

A Study of Customers' utilization of Internet Banking Channel in Mumbai

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Abstract: Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Information and Commutation Technology has impacted the Banking industry by providing a remote channel to the Banks to reach and service their customers. The study attempts to understand the customers' adoption and utilization of internet banking in the Mumbai region. Survey method was chosen and a questionnaire was administered in the city of Mumbai. Chi square data analysis tool was used to test the association of the frequency of banking features used/utilized through internet banking with the profile of the customer/ user. The empirical results stipulate that there is still a long way to go with regards to the Internet Banking channel to become primary channel of communication, distribution and service between the Bank and their customers. The paper provides the status of the internet banking adoption by the customers in urban India. This study provides a direction to the Banks to do a comprehensive segmentation of their existing customer base and design a tailored tactic to reach and influence them to adopt the Internet Banking channel.

Keywords: Internet Banking

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I. Introduction – Banking Industry In India

Indian banking industry is serving the second largest populated country in the world. Middle class consumers are prominent drivers of growth and consumption in India due to their increasing disposable income. A report by National Council for Applied Economic Research's (NCAER) Centre for Macro Consumer Research indicates that by 2015-16, India will be a country of 53.3 million middle class households, translating into 267 million people. NCAER defines Indian middle class as the one with income level between INR 3.4 lakh-17 lakh at 2009-10 level. On the other hand, global aspirations of Indian corporates call for funding of cross-country acquisitions, greater sophistication in services and scaling up of resources from the Indian banks. RBI's final guidelines for licensing of new private sector banks towards beefing up competition and garnering fresh capital for financial inclusion would roll in a timely debate on the need for consolidation vis-a-vis numerical expansion in the industry. To meet these requirements and challenges, industry players are gradually harnessing technology with cloud computing and analytics based on big data becoming a key differentiator (KPMG, May 2013, Indian Banking).

The Indian banking system comprises of 26 public sector banks, 25 private sector banks, 43 foreign banks, 56 regional rural banks, 1,589 urban cooperative banks and 93,550 rural cooperative banks, in addition to cooperative credit institutions. Public-sector banks control nearly 80 per cent of the market. (IBEF, Banking, February 2017). The banking scenario in India has gained momentum, with the domestic and international banks gathering pace. All the banks in India are following the 'cost', determined by revenue minus profit model. This means that all the resources should be used efficiently to improve the productivity and ensure a win-win situation (KPMG, May 2013, Indian Banking).

Reflecting on the growing popularity of Internet banking, the total number of user registrations for Internet banking in India at present stands at over 2 million, as per an IDC report. However, these findings need to be adjusted for dormant users and multiple accounts, which means that a user having accounts with more than one bank. As per IDC estimates, India has a little less than a million active Internet banking users that might be just 0.096 per cent of the total population, but represent 15 per cent of the Internet user population in India. In its latest report on the status of e-Banking in India, IDC feels that though the banks have taken the first step, they have got a long way to go before Internet banking becomes a way of life (KPMG, February 2016, Digital Banking). It is estimated that the cost to the bank per transaction done over the Internet is nearly one eighth of that done through branch banking. So the challenge to all banks will be to expand the Internet banking user base and slowly increase the range of services customers use. How the banks fare in designing, improving, marketing

and rolling out services will greatly impact the adoption trends (KPMG, February 2016, Digital Banking). According to Reserve Bank of India estimates, there is an incentive for both banks and customers to convert to mobile banking, considering that mobile banking costs 2 per cent of branch banking, 10 per cent of ATM and 50 per cent of internet banking.

Net Banking and Mobile Banking being the buzz word around it is important and interesting to understand the adoption of these services by the consumers.

II. Literature Review

In these days, banks work hard to attract consumers and keep their market share by providing them with more innovative services through Internet banking. Banking services are now just at the distance of one click from the mouse. Given the nature of its operations and services, the banking sector is relatively amenable to innovative technologies. In particular, the development of electronic communication channels has had a profound impact on the industry. As per the findings Michal Polasik and Tomasz Piotr (2009), the behaviour of Polish internet users and that of consumers in more developed countries exhibit similar traits. One of the dominant relationships that have been observed in our study is the link between the decision to open an online account and the perceived level of security of internet transactions. Experience with the medium of internet and certain demographic variables also proved to be robust predictors of the adoption status.

The health of the economy is vital for enhancing the competitiveness of an economy. According to a research conducted by Agboola, Ayodeji Akinlolu, PhD and Salawu, Rafiu Oyesola (2008), well developed economies have greater soundness because of developed institutions, good integrity systems (governance) and high innovative capacity. The soundness of banking is significantly lower in developing and under developed countries. In many developing and under developed countries, despite large investments in infrastructure and technology unfortunately the institutions and legal frameworks (supporting pillars) have not kept up with technological changes. This has resulted in the lack of transparency, accountability, and quality of service, thus increasing the probability of money laundering and other negative externalities. In another study on Optimizing the Use of Information and Communication Technology in Nigerian banks (2013) they suggested that efforts should be made to address to avoid lost costs of idle time. Some of these efforts may include the need to adopt the use of ATM to reduce the number of customers that come into the banking hall for services, making efforts to keep the traffic intensity at a reasonable figure by providing better and adequate facilities if the arrival rate cannot be controlled, reducing the service time by the adoption of more ICT products such as smart cards, telephone banking, ATM, etc.

Another research paper illustrating the impact of E CRM on Commercial Banking states that banks in Kerala are forced to quickly adapt to these demands to remain competitive have increased and to understanding customer needs, thus changing the earlier traditional concept of CRM to E-CRM. As banks use CRM for acquiring and retaining customers, greater ICT-adoption makes CRM more meaningful and powerful, and the traditional concept of CRM is fast giving way to E-CRM. Pooja Malhotra (2010) through her paper states that Internet banking in India which had started with simple functionality, has now extended to services like online bill payment, transfer of funds between accounts and cash management services for corporate. It has also emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labour intensive methods with automated processes thus leading to higher productivity and profitability. Internet banking refers to the use of Internet as a delivery channel for the banking services which is one of the newest and least researched but most promising delivery channel for retail banking services. According to the research findings Norazah Modd Suki (2010) states that Hedonic oriented Internet banking sites, perceived Importance of Internet banking to banking needs and Compatibility all affect the adoption of Internet banking by Malaysian consumers. Chao Chung (2012) suggested factors that are significant in respect of Taiwanese customers' adoption of Internet banking services. Convenience, accessibility and feature availability are the main motivators for consumers to use Internet banking service.

He also reveals that security and privacy play important roles in discouraging the customers to use Internet banking services. The results of the study conducted by José Mauro da Costa Hernandez & José Afonso Mazzon (2008) show that the effects of eight variables were significant in determining the intention to adopt Internet Banking by Brazilian non users. They are compatibility with lifestyle, subjective norm, self-efficacy, image, relative advantage of security and privacy, relative advantage of control, trainability and technological support. A study of the USA developed market by (Hogarth, J. M., Kolodinsky, J., & Gabor, T., 2008) put forth the benefits that customers seek from e-banking channel. Security, Privacy, convenience, and familiarity and ease of use were the important factors for the adoption of e-banking. The study also specified the profile of the consumers' who are more likely to adopt broad range of electronic payment choices. It states that younger, married, more highly educated, higher income, higher asset households were more prospective for these services.

FarkhanandaShamim (2007) in his cross country analysis on the ICT environment, financial sector and economic growth provides empirical and global evidence that the component of financial sector developed by better telecommunication infrastructure is positively associated with long run economic growth and gross capital formation. He has suggested that for developing countries to exploit opportunities for leapfrogging even with weak financial system, it is important to invest in the sector of information and communication technology.

1.1 Research Question

- 1) Customer acceptance and level of adaptability to the new channel of Internet Banking?

III. Research Methodology

Survey method was chosen and a Questionnaire comprising of 6 variables/questions was administered in the city of Mumbai. Quantitative analysis was adopted to test the hypothesis. Chi square data analysis tool was adopted to understand the association of the frequency of banking features used/utilized through internet banking and the profile of the customer/ user. The customers of the Banks which provide access through the Internet Banking Channel to their customers are part of this study. The banks are HDFC, ICICI, AXIS, SBI, IDBI, Kotak, Citibank, HSBC and a few others who provide this facility.

1.2 Variable

1.2.1 Dependent Variable

Frequency of Usage of Internet Banking (features available online)

- a. Funds Transfer
- b. Fixed Deposit
- c. Account Statement & Summary Cheque Status & Transaction Status
- d. Request for cheque book
- e. Request for Demand Draft
- f. Loans
- g. Insurance
- h. Credit & Debit Card Details
- i. Generating pins for Credit & Debit Card
- j. Credit Card Bill Payment
- k. IT Returns Filing
- l. Financial Planning
- m. Financial Investments (Mutual Funds)
- n. Financial Investments- Equity Scripts & IPOs (DEMAT Account)
- o. Registration of Complaints & Problem Solving

1.2.2 Independent Variable

Demographic profile of the customer:

- a. Age
- b. Gender
- c. Education
- d. Annual Income and
- e. Work experience

IV. Theoretical Framework

Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Everett Rogers popularized the theory in his book *Diffusion of Innovations*; the book was first published in 1962, and is now in its fifth edition (2003). Rogers argues that diffusion is the process by which an innovation is communicated through certain channels over time among the participants in a social system. The origins of the diffusion of innovations theory are varied and span multiple disciplines. Rogers proposes that four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system. The innovation must be widely adopted in order to self-sustain. Within the rate of adoption, there is a point at which an innovation reaches critical mass. The categories of adopters are: innovators, early adopters, early majority, late majority, and laggards. Diffusion manifests itself in different ways in various cultures and fields and is highly subject to the type of adopters and innovation-decision process.

Hypothesis

H0 - There is no association/relation between the frequency of usage of banking products available through the channel of Internet banking and the profile of the customer (age, gender, educational qualification, annual income and work experience).

H1 - There is an association/relation between the frequency of usage of banking products available through the channel of Internet banking and the profile of the customer (age, gender, educational qualification, annual income and work experience).

V. Research Design

5.1 Target Population

Indian Banking customers, age of 21 years or above. Should have a minimum education qualification of Graduation and should be a working professional or self-employed.

5.2 Sampling Method

Non-probability convenience sampling method was adopted.

5.3 Sample Size

234 stomers banking with various private and public sector Banks operating in India were surveyed.

VI. Empirical Results

Reliability Test – Cronbach's Alpha

Table 1

Case Processing Summary				Reliability Statistics	
		N	%	Cronbach's Alpha	N of Items
Cases	Valid	234	100.0	.886	16
	Excluded	0	0.0		
	Total	234	100.0		
a. List wise deletion based on all variables in the procedure.					

The Cronbach's Alpha score is greater than 0.886 points. Reliability analysis shows consistency among the number of items constructed to collect the actual results.

6.1 Descriptive Statistics

6.2 Demographic of the Customer

Table 2

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30	88	37.6	37.6	37.6
	31-40	72	30.8	30.8	68.4
	41-50	60	25.6	25.6	94.0
	51 & above	14	6.0	6.0	100.0
	Total	234	100.0	100.0	
Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	138	59.0	59.0	59.0
	Female	96	41.0	41.0	100.0
	Total	234	100.0	100.0	
Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Graduate	98	41.9	41.9	41.9
	Post- Graduate	136	58.1	58.1	100.0
	Total	234	100.0	100.0	
Income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 5L	56	23.9	23.9	23.9
	5-15L	118	50.4	50.4	74.4
	>15L	60	25.6	25.6	100.0

i	Total	234	100.0	100.0	
d	Work-experience				
		Frequency	Percent	Valid Percent	Cumulative Percent
V	<5 yrs.	84	35.9	35.9	35.9
a	5-10 yrs.	36	15.4	15.4	51.3
l	>10 yrs.	114	48.7	48.7	100.0
i	Total	234	100.0	100.0	
d					

Descriptive statistics of the customer profile displays the true representation of the population and make this study sincere and well-meaning.

6.3 Utilization of Features available through Internet Banking Channel.

Table 3

Funds Transfer					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	46	19.7	19.7	19.7
	Rarely used	46	19.7	19.7	39.3
	Most frequently used	142	60.7	60.7	100.0
	Total	234	100.0	100.0	
Funds Deposit					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	152	65.0	65.0	65.0
	Rarely used	46	19.7	19.7	84.6
	Most frequently used	36	15.4	15.4	100.0
	Total	234	100.0	100.0	
Account Statement & Summary Cheque Status & Transaction Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	22	9.4	9.4	9.4
	Rarely used	34	14.5	14.5	23.9
	Most frequently used	178	76.1	76.1	100.0
	Total	234	100.0	100.0	
Cheque Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	90	38.5	38.5	38.5
	Rarely used	82	35.0	35.0	73.5
	Most frequently used	62	26.5	26.5	100.0
	Total	234	100.0	100.0	
Request for cheque book					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	88	37.6	37.6	37.6
	Rarely used	84	35.9	35.9	73.5
	Most frequently used	62	26.5	26.5	100.0
	Total	234	100.0	100.0	
Request for Demand Draft					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	170	72.6	72.6	72.6
	Rarely used	44	18.8	18.8	91.5
	Most frequently used	20	8.5	8.5	100.0
	Total	234	100.0	100.0	
Loans					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	184	78.6	78.6	78.6
	Rarely used	30	12.8	12.8	91.5
	Most frequently used	20	8.5	8.5	100.0

	used				
	Total	234	100.0	100.0	
Insurance					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	178	76.1	76.1	76.1
	Rarely used	34	14.5	14.5	90.6
	Most frequently used	22	9.4	9.4	100.0
	Total	234	100.0	100.0	
Credit and Debit Card Details					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	76	32.5	32.5	32.5
	Rarely used	52	22.2	22.2	54.7
	Most frequently used	106	45.3	45.3	100.0
	Total	234	100.0	100.0	
Generating PINS for Credit and Debit Card					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	108	46.2	46.2	46.2
	Rarely used	74	31.6	31.6	77.8
	Most frequently used	52	22.2	22.2	100.0
	Total	234	100.0	100.0	
Credit Card Bill Details					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	104	44.4	44.4	44.4
	Rarely used	46	19.7	19.7	64.1
	Most frequently used	84	35.9	35.9	100.0
	Total	234	100.0	100.0	
IT returns filling					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	178	76.1	76.1	76.1
	Rarely used	32	13.7	13.7	89.7
	Most frequently used	24	10.3	10.3	100.0
	Total	234	100.0	100.0	
Financial planning					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	188	80.3	80.3	80.3
	Rarely used	38	16.2	16.2	96.6
	Most frequently used	8	3.4	3.4	100.0
	Total	234	100.0	100.0	
Financial Investment (Mutual Funds)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	168	71.8	71.8	71.8
	Rarely used	46	19.7	19.7	91.5
	Most frequently used	20	8.5	8.5	100.0
	Total	234	100.0	100.0	
Financial Invest (DEMAT)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	168	71.8	71.8	71.8
	Rarely used	42	17.9	17.9	89.7
	Most frequently used	24	10.3	10.3	100.0
	Total	234	100.0	100.0	

Registration of Complain and Problem Solving					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never used	132	56.4	56.4	56.4
	Rarely used	68	29.1	29.1	85.5
	Most frequently used	34	14.5	14.5	100.0
	Total	234	100.0	100.0	

It is observed that features such as Funds Transfer, Account Statement and Summary, and Credit and Debit Card Details are most frequently used by the customer. Cheque Status and Transaction Status are rarely used. Customer never used features like Fixed Deposit, Request for Cheque Book, Request of Demand Draft, Loans, Insurance, Generating PINS, Payment of Credit Cards Bills, IT Returns Filing, Financial Planning, Mutual Funds, and Equity - DEMAT Account, Registration of Complaints Features that are mostly status updates and mundane work in nature (Account Statements and Summary, Credit and Debit Card details, and Cheque Status) are frequently used whereas features that are more strategic in nature (Fixed Deposits, IT Return Filing, Financial Planning, Investment in Mutual Fund and Equity) are never used.

1.3 Chi square Statistics

Table 4

	Age	Gender	Education	Income	Work Ex
Banking services available online					
Funds Transfer	0.035	0	0.905	0	0.012
Fixed Deposit	0.455	0.557	0.381	0.364	0.099
Account Statement & Summary	0.004	0.043	0.448	0.636	0.004
Cheque Status & Transaction Status	0.001	0	0.138	0.126	0
Request for cheque book	0	0.164	0.839	0.853	0
Request for Demand Draft	0.027	0.082	0.322	0.328	0.007
Loans	0.366	0.04	0.01	0.608	0.02
Insurance	0.029	0.263	0.056	0.069	0.002
Credit & Debit Card Details	0.054	0.29	0.404	0	0.006
Generating pins for Credit & Debit Card	0.052	0.034	0.438	0.031	0.007
Credit Card Bill Payment	0	0.338	0	0.369	0
IT Returns Filing	0.202	0.041	0.02	0.324	0.014
Financial Planning	0.159	0.643	0.492	0.001	0.133
Financial Investments (Mutual Funds)	0.826	0.113	0.521	0.016	0.036
Financial Investments - Equity Scripts & IPOs (Demat Account)	0.834	0.002	0.207	0.118	0.024
Registration of Complaints & Problem solving	0.252	0.001	0.016	0.014	0.079

It is observed that the frequency of usage of the following features differ as per the customer's age. Funds Transfer, Account Statement & Summary, Cheque Status & Transaction Status, Request for DD, Insurance, Credit & Debit Card Details, Generating pins for Credit & Debit Card and Credit Card Bill Payment. We reject the Null Hypothesis with regards to the above mentioned features made available through the channel of Internet Banking. The rest of the features there is no association with the customer's age. Customers belonging to different age groups show a similar behavior.

It is observed that the frequency of usage of the following features differ as per the customer's gender. Funds Transfer, Account Statement & Summary, Cheque Status & Transaction Status, Request for DD, Enquiry for Loans, Generating pins for Credit and Debitcards, IT Returns Filing, Investments in Equity Scripts & IPOs (DEMAT account) and Registration of Complaints and Problem Solving. We reject the Null Hypothesis with regards to the above mentioned features made available through the channel of Internet Banking. The rest of the features there is no association with the customer's gender. Customers belonging to different gender, males and females show a similar behavior.

It is observed that the frequency of usage of the following features differ as per the customer's education. 'Enquiry for Loans', 'Insurance', 'IT Returns Filing', 'Credit Card Bill Payment', and 'Registration of Complaints and Problem Solving'.

We reject the Null Hypothesis with regards to the above mentioned features made available through the channel of Internet Banking. The rest of the features there is no association with the customer's education qualification. Customers with different level of education show a similar behavior.

It is observed that the frequency of usage of the following features differ as per the customer's income. 'Funds Transfer', 'Insurance', 'Credit & Debit Card Details', 'Generating PINs for Credit and Debit Cards', 'Financial Planning', 'Financial Investments (Mutual Funds) & 'Registration of Complaints and Problem Solving'. We reject the Null Hypothesis with regards to the above mentioned features made available through the channel of Internet Banking. The rest of the features there is no association with the customer's income level. Customers belonging to different income groups show a similar behavior. It is observed that the frequency of usage of all the features except 'Financial Planning' differ as per the customer's number of years of work experience. We reject the Null Hypothesis and infer that except for the feature of 'Financial Planning' the frequency of usage of all the features made available through the channel of Internet Banking has an association/relation with the number of years of work experience of the customer.

VII. Conclusions

The empirical results specify that there is still a long way to go with regards to the Internet Banking channel to become primary channel of communication, distribution and service between the Bank and their customers. Most of the features are never used by the customer through this channel. Only few (funds transfer, Account summary, Credit card and debit card details, and Cheque Status and Transaction summary) are used. The low frequency of usage of the strategic features like Financial Planning, and Investments in different portfolios, hedging the funds in different instruments, buying insurance and evaluating the eligibility for loans indicates that the customer seems to still follow the traditional channel and the Personal Banking service rather than the remote online banking service.

The results also show that the frequency of usage is highly associated with the profile of the customers in most of the features through the channel of Internet Banking. These suggest that Banks can do a comprehensive segmentation of their customer base and understand the profile and characteristics and behaviour of the early adopters and laggards. It can customize its plan and communication strategy and design different campaigns to increase awareness and educate the customer to use the Internet Banking channel. This is required to be done if the Banks plan to optimize the benefits of Internet Banking and aspire to take giant steps in increasing their reach in a cost effective manner.

Research Limitations And Scope For Further Research

A further in-depth study of each profile segments will throw more light on the customer behaviour. A study to understand the psychographic, lifestyle of the customers will provide further insights on the behaviour of the customers and assist the Banks to design strategies and campaigns to target their customers and build a strong customer base having a higher lifetime value.

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