# ACCEPTANCE OF TECHNOLOGY BASED SELF SERVICE BANKING AMONG MATURE CUSTOMERS

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**Abstract** Technology based self service banking (TBSSB) includes banking services that customers use independently without any interaction with the bank employees. Though banks have successfully launched TBSSB services (i.e. ATM Banking, Internet Banking, Tele Banking, Mobile Banking etc.), but their adoption among mature customers is still very low in India. In this study people above 50 years of age are considered mature. The purpose of this paper is to find the factors that affect the adoption or intention to adopt TBSSB by mature customers in India. For this purpose, various attributes affecting the adoption of TBSSB by mature customers have been explored. A survey has been used to collect primary data and 152 usable questionnaires were used for the purpose of analysis. Factor analysis procedure was employed to identify the underlying structure among the various explored attributes. This study will help bank managers in gaining insight of the critical attributes and factors affecting adoption of TBSSB, which in-turn will facilitate banks to redesign TBSSB services for mature customer as well as designing promotional activities to convince more and more mature customers to adopt TBSSB.

FIELD OF RESEARCH: Marketing

Keywords: Technology Based Self Service Banking, Mature Customers, Adoption, Factor Analysis, India

#### INTRODUCTION

In India, Branch banking is increasingly being replaced by the TBSSB or electronic banking. The e-banking services provided by banks include ATM banking, internet banking, mobile banking, tele banking etc. As the products offered to the bank customers are more or less standardized in nature, banks are feeling an increasing need to differentiate themselves from the competitors on other criteria that can influence customer satisfaction and loyalty. This is so because customer satisfaction and loyalty has been shown to be of utmost importance for a firm's performance in the long run (Hallowell, 1996). Moreover, banks are under pressure to reduce cost of transactions and work load on branches. This has resulted in increasing number of banks using technology to deliver their services to customers.

Many studies throughout the world have been published on e-banking user adoption, service quality, customer satisfaction and customer loyalty. Though acceptance of various e-banking modes by young bank customers is growing, but e-banking adoption among mature customers is still very low in India. The purpose of this paper is to find the factors that affect the adoption or intention to adopt TBSSB by mature customers in India. ( )

# LITERATURE REVIEW

The success of electronic banking is determined not only by banks, but also by customers' acceptance of the service (Hosein, 2010). Despite the numerous advantages of e-banking for retail bank customers, adoption rates are invariably low (Narteh, 2012).

Mattila et al. (2003) analyzed mature customers' Internet banking behavior in Finland. Researchers found that Household income and education have a significant effect on the adoption of the Internet as a banking channel, so that over 30 percent of wealthy and well-educated mature males make e-banking their primary mode of making payments. Perceived difficulty in using computers combined with the lack of personal service in e-banking were found to be the

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# 18 PRiMa: Practices and Research in Marketing

main barriers of Internet banking adoption among mature customers. Internet banking was also found to be more unsecured among mature customers than bank customers in general.

Al-Alawi (2005) explored the applicability of online banking in Bahrain from the points of view of mature customers above the age of 35. Their study took into consideration the importance of trust-in, and familiarity-with, the Internet as factors increasing online banking acceptance between mature people. The results showed that in spite of their security concerns, mature customers are willing to adopt online banking if their banks provided them with the necessary guidance.

Laukkanen et al. (2007) investigated innovation resistance among mature consumers in the mobile banking context. The reasons inhibiting mature consumers' mobile banking adoption were compared to those of younger consumers. The empirical findings indicated that the value barrier is the most intense barrier to mobile banking adoption among both mature and younger consumers. However, aging appears to be related especially to the risk and image barriers; the most significant differences between mature and younger consumers' perceptions of mobile banking were related to input and output mechanisms of information, the battery life of a mobile phone, a fear that the list of PIN codes would be lost and end up in the wrong hands and the usefulness of new technology in general.

Most of the studies on e-banking adoption among mature customers focus on particular technology such as internet banking, mobile banking etc. The present study is about technology based self service banking adoption irrespective of technology being used among bank customer above 50 years of age.

## **RESEARCH METHODOLOGY**

This survey was conducted in Faridabad, a city based in Haryana state of India. In Faridabad, almost each and every bank is offering e-banking services like ATM, Internet, Tele and Mobile Banking. Population for the study will be all the bank customers who were using at least one of the electronic banking channel and aged above fifty years. A structured questionnaire was designed as data collection instrument. Questionnaires were used to survey 152 e-banking customers based on convenience sampling who agreed to participate in the study. Respondents' perceptions was captured corresponding to 14 attributes identified by the prior studies on a 5-point Likert type scale (1=strongly disagree to 5=strongly agree).

The attributes of the questionnaire were adopted from prior studies on e-banking (Rotchanakitumnuai and Speece, 2003; Pikkarainen et al., 2004; Aslam et al., 2011; Karimzadeh and ( )

Alam, 2012; Narteh, 2012; Kolodinsky et al., 2004; Yuttapong et al., 2009; Woldie et al., 2008; Shah and Siddiqui, 2006). A pilot survey was conducted on the fifteen mature people having bank accounts in order to examine the reliability and validity of the questionnaire. Factor analysis (using SPSS 16.0) applied to the captured responses corresponding to 14 attributes.

# **RESULTS AND DISCUSSION**

The study examined the perceptions of 152 customers of various banks who are 50 years of age and at least using one mode of e-banking. Demographic profile of the respondents is shown in Table 1. The descriptive analysis indicates that 63.82 percent of the respondents were male while 36.18 percent were female. The educational background of the respondents revealed that 69.08 percent were graduates and approx 16.45 percent were post-graduates and above, which clearly indicates that the majority of respondents were well educated. With respect to the occupation of the respondents, a large part of respondents (75 percent) were employed either as salaried workers or as businessmen.

#### Table 1: Demographic Profile of Respondents

		No. of Respondents	Percentage
Gender	Male	97	63.82
	Female	55	36.18
Highest Com- pleted Education	10th or Below	8	5.26
	12th	14	9.21
	Graduate	105	69.08
	Post Graduate and above	25	16.45
Annual Income(in Rs per annum)	upto 2 Lakhs	23	15.13
	between 2-5 Lakhs	79	51.97
	between 5-10 Lakhs	36	23.68
	10 Lakhs and more	14	9.21
Occupation	Salaried	63	41.45
	Businessman	51	33.55
	Housewife	20	13.16
	Others, Pls Specify	18	11.84

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# **EXPLORATORY FACTOR ANALYSIS (EFA)**

Factor analysis (using SPSS principal components method) applied to the captured responses corresponding to 14 attributes. To determine the underlying structure, the correlation matrix was initially examined to determine how appropriate it was for factor analysis. In Table 2, The Kaiser-Meyer-Oklin (KMO) value was 0.721, which is higher than the recommended minimum of 0.6 (Kaiser, 1974) indicating that the sample size was adequate for applying factor analysis. In addition, the value of the test statistic for sphericity (Barlett, 1954) on the basis of a Chi-squared transformation of the determinant of the correlation matrix was large. Bartlett's test of sphericity was significant, supporting the factorability of the correlation matrix and the associated significance level was extremely small (0.000). For factor extraction, Principal Component method was used, under the restriction that the eigen value of each generated factor was more than one (Malhotra and Birks, 2007). The extracted factors were then rotated using Varimax rotation method. Moreover only variables with loadings of at least 0.5 (Hair et al., 2006) were included in the analysis. Four factors were extracted, which explained 80.172% of the total variance. These rotated factors with their variable constituents and factor loadings are given in Table 3. Reliability of the factors was calculated using the Cronbach's alpha. A Cronbach's alpha value of greater than or equal to 0.7 is considered acceptable for the factor to be reliable (Hair et al., 2006). In our case all the

factors had satisfactory value of Cronbach's alpha. Hence the factors are reliable. On examining the content of the items making up each of the dimensions (factors) and taking into consideration relevant literature, we label the four factors as Security and Trust Barrier, Awareness Barrier, Socio-Cultural and Legal Barrier and Convenience Barrier.

19

#### Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measu	.721	
Bartlett's Test of Sphericity	Approx. Chi-Square	1.665E3
	df	91
	Sig.	.000

# **CONCLUSION AND RECOMMENDATIONS**

Indian banks are offering technology based self service banking for a long time, but their adoption among mature customers (above 50 years) is still very low in India. This study explored 14 variables (barriers) that are affecting the acceptance of e-banking among mature bank customers of India on the basis of previous studies. Security, Privacy, Financial Risks and Lack of Technical knowledge are among the major barriers in the acceptance of technology based banking by mature customers. These 14 variables (barriers) are grouped into four key factors using factor analysis. These factors are labelled as Security and Trust barrier, Awareness

## **Table 3: Rotated Component Matrix**

Factors and Items	No. of Items	Loadings	Cronbach's Alpha
Factor 1: Security and Trust Barrier	4		0.955
High financial risk is associated with e-banking services		0.88	
Lack of privacy in e-banking services		0.951	
Fear of incomplete transactions in e-banking		0.963	
Lack of security in e-banking		0.939	
Factor 2:Awareness Barrier	4		0.831
Lack of knowledge about the products offered by e-banking		0.853	
Traditional banking offers more benefits as compared to e-banking		0.881	
Lack of technical knowledge about using e-banking		0.861	
Feedback management system of e-banking services is unknown		0.638	
Factor 3: Socio-Cultural & Legal Barrier	3		0.908
Absence of interpersonal relations with banks employees in e-banking		0.939	
e-banking is not consistent with my cultural values, beliefs and norms		0.86	
Lack of user protection laws make it difficult for me to use e-banking		0.946	
Factor 4:Convenience Barrier	3		0.881
Lack of access to e-banking services		0.888	
It is time taking and difficult to learn various e-banking modes		0.912	
e-banking system is not user-friendly		0.886	

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Volume 5 Issue 1/2 2014

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barrier, Socio-Cultural and Legal barrier and Convenience barrier. To overcome e-banking adoption barriers mentioned in the study, Banks may run more programs for the education and training of mature customers about the usage and various benefits of e-banking services. If required, banks may redesign some e-banking services to make it more convenient for mature customers. Banks may also highlight security and privacy aspects of e-banking to create mature customers trust in technology based self service banking.

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20

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