DEMOGRAPHIC FACTORS AFFECTING THE ADOPTION OF INTERNET BANKING IN INDIA

Neetu Jain*

Dr. Pooja Malhotra**

ABSTRACT

The objective of the present study is to find out the demographic factors affecting adoption of electronic banking in general and Internet banking in particular in India. The data for this study is based upon a survey of bank customers using a convenience sampling technique with the aid of a structured self-administered questionnaire. The survey was conducted during the period of April 2012. The results of this study indicate that age, education, income, and profession are the most influential demographic variables affecting Internet banking usage. Using a mailed questionnaire with a response rate of 38.9 per cent, it was found that 40 per cent of the Indian consumers who responded to this survey were already using Internet banking services. The results of this study provide interesting additions to knowledge of electronic banking and contribute to our understanding of Internet banking users as well as nonusers.

Keywords: *Electronic banking, Internet, India, customers, demographics*

*Research Scholar, CMJ University, Shillong, Meghalaya

** Assistant professor, Guru Gobind Singh Indraprastha University, New Delhi

1. INTRODUCTION

The emergence of Internet technology, particularly the World Wide Web has introduced new ways for doing business. Banking is not an exception to it. Internet is increasingly used by banks as a channel for receiving instructions and delivering their products and services to their customers. This form of banking is generally referred to as Internet Banking, although the range of products and services offered by different banks vary widely both in their content and sophistication. Internet banking allows customers to interact more with the front office operations and at the same time, it allows the bank to concentrate the back office operations by increasing their efficiency (Corrocher, 2002). According to such perspective, Internet banking constitutes an innovation both in the processes of production and in the distribution of financial services. However, Internet banking constitutes a complex innovation that does not fall into the simple categorization of product/process innovations, but encompasses both, as a part of a continuum. As banking technology has focused on reducing cost of distribution and improving the operational procedures, Internet banking is characterized as a process innovation by making customers handle their own banking without going to bank tellers. However, it can be conceived also as a product innovation, since it embodies the creation of new products as such and the development of innovative combinations of the existing products. Banks may offer comprehensive personal financial management packages on the Internet. The current trend worldwide is the movement from traditional branch banking to electronic banking, which provides many benefits, challenges and also opportunities for the whole banking sector. The year 1995 marked the beginning of the Internet banking era, when Wells Fargo began offering account statements on the Web and Security First Network Bank became the first Internet-only bank (Gandy, 1995; Sullivan, 2001). At present more than 5000 online sites of the banks from all over the world are available. In US and the European Union countries, banks are quickly introducing online banking as an essential component of their business portfolio. More recently in India too, a wider array of financial products and services have become available over the Internet, which has thus become an important distribution channel for a number of banks.

The motivation for this study arose out of the rapid development of Internet banking in India. Since 1997, after the launch of the first Internet based banking service, the number of Internet bankers has grown at an enormous pace. An inhibiting factor is concern whether there is demand for such services, based on concerns about levels of computer ownership, Internet usage and consumer acceptance. Although the number of users of the Internet has increased

significantly over the past decade, only a small fraction of those users have made actual purchases over the Internet. The failure of the Internet as a retail distribution channel has been attributed to the lack of trust consumers have in the electronic channel and in the Web merchants.

In broad terms, the present study aims, as the title "demographic factors affecting adoption of Internet banking in India" indicates, to explore the world of electronic banking through the eyes of the consumer, and by so doing seeks to increase the understanding of consumer attitude formation and behaviour. The identification of personal characteristics related to the adoption of internet banking is critical for market targeting and can help banks in product design and in formulating campaigns that will encourage the adoption of the service. The objective of this study is to describe demographic differences amongst the users and non-users of Internet banking, which is an integral part of consumer behavior strategies.

1.1 Internet Banking in India

According to Internet World Stats, Internet penetration is rising appreciably in India today. According to a release in 2009 by the Internet and Mobile Association of India (IAMAI) and IMRB International, Internet users in India have reached 71 million in the month of September 2009, up from 63 million in March 2009. During the same period the number of active users (i.e. ones who logon to Internet atleast once a month) has risen from 46 Million in March 2009 to 52 Million in September 2009. This indicates that the use of technology, especially the Internet technology is getting more and more importance in a typical Indian life. However, there is lack of users for internet as a medium for banking purpose, while only 1% of these Internet users utilized the Internet banking services in 1998, the Internet banking user base increased to 20% by mid- 2008, while it has declined to 12% in the month of September 2009.

On the basis of survey conducted by IAMAI in 2006 it was found that 43% of online banking user haven't started online financial transaction because of security reasons, 39% haven't started because they prefer face to face, 22% haven't started because they don't know how to use, for 10% sites are not user friendly and for 2% banks are not providing the facility of internet banking. According to research, 68% of the customers cannot say that when they will be starting the financial transactions through internet. Maximum numbers of online banking users are male and maximum of them are in age the group of 25-35. Numbers of female users are very less i.e. 17% only. More than 60% of the people are having accounts in 3-4 banks. Only 37% of Indian Internet users come from Top 10 cities i.e. Mumbai, Bangalore, Delhi, Calcutta, Chennai, Pune, Hyderabad, Ahmedabad, Surat and Nagpur.

The Government of India enacted the IT Act, 2000 (Information Technology Act). This act came into effect from the 17th of October 2000. The purpose of this act, in context of banking, was to provide legal recognition to electronic transactions and other means of Electronic Commerce. The working group set by Reserve bank of India, has been working as a watchdog on the different aspect of the Internet banking. ICICI bank was the pioneer bank to use Internet banking for some of its services, in India. ICICI bank and a lot of other Indian banks use the Internet banking system to provide online banking solution. In the current scenario Indian customers are moving towards Internet banking, slowly but steadily. Most of the big Indian banks like SBI, BOB, and BOI etc. have started providing Internet banking services. The banking systems are upgrading and bringing many electronic banking medium for customers so that banking can be made more convenient. There is a potential growth of Internet banking in India. Thus the main objective of this research is to identify demographic factors influencing the adoption and use of on-line banking.

1.2 Consumer beliefs about Internet banking

The adoption of electronic banking has been a burning issue for financial institutions recently and the object of various academic studies. According to Athanassopuolos et al., while price, speed and the bank's reputation seemed to be important criteria for the adoption of electronic banking, some weight was also placed on knowledge of banking personnel and their willingness to serve customers. Customers tend to value convenience, increased choice of access to the bank, and improved control over the banking activities and finances in electronic banking. She says that banks have recognised that electronic banking could reduce banking costs and offer further competitive advantage. Furthermore, consumers regarded accessibility, functionality and service at low price as important in Internet banking. Jayawardhena and Foley maintain that time, privacy, control and economy are among important aspects with which customers are concerned. Consumers are becoming busier and hence are seeking to carry out transactions at a time of their convenience. Negative attitude towards the security of Internet banking remains the most important issue for banks. Security concerns arise from the use of an open network: customers are afraid that their financial information might become an open book to other people via the Internet. Karjaluoto and Mattila, however, argue that security concerns are not among the greatest obstacles. Lack of awareness of the service and benefits, usage problems, security concerns, high costs, resistance to change and lack of computer access were found to be the main barriers for the adoption of electronic banking by Australian consumers. The development of electronic banking will fundamentally depend on how many people acquire and retain Internet access.

The most important reason for adopting Internet based services is actually each individual's attitude towards technology itself. In general, it is more likely that people who are familiar with computers and the Internet will adopt Internet banking services before people who are not familiar with computers.

The present study aims to describe the adoption of electronic banking by consumers in India. By studying the beliefs of different types of consumers, new valuable information concerning electronic banking can be obtained. In addition, studying the relationship between demographic variables and Internet banking behaviour, provides a clarification of factors affecting, for instance, the intention to recommend Internet banking to other people.

2. METHODOLOGY

The data were collected by means of a questionnaire that was mailed to 3,000 individual consumers in India. The data were first divided into three different groups labelled old users, new users and non-users on the basis of their electronic banking experience. A thousand questionnaires were mailed to each group. Old users were users using internet banking service since 1997 or before 2010. The second group — new users — began using Solo-service after 2010. The last group — non-users — was not using Solo-service in 1997 and does not use it now. The respondents were customers of ICICI bank and HDFC bank. Questionnaires were first posted at the beginning of January 2012, and then remailed in April 2012.

The quantitative sample was targeted to match the demographics of ICICI and HDFC bank customers in India along dimensions such as gender, age, education level, income and profession. Scales to measure each of the beliefs were developed based on previous literature and existing scales. Measures of beliefs were based on the suggestions of Fishbein and Ajzen. Three types of questionnaires were prepared and sent. However, most of the questions addressed were the same, but questions varied little in terms of experience about using the banking service, expectations about the service, etc. All questionnaires consisted of questions about consumers' demographic characteristics, environmental questions about their banking in general (eg the distance from home to bank branch), bill payment questions, and bill payment mode (mobile phone, PC, ATM) etc.

Respondents were also asked detailed questions about the use of the Internet in banking, the factors affecting the choice of banking mode, and their attitudes towards technology, the Internet and Internet banking. Every question on the questionnaire focused directly or indirectly on a specific issue and it was ensured that questions were brief and clear. However,

some of the questions were found hard to answer by study participants. While designing the survey instrument, it was ensured that instrumentation bias was avoided. Multiple choice questions were used. Details of the questionnaire are given in the next section.

Questions concerning consumer beliefs were implemented on a seven-point Likert scale. Respondents were asked to complete the seven-point scale on each question or proposition indicating its importance in defining their beliefs, attitudes and intentions towards electronic banking (eg –3=not at all important, to 3=very important). Results will be presented in simple terms, which look at the effects of the individual difference factors on beliefs. At the end statistical tests were conducted to determine if there is a significant relationship between intention to recommend Internet banking to others and demographics.

3. RESULTS

After a follow-up, overall responses received were 1,193, but 26 of these were discarded as they were either blank, filled out wrongly, or answered only one or two questions. The authors were satisfied with the response rate, which was finally 38.9 per cent. This was far beyond their expectations and also a little above the acceptable response rate by economic science standards, which suggest a rate between 20 and 30 to be normal and acceptable. The remaining 1,167 questionnaires were used for data analysis. Demographics of the participants are shown in Table 3.1 to 3.3. As explained earlier in this study, questionnaires were sent to three different target groups that differed in terms of Internet banking knowledge and usage rate. The first group was called non-users; they were not using electronic banking services. Responses were received from 349 participants (response rate 34.9 per cent). The second group consisted of new users who had had the user ID and password for less than three years; a major proportion of the respondents of this group was currently not using electronic banking services. A total of 344 responses were received from this group (response rate 34.4 per cent). The third group consisted of long-standing users, and as expected, this group was the most eager to participate in the study. Responses were received from a total of 474 participants (response rate 47.4 per cent).

Table 3.1 Sex and age distribution (n=1167)

Sex (s.d.0.50)	566 female (48.5%); 601 male (51.5%); s.d. 0.4998		
Age (s.d. 0.93)	Under 18	1	0.09 %
	Between 18-24	9	0.7 %
	Between 25-34	118	10.1 %
	Between 35-49	459	39.3 %
	Between 50-64	369	31.6 %
	Over 65-	211	18.1 %

Table 3.1 shows that 48.5 percent of the study participants were female and 51.5 percent male. The largest age group consisted of those aged 35-49 (39.3%). A total of 31.6 percent of the respondents were aged between 50-64, and 18.1 percent were over 65. Approximately 11 percent were 34 or younger. Thus, the demographic age profile of the study participants shows the middle-aged to be the dominant group.

Figure 5.1 Age distribution between target groups

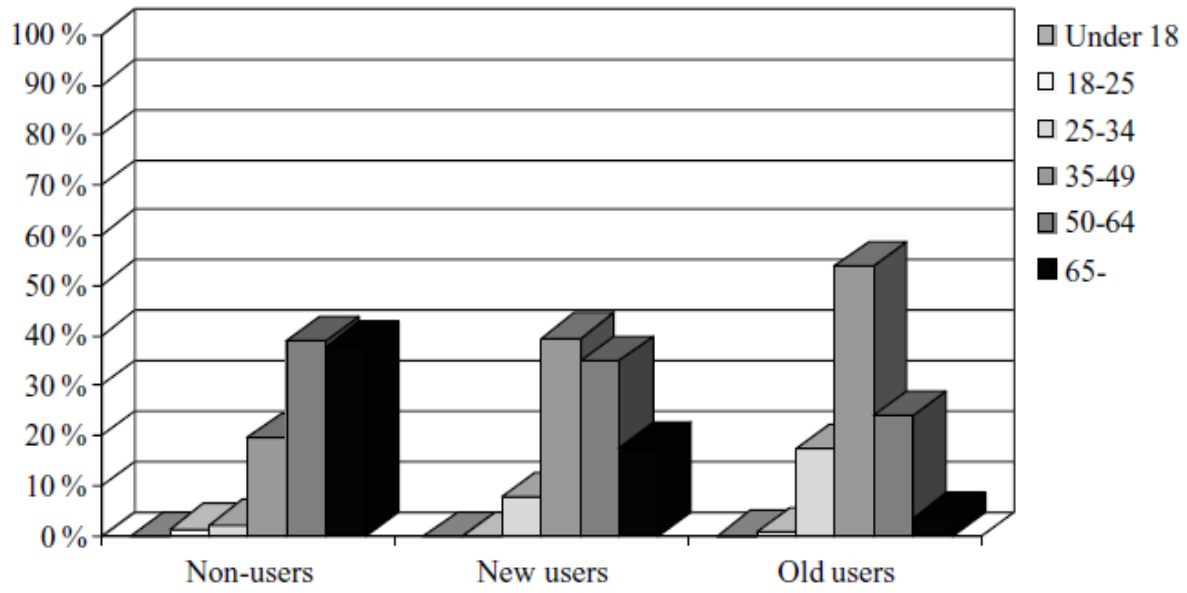

Figure 5.1 depicts the age distribution between the three different groups. As can be seen, nonusers were relatively old, (77% aged fifty or more). New users were a little bit younger: near by 40 percent of the respondents was aged 35-49. Old Internet banking users were relatively young, as has been suggested in Internet research (e.g. Jayawardhena and Foley 2000; Mattila 2001). However, we would argue that a typical Internet banking user is not as

young as the literature suggests. The age group 50-64 accounted for 24 % of the old users, which is relatively high proportion. To sum up, the present data analysis suggests that age has an impact on the use of Internet banking. Additionally, the results imply that the typical Internet banking user is middle-aged.

Table 3.2 Marital Status and Education

	Non Users		New Users		Old Users		Total	
Marital Status	***No***	***%***	***No***	***%***	***No***	***%***	***No***	***%***
Married	170	49.4	190	55.2	320	67.7	680	58.3
Cohabitation	23	7.0	52	15.4	63	13.3	139	11.9
Single	52	15.1	40	11.6	44	9.3	136	11.7
Widow	42	12.2	22	6.4	6	1.3	70	6.0
divorcee	57	16.6	40	11.6	40	8.5	137	11.7
No answer	3. 5	0.9	0	0	2	0.4	5	0.4
s.d.	1.48		1.40		1.22		1.42	
Education								
Secondary	163	47.4	82	23.8	30	6.4	275	23.6
Technical	17	4.9	27	7.8	65	13.8	109	9.3
Business school	35	10.2	56	16.3	87	18.4	178	15.3
Vocational	61	17.7	71	20.6	38	8.1	170	14.6
Student	15	4.4	26	7.6	35	7.4	76	6.5
University degree	29	8.4	63	18.3	192	40.7	284	24.3
Other	24	7.0	19	5.5	25	5.3	75	6.4
No answer	3	0.9	0	0	2	0.4	5	0.4
s.d.	2.14		2.00		1.68		2.09	

Other central issues in tracing the demographic characteristics of nonusers and current users are marital status and educational level. Table 3.2 shows that both marital status and education level varied between the groups. In total, most of the respondents (58.3%) were married. A total of 11.9 percent lived in cohabitation, and 11.7 percent were single. More specifically, a total of 49.4 percent of the nonusers were married, whereas 55.2 percent of the new users and 67.7 percent of the old users were married. The proportion of divorced and widowed persons was the highest among nonusers (29.1%), while of the old users only 1.3 percent were widows and 8.5 percent were divorced. This is partly explained by the age factor: nonusers were older than users. The frequency results given in table 3.2 suggest that marital status and education influence the use of Internet banking.

The education level of the participants varied heavily. A total of 23.6 percent had secondary education, 9.3 percent had technical education, 15.3 percent had business school education, 14.6 percent had vocational school education, 6.5 percent of the respondents were students, 24.3 percent had a university degree, and 6.4 percent had other education. Education seems to impinge on Internet banking usage; 40.7 percent of the old users had university degree while only 8.4 percent of the nonusers had it. Moreover, close to 50 percent of the nonusers had only basic secondary education. New users were also higher educated than nonusers; 18.3 percent had a university degree. Standard deviation for education was relatively high in all three groups. Table 3.3 displays the household income, profession, and field of employment of the respondents.

Table 3.3 Household income, profession and field of employment

Household Income per	*Non users*		*New Users*		*Old users*		*Total*	
year	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Less than Rs 50,000	54	15.5	26	7.6	2	0.4	82	7.0
50,001 – 75,000	54	15.5	20	5.8	4	0.8	79	6.8
75,001 – 100,000	29	8.3	14	4.1	3	0.6	46	3.9
100,001 – 125,000	52	14.9	46	13.3	12	2.5	110	9.4
125,001-150,000	31	8.9	36	10.5	24	5.1	91	7.8
150,001 – 175,000	20	5.7	13	3.8	19	4.0	52	4.5
175,001 – 225,000	45	12.9	65	18.9	69	14.6	179	15.3
225,001 – 275,000	21	6.0	40	11.6	92	19.4	153	13.1
More than 275,001	22	6.3	71	20.6	245	51.7	338	30.0
No answer	21	6.0	13	3.8	4	0.8	37	3.2
s.d.	2.59		2.61		2.28		2.81	
Profession								
Executive	8	2.3	20	5.8	98	20.7	126	10.8
Entrepreneur	15	4.3	41	11.9	48	10.1	104	8.9
Pensioner	182	52.1	74	21.5	29	6.1	285	24.4
Official	29	8.3	57	16.6	198	41.8	284	24.3
Worker	58	16.6	97	28.2	38	8.0	193	16.5
Not in work	35	10.0	28	8.1	13	2.7	76	6.5
Farmer	3	0.9	2	0.6	0	0	3	
Undergraduate	3	0.9	4	1.2	12	2.5	18	1.5
Public servant	10	2.9	15	4.4	26	5.5	51	4.3
Other	4	1.1	5	1.5	11	2.3	24	1.7
No answer	2	0.6	1	0.3	1	0.2	4	0.3
s.d.	1.55		1.49		2.26		2.01	
Field of employment								
Industry	31	8.9	52	15.1	85	17.9	168	14.4
Trade	10	2.9	29	8.4	38	8.0	77	6.6
Information technology	2	0.6	9	2.6	78	16.5	89	7.6
Logistics	10	2.9	13	3.8	16	3.4	39	3.3
Administration	17	4.9	34	9.9	70	14.8	121	10.4
Primary production	8	2.3	3	0.9	2	0.4	13	1.1
Banking / Assurance	1	0.3	2	0.6	13	2.7	16	1.4
Services	27	7.7	53	15.4	67	14.1	147	12.6
Other	31	8.9	45	13.1	56	11.8	132	11.3
No answer	212	60.8	104	30.2	49	10.3	365	31.2
s.d.	3.42		3.15		2.97		3.01	

Table 3.3 shows that household income seems to be a major factor affecting the use of Internet banking. Most of the respondents were quite wealthy, 30.0 percent of the respondents earned more than Rs 275,001 per year, and 13.1 percent earned Rs 225,001 – 275,000. The income categories below Rs 175,000 accounted for 31.6 percent of the total respondents. It is also worth noting that the household size affects overall household income per year. As can be seen, a total of 51.7 percent of the old users had a household income of more than Rs 275,000 per year. Another interesting implication of the table is that over 40 percent of the nonusers had a household income of less than Rs 100,000.

The occupational distribution of the respondents varied widely. The largest proportion of the respondents was pensioners (24.4%). The second largest group was the official employees

(24.3%) followed by blue-collar workers (16.5%) and managers (10.8%). It is worth noting that only 1.5 percent were undergraduates. This is in line with the age of the respondents, as the total sample consisted mainly of older people. As we have discussed earlier, nonusers were the oldest group, and contained 52.1 percent pensioners. Bluecollar workers formed the second largest occupational group (16.6 %), followed by the unemployed (10.0 %). Only 2.3 percent of the nonusers were in leading position. As can be seen, 28.2 percent of the new users were blue-collar workers, 21.5 percent pensioners, and 16.6 percent officials. Executives accounted for 5.8 percent. Table 3.3 also illustrates that the most common occupation for old users was that of officials (41.8 %), followed by executives (20.7%), and entrepreneurs (10.1%). To sum up, occupation seems to have an impact on Internet banking. Current users are more educated and have higher occupations than nonusers. This finding is in line with the past literature (see e.g. Jayawardhena and Foley 2000).

Most of the respondents worked in industry (14.4%) followed by services (12.6%) and administration (10.4%). The largest proportion of nonusers worked in manufacturing industry (8.9%), whereas the most common category for new users was services (15.4%) and for old users industry (17.9%), followed by information technology (16.5%). In total, respondents appeared reluctant to answer this question concerning their economic sector they worked in (no answer 31.2%).

4. SUMMARY AND CONCLUSIONS

This paper investigated individual differences in electronic banking by analyzing different aspects of customers' demographics. The study is based on survey of 1167 respondents divided into three different groups labelled old users, new users and non-users on the basis of their electronic banking experience. The respondents were customers of ICICI bank and HDFC bank. Questionnaires were first posted at the beginning of January 2012, and then remailed in April 2012.

The results of the study found that nonusers differ in demographic terms relatively much from current electronic banking users. Table 4.1 summarizes the demographic differences on the basis of the overview of the survey results between nonusers, new users, and old users:

Table 4.1 Summary of the demographic differences in electronic banking

Group	*Characteristics*
Nonusers	Relatively old (77% older than 50 years)
	Not high educated (47% had only basic school education)
	Low household income per annum (39% less than FIM100,000)
	Pensioners (52%)
New users	Mixture of nonusers and old users
	Secondary education
	Relatively wealthy (32% had a household income more than FIM225,001)
	Blue-collar workers (28%)
Old users	40 percent belonged to age group 35-49
	Men dominated (almost 60% were men)
	Married (58%)
	University degree (41%)
	Wealthy (52% had a household income more than FIM275,000)
	White-collar workers (42%)

We have now described the demographics of the survey participants, which showed that demographics have an impact on the use of Internet banking. First, we saw that a typical Internet banking user is aged 35-49, which is relatively high compared to previous studies. We also found that marital status seems to have an impact on the use of Internet banking. Our results imply that a large proportion of Internet banking users was married. Further, we saw that education is one of the key driving force toward the adoption of Internet banking: 40.7 percent of the old users had university degree against only 8.4 percent of nonusers. Next we discussed respondents' household income, profession, and field of employment. We saw that household income has a major effect in the adoption of Internet banking. Old users had much higher household income per year than nonusers did. This partly explains the fact that profession had a great impact. We saw that nonusers were mainly blue-collar workers or pensioners while users worked mostly as executives, officials, or entrepreneurs. Finally, we saw that the field of employment also had an impact. To sum up, demographic factors seem to have relatively high impact on the use of Internet banking. In conclusion, age, education, income, and profession are the most influential demographic variables affecting Internet banking usage. These results contribute to our understanding of Internet banking users as well as nonusers.

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