

Factor analysis approach of decision making in Indian e-banking: a value adding consumer's

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Abstract :

Globalisation has been regarded as the standard process for success. Financial institutions are providing better service to have competitive advantage. Banking industry worldwide is offering various options, financial products and services to enhance customer satisfaction. Innovative ways for information technology are used to provide services. Undoubtedly e-banking (EB) is the technological wonders and is gaining popularity. EB is regarded as pulse of the nation. It is important for banks to encourage customers to use EB. Banks-trusted business service providers, have the opportunity to leverage their existing relationships to provide full range of high quality trusted internet business services to their customers. This paper investigates several factors affecting adoption of EB. The prominent among these factors are ease of use of EB followed by some reluctance of customers to change relationship and trust in banker, cost of computers, internet accessibility and security concerns. This study clearly reveals the segment, which are in demand for attention of managers and researchers of EB services.

1. Introduction

Banking industry world-wide is characterized by an increasing global trend towards internalisation, mergers, take over and consolidation. This industry is becoming more turbulent and competitive. Non-banking companies are also joining band-wagon of banking industry by offering attractive financial products and services. So there are a number of options to customers in choosing banking services. The banking industry aided by technological development attempts to build customer satisfaction through

providing better products and services and reducing operating costs. Thus the banking industry is innovating for betterment. The advent of technological development particularly in the area of telecommunications and information technology brought the latest innovation of internet banking known as E-banking (EB). This phenomenon has been suggested in a number of empirical studies (Bielski, 2000; Booz, Allen and Hamilton, 1997; DeSourdy, 2001) devoted to analysis of development of electronic banking and its operations. The resultant general view exists that E-banking is very effective and enables banks to provide an inexpensive and direct way of doing banking business.

A number of studies have been carried out relating to the issues in the wider context of E-banking (Balachandher, Santha, Norhazlin, and Prasad, 2000; Suganthi, Balachandher, and Balachandran, 2001), particularly in respect of rationales and benefits of E-banking, which produces customer loyalty and service quality. However, comprehensive research investigating the relative importance of factors that influence the adoption of E-banking is scant. The purpose of this study is to narrow down the existing gap in the literature by highlighting the factors that influence the adoption of E-banking. Among financial services the role of banking is critically important in Indian economy. With a network of 67000 branches spread across the country, Indian banking is the major

provider of employment. It also brings in huge foreign exchange for growth of the economy. Moreover the country also possesses a relatively good education attainment level as well. Indeed it is estimated that around 15% of major bank customers have an E-banking account and make use of it². Branch banking took too much time and efforts, people are now able to make transitions at the click of the fingers. The structure of the paper is as follows: in the next section, we review the relevant literature in the area. Background information on Indian banking sector is then presented with factors determining the demand for E-banking. The next section describes the research methodology, which is then followed by the data analysis. The paper concludes with result from survey of this study.

2. Literature Review

E-banking has been defined by Pikkarainen, Pikkarainen, Karjaluoto, and Pahlila,(2004) as an accessible internet channel which customers can use for various kinds of banking services such as making bill payment or investments. Access to any kind of banking transaction can be availed by customer at the click of a mouse (De Young, 2001). According to the opinions of Flavián, Torres, & Guinalú (2004); and Gan, Clemes, Limsombunchai, & Weng (2006), the use of the internet as a new alternative channel for the distribution of financial services, cannot be regarded, just a means of gaining competitive advantage, rather it has become a competitive necessity. Most of the banks provide additional facility as E-banking, for customers around the world. Karjaluoto, Mattila, and Pento (2002) consider internet as the most important delivery channel of the era. Cost saving is the significant rationale for use of E-banking technology from the banks perspective (Robinson, 2000; Sathye, 1999). Pikkarainen et al. (2004) expressed their opinion to the

effect that banks use online banking as it is one of the cheapest delivery channels for banking products. It saves time and money and minimizes risk of committing errors (Jayawardhena & Foley, 2000). Karjaluoto et al. (2002) strongly supported E- banking stating that customers around the world can have relatively easy access to their accounts round the clock. Banks are targeting different demographic segments more effectively to attract new customers due to increasing competitive pressure. Robinson (2000) believes that E-banking services enable banks to establish and extend good relation with the customers existing as well as new ones. Tuchilla (2000) points out that various advantages to banks by online banking include mass customization to suit each user, and communication at cheaper cost. Banks also get motivated for improved market image by developing non-core products such as insurance and stock brokerage (Jayawardhena & Foley, 2000). Numerous benefits to customers include convenience of service, lower cost of transition and frequent monitoring of accounts, among others.

The well known benefits of E-banking are numerous with some reserves mainly in terms of security of the system. However, this study is not intended to analyse the benefits of E-banking but, as stated earlier to investigate the possible factors that determine the adoption of E-banking, especially for the case of India. Below we discuss the theoretical underpinnings and provide some empirical evidences on these possible factors for E-banking. It should be noted that empirical evidence has been indeed scant in the literature until now.

The limited number of people having access to Internet is important among many factors that determines level of demand for E-banking of services. Other factors in this respect are that of cost and speed of internet

connections (Li & Worthington, 2004; Sohail & Shanmugham, 2003). It is also argued by Li and Worthington (2004) that customers do not show much confidence on E-banking transactional and security concerns that may take place during online banking. Customers are yet to have full trust in internet as claimed by Stewart (1999).

Banks are using innovative internet services to lure the customers. But it is found that poor infrastructure could lead to diffusion of innovation in a short span of time. The study from Jayawardhena and Foley (2000) shows that correlation between the website downloaded speed and web-users' satisfaction is significant for E-banking including other factors such as content and design, interactivity, navigation and security. These features were endorsed by Broderick and Vachirapornpuk (2002) whose narrative analysis of E-banking customers indicated the reasons for negative word-of-mouth like lack of help and empathy by E-banking providers. The choice of communication is another aspect to be considered. Hiltz, Johnson, & Turoff (1986) found that computer mediated communication is less personal than face to face exchanges. In another research on the Information Richness theory by Daft & Lengel (1986) it is indicated that complex messages can be transmitted in a better way by face to face communications. Clark and Mills (1993) concluded that individuals may have different criteria for relationship with bankers, some may prefer more personal and friendship-like relationship while there may be others who value efficiency preferring impersonal association'. Tomiuk and Pinsoneault (2001) concurring the above view stated that banks' ability in creating a trustworthy relationship between their customers and employees will most likely be affected by sound presence of E-banking as E-banking

will be an attractive alternative for those customers who value efficiency.

Many other theories are existing relating consumer behavior to varying rate of adoption and level of acceptance of E-banking. In an earlier study Rogers and Shoemaker (1971) pointed out that consumer go through several stages of familiarization of knowledge before they make decision for adoption of any innovative product or service. Guiltinand and Donnelly (1983) emphasized on the importance of awareness before adoption of any innovative products. Interestingly as Doll, Raghunathan, Lim and Gupta (1995) also claimed that product information content on the web design and layout are also important factors that affect customer satisfaction. Sohail and Shanmugham (2003) further argued that proper navigational attributes and search facilities are important to have an impact on the customer perception of E-banking site. In an of empirical work done by Mattila and Mattila (2005) for the Finnish banking customers' survey responses including both internet users and non-users of E-banking, security concern has been considered as the main barrier to the adoption of internet innovation.

3. Indian Banking Sector and E-banking

Indian financial services industry is dominated by the banking sector that contributes significantly to the revenues of this industry. Banking sector is indeed the corner stone for an overall economic growth of the country. Before liberalization, the India banking structure was largely controlled and parameters like branch size and location were given paramount significance. It is now a proactive and dynamic entity.

This transformation is the result of liberalization, economic reforms and rapid strides in IT which allowed banks to explore new business opportunities in the ever-changing and turbulent environment.

The government closely monitors developments in the whole financial sector through Reserve Bank of India which is the governing body of Indian Banking Industry. The banking sector is dominated by scheduled commercial Banks (SCBs). There were 296 commercial banks operating in India till March end 2002, including 27 Public sector Banks (PSBs), 31 private 42 foreign and 196 Regional Rural Banks. There were 67 scheduled Cooperative banks consisting of 51 scheduled urban Cooperative banks 16 scheduled state Cooperative Banks. State Bank of India with a market share of 20% is the largest bank of India having a network of more than 11000 branches. ICICI bank achieved the position of second largest bank with a balance sheet of 1040 billions. ICICI bank kicked off line banking in 1996. Currently 98% of its customers base is registered for e-banking¹.

The commercial banks are witnessing immense progress. They are on the path of gaining leadership in Internet banking, phone banking, ATM. Their growth is progressively increasing. They have implemented reduction of employee strength but still they are showing progress. The customers have now the opportunities to participate in global market place because of open access by use of Internet. E banking is a cost effective delivery channel for financial institutions. Customers are enthusiastic about many benefits of E-banking. Customers are also increasing becoming sophisticated as they have access to the latest form of information technology (such as internet). Access to one's account from any location at anytime via the worldwide web is a convenience not heard of a short time ago. Banks are being recognized having E-banking status. They are making efforts to enable the customer to access information about his or her specific accounts.

The Internet has leveled the playing field and afforded open access to customers in the global marketplace. E-banking is a cost-effective delivery channel for financial institutions. Consumers are embracing the many benefits of E-banking. Access to one's accounts at anytime and from any location via the World Wide Web is a convenience unknown a short time ago. Thus, a bank's Internet presence transforms from 'broucheware' status to 'E-banking' status once the bank goes through a technology integration effort to enable the customer to access information about his or her specific account relationship. The six primary drivers of E-banking includes, in order of primacy are:

- Improve customer access
- Facilitate the offering of more services
- Increase customer loyalty
- Attract new customers
- Provide services offered by competitors
- Reduce customer attrition

Indian banking industry is facing unprecedented competition from non-traditional banking institutions, which are trying to have competitive advantages by offering banking and financial services over the Internet. It becomes difficult for an organization to comprehend how its customer evaluates the quality of services. The competitors are using relaxation and deregulation of the banking industry and application of new technologies, effectively and efficiently (Malhotra & Singh; 2001). E-banking throughout the country, is in the nascent stage of development (till the end of 2007 only 50 banks were offering varied kind of E-banking services). In general, only most basic services are being offered by internet site' (55% are so called 'entry level' sites just offering little more than company information and basic marketing information. Only 8% offer 'advanced transactions' such as online funds

transfer, transactions and cash management services. Foreign and Private banks are much advanced in terms of the number of sites and their level of development (Ali , Bharadwaj 2008).

The internet usage and population statistics indicate that by 1998 there were approximately 1400000 users of internet banking accounting for 0.1% of the population of 1094870677. The number of users of E-banking grew substantially with increase in population and surprisingly number of user grew three times (i.e. 4200000) by the end of 2007, accounting for 3.7% of total population of 1129667528 of that year².

The Internet and it's underlying technologies will change and transform not just banking, but all aspects of finance and commerce. It represents much more than a new distribution opportunity. It will enable nimble players to leverage their brick and mortar presence to improve customer satisfaction and gain share. It will force lethargic players who are struck with legacy cost basis, out of business-since they are unable to bring to play in the new context.

4. Research Methodology:

There are two aims of this study. The first aim is to determine the internet banking services most useful and demanded; the second is to investigate the factors that influence adoption of E-Banking.

4.1 Methodology

4.1.1 Instrument

A structured questionnaire was used in this study. At the beginning of the questionnaire, there was an introduction including objectives of the proposed study and instructions. The first section consisted of questions to solicit respondents' demographic profile.

The second section included the different factors affecting the usages of E-banking.

Respondents were asked to indicate their degrees of agreement or disagreement with 20 statements.

A pre-test of the instrument was employed to assess the instructions, wording and questions of the questionnaire. This resulted in some major changes.

4.1.2 Questionnaire administration

A list of 50 licensed banks in India was obtained from the Indian Association of Banks to guide the sampling frame construction. Accordingly, a database, comprising 790 people using e-banking services was compiled as a sampling frame for the study. A self-administered questionnaire, with a business reply envelope, was mailed to the sampling unit. After two weeks, a reminder, accompanied with an identical questionnaire, was distributed. Respondents were asked to return the questionnaire by a specified cutoff date; 180 usable questionnaires were collected from New-Delhi, Kolkata , Mumbai and Chennai, yielding an effective response rate of 22.8 per cent.

The study was exploratory in nature. Total population was customer of banks of National Capital Region of India. Sample size was 180 customers. Individual respondent was the sampling unit.

4.2 Tools Used For Data Analysis

4.2.1 Data analysis

For data study factor analysis was used to study the factors affecting behavior of consumer in adopting E-banking as the service. Services are often characterized by their intangibility, and heterogeneity.

4.2.1.1 Factor Analysis

Factor analysis is a means by which the regularity and order in phenomena can be discerned. As phenomena co-occur in space or in time, they are patterned; as these co-occurring phenomena are independent of each other.

What factor analysis does is this: it takes thousands and potentially millions of measurements and qualitative observations and resolves them into distinct patterns of occurrence. It makes explicit and more precise the building of fact-linkages going on continuously in the human mind.

1. Reliability (using Cronbach's alpha method) was applied to check the reliability of the questionnaire.
2. Factor Analysis was used to find out the underlying factors

5. Analysis of data

Table 1: Demographic profile of respondents:

	Category	No of people	%	Cumulative percentage
Age in years	20-25 years	47	26	26
	25-35 years	83	46	72
	35-45 years	27	15	87
	45 -60 years	14	8	95
	> 60 years	9	5	100
	Total	180	100	
Marital Status	Married	108	60	60
	Unmarried	72	40	100
	Total	180	100	
Sex	Male	162	78.9	78.9
	Female	38	21.1	100

	Total	180	100	
Education	Upto school	27	15	15
	UG under graduate	80	44.44	59.44
	PG postgraduate	68	37.78	97.22
	Upto Phd	05	2.78	100
	Total	180	100	
Occupation	Business	52	28.9	28.9
	Service	47	26.1	55
	Homemaker	30	16.6	71.6
	Entrepreneur	51	28.4	100
	Total	180	100	
Income group	Below 1 lakh per year	38	21.11	21.11
	1-3 lakh per year	48	26.67	47.78
	4-6 lakh per year	42	23.33	71.11
	7-10 lakh per year	43	23.89	95
	Above 10 lakh	9	5	100
	Total	180	100	
Internet access per day	Less than 1 hour	90	50	50
	1-5 hour	56	31.1	81.1
	5-8 hour	24	13.3	94.4
	More than 8 hours	10	5.6	100
	Total	180	100	
Banking experience	1-3 years	62	34.45	34.45
	3-6 years	76	42.22	76.67
	Morethan 7 years	42	23.33	100
	Total	180	100	

Table 2: Services used by consumers

E-banking services	Frequency	Percentage
Issue of current , saving A/C statement	17	9.44
Change request of limit of credit card	8	4.44
Debit / Credit card	17	9.44
Foreign Exchange A/C	5	2.78
Loan	10	5.56
Telephone Internet banking	9	5
Inter account transitions	22	12.22
Transfer to other personal account	14	7.78
Transfer to local bank account	14	8.89
Payment for recharge mobile phone	18	10
Payment for Railways , Airways Fare	10	5.56
Payment to credit card account	13	7.22
Inter account transactions	22	12.22
Total	180	100

Table 1 reports a demographic profile of the respondents, in terms of sex, age, marital status, occupation, education, annual income, internet access per day and banking experience. Factoring was based on a principal components analysis with a varimax rotation of 14 and 18 items that describe the different relational benefits and customer adoption dimensions suggested by literature, respectively. Before

conducting the factor analysis, a test was carried out to establish whether variables correlated to each other with the end aim of finding out whether it was possible to carry out a factor analysis. According to analysis of factors for adoption of E-banking and customer adoption variables correlated with each other respectively, which meant it was possible to perform a factor analysis. Table 2 indicates that among the various E-banking services used by customers, inter-account transitions and inter-account transactions were used the most each with a usage percentage of 12.22. Requests for current or savings account statements come in abundance and this service is also highly used with a usage percentage of 9.44. Transfers to other personal and local accounts also occur a lot.

Furthermore, Table 3 shows the Cronbach's Alpha measures of sampling adequacy (score 0.783) indicated a practical level of common variance and therefore factoring was appropriate.

The factors whose eigen values were greater than 1 were selected according to the criteria developed by Kaiser (1958). In addition, only factor loadings greater than 0.5 were included in the analysis (Hair, J.F., Jr, R.E. Anderson, R.L. Tatham and W.C. Black. 1998) and items with extractions lower than 0.5 were not included in the analysis.

5.1 Reliability Test:

A factor analysis was performed on the consumer's data of adoption of E-banking. This generated theoretical groupings of the survey questions within major categories by summarizing the questions into a minimum number of factors. The initial solution was rotated orthogonally (varimax) to reach the final solution (Ali , 2008 , 2006 a,b) .

Reliability test was carried out using SPSS and the reliability test measure is given below:

Table 3: Cronbach's Alpha

Cronbach's Alpha	N of Items
0.783	180

The acquired number is bigger than 0.6 (0.783). Hence all these standards indicate that the data is suitable for factor analysis.

5.2 Demographic profile:

Previous studies on E-banking as well as theories of consumer behavior have shown demographics to be a factor influencing the adoption of technology based product and services. Therefore we have also taken the demographics into account in our paper as shown in Table 2. Preliminary analysis is well supported by the Table 3. It can be seen that inter-account transfer, payment to other personal account, payment to credit card account, payment for recharge of mobile phones, issue of current and saving account statement etc, are some of the services used frequently by E-banking users.

6. Results and Discussions

6.1 Demographic analysis

The demographics characteristics of the respondents depict that the maximum users belong to 25-35 group which can be mainly characterized as the youth whereas minimum number is old people of age above 60 years. This reveals that the adopters of E-banking services are relatively young consumer as they are more likely to adopt new technology such as E-

banking. The consumer has been mainly divided into four categories of academic-qualifications. They also have been divided according to their marital status. It reveals that the E-banking consumers are mostly young, married graduates and earning average salaries. As far as the income level of the respondents is concerned, we have taken it from less than 3 lakh per annum to more than 10 lakh annually¹. Moreover the respondents are also divided on the basis of sex as today women are playing significant roles in any type of surveys especially in urban areas and they were prominent respondents for this research. Experience of banking as user and internet access per day is also focused and reveals maximum users are having moderate banking experience with maximum internet hours ranging in between 1-4 per day.

6.2 factor analysis data

There are only seven factors each having Eigen values exceeding one for adoption of E-banking. The index for the present solution accounts for 62.763% of the total variations for the consumer adoption. It is pretty good extraction because we are able to economize the number of choice factors. (*i.e.* from 18 statements to 7 underlying factor). The percentage of variation explained by factor one is 23.568 % and that of 2, 3, 4, 5, 6 and 7 are 9.833%, 8.978%, 7.663%, 6.475%, 6,253% and 5.958% respectively.

¹. According to current exchange rate
1 US Dollar = 52.46 Indian rupees(Rs.)

Since there were many factors therefore principle component factor analysis with varimax rotation and Kaiser normalization was applied. The factor analysis

results in 7 factors for adoption of E- Banking among Indians and the factors were named according to common nature of statements. The detail about the factor included the factor number, factor name , their Eigen value and their Item loading as given in Figure1 :

6.2.1 Factor Discussion:

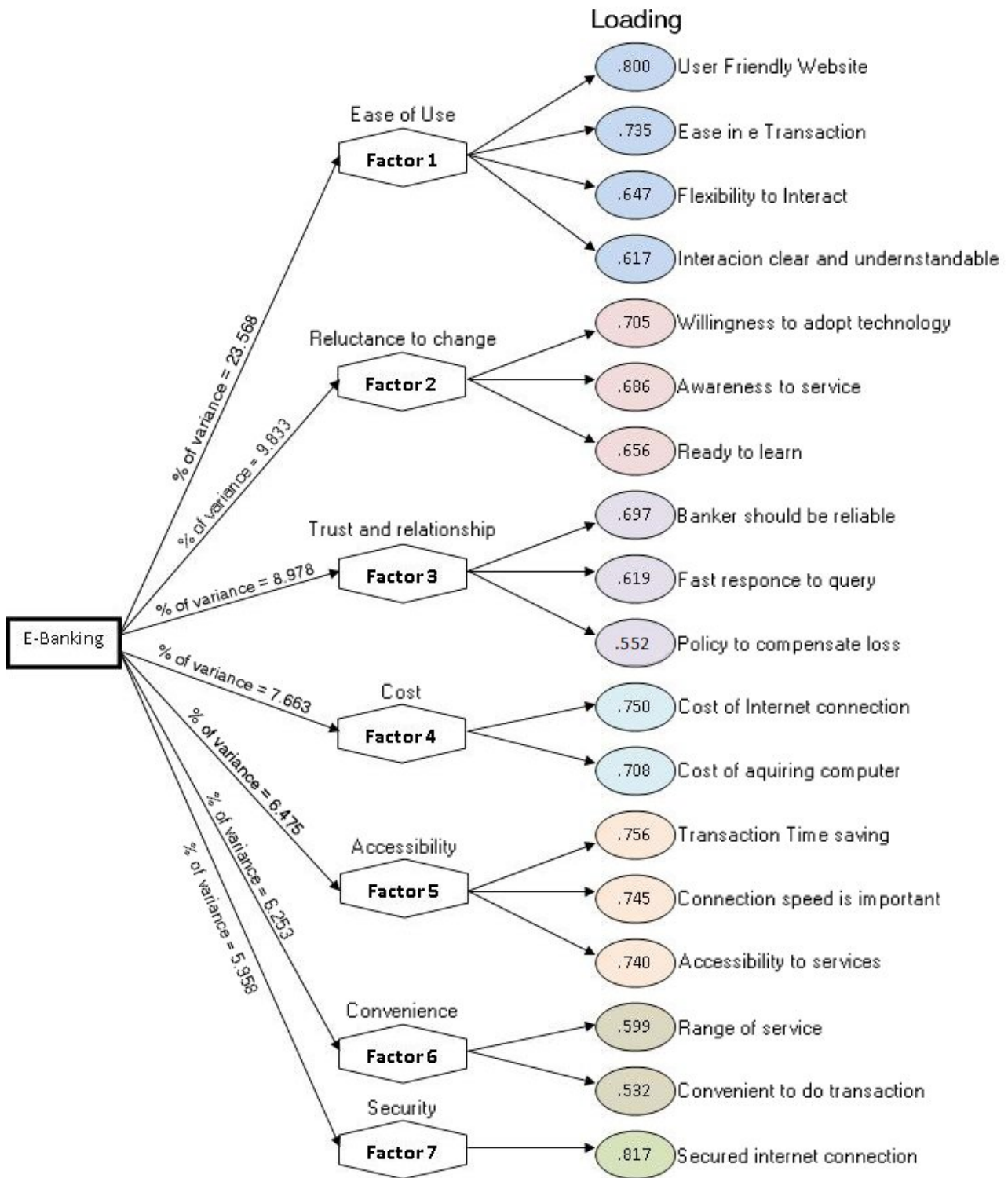


Figure 1: Factor Affecting E-banking

1. **Ease of Use:** This factor has emerged as a most important determinant of research with a total variance of 23.568. Major element of this factor include user friendly website (.800), Ease in performing transaction (.735) etc. During our research we find that user friendly website does affect the adaptation of E-banking among customer at large extent.
2. **Reluctance to Change:** This factor has emerged as the second most important determinant of research with a total variance of 9.833. Major element of this factor includes willingness to adopt new technology (.705), level of awareness of service (.686) etc. The study shows that customer's willingness to learn and adopt new technology affects the E-banking adaptation decision.
3. **Trust and Relationship:** This factor emerged as the important determinants of research with a variance of 8.978. Major elements consisting this factor include reliability of banker (.697), bank response rate to query (.619) and bank policy to compensate for loss (.552). This study shows that trust and relationship with banks play a significant role in increasing the chance of E-banking adaptation.
4. **Cost:** This factor has emerged as the effective determinants of research with a variance of 7.663. The elements consisting of this factor include cost of acquiring internet-connection (.750) and cost of buying new computer (.708). This study reveals that because having additional cost borne by the customer on purchase of computer and internet-connection stops customer from adopting E-banking services.
5. **Accessibility:** This factor has emerged as a relevant factor of research with a total variance of 6.475. Major elements of this factor includes transaction time (.756), connection speed (.754) etc. This study reveals that time taken to complete the transaction and speed of the connection of website also affects the E-banking adaptation.
6. **Convenience:** This factor has also emerged as the effective factor of research with a total variance of 6.253. The element consists in this factor is range of services being offered (.599). More the number of services offered by bank through E-banking process more is the chance to add online customer.
7. **Security:** This factor has also emerged as an important finding of research with a total variance of 5.958. Element of this factor is security of internet connection (.817). Security related to E-banking process also affects the adaptation of the process by customer. There is a dual requirement to protect customers' privacy and protect against fraud. Banking Securely: Online Banking via the World Wide Web provides an overview of Internet commerce and how one company handles secure banking for its financial institution clients and their customers. A multi-layered security architecture comprising firewalls, filtering routers, encryption and digital certification ensures that your account information is protected from unauthorized access.

7. Conclusion:

As in the present era we are witnessing a shift in the preferences of the customers. They have no time to waste either by standing in a queue to pay telephone bills, electricity bills or to buy railway tickets and the list goes on. Even banking sector is not an exception to this. For withdrawal of money from their accounts in the banks they have additional ATMs, which has proved itself highly beneficial both for the banks and the customers. Customers need high quality services and security for their money. After making a detailed study and survey in New Delhi, Mumbai, Kolkata, and Chennai, which accounts for nearly 90% of the total online services, we can generalize the findings of this study to the whole of India. Study strengthens the old saying – older are reluctant to change.

The young generation has moved forward to reap the benefits of the new services. 72% of the total customers who uses online banking lies in the age group of 20-35 years and customers lying above 35 years has only a mere share of 28%. Though there is not a big difference between the customers who are married (60%) and unmarried (45%) but it is tilted towards married customers, the difference will only be revealed if another study is conducted with a large sample. Here, there is no need to mention that males (98%) has emerged as a clear cut winner when it comes to customers using online banking services but the females are emerging rapidly as online customers and this is also due to lesser literacy ratio among females.

When study was focused on students using online banking service it revealed that 15% customers are school goers, 37.78% are undergraduate college students and 44.44% of customers are under Graduate students and the rest portion is of PhD. Persons involved in business, service and entrepreneurs

accounts for 28.89%, 26.11% and 28.33% respectively while homemakers' only accounts for 16.67%. When study was done on basis of income it was found that persons having annual income of more than 1 lakh accounts for 79% of the total online customers. Moreover when it comes Internet users, 50% customers use Internet for less than an hour a day. Customers having a banking experience of less than 6 years accounts for 87.22% of total online customers, which too reveals that younger generations are the real online customers for the banks.

When it comes to services used by consumers – only four services - Issue of current & saving A/C statement, Inter account transitions, transfer to personal accounts, and payment for recharge of mobile phones accounts for 52.22% and the rest of services accounts for 47.78%.

The factors, which have attracted the consumers towards online banking, are accessibility, convenience, cost, and above all confidence of consumers towards this e-banking service. But there are also some points where banks has to work hard to attract more customers like security and awareness of its services to the end users. If banks address these issues properly then surely we will see a robust growth in the number of online customers in recent years.

8. Managerial Implications and Future research:

As we know no study is useful unless it serves humankind in one way or the other, so in our study we have taken special care regarding managerial implications of E-banking. E-banking services has great opportunities which can be tapped by banks. The management of banking industry and financial institutions has a special role to play in adoption of E-banking by customers. The managers must make use of

experts in the field of E-banking and follow up their recommendations. It is important to have a multi-layered security architectural comprising firewalls, filtering routers, encryption and digital certification to ensure protection from unauthorized access and use. Also, for safe and secure online transactions, the new inexpensive yet secure IP VPN technology can be used instead of the expensive VPN technology in order to cut down on expenses. Managers have to work hard on the security issues so that their customers are safe and customers can have faith and confidence in the banking sector. Cost-effective solutions should be implemented and accessibility to all services from different countries should also be a vital point of consideration. Banks must target on younger and new customers who are in the age group of 20-35 years as this age group is techno savvy.

Efforts should be made to have most of the possible services available 24/7 and to support a paper-free environment. Users should be well aware of the services and their benefits. Efforts should also be made to have quicker services in order to avoid long queues. The records and transactions should be continuously monitored and registered simultaneously and frequent audit trails must be carried out.

Research needs to be done with respect to study of most prominent and efficient banking services, which can be fruitful, convenient and user-friendly to E-banking customers. Some of the banking services for inclusion in E-banking are facilitating opening of new accounts, payments to fixed deposits and recurring

deposits, grant of house loans , investment in financial institution , requisition for new cheque books , deduction of taxes at sources applicable as these services take too long in India. In the study by Rishi (2008), significant factors of online shopping behaviour for indian customers was discussed and shown that the most important factors are ease of use and security concern etc.

9. Limitations:

As we know no study is useful unless it serves humankind in one way or the other, so in our study we have taken special care regarding managerial implications of E-banking. E-banking services has great opportunities which can be tapped by banks. This study clearly reveals about the segment which are in demand by the customers so that they can be focused by the managers before going in for e-banking. Managers have to work hard on the security issues so that their customers are safe and customers can have faith and confidence in the banking sector. Banks must target on younger and new customers who are in the age group of 20-35 years as this age group is techno savvy. Moreover there is need for more and exhaustive research on E-banking so as to provide a clear picture of E-banking.

Many constraints affected this study limiting the survey to Metro cities of Delhi, Kolkata, Chennai, and Mumbai of India. People residing in NCR have the benefit of better economic and social conditions with added advantage of good education and opportunities of employment and earnings. Availability of internet connection and computers is not much of the burden to people of Metro region. The survey is conducted on Metro cities only. The resultant emerging picture could

have been different if the survey covered most parts of India.

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Appendix -1