

# CUSTOMER ADOPTION OF MULTI CHANNEL USAGE: AN EMPIRICAL INVESTIGATION OF THE BANKING INDUSTRY

Vimi Jham, PhD.

Institute of Management Technology, India

## Abstract

Banks in India have succeeded in promoting new services to its customers. The likelihood of current customers is tempted to do business online. The study sought to investigate factors that influenced Indian bank customers' adoption of three major banking channels, i.e. branch banking, ATM and Internet banking. Based on extant literature on bank marketing and interviews with bank managers in India, a questionnaire was designed. Then, in a large-scale survey by means of personal and telephone interviews, data was obtained from bank customers. This paper focuses on the adoption of multi channel banking by existing banks customers through an investigation of the factors that influence customer's acceptance of multi channel banking services. An exploratory study of the Indian customers in six banks is conducted to identify the factors which lead to adoption of multi channel banking services with the help of data reduction technique called Factor Analysis.

**Keywords:** *retail banking, services, Factor Analysis, banking channels, branch banking, Internet banking, ATM, multi channel banking services, customer satisfaction*

## Introduction

As information technology becomes more and more sophisticated, banks in many parts of the world are adopting a multiple-channel strategy. Globally, the number of websites increased from 23,000 in 1995 to more than 55 million in 2005 (Zakon, 2005). The amount of Internet marketing research had grown dramatically since the review conducted by Ngai (2003) thus the right mix of banking channels depends not only on the channel characteristics, but also on the preferences of the consumers within a particular market. The challenge for bank marketers is to find the right mix of distribution channels so that they can remain profitable in different market

segments. To this end, bank marketers have to understand why their customers like or dislike a particular channel. An understanding of the factors that have bearings on the adoption of different banking channels can help a bank adjust its marketing strategies. The present study aims to obtain insights into the factors that can influence adoption of banking channels among Indian bank customers.

### **Literature survey of multi channel banking**

There is need for research to identify the factors that determine adoption of various channels provided by the bank. Significant effect of computer self-efficacy on behavioural intention through perceived ease of use, perceived usefulness, and perceived credibility is still to be assessed with the banking sector. Traditional branch-based retail banking remains the most widespread method for conducting banking transactions in India as well as any other country. However, Internet technology is rapidly changing the way personal financial services are being designed and delivered. In India banks have tried to introduce Internet-based e-banking systems to improve their operations and to reduce costs. Despite all their efforts aimed at developing better and easier Internet banking systems, these systems remained largely unnoticed by the customers, and certainly underused in spite of their availability. Holbrook and Hulburt (2002), McCole (2004) have made a compelling argument that the Internet is simply a new and evolving marketing channel that will find its place into the marketing mix of some, but certainly not all organizations. At the 2005 Direct Marketing Association's annual conference, much of the buzz from Internet practitioners pertained to multi channel consumer strategies seemingly supporting this point of view.

As Davis (1989) noted, future technology acceptance research needs to address how other variables affect usefulness, ease of use, and user acceptance. However, factors affecting the acceptance of a new IT are likely to vary with the technology, target users, and context (Moon and Kim, 2001). Recent research has indicated that trust has a striking influence on user willingness to engage in online exchanges of money and personal sensitive information (e.g. Hoffman et al., 1999; Friedman et al., 2000). The first dimension of trust, perceived credibility, is the extent to which one partner believes that the other partner has the required expertise to perform the job effectively and reliably (Ganesan, 1994). The second dimension of trust is benevolence. Benevolence is rooted in repeated buyer-seller relationships (Ring and Van de Ven, 1992; Zaheer et al., 1998). Perceived credibility is usually impersonal and relies on reputation, information and economic reasoning (Pavlou, 2001). It is more related to one's judgment on the privacy and security issues of the

Internet banking systems. Consequently, perceived credibility is used as a new construct to reflect the security and privacy concerns in the acceptance of Internet banking.

Previous studies have found that in banking service, product quality plays an important role in determining customers' perceptions of the overall banking service quality. The bank product quality is primarily associated with product variety and diverse features. Strieter et al. (1999) noted that one of the most important developments in banking is the increased emphasis on marketing a wide array of financial services. Dixon (1999) also argued that the key to getting more customers for the banks through online service is not attraction of the Internet itself but the product offered to the customers. This argument was supposed by Latimore et al., (2000), who found that 87 percent of Internet banking customers want to make a variety of financial transaction at one side (so called "one-stop shopping"), including paying their bills electronically and automatically, viewing their monthly bank statements, and purchasing stocks and insurance. Therefore it could be noted that since the present banking customers, with the advent of the Internet technology, can have unlimited access to financial information and enjoy a wider range of choice in selecting competitive products and financial institution than ever before, the subtle "differentiating" quality levels (e.g. diverse features) of bank products and their timely introduction on the marketplace have become a key driving force in attracting new customers and enhancing customer satisfaction (Moles, 2000).

As electronic banking becomes more wide spread, managers of financial institutions need to be able to assess the impact of losing relationships and accounts to aggressive online alternatives. Kennickell and Myron (1997) examined the determinants of demand for electronic media for financial transactions; they found that the likelihood of using electronic media to obtain banking services rises with higher levels of financial assets and education. Additionally, younger consumers tend to use computers, ATMs, and debit cards more. However, the use of direct deposit rises with age. Kolodinsky et al. (2000) also found that age and education has an influence on whether consumers use electronic banking products. However, they conclude that positive attitudes toward e-banking services matter more than demographic factors in determining whether such services are used. These items included statements related to perceived use, convenience, relative advantages and risk associated with electronic banking. Mantel (2000) investigated the factors that influence consumers' willingness to use electronic bill payment. Jeevan (2000) observes that the Internet enables banks to offer low cost, high value added financial services. Banks as well as consumers view the security threat as perhaps the most serious threat. Denny (2000) observes that the security

of Internet access to client account is the biggest challenge facing banks.

One of the major factors affecting the banks is the changing need and perceptions of the consumer (Rose, 2000). Increasingly, consumers expect online services from their financial institutions (Constantine, 2000) and electronic delivery of services is becoming a necessity.

Multiple branches spread across the country and lack of national bandwidth are major constraints, especially for public sector banks (Varma, 2001). 65% of these banks are plagued with union issues, inertia and apathy towards online channels in India. With somewhat restricted growth of foreign banks due to their perceived expensive services, private entrepreneurial banks have pulled ahead. With deregulation and increasing competition from private and foreign banks, Indian banks had to gear up their technology infrastructure to get competitive edge on online service delivery (Jeevan, 2000). The lack of telecoms infrastructure and PC penetration is still a major problem for Indian banks.

### **Objective of the study & gaps in research**

Perceived ease of use and perceived usefulness may not fully reflect the users' intention to adopt multi channels banking, necessitating a search for additional factors that better predict the acceptance of Internet banking. Several important external variables that have received more and more attention such as individual differences, computer self-efficacy as suggested by research (Agarwal and Prasad, 1999). Individual differences refer to user factors that include traits such as personality and demographic variables, as well as situational variables that account for differences attributable to circumstances such as experience and training. Furthermore, there has been no such empirical research to explicate how individual differences influence the usage intention of Internet banking. Numerous individual difference variables have been studied, including demographic and situational variables, cognitive variables, and personality-related variables (Zumd, 1979). This research paper attempts to fill this gap and identifies the various factors which will enhance the usage and adoption of multiple channels which banks in India provide the customer.

### **Research methodology**

The questionnaire was designed from the literature review. It included 33 variables which help to gain an understanding of the channel adoption factors of Indian bank customers. Six Indian banks were chosen where the questionnaire was randomly administered to 210 respondents who were also customers of the bank. Out of 210 questionnaires, 196 were completed questionnaires.

The banks chosen for the purpose of the study were the ones who have strong retail presence and offer comprehensive range of information to the customer. The 33 variables were measured with the help of 7 point semantic scale ranging from extremely satisfied to extremely dissatisfied, (where 1- extremely dissatisfied, and 7- extremely satisfied). The responses were transposed from spreadsheet to SPSS where these 33 variables were reduced to four principal components.

### Analysis of the data

The data was subjected to Principal Component Analysis, a method categorized under the broad area of Factor Analysis. The 33 variables were reduced to 4 principal components through varimax rotation method (see Table 1).

Factor Analysis is a multivariate statistical procedure primarily used for data reduction and summarisation – large number of correlated variables is reduced to set of independent underlying factors. In our sample the **Kaiser-Meyer-Olkin** measure of sampling adequacy was 0.716, i.e. greater than 0.5. This suggests that the data is adequate for Factor Analysis.

### Principal Component Analysis

After extracting the Eigen values of the four factors and the percent of variance explained by them as shown in Table 2, rotation of principal components is done through varimax rotation. After the number of extracted factors is decided upon, the next task is to interpret the name of the factors as shown below. This is done by the process of identifying which factors are associated with which of the original variables. Factor Analysis was used to summarize the 33 “channel adoption factors” into smaller sets of linear composites that preserved most of the information in the original data set.

**Table 1. Identification of Principal Components**

	Convenience	Ease of use	Security	Traditional Facilities
Variables	Principal component 1	Principal component 2	Principal component 3	Principal component 4
Information	<b>0.019</b>	-0.104	-1.411E-02	<b>5.773E-02</b>
Mutual funds	-2.550E-02	0.332	<b>0.618</b>	0.304
Payments	-0.190	-3.454E-02	<b>0.726</b>	-0.117
Reputation	-0.281	0.361	<b>0.678</b>	0.167
Stock buy / sell	-9.241E-02	-0.126	<b>0.564</b>	-0.453
Availability	<b>0.520</b>	2.030E-02	-0.778	-0.855
Convenience	<b>0.156</b>	-0.230	0.278	0.252
Accessibility	<b>0.511</b>	0.280	0.309	0.389
Time saving	-0.373	0.101	<b>0.122</b>	-0.143
Low cost	-0.219	-3.852E-02	<b>0.288</b>	-0.304

	Convenience	Ease of use	Security	Traditional Facilities
Variables	Principal component 1	Principal component 2	Principal component 3	Principal component 4
Reliable	<b>0.534</b>	-0.189	-0.711	0.764
Secure	<b>0.764</b>	-0.809	0.155	0.273
Easy to use	-0.373	<b>0.600</b>	-6.206E-02	-0.631
Quick	-0.219	<b>0.816</b>	0.255	-5.198E-02
Instant	-0.185	<b>0.549</b>	-0.169	-0.639
Privacy	-6.528E-02	0.200	<b>0.662</b>	0.135
Self service	-2.621E-02	<b>0.662</b>	<b>0.886</b>	-0.190
Need satisfaction	0.227	<b>0.886</b>	0.302	6.291E-03
Apply loan	-0.207	0.807	<b>0.614</b>	3.828E-02
Responsive	0.491	<b>0.548</b>	-9.708E-02	0.178
Flexible	-0.106	<b>0.449</b>	0.489	0.162
Timeliness of transactions	<b>0.371</b>	-0.338	-2.590E-02	-0.361
Trust	0.775	-0.159	<b>0.428</b>	2.873E-03
Error free	-0.793	0.200	<b>0.681</b>	6.931E-02
Aesthetics	-0.513	-0.198	-0.445	<b>0.281</b>
Credit card	-0.469	<b>0.586</b>	-8.458E-02	0.012
Proximity	-0.116	-0.235	0.268	<b>0.029</b>
Efficiency	-0.736	0.080	0.010	
Service scope	-0.117	6.418E-03	-0.128	<b>0.433</b>
Parking space	0.167	0.405	8.694E-02	<b>0.361</b>
Attitude of bank staff	-0.453	-0.700	0.279	<b>0.533</b>
Information dissemination	-0.855	0.111	-0.326	<b>0.425</b>
Query handling	0.112	-0.234	-0.187	<b>0.416</b>
Networking	0.124	0.145	-2.547E-02	<b>0.454</b>

Factor one had all the statements dealing with *convenience*. Factor two had all the statements related to *ease of use*. The third factor had statements related to *security* issues. The fourth factor had *traditional facilities* which a customer looks for when he / she uses the traditional channel (see Table 1).

**Table 2. Factors for channel adoption in Indian Banks**

Convenience	Ease of Use	Security	Traditional Facilities
Information	Easy to use	Mutual funds	Aesthetics
Availability	Quick	Payments	Proximity
Convenience	Instant	Reputation	Service scope
Accessibility	Self service	Stock buy / sell	Parking space
Reliable	Need satisfaction	Time saving	Attitude of bank staff
Secure	Responsive	Low cost	Information dissemination
Timeliness of transactions	Flexible	Privacy	Query handling
	Credit card	Self service	Networking
		Trust	
		Error free	
<b>Eigen Value : 7.462</b> <b>Variance explained : 24.7%</b>	<b>Eigen Value: 5.05</b> <b>Variance explained: 16.7%</b>	<b>Eigen Value:4.71</b> <b>Variance explained: 15.5%</b>	<b>Eigen Value: 4.01</b> <b>Variance explained: 13.27%</b>

The factor loadings for the variables can be seen in Table 1. The largest factor loading for the variable is marked is bold. Table 2 represents the variables represented in the four identified principal components.

### *Results of the interviews*

**Branch banking.** Undoubtedly, many banks are trying to reduce the resources needed by branch banking. However, it is still premature to talk about the operation of an entirely Internet-based bank in India. Physical bank branches with human tellers and service providers are still indispensable because this channel is needed for:

- first-time bank customers who need to open accounts;
- complicated services, such as mortgages or making remittances; and
- Face-to-face service encounters where personal identification is essential.

The cost of branch banking is quite high compared to other banking channels. Furthermore, branch banking appears to be the least profitable market segment. According to the findings of the present study, the consumers of branch banking consist primarily of the people who are financially and cognitively less resourceful, but have plenty of time. Given these findings, how should branch banking be positioned? It may be suggested that two market segments should be differentiated for branch banking. The first market segment, as mentioned above, includes those who are less financially and cognitively resourceful, but have plenty of time. They rely primarily on branch banking and visit bank branches regularly. This market segment is likely to be the majority of customers visiting a bank branch. These customers tend to use only the basic banking services, such as withdrawing cash, checking account balances, and transferring funds between accounts. Counters providing only basic banking services are sufficient to satisfy most of these customers' needs. The second market segment includes those who primarily adopt other banking channels, such as ATM or Internet banking, but occasionally have the need to go to a bank branch in person for certain transactions. For this market segment, the strategic goals of the bank should be relationship building. The bank should not consider these contacts to be cost inducing, but regard these contacts as precious business opportunities. Not many of these customers would frequently use the services of branch banking: the bank can afford to devote more manpower to serve each of these customers. The bank staff should emphasize their service quality, and try to develop a commercial friendship with these customers. Over time, the bank should find such personal

relationships to be profitable because of the higher level of customer retention and greater potential of cross-selling.

**ATM.** ATM was highly adopted by all bank customers, and adoption of it was positively associated with beliefs about its positive attributes. Informativeness seemed to be the weakest aspect of ATM banking. The ATM channel manager should seek ways to enhance informational content in this channel. For example, more financial information can be presented to the bank customers on the ATM display.

**Internet banking.** Among the three banking channels, Internet banking holds the greatest potential for development in the banking industry in India. This is because the level of adoption is still not very high – the market is not yet saturated. According to statistics compiled by NetRatings of ACNielsen (The Times of India News Service, 2001), Internet banking is expanding rapidly. Interestingly, beliefs about the convenience of Internet banking were not correlated with its adoption. Perhaps most bank customers were fully aware of the payments, trust and privacy Internet banking could bring. What really mattered were the other three attributes of the channel (i.e. informativeness, user-friendliness, and assurance). These are the areas in which channel managers have to work hard.

### *Satisfaction of the customer with multi channel usage*

According to the research, the customer uses multiple channels for convenience, ease of use, security and to access traditional facilities. The customer prefers using a secure mode of transaction when money is involved. Privacy and trust play an important role in the usage of the Internet but the satisfaction with these parameters is very low. High satisfaction is indicated with buying and selling of stocks convenience, as a time saver, self service, easy to use, getting bank information and general information, timeliness and flexibility with the use of internet banking.

### **Discussions and managerial implications**

This study provides us with a comprehensive picture of what a customer look at when using multi channel facility provided by the banks. Thus it provides an insight into how banks should allocate resources among the multi channel facility it provides to the customers.

Overall, the banking channel that was most frequently used in India is the ATMs, followed by branch banking and Internet banking. It is interesting to note that the level of convenience, ease of use and security are important factors for any kind of banking. Indeed, there is an exponential

growth of fraudulent activities on the Internet with ever more sophisticated and better organized virtual thieves (Richmond, 2005). More research is thus needed that addresses the ever-widening nature of trust and its impact on Internet usage. Related to the trust issue is government regulation and how this will impact Internet marketing, particularly in terms of how consumer protection. Unfortunately, few marketing scholars are equipped to work in this area and even fewer have research experience with these topics.

The strength of branch banking therefore seems to provide level of assurance, probably because transaction accuracy and security could be maintained more effectively in face-to-face transactions without reliance on an electronic medium. Although ATM is believed to be the weakest in the level of informativeness, it is the most frequently used banking channel. This is probably due to its high level of convenience provided to customers. Although Internet banking is also believed to have a high level of convenience, Internet banking could not beat ATM because ATM is the only channel that allows cash withdrawal 24 hours a day and does not require the customers to have access to computer facilities.

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