influence the prediction consumer attitude towards mobile advertising ( $\beta=-0.1601$ ,  $P=0.00794873$ ). Getting Benefit, Giving Benefit, Language Format, and Organization were significant and positive meaning that the increase of these factors in the frontline of the SMS leads into the increase of the favorable attitude of consumers towards mobile advertising. Thus, hypotheses H1, H2, H3, and H5 were confirmed. Relevance was significant and negative meaning that the increase of this variable leads into the decrease of favorable attitude towards advertising through SMS. Therefore, hypothesis H4 was also confirmed.

People like the most to get benefit from receiving SMS ads in many forms such as incentives, prizes or entertainment services. This feeling or tendency to get benefit is very normal since no one wants to spend the time in reading SMS ads without any benefit that might be gained from the SMS advertising. In the second rank according to this study, the organizations can affect the attitude towards mobile advertising since consumers like to receive SMS'ads based on the brand name and the type of business. This is also acceptable because consumers usually have loyalty to particular brand names and like to follow them and know their news. Therefore, the attitude can be affected based on the brand name. After that, in the third rank, the language format has also influential effect

on the SMS advertising, since consumers are found to like receiving the SMS ads in their local language and also they can be attracted by using attractive words in the message. That's because they feel the message which in their local language is more convenient and also the wording used should be easy to read and remember. The fourth rank concerning the attitude of the consumer regarding mobile advertising is given to the Giving Benefit factor. Consumers show a positive attitude towards mobile advertising when the advertisements offer to help others, and this is normal and acceptable because of the human nature usually tend to help others, as well as the religion and culture may play role in this positive attitude. The only construct which shows negative influence on the consumer attitude is the Relevance. Actually, this is not consistent with the previous studies. This unfavorable attitude towards mobile advertising when it is related to relevant information in this study may be caused by that people like to have benefit from the SMS's ads more than getting only information although these information is relevant to them. Moreover, the thinking that SMS's ads is just fake information or not real, so, it is only for marketing, in other words, they might not trust the SMS ads. Another point is that consumers might not reveal their personal profile or information to the advertisers or marketers because of fears of privacy.

## FUTURE WORK

This research opens up new opportunities for future studies, and they are:

- Future researchers could work with a larger sample of respondents.
- Future researchers should also develop a new scale to measure the attitude towards SMS ads in the context of message frontline.
- The factors that related to the consumer which can affect the attitude should be taking into considerations in future study.
- Special efforts may have to be made to work on how to change the negative attitudes and make them positive.
- Because this research centered only on SMS Advertising, further researches can emphasis on how the consumer's attitude will be with other possibilities offered by the mobile phone.
- Social media message should be taken into considerations in the future study.

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