Journal of Internet Banking and Commerce

An open access Internet journal (http://www.icommercecentral.com)

Journal of Internet Banking and Commerce, July, vol. 25, no. 3

Psychographic Segmentation and Profileing of Online Social Media Users for Availing Banking Services

Dr. Mandeep Hundal
Associate Professor, Chandigarh Business School of Administration, Chandigarh Group of Colleges, Landran Punjab, India
Email: **mmandeephundal@gmail.com or mandeep.4533@cgc.edu.in**

Abstract

These days social media has become a innovative and essential expertise for everyone including those who are not at all aware of Information Technology. The development of IT and expansion of social media are the irrefutable truth of modern era. It is clearly indicated by the statistics that the use of social media platforms has been growing as a result of penetration of internet and easy accessibility to mobile gadgets, smart phones, tablets, programs and applications. More than 2 billion people in the world have been using Social media platforms. The usage of social media platforms has been shifted from entertainment to business and trade. In financial service sector the customer interaction is an integral part so digital communication has become strong medium of communication between financial institutions and customers. The digital medias have become the precious instrument for prospective clients to bond with the banks. Customers differ from one another based on some specific features and characteristics, however they can be segmented into various homogenous groups based on the similarities with in the group and diversity between the groups. Hence, in the perspective of the present study, the hypothesis has been developed that the diverse classes of the respondents respond differently to the perceptual factors extracted out of the statements representing their attitude towards the usage of social media platforms in banking sector when they are segmented on the basis of their psychographics. In the present study, it is revealed by the cluster analysis that the two groups were developed on the basis of the responses from the selected sample of the respondents.

The cluster one consisted of a group of 115 respondents who were holding negative attitude for the positive aspects of the usage of social media in availing banking services. The second cluster of 181 respondents were having positive feeling for the usage of social media in availing banking services. The discriminant analysis pointed out that the different groups of the respondents based on their values and ethics have different

perceptions towards the usage of social media platforms for availing banking services. Financial organizations having presence on social media and catering to customer needs through these platforms are required to understand the customer concerns so as to expand and improve the experience of online social media customers for availing banking services.

Keywords: **Psychographic, Social media, Information technology, Banking services, Cluster analysis, Discriminant, financial**

INTRODUCTION

The customer's category can be defined by profiling customers and grouping them on the basis of similar values for meeting the marketing, product and service customization requirements. The studies reveal that that it is more profitable for a business organization to target the specific market segments. Financial service providers have been successfully using demographic variables such as age, income, gender, geography, marital status, etc. to define market segments or demographic profiles of target buyers in order to segment the customers based on the various characteristics. But they are also apprehensive of the fact whether demographic data really offers the most relevant analysis to uncover and target specific groups of consumers that too in a desired manner. As demographic data doesn't provide any insights into the consumer's emotional being. Psychographic studies of customers can be undertaken to have deep insight into the motivational and psychological state of the customers whereas demographic studies provides information only relevant to the tangible characteristics of the consumers like age, income, gender, geography, marital status etc. Hence, psychographic studies describe the behavioral traits that are much more powerful drivers than the physical demographic features. There arises the need to understand these behavioral traits by marketers, organizations and other customer touch points so as to understand and serve them in an improved manner and to enhance customer experience. For any organization, an important part of conventional marketing is market segmentation which is often represented by customer profiles. Hence customer segmentation based on usage of social media platforms for availing services is hardly a new concept for banking services. Moreover, internet, technology and social media have brought along various benefits and inherent risks. Among all the sectors of economy the financial sector consisting of banks have been embracing social media for providing various services to its customers, which has been highly appreciated by the customers also. Although it has been welcomed by the several customers but are there any fears and worries associated with its usage in relation to any financial transactions or not. It is important to explored and handled. Further, each customer differs from the another based on various features and characteristics which makes it difficult to understand them their needs. Therefore, this research paper aims to have an insight into the psychology of the customers using social media platforms for availing the Banking services, by segmenting them into clusters based on their response to various statements. This involves the mapping of the profile of the customers into various clusters or segments having similarities with in the group and diversity among the groups. With respect to the use of social media, the customers have developed certain opinions and judgments in relation to it. These opinions and judgments further impact their attitude and perceptions about the usage of social media in relation to banking sector. The psychographics of customers also influence their opinions and verdicts which makes it important for the organizations to understand the customer's psychology.

LITERATURE REVIEW

It is important to critically study the already existing literature so as to carry on a good research work. The existing research may in the form of general literature or specific work done by the researchers in the similar or relevant field. The present the study has also made an attempt to summarize the results of the previous studies undertaken by various researchers.

Social media emerging as a strong communication channel for business

The Internet helps the online companies to perform e-marketing activities along with collecting, storing and exchanging personal information received from online consumers. There has been an increase in the online social networks users, especially in the last few years Gross, R (2005) [1]. On account of being a strong communication channel, it has become a popular means to express our comment on worldwide events, advance information sighting and facilitate the social interaction. Further, online social networks are the powerful tools not only to keep connected with family members and friends but also with the professional groups. Furthermore, they can also be used for advertising and marketing purposes as well as for the enhancement of business reputation. The Global Retail Banking Digital Marketing Survey conducted by Efma & Wipro (2013) in 100 banks from 38 different countries, revealed that there has been an immense growth in electronic banking around the world [2], indicating access rates reaching over 80% of adults in some countries using online banking regularly. The involvement with social media has turned out to be a standard practice for banks. But there is a great challenge is to achieve effective “customer engagement” so as to develop more significant digital interaction with customers contrary to the traditional face-to-face interactions of banking.

Social media in financial services and banking

Jackson (2011) online interviewed about 158 senior decision makers from the different financial sectors consisting of asset management [3], retail banking, investment banking, financial advisors, accountancy and audit, academics, law, trade bodies, regulators and consultancy firms of Middle East, UK, Asia Continental Europe and the North America from October to November 2011.The research revealed that an increasing number of firms in the financial sector have started to get over their hesitance with social media to explore the opportunities that it offers. Global spec. (2011) surveyed industrial professionals, technical, manufacturing and engineering [4]. The results of the survey showed that among these audience, the use of social media networking platforms for job-related purposes was limited. There was some level of adoption as they still relied more on the other online media channels such as common search engines like Google, Yahoo!, etc. Global Spec, online catalogues, and supplier's Web sites. Additionally, the use of social media among these audience is still largely inert. It was found that they preferred to read and watch content rather than creating it. Evangelos Chompis (2012), explored the contentment of the users with Virtual Communities in relation to financial services set up [5]. He did an online survey of the financial professionals like cash managers and the treasurers to collect the data. It was found that external variables such as the quality of the information and the quality of the system of a Virtual Communication influenced the viewpoint of the users in relation to the ease of use, usefulness, trust and the responsiveness. This further shaped the satisfaction level of the users. They also found that in a business to business- virtual

community (B2B-VC), the two important factors which drive the satisfaction are system quality and the information quality. Brunswick Group (2012) surveyed 476 investment professionals which included both the sell-side and buy-side analysts [6]. The study found there was an extensive adoption of the social media by investment professionals as compared to its earlier survey which was done in 2010. The study further revealed that investors were using social media for the purpose of doing the research and for making recommendations in relation to the investment. They concluded that 52% of the investment professionals used to examine the blogs related to the business information. The 24% of respondents made their investment decision or recommendation after sourcing information from the blogs, 30% after reading postings in relation to business information on micro-blog services and 12% after sourcing information from micro-blog services. 24% used to read business information postings on social networks and 9% made an investment decision or recommendation after primarily sourcing information from a social network. Investment professionals are increasingly posting and consuming information on social channels. 11% of the respondents said they post investment information on blogs, 8% on micro blogs and 10% on social networks. Overall, there has been increase from 6% in 2010 to 56% in 2012 of investment professionals who believed that there has been raise in the role played by the digital and the social media networks in the investment decision making process. Doyle (2012) undertook a study and found a strong association between the number of times the investors interacted with financial advisors by using social media networks and the payments made by the investors to the advisors for availing their services [7]. The correlation between the number of interactions made on social media networking platforms and the payments made to the advisors was 0.461 which was almost twice as strong as the correlation with the number of interactions made in person (0.234) or by using the phone (0.246). The study did not claimed that the social media interactions were twice as powerful as in-person or on phone. The interactions which frequently took place between the advisors and the wealthy investors on social media led to generation of greater revenue to the advisors. The social media provides a means to the advisors to reach and network with many clients concurrently while he could only network with just one client at a time in person or on the phone. Savio (2012) surveyed over 600 high net worth investors in the U.S. and Canada to have better understanding of the role of social media in financial decision making among the high net worth investors [8]. He divided the respondents into the three asset ranges: mass affluent, affluent, and ultra affluent. The results revealed that social media offers a compelling prospect for the financial marketers to reach and connect with the valuable audience. Social media proves to be a priceless tool with five million High Net Worth Investors in the U.S. and Canada actively using it to help them with their financial decisions. Apart from the fact, whether or not they were using an advisor, the social media users were found to be more active with their investing. Paquette (2013) based on his study concluded that retailers by more creative on social media sites could increase the awareness of their brands among the customers [9]. As more and more shoppers have been using and relying on social media networking sites such as Twitter, Facebook, MySpace etc. for making their shopping decisions. So, it has become very important for the retailers to be present on social media sites and promote their brands. Joel F. Houston (2013) did a detailed analysis of the social network that are being used within the global banking system [10]. The results suggested that network connections across banks were very common and had widespread over the time. It also showed that those banks sharing connections were more likely to be partnered together and operated in a comparable fashion. The banks that were connected with one another had collaborated in the syndicated loan market, and also

those banks that were playing a leading role in the syndicated loan originations which had a more central role on the social media network. Pigliucci (2013) surveyed 400 financial advisors from U.S. He found that the financial advisors had been provided with exceptional opportunities for more frequent interactions with their clients [11], helping them build deeper and stronger relationships through the digital and the social media networks. The results of the study showed that the 60% of the financial advisors under study had daily contact with clients through social media. The social media networking platforms helped to 77% of the respondents under study in the retention of the clients, 74% in increasing the assets under management and 73% achieved overall increase in client interactions. Social media also helped to 40% the respondents to find the new clients through Facebook, 25% by using LinkedIn and 21% by using Twitter. Emily Friedman (2012) studied the leveraging of social media under the restraining policies by the financial advisors to drive business [12]. The research stated that there has been a number of the finest practices to meet the constant business needs by the successful usage of LinkedIn. The study found that seven out of ten financial advisors were already been using social networks for business purposes. Although majority of them had made a limited use of the social media so as to meet the compliance requirements of the company. Among those who had been using at least one social network for the business in the past year, 91% of them used LinkedIn in comparison to less than a third for Facebook, Twitter and Google+. Financial advisors enjoyed highly successful results leveraged through LinkedIn in relation to the client prospecting efforts. As opined by Porter (2000) the Internet facilitate the companies undertake e-marketing activities and also provide the collection, storage and exchange of personal information from online customers. Further that information can be misused by the companies to predict the consumer's behaviour, to frame marketing strategies so as to meet their needs [13].

Security and Privacy issues associated with usage of Social media

Acquisti and Grossklags (2005) revealed that while making inline purchase customer may not be aware of the intention of the organisation to use their personal information in future which they had shared as part of the transaction [14]. This concealment may negatively affect the individual behavior. The privacy policies aims to provide a complete picture of the vendor's information practices so as to fill the information gap between the consumer and the vendor but it may have been very difficult for the customer to understand them or they may be very time consuming to read [15-17]. Contrary to this, Dommeyer et al. (2003), P&AB (2005) and Pescovitz (2000) explored that customers have low awareness about the direct marketing regulations and practices [18-20]. Although they are quite well informed of the privacy protection strategies but their usage is still limited as they find such policies to be complex, complicated and vague. Due to which they do not provide correct information to the customers at the time of making online transactions. Privacy and security concerns are the main barrier to undertake online transactions [21]. The accessibility of enormous amount of personal information has attracted the attention of wicked users and encouraged them to initiate attacks against online social networks by getting access to the information shared by the users. Therefore, the privacy of social media users has been at a risk. No doubts, social media has become a tool to open up new ways for criminals and hackers to perform undesired or fraudulent activities such as spamming, attacking through viruses, phishing, etc., resulting in information and identity theft. Ponnurangam and Lorrie (2006) found that there had been lack of awareness of privacy issues and low concern for privacy in India than in the United States [22]. The numerous surveys had been conducted to identify attitudes and awareness of privacy in

the United States, Australia, Canada, and the European Union. self-regulation and governmental regulation have been the common models these days. And this Self-regulation puts the responsibility in the hands of web marketers who gather, use and sell personal information of consumers Rachel and Michael (2005) [23]. Even the passwords used by individuals to have an access to the system are also stolen while stored or in transit, either within a system or a local network or across a global network such as the Internet. Furthermore, many of the encrypted passwords being used are also not safe enough to prevent theft [24]. Jacqueline (2010) revealed that the personal information of an individual is easily available because of the widespread utility of the Internet [25], the availability of inexpensive computer storage and extensive disclosure of personal information by Internet users in participatory Web technologies. Aldridge (1997), Lardner (1999), and Hoffman et al. (1999) revealed that the consumers are hesitant of engaging in electronic commerce such as sharing personal information with E-vendors and making purchases over the internet due to lack of trust in both i-e web environment as well as the attributes of specific web-based vendors [26-28].

SIGNIFICANCE OF STUDY

Customers differ from each other based on some explicit traits and distinctiveness but still we can segment them into some homogenous clusters which represent their similarity based on their alike traits that differentiate them from the other groups. The customers can be distinguished based upon the demographic, behavioral and their psychographic patterns. With regard to the usage of social media, the customers build up various opinions and the verdicts about its usage. These opinions and the verdicts further develop customer attitude and perceptions about usage of social media in banking sector. The values and lifestyles (psychographics) of the respondents also influence their opinions and verdicts. Therefore, the present study hypothesized that the various categories of respondents who were segmented based on their psychographic traits, reacted differently to the perceptual factors extracted from the statements depicting the attitude of the respondents towards usage of social media in banking sector.

RESEARCH METHODOLOGY

The study aims to map the profile of the customers in relation to the usage of social media platforms in banking sector. At first, with the help of K-Mean cluster analysis technique, two clusters of respondents has been framed based on their psychographic inclination with regard to the usage of social media in banking, later Multiple Discriminant Analysis (MDA) technique has been applied to map the profile of the respondents from different clusters. Judgmental sampling has been used to collect the data from the bank customers who were using one or the other social media for availing the banking services. The respondents were asked to fill the questionnaires via email and physical form. Out of a total of 300 questionnaires which were sent, 296 were received. The screening of the each of the responses so received have been performed to locate any errors, incomplete or missed response. All 296 responses were considered complete and valid for the purpose of analysis which indicate a success rate of 98.6%, which is good in light of time and cost constraints.

The differences and measures which are important to one group but unimportant to another group have been identified with the help of Multiple Discriminant Analysis (MDA) [29]. The stepwise estimation method has been applied to derive the

Discriminant functions. This statistical technique involves entering of the each independent variable into Discriminant function one by one on the basis of their discriminating power. There are two groups in the present study so the estimated Discriminant function will be one because discriminant analysis estimates one less Discriminant function than the number of groups so formed. 296 respondents have been categorized into two clusters constitute the dependent variable for the study. The two segments of the respondents represent the two clusters which were different from one another in their attitude towards the usage of social media in banks. Independent variables are generally selected in two ways. The first approach involves the identification of the variables either from the theoretical model that underlie the basis for the research question or from any previous research. The second method is researcher's intuition based on his or her knowledge to select variables for which no prior research exists but logically that might be related to predicting the groups for the dependent variable [29]. The present study has used the second approach. Factor scores of the factors as revealed by factor analysis pertaining to the total number of respondents, have been used as psychographic variables. These psychographic variables were the perceptual factors extracted from the responses of the respondents towards the statements relating to the usage of social media in banks.

H0a: There is no significant dissimilarity between the responses of the customers belonging to different groups towards the statements relating to usage of social media for availing banking services and privacy concern.

H0b: There is no significant dissimilarity between the responses of the customers belonging to two different psychographic groups with regard to the statements relating to security and privacy issues in using social media for availing banking services.

PSYCHOGRAPHIC SEGMENTATION OF RESPONDENTS: AN APPLICATION OF CLUSTER ANALYSIS

Here different clusters have been developed out of the given sample of the respondents by analyzing their responses towards different perceptual statements relating to usage of social media in banking services. Table 1 displays the final cluster centers outlining two clusters based on the psychographics of the respondents for the given 35 statements. ANOVA statistic has been applied to test the null hypothesis and to check the variations among two clusters for the means of the variables in each of the clusters. Corresponding means of two different cluster centers have been considered so as to define the clusters. The tendency of mean values of the Likert scale ranging from 1 to 5 has been used to define the strength of agreement or disagreement of each variable which explain the clusters.

Table 1: Final Cluster Centers

Final Cluster Centers			
		Cluster	
S. No.	Statements	1	2
1	Use of social media networking platforms has become necessity these days.	3	4
2	Financial service institutions have presence on social media	3	4

	networking platforms.		
3	Social media networking platforms provide enough information on financial products, offers and services.	2	4
4	Social media networking platforms facilitate convenience, in terms of time saving.	2	4
5	Social media networking platforms facilitate quick access to desired financial service provider anywhere and anytime.	2	4
6	Limited amount of information is available through these platforms.	2	4
7	I am worried about protection of information	3	4
8	Responses received through these platforms are satisfactory.	2	4
9	Information provided through these platforms is timely and sufficient for my decision making.	3	4
10	Information available through these platforms is authentic and trustworthy.	3	4
11	Information available on my financial service provider's web page is clear, well organized and easy to read.	3	4
12	Queries posted on the social networking platforms are responded quickly and completely.	3	3
13	I am concerned about the security of information shared through social platforms on financial organisation page.	3	3
14	It is easy to learn the use of Social media networking platforms for availing financial services.	3	4
15	It is easy to understand the icons available on social media page for performing financial activities.	3	3
16	It is exciting to use social media networking platforms for availing financial services.	3	3
17	It requires lots of mental efforts to understand the use of social media platforms.	3	3
18	These platforms are more accessible to me than visiting the branch.	3	4
19	It is safe to use these platforms for interacting on financial matters.	3	3
20	Current legal structure applicable to social media is adequate to protect the users.	3	3
21	Communicating with my financial service provider through social media networking platforms is as good as face to face communication.	3	4
22	Use of social media networking platforms for financial services is intimidating for me.	3	3
23	I hesitate to use social media networking platforms for financial activities due to confidentiality and privacy issues.	3	4
24	I am confident of my financial decisions taken on the basis of information available through these platforms.	3	3
25	Feedback and comments posted by the public affect my financial decisions.	3	3
26	Number of likes on the financial institution page affects my confidence in them.	3	3

27	I feel confident in understanding the information about products and offers available on financial institution page.	3	3
28	I participate in various games and quizzes posted on social media platform page of my financial service provider.	3	4
29	I use social media networking platforms for various financial activities because my friends do use them.	3	4
30	I use these platforms because it enhances my knowledge on various financial and economic aspects.	2	4
31	People who use social media networking platforms have more prestige than those who do not use them.	3	3
32	Using social media networking platforms for availing financial services fits well with my life and work style.	3	4
33	Use of these platforms reduces my waiting time spent in the queues at the branch.	3	3
34	I am satisfied with my decision to use these platforms for availing financial services.	3	4
35	I am satisfied with the privacy policy of the financial service organisation in relation to the use of these platforms.	3	4
	Number of Cases in each Cluster	115	181

Cluster 1: Cluster one is composed of 115 respondents who have expressed their negative or indifferent agreement towards the given statements related to the usage of social media platforms for availing banking services as a facilitator. In this cluster majority of the respondents has shown agreement to the statements which displays the negative impact or difficulty in usage of social media for availing banking services and they believe that it providers limited amount of information in relation to their bank accounts. This has been observed from the mean values corresponding to different variables given in the Table 1. With regard to the favorable aspects of the usage of Social media in availing banking services, the respondents has shown indifferent attitude; this is inferred from the mean values corresponding to each of these variables, i.e. from serial number one to eight. Besides, these respondents also expressed slight agreement to the variables suggestive of the negative aspects of usage of Social media in availing banking services. The variables which are indicative of the negative aspects of usage of Social media in availing banking services are like “Limited amount of information is available through these platforms, I am worried about protection of information, It requires lots of mental efforts to understand the use of social media platforms, I hesitate to use social media networking platforms for financial activities due to security and privacy issues. As far as the usage of Social media in availing banking services is concerned, respondents has shown unfavorable attitude. They are using the social media because their friends are using them or they believe who use social media networking platforms have more prestige than those who do not use them. This was observed from the mean values of variables, i.e. from serial number seven, twenty three and twenty nine to thirty two. Hence it is implied that respondents has a negative attitude towards the usage of Social media in availing banking services in this cluster.
To sum up the sentiments of the respondents in this cluster, it can be held that they are having indifferent or non-confirming attitude towards the favorable aspects of usage of social media in availing banking services.

Cluster 2: 181 respondents found in this cluster are holding positive attitude towards the usage of social media in availing banking services. The attitude of the respondents

toward the usage of social media in banking can be gathered by analyzing the mean values calculated for the variables or statements signifying the positive aspect of usage of social media (serial number one to six and eight to eleven). These eight statements are related to the positive impact of the usage of social media for availing banking services are like “Use of social media networking platforms has become necessity these days, provide enough information on financial products, offers and services, facilitate convenience, in terms of time saving, facilitate quick access to desired financial service provider anywhere and anytime, platforms allow me to manage my financial activities more efficiently, useful in facilitating financial service users, Information provided through these platforms is timely and sufficient for my decision making". As far as the unfavorable outcomes of usage of social media for availing banking services were concerned, the responses received are generally near to neutrality (not sure) or at some times with a slight level of harmony for the negative effects. Hence it is established that respondents were acting indifferent towards the negative aspects of the usage of social media for availing banking services. This can be concluded from analysis that the respondents have pointed out to the slight disagreement in opposition to the usage of social media for availing banking services or at few instances they are indifferent towards these negative aspects. The statements displaying these negative impact of usage of social media are like “It requires lots of mental efforts to understand the use of social media platforms, I hesitate to use social media networking platforms for financial activities due to confidentiality and privacy issues”.

To conclude the traits of the respondents, it can be held that this cluster constitute the group of respondents who usually behaved reasonably or indifferently which may be because of lack of awareness towards the usage of social media in availing banking services.

Table 2 displays ANOVA statistics calculated for each of variable for the purpose of computing the variation among the two identified clusters. This was done for the purpose of testing the hypothesis. ANOVA statistics points out that there is a significant variation among the two clusters. Since all the F-values were greater than three (Table value), hence the hypothesis H0a was rejected for all the variables.

Table 2: ANOVA Statistic (one way).

	Cluster		**Error**		**F**	**Sig.**
	Mean Square	**df**	**Mean Square**	**df**		
Necessity these days	86.878	1	1.594	294	54.503	.000
Presence on social media networking	45.929	1	1.687	294	27.227	.000
Provide enough information	149.631	1	1.193	294	125.472	.000
Facilitate convenience, in terms of time saving	185.566	1	.808	294	229.622	.000

Facilitate quick access to desired financial service	198.426	1	.772	294	257.050	.000
I am worried about protection of information	174.923	1	1.026	294	170.523	.000
Limited amount of information is available	102.246	1	1.284	294	79.628	.000
the confidentiality of information shared through social platforms	157.670	1	.888	294	177.473	.000
Timely and sufficient	80.734	1	1.191	294	67.792	.000
Authentic and trustworthy	99.711	1	1.052	294	94.745	.000
clear, well organised and easy to read	74.538	1	1.671	294	44.615	.000
Queries posted on the social networking	.002	1	2.219	294	5.001	.976
Responses received are satisfactory	11.276	1	2.429	294	4.641	.032
Security of information provided	3.721	1	1.613	294	3.306	.130
Easy to understand the icons	2.714	1	1.563	294	5.736	.189
Exciting to use for financial services	.070	1	1.704	294	30.041	.840
Requires lots of mental efforts	.027	1	1.581	294	7.017	.897
More accessible to me than visiting the branch	5.503	1	1.448	294	3.800	.052
Safe to use	36.885	1	1.661	294	22.202	.000
Current legal structure applicable	10.429	1	1.598	294	6.524	.011
As good as face to face communication	6.205	1	1.448	294	4.284	.039
Intimidating for me	.015	1	1.601	294	8.009	.922
Hesitate to use social media due to confidentiality	17.942	1	1.627	294	11.031	.001

Confident of my financial decisions	.052	1	1.411	294	9.037	.848
Affect my financial decisions	1.603	1	1.422	294	13.127	.289
Affects my confidence	.747	1	1.390	294	10.538	.464
Confident in understanding the information	.702	1	1.387	294	15.506	.477
I participate in various games and quizzes	31.503	1	1.963	294	16.051	.000
Because my friends do use them	47.983	1	1.861	294	25.788	.000
It enhances my knowledge	142.253	1	1.234	294	115.243	.000
more prestige than those who do not use them	34.186	1	1.978	294	17.280	.000
Fits well with my life and work style	38.883	1	1.712	294	22.717	.000
Reduces my waiting time spent	4.564	1	1.872	294	2.438	.120
Satisfied with my decision	32.935	1	1.743	294	18.896	.000
Satisfied with privacy policy	145.880	1	1.120	294	130.260	.000
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.						

The above analysis indicates that the respondents belonged to the different groups based on their psychographic traits towards the usage of social media in availing banking services. K-means cluster analysis technique has been applied to identify two different clusters based on the final cluster centers (mean values for the variables). The two identified clusters displayed two sets of the respondents being different from each other in relation to the impact of usage of social media in banking services and related ethical issues thereto was concerned. The cluster one consisted of a group of 115 respondents who were holding negative attitude for the positive aspects of the usage of social media in availing banking services. The second cluster of 181 respondents were having positive feeling for the usage of social media in availing banking services.

In a nutshell, it can be believed that the two clusters so formed reveals the two groups of respondents having varying levels of attitude towards the usage of social media in availing banking services. These are: cluster one representing those having negative or indifferent (not much affected) towards the usage of social media in availing banking services and cluster two with the respondents having positive attitude towards the same. ANOVA statistics reveals that the two clusters differ significantly from each other in relation to the different variables representing the usage of social media in availing banking.

PROFILING ON THE BASIS OF USAGE OF SOCIAL MEDIA IN AVAILING BANKING SERVICES

Profiling a segment involves a detailed description of the market or consumer segment across a range of factors and measures. It helps the business organisation to have good understanding of customers and consumers within each segment to facilitate comparison and strategy formation. In this study, the profile mapping has been done with respect security and privacy issue in relation to usage of social media in availing banking services.
In order to determine the security and privacy issues in relation to usage of social media in availing banking services the stepwise procedure begins with exclusion of all the variables from the model and inclusion of those which maximize F statistic or have smallest Wilks' Lambda. A minimum F-value (3.84) was required for the entry (at 0.05 level of significance). The values of F statistics and Wilks' Lambda have been given in the Table 3.

Table 3: Tests of Equality of Group Means (Security issue).

Factors	Wilks' Lambda	F	Sig.
Privacy Policy	.984	**9.792**	.002
Exposure of information	1.000	.064	.802
Concern for customer information	.991	**5.705**	.019
Protection of Information	.986	**9.286**	.003
Factors	**Wilks' Lambda**	**F**	**Sig.**
Privacy Policy	.984	**9.792**	.002
Exposure of information	1.000	.064	.802
Concern for customer information	.991	**5.705**	.019
Protection of Information	.986	**9.286**	.003
confidentiality and security	.991	**5.969**	.017

It is displayed in table 3 that the variables entered by using the principal of F statistic. The Privacy Policy was the first variable to enter with the maximum F-value (9.79) followed by Protection of information, Confidentiality and security and Concern for customer information being other variables. The variable having F-value less than 3.84 were considered insignificant for the analysis because of their inability to explain the unique variation. Table 3 gives the statistical evidence with significant distinctions between the groups or clusters for the given variables. Table 4 indicating the pooled within group matrices further supports the usage of these selected variables because inter correlations are low.

Table 4: Pooled Within-Groups Matrices (Security and privacy Issue).

Factors	Privacy Policy	Concern for information	Security and Privacy	Protection of Information	Information from children
Privacy Policy	1.000				
Exposure of information	.377**	1.000			

Concern for customer information	.386**	.426**	1.000		
Protection of Information	.489**	.438**	.430**	1.000	
confidentiality and security	.471**	.371**	.387**	.427**	1.000

It is important to determine whether the functions are valid predictors i.e. whether discriminant functions are statistically significant, before we interpret the function, The statistical significance of the calculated discriminant function is shown in the table no. 5 and 6. The Eigen value (.057) as per Table 5 indicate the ratio between the group sum of squares to the within group sum of square of the Discriminant scores. As per table 5 Canonical Correlation value is .231 therefore, .231*.231*100= 5.33% of the variances of the Discriminant function scores can be explained with respect to the group differences. The Canonical Correlation is the Pearson correlation between the discriminate function scores and group membership.

Table 5: Eigen values (Privacy Issue).

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation
1	.057a	100.0	100.0	.231

a. First 1 canonical discriminant functions were used in the analysis.

As shown in Table 6 and provided by Chi-square Test' the successive roots removed, the value of Wilk's Lambda was found to be 0.956. The value is below 1 displaying the good Discriminant power of the model. The level of significance for Chi-square test indicates highly significant discrimination between the two clusters.

Table 6: Wilks' Lambda (Security and privacy Issue).

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.956	30.751	4	.000

The classification matrix specifying hit ratio, i.e. the percentage of cases which are correctly classified are displayed by Table 7. The hit ratio provided by the classification matrix measures the predictive accuracy of the discriminate function. For this purpose, this hit ratio is compared with the maximum chance criterion being the correctly classified percentage if all observations are placed in the group with the highest probability of occurrence. In the present study, maximum chance criterion is 61.15% {(181/296) *100}. Other measure to assess the hit ratio is proportional chance criterion consisting of the average probability of classification calculated considering all group sizes. Proportional chance criterion here is 52.6% {(.615*.615+.385*.385)*100}. As the maximum chance criterion value is greater than proportional chance criterion, the maximum chance is the measure to be outperformed. The hit ratio and holdout sample of both analysis sample being 62.3% and 62.0% respectively exceeds the maximum chance criterion of 61.2% hence it can be outlined that the discriminate model is valid.

Table 7: Classification Results (Security and Privacy Issue).

		Cluster Number of Case	Predicted Group Membership		Total
			1	2	
Original	Count	1	62	53	115
		2	66	115	181
	%	1	53.2	46.8	100.0
		2	36.4	63.6	100.0
Cross-validated	Count	1	60	55	115
		2	66	115	181
	%	1	52.9	47.1	100.0
		2	36.4	63.6	100.0

a. 62.3% of original grouped cases correctly classified.
b. 62.0% of cross-validated grouped cases correctly classified.

On the basis of above discussion, it is indicated that the discriminant function has been statistically significant, and the classification accuracy is satisfactory. Therefore, the finding are required to be interpreted which involves examination of the Discriminant function so as to explore the relative importance of each independent variable of Discriminant in the group. The relative importance can be determined by Discriminant coefficient method or through Discriminant weights which uses the magnitude of the standardized Discriminant weights allocated to each variable during the computation of the Discriminant function with weights corresponding to the relative contribution of its associated variable to given function. But there are some deficiencies in the discriminant weights based interpretation. Hence, there is another method for the same which is Discriminant loading method. Discriminant loadings also referred as structure correlation and measures the simple linear correlation between each independent variable and the discriminant function. Discriminant loading displays the variance of independent variables which it share with the discriminant function and can be inferred like factor loadings for the assessment of the relative contribution of each independent variable to the Discriminant function. Due to their correlational nature, the Discriminant loadings are regarded as more convincing than weights for interpretation of the Discriminant power of independent variables. Table 8 gives the Structure correlations for the discriminant function.

Table 8: Structure Correlation for Discriminant Function (Security and privacy Issue).

Factors	Function
	1
Privacy Policy	.554
Exposure of information	-.535
Concern for customer information	-.420
Protection of Information	.410
confidentiality and security	.003

a. Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
b. Variables ordered by the absolute size of correlation within the function.

In order to determine the contribution of the four predictors, Discriminant loading alongside group Centroids i-e means of the Discriminant function score for observations belonging to each Discriminant group has been employed. The group Centroids of Canonical Discriminant Function have been revealed in Table 9. The group Centroids indicate that the primary source of difference in function is among the both categories which clearly determine the groups that are discriminated by the function. It is also important to note that this categorization is not a statistical measure but simply an assessment of distance and is usually satisfactory.

Table 9: Functions at Group Centroids (Security and privacy Issue).

Cluster Number of Case	Function
	1
1	.187
2	-.296

Unstandardized canonical Discriminant functions evaluated at group means

Profiling of the Differences for Security and privacy Issue

The structure matrix displays a correlation between the standardized canonical Discriminant function and discriminating variables which facilitate the profiling of the differences in the group behaviors. Table 9 shows the structure matrix which indicate that the independents variables are in function 1.

As indicated by the analysis 100% of the variance explained by one function which discriminates between the two groups i-e cluster 1 and cluster 2. In order to differentiate between the two groups, the four variables dealing with security and privacy issues in usage of social media for availing banking services i-e Privacy Policy, Exposure of information, concern for customer information, Protection of information, Confidentiality and security were loaded on this function. The maximum loading is received by the variable i-e Privacy Policy which indicates that the respondents belonging to cluster 1 are those who recognize the value of privacy policy in usage of social media for availing banking services and holds negative opinion for present privacy policies of social media platforms and finds them sufficient to protect their interest. The results show that respondents were not much apprehensive of the ease of usage, clarity and understanding of privacy policy rather it does not have much impact on their usage of social media for availing banking services. When the respondents are not aware of the privacy policy of the social media platforms they were not interested in using it which indicates that the profile of the respondents of cluster 1 is mapped on the basis of function against the element of Privacy policy in usage of social media for availing banking services. Protection of information variable holds the second highest loading in this function indicating that the profiling of the respondents in cluster 1 being mapped on this function. It constitutes the respondents holding negative outlook for the modes in which financial service organizations deal with consumer's personal information and which they believe is not sufficiently protected despite the availability of passwords and OTPs. They feel the invasion of customer's personal information. Next variable Confidentiality and security has also been loaded on this function 1 which is corresponds to the set of respondents having negative opinion towards the confidentiality and security of their data which is being exchanged through social media platforms for

availing online banking services. They are worried about the confidentiality and security of their information being shares on webpage of the financial service organisation while handling the customer queries and polls. The last and final variable being loaded on this function is Concern for information which confirm respondent's profile in cluster 1 being mapped on the basis of function. The respondents holding negative attitude towards usage of customer's personal information which is being shared while using social media platforms in relation to banking services. They are suspicious of sale of their personal information.

The profile of the other group being cluster 2 has also been mapped based on this function. The respondents of cluster 2 holds favorable attitude toward various variables. The variables towards which they have favorable attitude are like " provide enough information on financial products, offers and services, facilitate convenience, in terms of time saving, facilitate quick access to desired financial service provider anywhere and anytime, platforms allow me to manage my financial activities more efficiently, availability of laws and regulations which may keep their confidence in usage of social media for availing banking services. These respondents are favorable for the above given factors. To conclude, this cluster consist of the respondents who are in favor of usage of social media for availing banking services as they do not identify much of security and privacy issues in this concern.

Mapping the Profile of Each Cluster for Privacy Concern

On the basis of above analysis, the profile of each cluster of respondents can be mapped as under:

Cluster 1: This cluster consist of respondents with negative opinion towards usage of social media for availing banking services. They think that usage of social media for availing banking services may results in some confidentiality and security issues which may lead to breach of privacy. These are "lack of protection of information, Confidentiality and security breach and no Concern for customer's personal information etc. Therefore, based on this function it can be concluded that the respondents from this cluster are against usage of social media for availing banking services. That is why the respondents sometimes hesitate to provide the accurate information over the social media web page as they are scared of losing their personal information.

Cluster 2: The respondents in this cluster holds positive or favorable behaviour towards the usage of social media for availing banking services. They do recognize the various security and privacy concern associated with usage of social media for availing banking services such as protection of information, Confidentiality and security and Concern for customer's personal information etc. So based on this function 1, it can be found that the respondents belonging to cluster 2 are well aware of security and privacy concerns associated with usage of social media for availing banking services but they favor it because they appreciate the financial service organization's efforts to ensure convenient, timely and responsive online services to overcome limitations of branch banking. Based on this function it is found that the respondents articulate indifferent tendencies towards the different security and privacy issues and understand that their existence is justified till financial service organizations ensure the security of their sensitive information.

LIMITATIONS OF THE STUDY AND FUTURE RESEARCH DIRECTIONS

The study was limited to individual social media usage for availing banking services in the region of Chandigarh and tri city being a collectivistic State and UT. The present study was cross-sectional in nature and given the corresponding drawbacks of the same, longitudinal studies should be conducted in future to test the proposed model so as to re-evaluate directions of causality among the study variables. As perceptions undergo changes over time, longitudinal research may be more helpful. Usage of social media has been

researched more often in developed parts of countries and this research was focused on a developing country. Thus, there is a need for cross-country or cross culture comparison studies to identify ordinary and incongruent factors which have impact on usage of social media in banking sector.

CONCLUSION AND IMPLICATIONS

In the times of social media consumer's privacy and security is one of the burning issues of marketing. The internet has provided extraordinary opportunities for the collection and sharing of information from and about the customers and consumers. The services relating to customer profiling by Mapping Analytics helps to create the descriptive segments or groups of customers.

Each segment specifies distinct defining characteristics. In the present study, the application of cluster analysis reveals two groups based on the responses of the selected sample of respondents. In cluster one the respondents were having negative or indifferent agreement in general towards the given statements related to the usage of social media platforms for availing banking services as a facilitator and privacy issues related to it. Respondents had displayed negative attitude towards usage of social media but simultaneously they were not sure as some of them also agreed with the positive aspects of its usage. While those respondents belonging to the second cluster, were positive in their attitude towards the usage of social media platforms for availing banking services and were also concerned for financial activities due to confidentiality and privacy issues. With regard to the favorable aspects of the usage of social media, the respondents had given indifferent feeling as well as the respondents also expressed the agreement for variables which explains the negative aspects of usage of social media in banking services. With regard to the security and privacy concern in usage of social media in banking services, the respondents belonging to cluster one were negative in their opinion towards the usage of social media in banking services. These respondents show indifferent tendencies towards the security and privacy, as they feel the presence of these elements is justified if the purpose is to provide information and responding to customer queries only. These respondents understood that usage of social media in banking services involve certain security and privacy concern such as limited amount of information is available through these platforms , requires lots of mental efforts to understand the use of social media platforms, hesitate to use social media networking platforms for financial activities due to confidentiality and privacy issues etc. and were also against that. The respondents in cluster two respondents were in favor of the practices of security and privacy in relation to the usage of social media in financial services. Further the results of discriminant analysis concludes that the respondents belonged to the diverse groups with different perceptions towards the usage of social media in availing banking services on the basis of their values and ethics. The financial service organizations also need to understand the customer's concern with respect to their security and privacy.

REFERENCES

1. Gross R, Acquisti A (2005) Information revelation and privacy in online social networks. In: Proceedings of the 2005 ACMworkshop on Privacy in the electronic society, 71–80.
2. The Golab Retail Banking Digital Retail Bankin Report. 2013. Retrieved from: https://www.wipro.com/en-IN/banking/the-global-retail-banking-digital-marketing-report-2013/
3. Jackson C (2011) Made in the heaven or marriage from hell? Social media and the financial sector. Financial sector communications. Cicero Group.
4. Global spec (2011) Social Media use in Industrial sector. GlobalSpec.inc.
5. Evangelos CHJ (2012) Social Media in B2B Financial Services: A Matter of Trust and Responsiveness? In A. E. Library (Ed.), eDependability: Reliable and Trustworthy

eStructures, eProcesses, eOperations and eServices for the Future 14: 737-764.
6. Brunswick Group (2012) Trends in the use of Digital & Social Media by the investment community. Brunswick Group.
7. Doyle BE (2012) Collaborative Advice: Using Digital Touchpoints To Enhance Advisor-Client Relationships. Forrester.
8. Savio C (2012) Social media's growing influence among high net worth investors. Cognent Research and LinkedIn.
9. Paquette H (2013) Social Media as a Marketing Tool: A Literature Review. Major Papers by Master of Science Students.
10. Joel F, Houston JL (2013) Social Networks in the Global Banking Sector, 58.
11. Pigliucci Ai (2013) Closing the Gap: How tech Savvy advisors can regain investors interest.
12. Emily FNB (2012) Financial advisors use of social media moves from early adoption to mainstream. LinkedIn and FTI Consulting.
13. Michael E. Porter (2000) Location, Competition, and Economic Development: Local Clusters in a Global Economy. Economic Development Quarterly Vol. 14:15-34.
14. Gross R, Acquisti A (2005) Information revelation and privacy in online social networks. In: Proceedings of the 2005 ACMworkshop on Privacy in the electronic society, pp. 71-80,
15. Hochhauser M (2003) “Why Patients Won’t Understand Their HIPAA Notices”, Privacy Rights Clearinghouse.
16. Jensen C, Potts C (2004) “Privacy policies as decision-making tools: an evaluation of online privacy notices”, Proceedings of the SIGCHI conference on Human Factors in Computing Systems, 471-478.
17. McDonald A, Cranor LF (2009) “The Cost of Reading Privacy Policies”, Journal of Law and Policy for the Information Society.
18. Dommeyer, Curt J, Barbara L, Gross (2003) “What Consumers Know and What They Do: An Investigation of Consumer Knowledge, Awareness, and Use of Privacy Protection Strategies”, Journal of Interactive Marketing 17: 34-51.
19. P&AB (Privacy & American Business), (2005), “New survey reports an increase in ID theft and decrease in consumer confidence”, Conducted by Harris Interactive, Available at: http://www.pandab.org/deloitteidsurveypr.html
20. Pescovitz D (2000) “Undercover agents” The Standard.com, January, PP: 3
21. Godwin J Udo (2001) Privacy and security concerns as major barriers for e-commerce: a survey study, Journal of Information Management and Computer Security 9: 165-174.
22. Ponnurangam Kumaraguru and Lorrie Cranor (2006) Privacy in India: Attitudes and Awareness, Journal of Computer Science 3856: 243-258
23. Rachel G, Michael DS (2005) Protecting Personal Information: Obstacles and Directions, Proceedings of the Fourth Workshop on Economics and Information Security, Cambridge, Massachusetts.
24. Peter GN (1994) Computer-Related Risks, ACM Press/Addison-Wesley, 1994
25. Jacqueline D (2010) “Lipton, Mapping Online Privacy”, 140 N.W. U. L Rev. 477: 481- 482.
26. Aldridge A, White M, Forcht K (1997) Security considerations of doing business via the Internet: Cautions to be Considered, Journal of Internet Research 7: 9-15.
27. Lardner J (1999) I know what you did last summer and fall, US News and World Report 126: 55.
28. Hoffman DL, Novak TP, Peralta M (1999) Building consumer trust online. Communications of the ACM 42: 80-85.
29. Hair J F, Jr Anderson RE, Tatham RL (1995) Multivariate Data Analysis, 3rd ed, Macmillan Publishing Company, New York.