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Mobile phone user's attitude toward SMS advertising

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Abstract---Mobile Advertising, a wireless media, acts as an advertising tool for promoting goods and services. The mobile phone is no longer just a communication tool since it has also become a commercial channel of products and services. Many companies are currently using mobile Advertising as a potential marketing tool and have a profound influence on day-to-day business activities. So the present work is to study the attitude and behaviour of mobile phone users toward SMS ads and their effectiveness as an advertising tool for various products and services. The primary data was collected using a questionnaire consisting of demographic factors and other factors like entertainment, credibility, and monetary benefit relevant to this study. The collected data was analyzed using Statistical tools. The results show that most of the respondents favour receiving SMS ads if their preferences are taken into consideration. Their attitude was favourable if advertisements were sent with permission which implies that permission-based advertising is a major mechanism in the field of mobile phone advertising.

Keywords---customer behaviour, mobile advertising, permission-based advertising.

Introduction

Advertising via mobile devices or mobile advertising uses interactive wireless media to transmit advertising messages to customers with the overall goal to promote goods and services. The mobile phone market across India is the second-largest in the world with strong consumer demand and favourable government policies are the key factors for the growth of the industry in India. Rapid

developments in mobile communication have paved the way for new advertising tools for marketers to reach their customers (Ünal, Erciş, and Keser 2011)(Watson, McCarthy, and Rowley 2013). Mobile communications have become a prominent choice for marketers and advertisers to promote products and services due to their unique features and extreme diffusion rate (Sharma et al. 2021). The new marketing channels to interact with customers are crucial in increasing sales for a company. Thus, the successful application of information technology to connect marketing applications is highly prominent.

Nowadays, Information technology affects everything from daily life to business. In the business environment, it shapes not only commerce but also how companies implement their marketing strategies. SMS ads have gained importance as they can be customized according to the place, time, and interests of consumers (Scharl, Dickinger, and Murphy 2005). This technology allows increased mobility and extended services even to remote areas (Barwise and Strong 2002). There are many applications of SMS even in 2022 which includes Banking detail and OTP, Indian railways, rural population etc. More than 60 per cent of the world's population still lacks internet facilities. So, with the right execution of SMS mobile phone ads has the potential to benefit both advertisers and consumers.

The mobile phone is rapidly becoming a viable commercial marketing channel across the world. Even though companies are investing heavily in mobile marketing, the nature and implications of this channel have yet to be fully understood. The studies need to be performed to gain an insight into how to utilize it in the best possible manner. Companies are heavily focusing on promoting their products or services using mobile advertising however many fails to understand the customer perspective (Ünal et al. 2011). On the other hand, due to the overloading of SMS, customers tend to lose interest in SMS ads which fails the companies promotion for their products or services (Jiménez and San-Martin 2017). A positive attitude toward SMS advertising can increase the purchase intentions of consumers (Scharl et al. 2005). Grewal and Bart have developed a framework and identified six factors such as context, consumer, goal, market factors, elements and outcome metrics to better understand the effectiveness of mobile advertising (Grewal et al. 2016). P. Barwise and Colin Strong show that permission-based advertising and with the right execution, the mobile channel has the potential to benefit both advertisers and consumers (Barwise and Strong 2002). Customers prone to mobile technology are also more willing to experiment with new receiving advertising and have a more positive attitude towards SMS ads. (Martins et al. 2019).

Nowadays, mobile marketing adoption and acceptance are at the risk, but marketers have little ability to understand the customer perspective. Figure 1 shows the flowchart indicating the factors affecting attitude towards SMS advertising. Entertainment, and information, are the factors which explain the purchase intention of consumers. Credibility and irritation are the factors due to which respondents show a negative attitude towards SMS ADS. This study analyses the effectiveness of SMS ads and the attitude among mobile phone users to figure out whether SMS acts as an effective advertising tool.

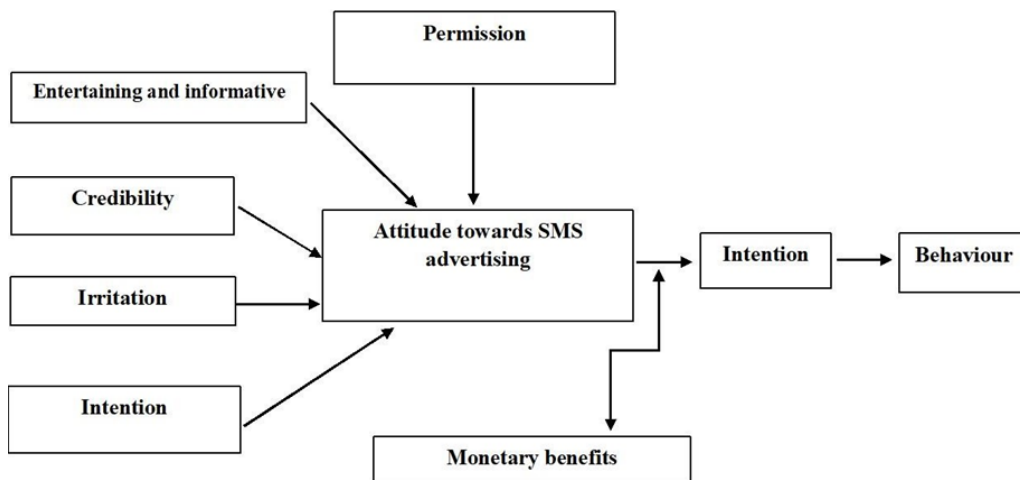


Figure 1. Factors affecting attitude towards SMS advertising

Material and Method

Sample and assessment instrument

Figure 2 shows the location of the study. The survey data was collected from Chennai city, Tamilnadu, India which is located at latitude 13.0827° N and longitude 80.2707° E. Chennai is the capital city of Tamilnadu state in the Indian subcontinent and it is one of the largest cities in area and population as well. Chennai is the sixth-largest urban city in India by population and 30th largest city in the World (Department of Economic and Social Affairs 2019). Geographically Chennai is well connected with all modes of transport by road, rail, air, and sea. It has an international airport and seaport. It is divided area-wise into north, south and central Chennai. So considering all the geographical and demographical factors, we consider Chennai as the study area. Specifically, South Chennai populations are considered for data collection which has the more urban population, software industries and developing infrastructure (Electronics Corporation of Tamil Nadu limited 2015). The Census is an official government count or survey conducted to determine the population. The census of Chennai, Tamilnadu has to be undertaken every 10 years and it was last taken in the year 2011 when the population was around 4.6 million (Department of Economics and Statistics 2020). In the year 2022, it is forecasted at 11.5 million (Department of Economic and Social Affairs 2019). The sample size (n) is calculated by using Cochran's statistical formulae (Cochran 1952)(Madow 1968):

Where n_0 is calculated as

$$\frac{n_0}{1 + \frac{n_0}{N}} \quad (1)$$

Where,

$$= \frac{n_o}{Z^2 * p * q_e} \quad (2)$$

Z = score determined using Z- score table based on the confidence level (margin of error).

p = estimated proportion of population (i.e p =0.5).

q = (1- p).

e = Margin of error (it can be 1% or 5%). N = known population (i.e 11.5 million). The margin of error of 5% is taken, and

Z score based on the margin of error is 1.96 (taken from the Z score table).

If we substitute in the equation (2) we get the n0 value as 384. Since the population of Chennai is huge, the denominator value of equation (1) becomes negligibly small. So, the sample size calculated using Cochran's statistical formulae is 384. So the 384 samples were collected in the various location of the south Chennai zone such as Mylapore, Guindy, Alandur, Velachery etc out of which 54 were discarded as some of them were left unanswered by the respondents. Finally, 330 samples were used for our studies. A convenience sampling method was adopted. A structured questionnaire on a five-point Likert scale from strongly agree (1) to strongly disagree (5) was implemented to collect primary research data. The research model has two sub-division with questions based on the demographic information and attitudes of the respondents towards SMS ads. The collected data was analyzed using the Statistical tools Package for Social Sciences (SPSS) to arrive at the results.

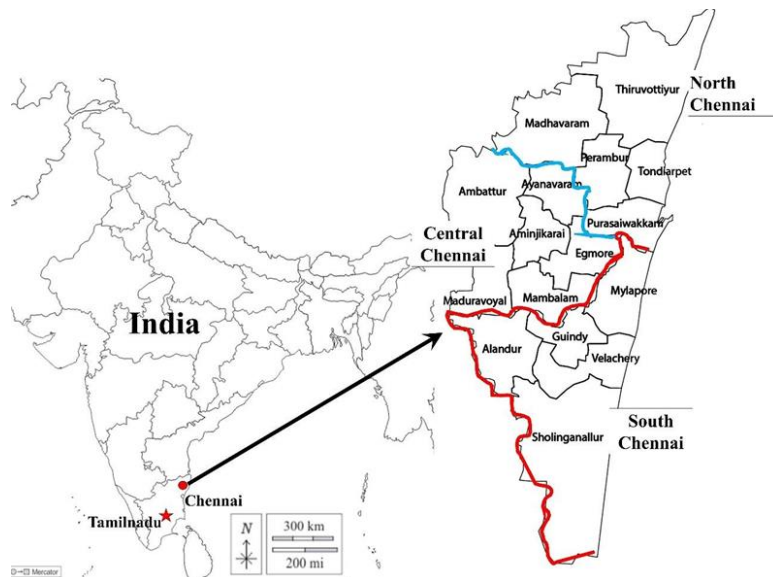


Figure 2. Study area – South Chennai administrative boundary (“<https://D-Maps.Com/m/Asia/India/Inde/Inde16.Svg>” n.d.)

Data analysis, results and discussions

In this study, the Garrett ranking method, chi-square analysis, and K- means clustering is used to analyze the collected data which is in line with the objectives of the study. The analysis and the results arrived is discussed below.

Demography profile

The Demographic profile is used to better understand the background characteristics of respondents. The demographic profile of the respondents consists of variables such as gender, age, education, monthly income, marital status and Occupation. From Table 1, it is found that the majority of the respondents are female between the age group 20-30, postgraduates whose monthly family income is between INR 20,000 to 30,000.

Table 1
Demography profile of Mobile phone users

Variable	Items	Percentage
Gender	Male	19.2%
	Female	80.8%
Age	20-30 years	68.5%
	31-40 years	16.7%
	41-50 years	7.5%
	Above 50 years	7.5%
Education	Higher secondary	5%
	Graduate	38.33%
	Postgraduate	50%
	Professional degree	5.83%
	others	1%
Occupation	Student	41.7%
	Government employee	6%
	Private employee	13.33%
	Professional	20%
	Self-employed	13.33%
	Others	5.833%
Marital status	Married	37.5%
	Single	62.5%
Monthly family income	≤ 20000	15%
	21000 – 30000	32%
	31000 – 50000	30%
	>50000	23%
Total		330 respondents

Reliability of the scale

Reliability is a measure of stability or consistency. Reliability is most commonly tested in a survey/questionnaire that forms a scale to determine if the scale is

reliable. Cronbach's alpha test is the most common measure of internal reliability which is given by the following formulae:

$$\alpha = \frac{N \cdot \bar{c}}{(N-1) \cdot \bar{v}} \quad (3)$$

Where N is the number of items, $\bar{c}$ is the average inter-item covariance between the items and $\bar{v}$ is the average variance. From Cronbach's alpha Reliability test result, when a ≥ 0.9 , the internal consistency is considered to be Excellent. If the calculated a ranges in $0.8 \leq a < 0.9$, $0.7 \leq a < 0.8$, $0.6 \leq a < 0.7$ and $0.5 \leq a < 0.6$ then the Internal consistency considered to be Good, Acceptable, Questionable and Poor respectively. Finally when $a < 0.5$, the internal consistency is Unacceptable. From the Cronbach's Alpha test, the reliability coefficient for the items is 0.814. This study proceeds with a good internal consistency with Cronbach's Alpha test, hence the study proceeds.

Statistical analysis using SPSS

Figure 3 shows the schematic of various statistical analyses used such as the Garrett ranking technique, chi-square test and cluster analysis to analyze the collected data. The Garrett ranking is used to find the effect of SMS ads on the respondents where ten factors are listed in the questionnaire and the respondents are asked to rank those factors. The Chi-square test is used to find whether there is an association between the age and impact of receiving SMS ADS by the respondents. Finally, the Cluster analysis is used to group respondents on the factors concerned with the attitude and behavior of mobile phone users. All these analyses are used to find the effectiveness of SMS advertisements on the respondent.

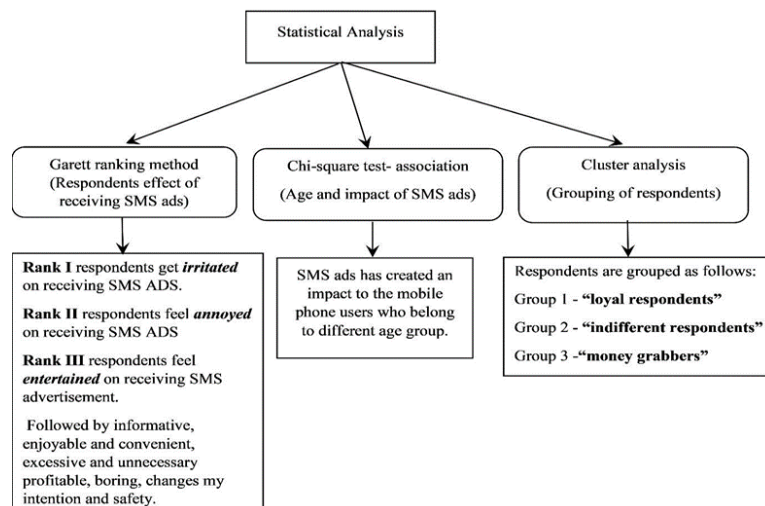


Figure 3. Schematic of statistical analysis used to analyze the collected data

Garrett ranking

Garrett's ranking technique is used to find the most significant factor which influences the respondent. In this method, respondents have been asked to assign rank from 1-to 10 for factors such as "Entertaining, Informative, and Enjoyable and convenient, Profitable, Irritating, Annoying, Excessive and unnecessary, Boring, Changes my intention, Safety" and the outcome of such ranking has been converted into score value with the help of the following formula:

$$\text{Percent position} = 100 (R_{ij} - 0.5) / N_j \quad (4)$$

Where R_{ij} is the Rank given for the i^{th} variable by j^{th} respondents and N_j is the number of variables ranked by j^{th} respondents. Table 2 shows the calculation of percentage position. Table 3 shows the Henry Garrett table. With the help of Garrett's Table, the per cent position as calculated in Table 2 is converted into scores which are shown in Table 4. Then for each factor, the ranks given by each respondent are counted to arrive at the mean value of the scores. Table 5 shows the Garrett rank and the mean scores. The factors having the highest mean value is considered to be the most important factor and ranked first (highlighted in yellow in Table 5).

Table 2
Percentage Positions

Rank	Formula	Percentage position
1	$100(1-0.5)/10$	5
2	$100(2-0.5)/10$	15
3	$100(3-0.5)/10$	25
4	$100(4-0.5)/10$	35
5	$100(5-0.5)/10$	45
6	$100(6-0.5)/10$	55
7	$100(7-0.5)/10$	65
8	$100(8-0.5)/10$	75
9	$100(9-0.5)/10$	85
10	$100(10-0.5)/10$	95

Table 3
Henry Garrett table showing percentage and score (Henry E. Garrett 1926).

S. No	Percentage	Score	S. No	Percentage	Score	S. No	Percentage	Score
1	0.09	99	35	22.32	65	69	83.31	31
2	0.2	98	36	23.88	64	70	84.56	30
3	0.32	97	37	25.48	63	71	85.75	29
4	0.45	96	38	27.15	62	72	86.89	28
5	0.67	95	39	28.86	61	73	87.96	27
6	0.78	94	40	30.61	60	74	88.97	26
7	0.97	93	41	32.42	59	75	89.94	25
8	1.18	92	42	34.25	58	76	90.83	24
9	1.42	91	43	36.15	57	77	91.67	23

10	1.68	90	44	38.06	56	78	92.45	22
11	1.96	89	45	40.01	55	79	93.19	21
12	2.28	88	46	41.97	54	80	93.84	20
13	2.69	87	47	43.97	53	81	94.49	19
14	3.01	86	48	45.97	52	82	95.08	18
15	3.43	85	49	47.98	51	83	95.62	17
16	3.89	84	50	50.00	50	84	96.11	16
17	4.38	83	51	52.02	49	85	96.57	15
18	4.92	82	52	54.03	48	86	96.99	14
19	5.51	81	53	56.03	47	87	97.37	13
20	6.14	80	54	58.03	46	88	97.72	12
21	6.81	79	55	59.99	45	89	98.04	11
22	7.55	78	56	61.94	44	90	98.32	10
23	8.33	77	57	63.85	43	91	98.58	9
24	9.17	76	58	65.75	42	92	98.82	8
25	10.06	75	59	67.48	41	93	99.03	7
26	11.03	74	60	69.39	40	94	99.22	6
27	12.04	73	61	71.14	39	95	99.39	5
28	13.11	72	62	72.85	38	96	99.55	4
29	14.25	71	63	74.52	37	97	99.68	3
30	15.44	70	64	76.12	36	98	99.8	2
31	16.69	69	65	77.68	35	99	99.91	1
32	18.01	68	66	79.17	34	100	100	0
33	19.39	67	67	80.61	33			
34	20.93	66	68	81.99	32			

Table 4
Percentage Positions and their corresponding Garret score

Rank	Formula	Percentage position	Garrett scores
1	$100(1-0.5)/10$	5	82
2	$100(2-0.5)/10$	15	71
3	$100(3-0.5)/10$	25	63
4	$100(4-0.5)/10$	35	58
5	$100(5-0.5)/10$	45	53
6	$100(6-0.5)/10$	55	48
7	$100(7-0.5)/10$	65	43
8	$100(8-0.5)/10$	75	37
9	$100(9-0.5)/10$	85	30
10	$100(10-0.5)/10$	95	19

From Table 5, using Garrett's ranking method, Rank I showed that respondents get *irritated* on receiving SMS ADS. Rank II depicts that respondents feel *annoyed* on receiving SMS ADS and Rank III shows that some of the respondents feel *entertained* on receiving SMS ADS, followed by informative, enjoyable and convenient, excessive and unnecessary profitable, boring, and changes my intention and safety.

Table 5
Garett rank and scores for the effects of using SMS ads

FACTORS	MEAN SCORES	RANKS
Irritating	60.50	1
Annoying	57.85	2
Entertaining	57.03	3
Informative	56.47	4
Enjoyable and convenient	50.05	5
Excessive and unnecessary	49.07	6
Profitable	48.32	7
Boring	44.57	8
Changes my intention	42.93	9
Safety	37.93	10

Chi-square test

The Chi-square test is used for comparing a sample variance to a theoretical population variance. It is given by the formula.

$$\chi^2 = \sum \frac{(O-E)^2}{E} \quad \text{..... (5)}$$

where O is the Observed Frequency and E is the Expected Frequency. The Chi-square test shows the significant association between age group and the impact of SMS ads on mobile phone user life. The null hypothesis H_0 is There is no significant association between the age group and the impact of SMS ads on mobile phone user's life.

Table 6 shows the tabulation of the age group of respondents and the impact of SMS ads. The rows of the table show the age group and the column shows the impact of SMS ads. Table 7 shows the association between the age group and the impact of SMS ads on mobile phone user's life.

Table 6
Shows the cross-tabulation of age Group * the impact of SMS ads on mobilephone user's life

Age Group	Impact of SMS ads					Observed Frequency $O = (a) + (b) + (c) + (d) + (e)$
	Greater positive impact (a)	Slight positive impact (b)	No impact (c)	Greater negative impact (d)	Slight negative impact (e)	
Age < 20	4	8	5	7	6	30
20 < Age ≤ 30	15	18	14	20	13	80
30 < Age ≤ 40	12	15	13	14	11	65
40 < Age ≤ 50	12	21	14	10	19	76

Age >50	21	18	14	12	14	79
Total	64	80	60	63	63	330

The observed value calculated from equation (5) is 59.195. The degree of freedom for Table 6 is (no. of Column -1) X (no. of rows -1) which is found to be 16. Using the Chi-Square distribution plot (Kissell and Poserina 2017), the expected chi-square value is found to be 26.30 for the 5% level of significance. If the observed value > the expected value, the null hypothesis H_0 is rejected and the alternative hypothesis is accepted. So there is a significant association between the age group of respondents and the impact of the mobile phone users and the SMS ads create a different impact on respondents who belong to different age groups.

K-means cluster analysis

Cluster analysis is a major technique for classifying a ‘mountain’ of information into manageable meaningful piles. It is a data reduction tool that creates more manageable subgroups than individual data and is used for similar group respondents. The K-Means cluster analysis is the inbuilt add-on in SPSS software which is used to perform cluster analysis (Fricker 2001). In this study, the researcher used K-Means cluster analysis to group the respondents on the factors concerned with the attitude and behavior of mobile phone users. Cluster analysis is applied for the factors concerned with the attitude and behavior of mobile phone users to group the respondents who show similar attitudes towards SMS ads. Table 7 shows the cluster where the respondents are divided into three groups.

Table 7
Final cluster centre concerned with attitude and behavior of mobile phone users

Questions	Cluster		
	1	2	3
I usually make purchase decisions based on SMS ads	3.00	2.12	3.34
SMS ads have led me to buy more quantities of the same product	4.00	2.17	3.15
SMS ads have led me to buy another brand which I do not regularly buy	3.00	1.67	2.98
I think SMS ads received on my mobile phone help to reduce the time to search for products and services	3.00	2.26	2.58
I feel that SMS ads in the local language are convenient	3.00	1.97	2.62
I feel that spam may occur	3.00	1.91	3.21
lack of knowledge to operate mobile is one of the problems in accepting SMS ads	3.00	2.20	2.72
I will accept SMS ads if were given financial incentives	2.00	2.03	2.62

Table 8 shows the cluster where the respondents are grouped into three groups based on the responses received. Group 1 respondents are those who show a very strong or favourable attitude towards SMS ADS and make purchase decisions based on SMS ADS. Hence they can be named “*loyal respondents*”. The Group 2 respondents do not always make purchase decisions based on SMS ADS and show a weak attitude or interest in SMS ADS. That they do not stick to a single product so they can be named “*indifferent respondents*”. Finally, Group 3

respondents are interested in receiving SMS ADS if they are provided with financial incentives and show a moderate attitude towards SMS ADS. Hence they can be named “*money grabbers*”.

Table 8
Cluster of groups concerned with attitude and behavior of mobile phone users

Questions	Cluster		
	Group 1	Group 2	Group 3
I usually make purchase decisions based on SMS ads	weak	moderate	strong
SMS ads have led me to buy more quantities of the same product	strong	weak	moderate
SMS ads have led me to buy another brand which I do not regularly buy	strong	weak	moderate
I think SMS ads received on my mobile phone help to reduce the time to search for products and services	strong	weak	moderate
I feel that SMS ads in the local language are convenient	strong	weak	moderate
I feel that spam may occur	moderate	weak	strong
lack of knowledge to operate mobile is one of the problems in accepting SMS ads	strong	weak	moderate
I will accept SMS ads if were given financial Incentives	weak	moderate	strong

From Table 9, out of 330 respondents, 121 respondents belong to group I, and are named as loyal respondents. A total of 99 respondents belong to group II, and are named Indifferent respondents and finally, 110 respondents belong to group III, they are named Money grabbers.

Table 9
Shows the number of cases in each cluster

Cluster	Total
1. loyal respondents	121
2. Indifferent respondents	99
3. Money grabbers	110
Valid	330

In summary, SMS advertising is part of the larger picture of mobile marketing, and it is necessary to investigate consumers' acceptance and response. Many companies tend to use or have used it, but the results are disappointing. Although there are good reasons for considering mobile and SMS channels as a powerful method for a marketing campaign, consumer requirements, need and preference should be considered. The permission-based advertising with additional benefits has the potential to benefit both advertisers and consumers. The results indicate that consumer attitudes toward SMS ads are strongly negative and these attitudes affect consumer intentions to receive SMS ads.

Conclusion

From the analysis, the majority of the respondents (around 40%) are in favour of receiving SMS ads if their preferences are taken into consideration before sending the ads. A small percentage of mobile users get angry (around 15%) while getting SMS ads due to inconvenience caused at times when they are busy, especially during working hours. Thus, the advertisers need to consider the time convenience of the customers while sending the SMS ads. 30% of the customers feel that SMS advertisements are disturbing their privacy. So the mobile company has to take care in improving the customer perspective towards SMS ads. Various strategies can be adopted such as gifts, vouchers; discounts etc. for promoting SMS based advertisement. Some of the customers (around 15%) feared spam, so marketers need to ensure that they send only relevant information to targeted consumers. So it can be concluded that permission-based advertising followed by other strategies such as gift vouchers, discounts etc. can make a big impact on SMS marketing and develop trust among the customers.

Recommendation

In the light of the current research findings and conclusions, the study recommends that, future researchers could use a bigger sample of respondents. Future researchers should also develop a new scale to measure overall attitudes towards SMS advertisements, which incorporates more items. Furthermore, efforts may have to be made to know what factors really contribute to negative attitudes toward mobile advertising, and how attitudes can be changed. Practitioners may use the findings to design marketing programs with mobile marketing programs with mobile advertisements that create positive attitudes and avoid possible negative effects. The Issue Permission based marketing, the sending of SMS advertisements to only those who have agreed to receive promotional information, is an important element for the success of SMS advertising. It should be considered in future researches. Consumer attitudes toward SMS have a profound effect on SMS marketing. The studies can be extended to other mobile applications like WhatsApp, Facebook, Instagram and other applications to study the consumer attitudes toward the effective marketing tool or advertising mediums.

References

- Barwise, Patrick and Colin Strong (2002), "Permission-Based Mobile Advertising," *Journal of Interactive Marketing*, 16(1), 14–24.
- Cochran, W.G. (1952), "The Chi-Square Test of Goodness of Fit," *The Annals of Mathematical Statistics*, 23(3), 315–45.
- Department of Economics and Statistics (2020), *Tamilnadu Statistical Hand Book 2020*. Electronics Corporation of Tamil Nadu limited (2015), *Thirty Ninth Annual Report 2015-16*, A Government of Tamil Nadu Undertaking.
- Department of Economic and Social Affairs (2019), "Www.Un.Org/En/Global-Issues/Population," *United Nations Publications*.
- Fricker, Ronald D (2001), *A Handbook of Statistical Analyses Using Stata*, 43
- Henry E. Garrett (1926), *Statistics in Psychology and Education*, Paragon International Publishers. "https://D-

- Maps.Com/m/Asia/India/Inde/Inde16.Svg" *d-maps*.
- Jiménez, Nadia and Sonia San-Martín (2017), "Attitude toward M-Advertising and m- Repurchase," *European Research on Management and Business Economics*, 23(2), 96– 102.
- Kissell, Robert and Jim Poserina (2017), "Advanced Math and Statistics," *Optimal Sports Math, Statistics, and Fantasy*, 103–35.
- Madow, William G. (1968), "Elementary Sampling Theory," *Technometrics*, 10(3), 621–22.
- Marketing*, 34,3–14.
- Martins, José, Catarina Costa, Tiago Oliveira, Ramiro Gonçalves, and Frederico Branco (2019), "How Smartphone Advertising Influences Consumers' Purchase Intention," *Journal of Business Research*, 94, 378–87.
- Scharl, Arno, Astrid Dickinger, and Jamie Murphy (2005), "Diffusion and Success Factors of Mobile Marketing," *Electronic Commerce Research and Applications*, 4(2), 159–73.
- Sharma, Anshuman, Yogesh K. Dwivedi, Vikas Arya, and Muhammad Qutubuddin Siddiqui (2021), "Does SMS Advertising Still Have Relevance to Increase Consumer Purchase Intention? A Hybrid PLS-SEM-Neural Network Modelling Approach," *Computers in Human Behavior*, 124, 106919.
- Technometrics. Grewal, Dhruv, Yakov Bart, Martin Spann, and Peter Pal Zubcsek (2016), "Mobile Advertising: A Framework and Research Agenda," *Journal of Interactive*
- Ünal, Sevtap, Aysel Erciş, and Ercan Keser (2011), "Attitudes towards Mobile Advertising – A Research to Determine the Differences between the Attitudes of Youth and Adults," *Procedia - Social and Behavioral Sciences*, 24, 361–77.
- Watson, Catherine, Jeff McCarthy, and Jennifer Rowley (2013), "Consumer Attitudes towards Mobile Marketing in the Smart Phone Era," *International Journal of Information Management*, 33(5), 840–49.