



# A Study on Mobile Marketing Trends and Their Influence on Generation X Consumers in Chennai

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## ABSTRACT

With the age of fast-evolving digital technologies, mobile marketing has turned out to be a major player among consumer-brand relationships. Consumers, though, vary greatly in the way they feel about, interact with, and react to mobile marketing initiatives. It aims at capturing consumers based on behavioral styles, emotional sentiments, and levels of trust toward mobile advertising through k-means clustering. Data from 136 respondents were used to determine patterns in channel involvement, purchasing behavior, ad frequency exposure, influence, and trust. Two groups of consumers emerged from the clustering: one that was moderately trusting but emotionally disconnected, and the other highly open to receiving messages but less trusting. ANOVA tests were used to identify which variables differentially distinguish the clusters. Contrary to expectation, the preferred channel and content type were not statistically significant factors, while affect- and influence-based measures had a larger influence. The results provide practical recommendations for mobile marketers to develop more personalized and effective mobile campaigns, and enrich the literature on segmentation in digital marketing environments.



## **Introduction**

As smartphone adoption and mobile internet usage have seen explosive growth, mobile marketing has emerged as one of the most powerful methods of engaging consumers in real-time. Marketers are increasingly using mobile ads, SMS promotions, in-app messages, and location-based offers to draw consumer attention. Yet, while this expansion is taking place, there is no single approach to mobile advertising. Consumers differ in terms of their responsiveness, degree of trust, emotional susceptibility, and channel choice. It is crucial for brands seeking to personalize and optimize their engagement to understand these differences.

The necessity of consumer-focused approaches has resulted in the application of data-driven methods, including cluster analysis, to delineate significant subgroups in the market. Clustering enables segmentation by behavior and attitude instead of demographics. The current research uses k-means clustering to partition mobile users into segments based on important mobile marketing characteristics, and ANOVA to confirm the importance of these differentiators. The findings have theoretical and practical implications for mobile advertising.

## **Objectives**

Segment different customers according to their behavior and attitudes towards mobile marketing.

Identify the variables that meaningfully distinguish these customer groups.

## **Scope of the Study**

The current study is limited to exploring the behavioral and attitudinal dimensions of mobile marketing among consumers. The data used are from 136 valid respondents, making it possible to employ complete observations for analysis without missing values. The scope includes the assessment of different attributes including the most utilized engagement channel, purchase behavior from marketing campaigns, frequency of receiving mobile ads, emotional responses, perceived impact of marketing campaigns, nature of content that affects purchasing decisions, and trust in the information conveyed via mobile advertising.



The research makes use of k-means clustering to cluster users into groups by means of these variables and employs ANOVA to assess statistical significance among the groups. The cultural or geographic context is not a constraint within the data, and the results can be generalized to equivalent user bases in online markets. Yet the analysis is strictly quantitative and does not examine qualitative motivations or psychographics in detail.

### **Need for the Study**

With mobile devices at the heart of consumers' lives, the number of marketing messages that reach consumers through mobile channels has risen exponentially. Yet, such saturation tends to result in ad fatigue, mistrust, and message avoidance unless there is well-targeted and personally relevant marketing. Demographic or purchase history-based segmentation approaches inadequately capture the emotional and psychological dynamics of consumer behavior in mobile settings.

This research fills this lacuna by examining deeper patterns of user perception and response to mobile advertising. Through consumer segmentation on the grounds of trust, emotional reaction, and advertisement influence, marketers can go beyond initial profiling towards more advanced and psychologically informed targeting. This is essential to enhance click-through rates, campaign efficacy, and customer satisfaction in mobile environments.

### **Statement of the Problem**

Despite growing investment in mobile marketing technologies and platforms, numerous brands are unable to create significant engagement and conversion. One of the main problems revolves around the assumption that consumers will act homogeneously and respond alike to mobile marketing activities. Consumer behavior actually varies immensely depending on trust, emotional engagement, frequency of exposure, and preferences for content.

The issue this research addresses is uncertainty surrounding what specific factors actually drive responsiveness among mobile marketing users. Without knowing, marketers risk inefficiently allocating resources or providing undifferentiated content, harming brand image. This research will investigate whether useful consumer segments exist along behavioral and perceptual dimensions, and what variables are statistically significant in distinguishing them.



## Literature Review

The evolution of mobile marketing has reshaped the way brands communicate with consumers. As mobile devices become ubiquitous, marketers have increasingly shifted their focus from traditional channels to mobile-based advertising, including SMS, push notifications, and in-app ads (Shankar & Balasubramanian, 2009). Studies show that mobile marketing, when executed effectively, can enhance personalization, immediacy, and user engagement (Kaplan, 2012).

However, mobile marketing is not universally well-received. Some consumers perceive it as intrusive or irrelevant, which may affect both trust and engagement (Tsang, Ho, & Liang, 2004). Trust, in particular, has emerged as a key variable influencing consumers' willingness to engage with and act upon mobile advertisements. Research by Siau and Shen (2003) emphasizes that perceived credibility and relevance are necessary precursors to mobile advertising acceptance.

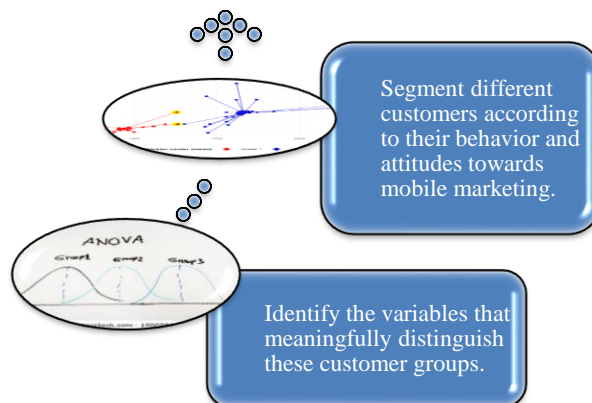
Behavioral segmentation has long been used in marketing to group consumers based on actions and preferences. The application of cluster analysis, especially **k-means clustering**, allows researchers to segment users beyond demographic factors, incorporating psychographic and behavioral dimensions (Punj & Stewart, 1983). Studies such as those by Xu et al. (2009) have successfully used clustering to identify mobile users with varying responses to marketing stimuli.

Despite these insights, gaps remain in understanding which variables meaningfully differentiate consumers in the mobile marketing landscape. While some prior studies focus on frequency of use or device types, fewer have examined the intersection of **emotional response**, **trust**, and **perceived influence** in shaping mobile marketing effectiveness.

This study contributes to the existing body of knowledge by integrating multiple behavioral and perceptual factors to form a more nuanced understanding of consumer segmentation in mobile advertising contexts.

## Methodology

### Research Design



This investigation employs a quantitative and exploratory research approach to determine consumer segments through their engagement with mobile marketing. A non-probability sampling technique was employed in the collection of responses from 136 participants, ensuring that a variety of attitudes and behaviors were represented.

### Data Collection

**Data was collected using a structured survey instrument containing items about:**

- Channels of mobile engagement preferred
- Buying behavior from marketing efforts
- How often exposed to mobile advertisements
- Emotional reaction to mobile marketing
- Behavioral impact of mobile marketing
- content types that influence purchasing decisions
- Trust in mobile marketing messages
- Responses were captured using a 5-point Likert scale when necessary.
- Data Analysis Techniques

### 1.K-means Clustering:

Employed to cluster the respondents into groups according to similarities across several variables. The algorithm was configured to form two clusters, with consideration given to preliminary analysis as well as interpretability.

### 2.Iteration and Convergence Check:

The clustering process converged within 7 iterations with a last maximum cluster center change of 0.000, suggesting the stability of clusters. The initial cluster center distance was



7.211, which was strong proof of separate group separation.

### 3. ANOVA (Analysis of Variance):

Used to determine which variables were significantly different between clusters. Although there were no significant differences in some behavioral variables (e.g., channel use, content type), affective and influence-based variables were predicted to be better discriminators.

### 4. Cluster Center Interpretation:

Cluster final centers were studied to mark clusters according to their traits (e.g., "Engaged Skeptics" or "Cautious Trusters").

Initial Cluster Centers		
	Cluster	
	1	2
Channel engage most	1.00	4.00
purchase through Marketing campaign	1.00	2.00
frequency receive mobile advertisement	1.00	4.00
Feel about mobilr advertising	2.00	5.00
Rate influence mobie Marketing	3.00	1.00
content most influence mobile adverting	5.00	1.00
Trust about mobile marketing information	3.00	1.00

#### Cluster 1: The Cautious Traditionalist

- More likely to prefer traditional or simpler channels.
- Less likely to receive ads.
- A bit skeptical but pretty much influenced by mobile marketing.
- Influenced by rich content.
- Moderately trusts mobile marketing.



### Cluster 2: The Engaged Enthusiast

- Active on social or modern channels.
- Tends to get and react to mobile ads frequently.
- Very enthusiastic about mobile advertising.
- However, not much influenced or trusting—admires ads but doesn't respond to them so much.
- More likely to like simple or straightforward content.

Final Cluster Centers		
	Cluster	
	1	2
Channel engage most	2.74	3.38
purchase through Marketing campaign	1.44	1.39
frequency receive mobile advertisement	1.71	1.73
Feel about mobile advertising	1.54	3.88
Rate influence mobile Marketing	1.96	3.39
content most influence mobile advertising	2.36	3.03
Trust about mobile marketing information	2.76	2.12

Variable	Cluster 1	Cluster 2	Interpretation
Channel engage most	2.74	3.38	Cluster 2 uses more contemporary or digital channels, Cluster 1 is more toward old or less interactive channels.



Variable	Cluster 1	Cluster 2	Interpretation
			.
Purchase through marketing campaign	1.44	1.39	Both clusters hardly ever buy from campaigns, showing low conversion for both groups. Not an important differentiator.
Frequency receive mobile advertisement	1.71	1.73	Extremely similar; both get mobile ads very infrequently. Not an important point of differentiation again.
Feel about mobile advertising	1.54	3.88	Significant difference: Cluster 2 has a positive sentiment, while Cluster 1 is negative or neutral.
Rate influence mobile marketing	1.96	3.39	Cluster 2 is significantly more impacted by mobile marketing.
Content most influence mobile advertising	2.36	3.03	Cluster 2 likes richer or more dynamic content, whereas Cluster 1 likes less complex content.
Trust about mobile marketing information	2.76	2.12	Cluster 1 is more trustworthy despite being less influenced. Cluster 2 is less sceptical but more influenced.

#### Cluster 1: The Sceptical Observer

- Low emotional engagement and low influence for mobile ads.
- More trusting of mobile marketing compared to Cluster 2, but is not emotionally invested.





- Less interested in richer content.
- Less sensitive to marketing efforts.

### Cluster 2: The Responsive Sceptic

- More emotionally invested in mobile ads.
- More influenced by advertisements.
- Wants richer content.
- Less trusting, although more influenced and emotionally invested.

ANOVA							
			Sum of Squares	df	Mean Square	F	Sig.
Channel engage most	Between Groups		.032	1	.032	.018	.895
	Within Groups		244.608	134	1.825		
	Total		244.640	135			
purchase through Marketing campaign	Between Groups		.223	1	.223	.908	.342
	Within Groups		32.888	134	.245		
	Total		33.110	135			
content most influence mobile advertising	Between Groups		.211	1	.211	.104	.747
	Within Groups		271.193	134	2.024		
	Total		271.404	135			

The results of ANOVA reveal the comparison of variances of the two clusters for three variables: Channel engage most, Purchase through Marketing campaign, and Content most influence mobile advertising. For the variable Channel engage most, the between-groups sum of squares is extremely small (0.032) in comparison to the within-groups variance (244.608),

which gives an extremely low F-value of 0.018 and an extremely high p-value of 0.895. This implies that no statistically significant difference in marketing campaign purchase behavior exists between the two groups.

Likewise, for Purchase via Marketing campaign, the between-groups variance (0.223) is significantly less compared to the within-groups variance (32.888), resulting in an F-value of 0.908 and a p-value of 0.342. This also implies no significant difference in purchase behavior via marketing campaigns between the two groups.

Last but not least, Content has the maximum impact on mobile advertising also has a low between-groups variance (0.211) as compared to within-groups variance (271.193), with F-value of 0.104 and p-value of 0.747, affirming there is no significant difference in the content type impacting buying decisions among the clusters.

In conclusion, the ANOVA findings show that these three variables are not significant to discriminate these identified consumer clusters, i.e., they are not the key drivers of segmentation noted.

## **Discussion**

The objective of this research was to investigate whether consumer segments exist based on perceptual and behavioral reactions to mobile marketing, and to find out which variables decisively distinguish these segments. Through the application of k-means clustering, there emerged two quite balanced clusters (Cluster 1: 70; Cluster 2: 66), and each of these clusters has different psychological and behavioral characteristics.

Cluster 1, with low emotional response but moderate trust, is a more conservative user base. While they receive fewer mobile ads and respond little emotionally, they still have a decent level of trust in mobile marketing data. This indicates that though they might not respond to mobile ads frequently, they don't look at them unfavorably, so there's room for re-engagement through the correct measures.

Cluster 2, on the other hand, exhibits greater emotional positivity and impact of mobile advertisements but lower trust in the information. These consumers are more reactive and likely to take action with mobile marketing but are still dubious of the messages sent their

way. This inconsistency is consistent with previous research that emotional reaction and trust do not necessarily go hand in hand (Xu et al., 2009). It indicates the need for campaigns that not only attract but also build credibility over time.

ANOVA findings indicated that some of the standard mobile marketing segmentation variables used, like channel activity, content type, and campaign buy, were not significantly discriminatory between the segments ( $p > 0.05$ ). Emotional variables like emotional responses to mobile advertising, mobile ad influence, and trust emerged as better options for discrimination between the segments. This supports the notion that affective and perceptual variables are more valuable in contemporary digital segmentation compared to basic behavioral measures.

## **Conclusion**

The research proves that mobile marketing audiences can be segmented efficiently based on behavioral and perceptual variables with the help of cluster analysis. The discovery of two differentiated consumer groups, each having different emotional responses, influence levels, and trust, provides tangible insights to marketers who want to maximize engagement strategies.

The results reveal that conventional segmentation factors, such as ad-preference or exposure frequency, are not necessarily enough to capture consumers' behavior. Rather, trust and emotional involvement proved more essential in determining responsiveness to mobile marketing. Marketers should consider of Emphasize trust development with emotionally involved users, consider re-engagement strategies for neutral but trusting users and Move away from broad content dissemination towards targeted and credibility-oriented initiatives. Subsequent studies might build on this by including qualitative approaches or measuring demographic and cultural factors that can further enhance segmentation findings.



## References

1. 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. <https://doi.org/10.1016/j.bushor.2011.10.009>
2. Punj, G., & Stewart, D. W. (1983). Cluster analysis in marketing research: Review and suggestions for application. *Journal of Marketing Research*, 20(2), 134–148. <https://doi.org/10.1177/002224378302000202>
3. Shankar, V., & Balasubramanian, S. (2009). Mobile marketing: A synthesis and prognosis. *Journal of Interactive Marketing*, 23(2), 118–129. <https://doi.org/10.1016/j.intmar.2009.02.002>
4. Siau, K., & Shen, Z. (2003). Building customer trust in mobile commerce. *Communications of the ACM*, 46(4), 91–94. <https://doi.org/10.1145/641205.641211>
5. Tsang, M. M., Ho, S. C., & Liang, T. P. (2004). Consumer attitudes toward mobile advertising: An empirical study. *International Journal of Electronic Commerce*, 8(3), 65–78. <https://doi.org/10.1080/10864415.2004.11044301>