Clustering the Customer based on Perception Towards Financial Advertisement: A Case of India

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ABSTRACT: The purpose of the paper is to segment the customers based on perception towards the financial advertisements, demographics and psychographic characteristics. The study involves a survey of 481 respondents who are frequent viewers of the financial advertisement on various media such as television, internet, newspaper, etc. The data was collected using a self-administered questionnaire consisting of 32 statements relating to the perception developed after watching the financial advertisements. Cluster analysis of factor scores obtained on perception towards financial service advertisements presented the typology of viewers of financial advertisements. Chi-square was applied to profile the viewers based on demographic and psychographic characteristics. The study clearly defines the two clusters formulation based on the perception of financial advertisements. Two types of viewers were identified: "Optimistic" and "pessimistic. This study provides a significant contribution to the marketing professionals so to understand the variation in the Indian population regarding the perception towards financial advertisements. These clusters will help to understand the perception level towards the advertisements and help the designers to formulate a concrete advertisement that attracts the individuals.

Keywords: Cluster Analysis, Demographics, Financial advertisements, Market Segmentation, psychographics.

I. INTRODUCTION

The increased competition in the financial sector during the last decade generate necessitate for the identification of profitable customer groups and the formulation of marketing strategies according to them [14]. Service differentiation and market segmentation are the identified marketing concepts normally used for formulating effective marketing plans of banking products and services in target markets [17]. Whittle and Foster (1989) opined that customer profiling organizations can offer services according to their needs and hence meeting the customer expectations for the service quality [40]. McKechnie (1992) found that financial product purchase is complex and involves an extended period for purchase; therefore, it is important to know the potential profitability of customer profiles [43]. Customized services and messages based on customer profiling are always liked by customers as caters to the privacy of the customers [31].

The segmentation can be categorized into four broad categories such as geographic, demographic, psychographic, and behavioral segmentation. To confine an audience from large groups: demographic, geographic, and psychographic factors are commonly used as predictable and additional descriptors [3]. Cabrera *et al.*, (2004) demonstrated that with demographic profiling it is helpful for the commercial banks to market their portfolio of products and services [38]. In demographic profiling, a wide range of information on "age, income, ethnicity, marital status, education, homeownership" can be explored [17], employment, residence, and the number of household members [24].

The arena of customer profiling segmentation is an emerging and interesting topic for the researchers in the past [6, 29]. But there are limited studies that highlight the importance of the segmentation of the financial and banking customers based on the demographic factors and psychographic attributes. There are very few studies that analyze the profiling of the customers based on perception formulated after watching financial service advertisements.

Thus the objective of the present study is "To map the respondents profile with regards to his perception regarding the effectiveness of Financial Service Advertisement vis-à-vis his demographics and psychographics tendencies". The study is unique in own content as it provides insights about the thinking process of the Indian viewers and the type of opinion they formed after watching the financial advertisements. The study had identified the gap and tries to fill the gap by adding valuable insights by conducting research on the Indian population.

II. LITERATURE REVIEW

A. Market segmentation

Market segmentation is regarded as input to channelize the marketing concept, provides a way to the bank and financial companies to formulate marketing strategy and fix the resources for them [9, 10]. Market segmentation starts with the identification of different customer groups and segments according to their common characteristic. The successful segmentation leads to a positive image and leading market position [34]. The literature review depicts that consumer segmentation in financial services is heavily dependent upon the "demographic

characteristic" [22, 44, 14] and "benefit-sought from products, attitudes, lifestyles and, values" [22, 14, 3].

The marketers match their product offerings and strategies with consumer requirements based on the market's homogenous segments [45]. In the long run, market segmentation binds the customers which results in customer retention and loyalty [42] with increased satisfaction levels [15]. After the reforms of 1991 and the formulation of LPG policy, there is a drastic change in each sector. The deregulation took place in the financial sector which invites more private players to join the industry which brings more competition [14]. These changes brought the importance of identification of segments for the development of customer orientation and gaining more intimate knowledge of markets [13]. Thus, segmentation schemes, which "recognize the importance of concentrating on the needs of homogeneous groups within a larger heterogeneous market," have become the first choice for the majority of financial services providers [16].

Market segmentation in the financial industry can be done based on "socio-demographic, psychographic and behavioral variables" for the classification of customers [18]. Various researchers have suggested multiple or hybrid market segmentation bases in the case of the financial industry [22, 35]. Using the hybrid segmentation way homogenous groups can be generated [46]. The hybrid approach has the strength in terms of various features, advantages, and benefits which can ease the process of classification of customers into homogenous groups. Various researchers such as [47] use the demographic variable for classification of Canadian financial products purchasing customers. Alfansi and Sargeant (2000) used personal characteristics to divide the bank customer getting the benefits of using banking services [1]. Fünfgeld and Wang (2009) used financial attitude and behavior as a parameter for the population of Switzerland [12]. Researchers such as Liang and Pei-Ching (2015) [20] divide the customers on the basis of their "perceptions", "behavior", "loyalty", "satisfaction" and "demographic characteristics" whereas Makgosa *et al.,* (2016) [21] make the clusters on the basis of "individual saving attitudes, behavior, psychographic and demographic factors".

In the present study, the psychographic and demographic segmentation has been used to divide the heterogeneous population into the homogenous group based on perception for financial service advertisements. The study will provide useful and valuable inputs to marketers. How can this segmentation be helpful is highlighted in the following sections?

B. Psychographic segmentation

Psychographic segmentation is used by the marketers for dividing the customers based on perceptions, attitudes, and values and to develop specific marketing and communication strategies for the targeted audience [4, 19, 37]. Psychographic segmentation attempts to segment the customers on the basis of their thinking [39]. Psychographics may be thought of as useful criteria for dividing the consumers on the basis of consumer buying patterns [32]. Psychographics look at "the inner person rather than the outward expression of the person" [48]. The psychographics consists of

"attitudes, values, lifestyles, and past patronizing habits are altered, the benefits sought in specific investment situations change" [17].

In the case of financial services, companies must focus on the "perceptions", "attitudes" and "motivations" he/she has towards financial services. Psychographic segmentation focus on how the customer thinks and reacts [39]. The psychographic segmentation found to be confusing in dividing the consumers Ziff (1971). Several researchers found the personality characteristics as the important contributor in psychographics whereas others include the "attitudes, values and beliefs". Due to these confusions and contradictions, the psychographics does not emerge as an important parameter for the segmenting the market for personal financial services.

C. Demographic segmentation

In the demanding and changing current scenario, every customer wants the customization of the products and services. Therefore, financial institutions and banks need to project and customize their services to various segments. To make the commercial bank-customer relationships more effective the product offerings should be more effective [17]. With the segmentation, the various demographics such as age, gender, income, occupation, education, etc are explored and analyzed [26]. These population profiles help financial institutions and banks to market their products and services [38]. Harrison (1994) opined that in the case of the financial services industry, consumer perceptions, attitudes and the underlying motivations of consumers are the basis for segmentation [14].

Various researchers highlighted the importance of the demographic variable in the market segmentation for marketing purposes. A lot of attention is given to the demographic variable in advertising management such as "media planning" [5] "communication objectives setting" [28], "target audience identification" [8], and "creative idea-generating" [41]. Various researchers such as Bawa & Shoemaker, (1987) [2], Mela *et al.*, (1998) [23] investigated the effect of manufacturers' promotions on the sales volume which is due to purchase behavior.

Some of the researchers doubt the selection of age parameters as a demographic parameter for segmentation [6]. They opined that age is not an appropriate parameter [11] and obsolete [27]. The reason behind is people belonging to the same age group should not have the same purchasing tendencies and the same taste. Many researchers criticized the use of demographics such as age, race, and gender in predicting behavior [22].

III. RESEARCH METHODOLOGY

The population of India was surveyed based on their perception formulated after evaluating the promotional activities of the various financial and non-financial institutions. India is the second-largest populated country and home of 1.37 billion as per the UN data, 2019. India is the world's 7th largest country by area. India is a diverse country in terms of flora and fauna, the population which includes various religion, caste, color, and creed. From such a diverse country the area selected for the survey include Northern part and Delhi which is the capital of the country and having a

population of over 11 million. Thus, the understanding market segmentation of financial customers of northern part of country formulated based on the financial attitude and behavior is interesting for other developing countries. Furthermore, the financial customer's behavior examination can provide insights into contextual causes for the perception formulation for the banking and financial companies in such a developing and emerging biggest populated country across worldwide

A. Questionnaire Design

The questionnaire was made by extensive examination of pervious data and identifying the important parameters measuring the perception. The first draft of the questionnaire was shown to the bank manager and two marketing experts. After some modifications and removal of repetitive statements, the questionnaire was finalized. The final questionnaires consist of 32 statements related to the perceptions of the respondents towards financial advertisements. The survey asked the questions related to their Gender, Age, Education, Occupation, monthly income, marital status, no. of children, working conditions of the spouse, and Region (State). The financial investment decisions are affected by various factors such as monthly income, number of children, and the working conditions of a spouse. The final fully-fledged questionnaire was pretested on the 100 financial investors so that if any changes or suggestions came, the questionnaire can be improved before presenting to the general public.

B. Sample distribution

The final questionnaire was given to 570 respondents between March, 2019 – July, 2019. The respondents consist of financial investors, servicemen, households, students, businessmen who generally watched financial service advertisements. The respondents were initially shown the various banks, financial companies, share, and mutual funds advertisements so that they can recall the various advertisements broadcasted during that duration on the various media such as radio, television, internet, email, etc. The 89 questionnaires were discarded due to incompleteness, wrong answers, etc. The final sample consists of data from 481 respondents (84%).

IV. DATA ANALYSIS AND RESULTS

The main role of the cluster analysis is to divide the homogenous groups into the heterogeneous sub-groups known as clusters. The clusters have been divided into groups based on the perceptions towards financial service advertisements. Due to simplicity, high efficiency, and acceptable results of K-means clustering has been widely adopted [25]. Tong *et al.*, (2011) applied the algorithms which improved the accuracy of cluster results in a better way.

Table 1: Final Cluster Centers.

S. No.	Items	Cluster	
		1	2
1.	Awareness	4	2
2.	Informative	4	3
3.	Generate need	4	4
4.	Fake statement	3	4
5.	Lack of clarity	3	4
6.	Significant and creative	4	3
7.	Explicable	4.1	3.4
8.	Lessen competitive spirit	3.7	2.7
9.	Practical	3.6	4
10.	Belief on content	3.2	3.5
11.	Reminder	4.5	3.5
12.	Misinforming	2.9	3.8
13.	Impracticable	2.78	3.86
14.	Emotional target	3.54	3
15.	Enlightening	3.46	3.76
16.	Best financial deal	3.88	2.98
17.	Not helpful	2.1	4.2
18.	best value for the money	4	2.8
19.	Not a waste of money	4.7	3
20.	Won't provide the promised benefits	1.9	3.89
21.	low quality information	2	4.17
22.	No best solutions	4.1	2.7
23.	Uncomfortable	4.5	2.4
24.	Not expected results	2	3.45
25.	Doubtful on functional performance	3.12	4.31
26.	Stressful	2.1	3.91
27.	Search for information	4.71	2.3
28.	More involvement in saving money and investment	4	1.8
29.	Provides consultation	3.51	2.1
30.	Valuable	4.71	2.19
31.	Important	4.18	2.27
32.	Useful	4.16	2.2
	Number of Cases in each Cluster	251	223

The "similarity between data points is measured by the Euclidean distance in K-means clustering" [36]. The larger distance between the clusters specifies the less similarity. If the distance between clusters is less they are merged into a single one [50]. Table 1 shows the final cluster centers forming two clusters based on the psychographics of the respondents for the given 32 statements. Seven respondents are removed from the datasheet as they were forming a different cluster. ANOVA statistic has been applied to test the null hypothesis and to check the variations among the two clusters formed.

By analyzing the dendrogram of the response sheet it confirms the two clear clusters. The Dendrogram provides a rescaled distance measure between various clusters combined at various stages. Table 1 shows the final clusters formulated. The mean values of the Likert scale ranging from "1 (Strongly disagree)" to "5 (strongly agree)" is used to define the agreement and disagreement for the formed clusters.

To define the clusters, the corresponding distance between the two clusters are considered.

A. Cluster one

"Optimistic": 251 respondents appear in the first cluster and represent the people who perceive positively or neutral towards the financial service advertisement. The respondents belonging to this cluster perceive the advertisement positively in terms of generating awareness, providing information, creates demand for financial products, interesting & productive. The advertisement makes the people understand the typical terms, products will give the best returns and not wastage of money, motivates to save money and hence proved the financial service advertisement is valuable, important and useful. Majority of the positive statement comes under this which includes "Financial advertisements act as reminder for various products and services", "It is good to invest more after watching financial advertisements", "Advertisements help in information search" and "The advertisement help to provide valuable insights".

Whereas they disagree that the advertisement message shown is misleading and unrealistic. The statement includes "Financial advertisements are misleading" and "The slogans used in the advertisement found to non trustable". They also remain neutral that false claims, quite ambiguous, information is missing, meet my expectations all the time.

On the whole, it can infer from the cluster one that respondents perceive positively and remain indifferent towards the negative aspects related to financial service advertisement.

B. Cluster two

"Pessimistic": 223 respondents fall under the second cluster and represent the respondents who negatively perceive the financial service advertisement. They agree with the negative aspects of the financial service advertisement such as "Financial services advertisements generate the need", "Financial advertisement make false promises and commitments",

"Financial advertisements help to neutralize competition effect", "Advertisements help to take wise decision", " Financial advertisements don't offer proper solution", "The financial advertisement help to take proper decisions". They remain indifferent towards the interest creation, productivity of the advertisement, bad impact of advertisement, the best deal out of the advertised ones.

Table 2 depicts the distances between the final cluster centers which means how individual pairs of the cluster are separated. Malhotra (2005) demonstrated that if the observed clusters are widely different and separated then it is acceptable. Therefore, in the present study, two identified clusters are different and separated which is represented by the two groups of respondents [52].

Table 2: Distances between Final Cluster Centers.

Cluster	1	2
1		4.208
2	4.208	

ANOVA tool is used to predict the variation between the two clusters. Table 3 predicts that the F- values >3 and p-value is < 0.05, which results in the rejection of H_{01}.

Anova statistics indicated that both the clusters vary significantly amongst each other with respect to the different variables pertaining to financial service advertisement.

C. Demographic Segmentation of Respondents

Dividing the market based on "personal similarities and differences such as gender, age, marital status, occupation, allowance, and household structure" is known as Demographic profiling (Okazaki, 2006). The below-mentioned Table 4 shows the demographics and geographic profile of the respondents in the respective cluster. It shows the each demographic is how much related to both the clusters. An attempt was made to study whether the demographic and geographic characteristics of "gender", "age", "marital status", "experience", "qualification", "education background", "occupation", "income", "Marital Status", "no. of children", "Working Condition of Spouse", "Region (State)" play a vital role in perception towards financial service advertisement.

The relationship between the cluster membership and various demographics and geographic characteristics was studied by the chi-square analysis. The results are summarized in Table 4. It is evident from the table that all the demographic variables such as "age", "marital status", "experience", "qualification", "education background", "occupation", "income", "Marital Status", "no. of children", "Working Condition Of Spouse", are associated with the clusters formed based on perception towards the financial service advertisement. This means the gender have no association between the clusters formed based on perception towards the financial service advertisement. In the case of geographic variable such as Region (State) have a significant association between the clusters formed based on perception towards the financial service advertisement.

Table 3: Analysis of Variance.

S.No.		Cluster		Error		F	Sig.
		Mean Square	df	Mean Square	Df		
1.	Awareness	718.514	1	0.535	472	1342.493	0
2.	Informative	127.311	1	1.175	472	108.363	0
3.	Generate need	22.223	1	0.568	472	39.113	0
4.	Fake statement	3.756	1	0.831	472	4.519	0.034
5.	Lack of clarity	63.1	1	1.001	472	63.062	0
6.	Significant and creative	46.481	1	1.042	472	44.628	0
7.	Explicable	16.366	1	1.038	472	15.762	0
8.	Lessen competitive spirit	58.784	1	1.065	472	55.177	0
9.	Practical	16.365	1	0.95	472	17.221	0
10.	Belief on content	94.278	1	1.318	472	71.511	0
11.	Reminder	28.654	1	1.316	472	21.77	0
12.	Misinforming	72.57	1	1.113	472	65.23	0
13.	Impracticable	134.088	1	1.076	472	124.649	0
14.	Emotional target	59.13	1	1.145	472	51.626	0
15.	Enlightening	7.075	1	1.189	472	5.95	0.015
16.	Best financial deal	22.446	1	1.167	472	19.226	0
17.	Not helpful	16.687	1	1.21	472	13.79	0
18.	best value for the money	51.405	1	1.121	472	45.859	0
19.	Not a waste of money	120.389	1	0.704	472	171.06	0
20.	Won't provide the promised benefits	112.41	1	1.155	472	97.354	0
21.	low quality information	137.682	1	1.112	472	123.768	0
22.	No best solutions	35.279	1	1.314	472	26.843	0
23.	Uncomfortable	10.283	1	1.219	472	8.432	0.004
24.	Not expected results	97.211	1	1.065	472	91.251	0
25.	Doubtful on functional performance	82.57	1	1.039	472	16.672	0
26.	Stressful	124.088	1	1.079	472	56.177	0
27.	Search for information	60.13	1	0.99	472	18.221	0
28.	More involvement in saving money and investment	9.075	1	1.218	472	72.551	0
29.	Provides consultation	27.446	1	1.245	472	22.78	0
30.	Valuable	18.687	1	1.212	472	67.88	0
31.	Important	53.405	1	1.077	472	121.569	0
32.	Useful	111.41	1	1.078	472	99.561	0

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal

Table 4: Demographics based on clusters.

	Category (Demographics)	Cluster		Chi square	P value	Sig.
		1	2			
Gender	Male	109	91	0.332	0.564	p>0.05
	Female	142	132			
Age	Less than 25 years	18	56	153.94	0.00	p<0.05
	25-34 years	36	113			
	35-44 years	53	30			
	45-54 years	84	21			
	55 above	60	3			
Education	Upto HSC	121	15	302.5	0.00	p<0.05
	Professional	120	24			
	Graduate	2	50			
	Post-Graduate	7	130			
	Doctorate	1	4			
Occupation	Businessman	38	39	56.38	0.00	p<0.05
	Service men	58	105			
	Professional	82	62			
	Student	64	9			
	Retired	9	8			
Monthly Income	Less than 20,000	21	88	153.5	0.00	p<0.05
	Between 20,000 to 35,000	28	67			
	35,000-50,000	72	40			
	More than 50,000 ( )	130	28			
`Marital Status	Unmarried	49	115	120.5	0.00	p<0.05
	Married	84	100			
	Divorced	118	8			

No. of Children	No child	40	128	101.5	0.00	p<0.05
	Single child	83	53			
	2 Children	90	39			
	More than 2 children	38	3			
Working Condition of Spouse	Working	71	51	133.5	0.00	p<0.05
	Non Working	170	63			
	None of these	10	109			
Region (State)	Amritsar	40	49	125.5	0.00	p<0.05
	Jalandhar	40	37			
	Gurdaspur	32	20			
	Chandigarh	52	22			
	Noida	10	20			
	Gurgoan	20	15			
	Mathura	31	20			
	Agra region	7	10			
	New Delhi	21	30			

D. Mapping the profiling of two cluster segments with respect to their demographic and geographic vis-à-vis their perceptions towards the financial service advertisement

Cluster One: Respondents fall in the cluster one have a positive attitude towards financial service advertisements. The above analysis shows that in the cluster one majority of respondents who perceive positively the financial service advertisements belong to the age group 25-34 years are unmarried professionals and earning the income less than 20,000 monthly. They have the perception that financial service advertisement generates needs, understandable in nature, interesting, and reminds them.

Cluster Two: Respondents belonging to this cluster does not have a favorable attitude towards financial service advertisements. The above table shows that the respondent belonging to this cluster majority belong to the age group of 45-54 years. The majority of respondents did their qualification as higher senior secondary only. The respondents are married having 2 children and their spouses are non-working. The respondents in cluster two have a negative and indifferent approach to financial service advertisements. They perceive the financial service advertisements as misleading, bad impact, unrealistic, targets the emotions, and not helpful to them. These are the reasons they are uninterested to financial service advertisements.

V. CONCLUSION AND IMPLICATIONS

The financial decision making in India is governed by various factors such as family stage, age, gender, family income, kind of profession and many others. Sinha (2018)[33] found that 91% of millennial generally make financial decisions. Whereas only 56% invest in mutual funds, 57% of them invest in fixed deposits, a preferred instrument for risk-averse investors, and 36% in Provident Fund and Public Provident Fund accounts. Therefore due to the diversity of the Indian population and varied demands of the population, customer profiling and segmentation is very necessary. Therefore, the prime objective of this research is to the profiling of the respondents based on the perception of the financial service advertisement.

In this context, the findings of this research provide valuable insights into the segments of the Indian population based on the perception of financial service advertisements.

VI. FUTURE SCOPE

From a theoretical, the research provides empirical evidence on segmentation that reflects the demographic and psychographic traits towards the financial purchase decisions. It seems that our results are independent of cultural and economic differences, which supports the possibility of existence or emergence of homogeneous global consumer culture [51]. To best of available studies, this is the first study where demographics and psychographics are used as the basis for segmentation of the financial decision making. In this way, the current study fills the gap between the literatures.

From a practical viewpoint, the results of the research are beneficial for financial marketers to develop marketing strategies by taking into consideration the specific financial need of each cluster. Due to segmentation, the marketer can know about a detail of the Indian population such as liking/disliking, important parameters that need to be focused more, the important dimensions in the financial service advertisements. The financial policymakers and practitioners can reach the individual investor and motivate them to invest more in financial investment options that are advertised by various media [30]

To deal with the pessimistic investors the advertisements should be clear, focus on the benefits of financial planning. The warning messages should be shown in such a way so that investors should be getting any fearful message and lost interest in the investment option. For anxious savers, financial advertisement makers should focus on the security aspects of financial services to moderate their customers' anxiety [30]. More support should be paid to people who are unaware of the investment options so that their financial literacy can be increased. More specifically, the audience should be given a message to save more and earn more money by putting money in various investment options instead of doing impulsive shopping.

Thus, to reach the Indian customers, the more focus should be given to the professional females, earning the income more than 50,000 and reside in north India. The advertisement should be designed in such a manner so that respondents perceive the positive image of the financial advertisement and gain maximum benefits in terms of information, clarity, recent updates about the sector, and many more. Moreover, efforts should make the customer aware of the fake advertisements and claims which confuse the general population resulting in negative perception.

Despite the important contributions to the existing literature, there are some limitations to the existing research. First, the sample selected for the study only includes the residents of New Delhi. The more data should be collected from the other regions of the country with different parameters such as age, income group, level of development, number of working female in a specific population, etc. Second, various other traits can be examined which explains the financial behavior and attitude. Third, a comparative can be made to know the inter-country differences that explain the financial behavior of the residents of the country.

Conflict of Interest. There is real work of mine and there is no conflict of interest.

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