Challenges in Implementing E-Banking Services in Indian Banks

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E-banking services have changed the structure and functioning of banking industry today. It enables banks to provide services efficiently to customers. There is greater need for the banks to focus on easy availability of these services as it will push the customers to use them. Hence working out cost-effective and secure ways of delivering the services will matter a great deal in the current banking scenario. In the present study, a primary survey was conducted by interviewing bank officials with the objective of studying the challenges faced in implementing e-banking services in India. An attempt is made to statistically compress through factor analysis and identify the major challenges and difficulties that banks face while dealing with e-banking. It was found that the focus areas while implementation should basically be systemic issues and infrastructural issues. The banks need to work on the security issues in order to win the trust of the customers and conquer them psychologically.

Key words: E-banking; Factor Analysis; Implementation regression

INTRODUCTION

Banking sector is a vital medium for bringing momentum in the Industrial and non- Industrial financial transactions. Information technology in the Banking sector provides the needed push for the momentum. The changing competitive scenario of corporate makes it inevitable for all business concerns to act faster for sustainable development and banking is not excluded. E-banking services have changed the structure and functioning of banking industry today. E-banking has enabled banks to scale borders, change strategic behavior and thus bring about new possibilities (Nitsure, R. 2004). The change in consumers' demands and developments in technology have reduced the traditional styles of banking to minimum. Another trend that is increasingly becoming common is that of users becoming mobile (Sahai and Machiraju, 2001). Hence the banks have to respond accordingly.

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LITERATURE REVIEW

Many researches in the past have laid importance on the significant developments that are taking place in the banking industry due to the surge in information technology. Sahai, A. and Machiraju, V. (2001), had discussed how new technologies addressed different requirements and how these technologies fit together to provide a ubiquitous e-market place and e-service vision. On the other hand, Nitsure, R. (2004), in her article expressed concerns over the great 'digital divide' between the rich and the poor, different operational environments in the private and public sector banks, problems of security and authentication, management and regulation and inadequate financing of SME sector, that will pose a serious challenge in implementing e-banking services. While Dutta, A. and Roy, R. (2005), studied on mechanics of Internet growth from a developing country's perspective, have developed a causal model using System Dynamics (SD) method that will help a developing country like India to identify the pattern of

Internet diffusion as a result of various policy alternatives taken up to nurture Internet diffusion in the country.

Forman, C. (2005), studied the causes of variation in Internet adoption decision in a large sample of corporate engaged in finance and service sector which in turn could boost the economic growth. Factors like Information Technology investments, workplace organizations, geographic dispersion of employees, size of organization and external pressure could influence the adoption decision. A very pertinent study of DeYoung, R.(2005), compared the 'Internet only' banks and 'Click and mortar' banks between 1997-2001 and concluded that the share of the market captured by Internet-only banks depends on the number of retail customers that do not value these choices. The study characterized the Internet-only banking model as a high-volume, low-cost strategy for delivering basic banking services, suggesting Internet-only banks that serve this customer niche will be relatively large in operations. On similar linesBlount, Y.,Castleman, T. and Swatman, P. M. C. (Spring, 2005), have found based on case studies of two Australian banks one large and other small, how they have linked their e-commerce strategies to overall business strategies and the extent to which their HRM strategies have enabled them to use their e-commerce capabilities to develop sustainable advantage.

The banks face difficulties in implementing these e-services therefore the adoption, acceptability and the reach of the e-banking services to the masses is affected.

Acharya, Ram N., et al (2006), in their paper concluded that even though the national banks are leaders in many segments the community banks were lately responding to the challenge by offering Internet based products and services which are transactional, informational and strategic to enhance the relationship building competitive status of community banks. Koskosas, L.V. (2008), investigated the information security aspects of internet banking. This study also presents socio-organizational issues and discusses the significance of trust, risk communication, setting

efficiently internet banking goals within the broader context of information security management.

There are still a plethora of studies when it is in the context of customer acceptance for e-banking but from the bankers' perspective and particularly in the Indian environment there are very few studies. This calls for many quantitative as well as qualitative studies in future in this area.

RESEARCH METHODOLOGY

For the present study, primary survey was conducted by interviewing bank officials with the objective of studying the challenges faced in implementing e-banking services in India. An attempt is made to statistically compress through factor analysis and identify the major challenges and difficulties that banks face while dealing with e-banking. A structured questionnaire was framed for the purpose of survey containing 20 such commonly observed problem areas in relation to e-banking which were shortlisted after discussions with experts with a view to reduce them and find out the major factors so that the banks can directly address them and smoothen the implementation process. The test of reliability was conducted with Cronbach's Alpha for the scale of 20 variables and was found to be 0.898 which indicates a good and reliable instrument capable of drawing valid conclusions through factor analysis. Questionnaires were administered directly to branch managers. The sample banks include nationalized, private as well as co-operative banks. Out of 100 circulated, 86 filled-in questionnaires were received and found satisfactory for analysis purpose.

DATA ANALYSIS

E-banking services have been offered by most of the Indian banks for more than a decade now. The success of these services depends a lot on the implementation side by the banks. The banks face many difficulties in implementing these e-services therefore the adoption, acceptability and the reach of the e-banking services to the masses is affected. There are many variables that were

observed to be the road blocks in the implementation of e-banking. Hence the study focused on twenty commonly accepted variables and the outcome has been discussed below.

Factor analysis(Michael S. L., Ed., 1994) is used to find latent variables or factors among observed variables. If the data contains many variables factor analysis reduces the number of variables. It groups variables with similar characteristics together. Factor Analysis can produce a small number of factors from a large number of variables which is capable of explaining the observed variance in the larger number of variables. The reduced factors can also be used for further analysis.

The Correlation matrix is obtained where the determinant is 9.51 E-009. The Kaiser-Meyer-Olkin (KMO) and Bartlett's test (KMO) output measures the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed. Here it has been obtained as 0.577& the Bartlett's test of sphericity is significant as it was found much less than 0.05. This means that the correlation matrix is not an identity matrix.

The Principal Component Analysis is used for component extraction. There are six significant factors that have been extracted with Eigen values above 1. The first factor accounts for 35.109 percent of the variance, the second 15.792 percent, the third for 9.081 percent, the fourth for 7.49 percent, the fifth factor 5.74 percent and the sixth accounts for 5.18 percent of the variance while all the remaining factors are not significant.

The screen plot is a graph of the Eigen values against all the factors. The graph is useful for determining how many factors to retain. It can be seen that the curve begins to flatten around factor 7. It should be also noted that factor 7 has an eigen value of less than 1 hence only 6 factors have been retained. The rotated component matrix extracted 6 factors with Varimax Rotation method and Kaiser Normalization converged after 10 iterations.

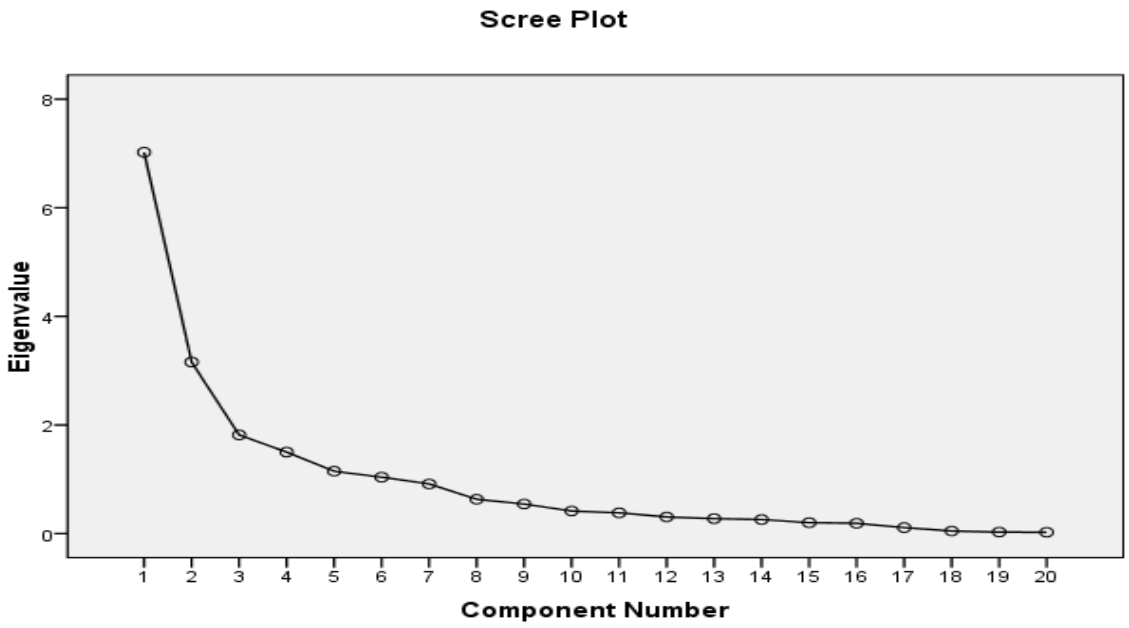

Figure 1.Scree Plot of Factor Output

Table 1: Factors Extracted

Factor	Variables	Factor Loading	Explained Variance
1	System Disruptions	0.813	35%
	Risk of Hackers	0.881	
	Fraudulent Customers	0.828	
	Inadequate Legal Framework	0.767	
	Risk of Reputation	0.679	
	IT Training	0.580	

Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

The first factor can be labeled as the Systemic Issues as they are mostly related to system disruptions, fraudulent customers, inadequate legal framework, risk of reputation associated, training requirements and risk of hackers. Together they explain almost 35 percent of the variance in the dependent factor.

Table 2: Factors Extracted

Factor	Variables	Factor Loading	Explained Variance
2	In-house Professionals	0.792	15.79%
	Physical Infrastructure	0.830	
	Customers' Interest	0.715	
	Maintenance	0.700	
	Surveillance for Security	0.634	

Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

The second factor may be called as the Infrastructural Issues as they mainly talk of maintenance of infrastructure, physical infrastructure, surveillance for security, lack of in-house professionals and the interest of customers towards the IT infra. This factor explains 15.79 percent of the variations.

Table 3: Factors Extracted

Factor	Variables	Factor Loading	Explained Variance
3	Innovative Nature	0748	9.08
	Lesser Interaction with customers	0.697	
	Enormous Investment	0.796	
	Continuous System Upgradation	0.580	

Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

The third factor basically correlates all the variables that are affected greatly due to the e-banking implementation thereby explaining 9.08 of the variations. Therefore one can name it the Performance related issues as it describes the changes in the interaction with customers, huge investments, continuous system upgradation and most importantly innovative nature of e-services.

Table 4: Factors Extracted

Factor	Variables	Factor Loading	Explained Variance
4	Technical Understanding of Customers	0.750	7.4%
	Managing Changed Expectations	0.845	

Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

Technical understanding of customers and managing changed expectations of theirs' is the next factor which can be together called Customer-side factor. It explains 7.4percent of the variations in the dependent factor.

Table 5.: Factors Extracted

Factor	Variables	Factor Loading	Explained Variance
5	Extra Work Load	0.507	5.74%
	Promoting Usage	0.664	

Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

The next factor is one which all the bankers unanimously point out as a difficult challenge to be met though it explains only 5.74 percent of the variation and that is **BankEmployee-side** Factor which encompasses two variables viz extra work-load for bank employees and promoting usage of e-services.

Table 6. Factors Extracted

Factor	Variables	Factor Loading	Explained Variance
6	Customers' Trust	0.789	5.18%

Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

Only 5.18percent of variation is explained by the sixth factor which comprises of **Trust** of the customers using or who are prospective users of these services. But researchers studying this problem will agree to the fact that this single handedly can be one of the most important and deciding factors and hence bankers need to focus on building upon this factor immensely for smooth implementation and making the e-services popular. The following figure summarizes the findings discussed in the previous section:

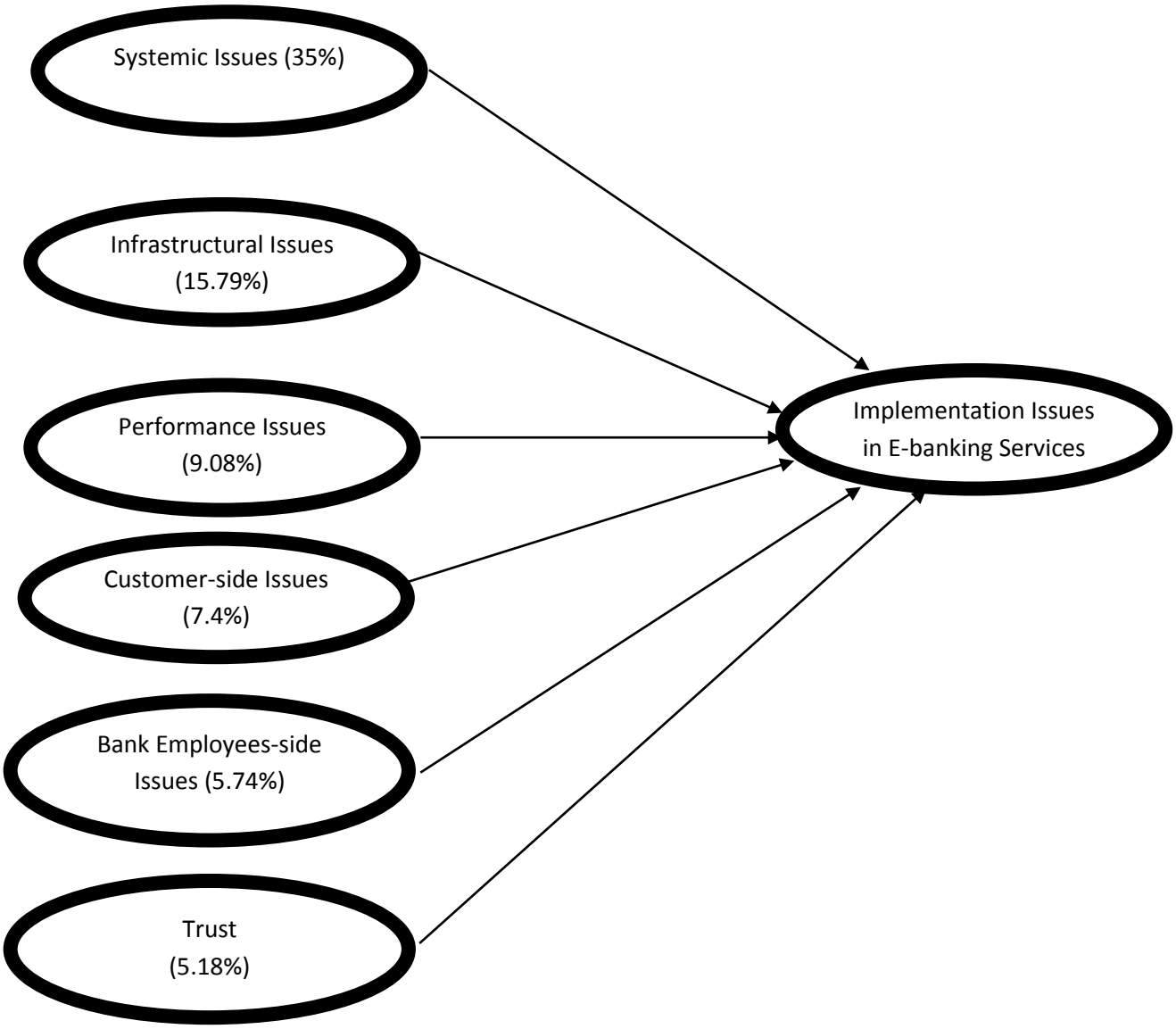

Figure 2: Major Issues in Implementation of E-banking Services
Source: Output of Factor Analysis of Bankers' Survey for Implementation of E-banking Service

There are many issues that come to the fore after understanding the findings of the primary survey. Some of them on the planning front while others at the implementation end. It is the need of the hour now for banks and the policy makers to recognize the perception and behavior of the employees who deliver and the customers who are the end-users, the customers for a wider acceptance of these e-banking technologies. The changing demographics of India and consequently the ever-changing needs should be comprehended and suitable amendments must be incorporated in various managerial policies by the banks and economic and social development plans by the government authorities.

Findings, Conclusion and Implications

Banks need to focus on the availability of the e-services since easily availability will push the customers to use them. But availability certainly comes with a tag along and that is what bothers the customers more. Hence working out cost-effective ways of delivering the e-services will matter a great deal in the current banking scenario. Secondly the banks need to work on the security issues in order to win the trust of the customers and conquer them psychologically. It has been made mandatory by the Reserve Bank of India to develop internal cells security issues and risk management but proper implementation of the same in letter and spirit is at the disposal of banks.

Superior systems and infrastructure for the e-delivery of services is quintessential for the banks. Mere developing infrastructure will not help attracting the customers but they need to be approved by some authority to be of international standards. There are methods and organizations that verify the security systems used by the banks are safe and to what extent the customers can rely on them. Banks should get their systems certified by such authorities of good repute in order to win the confidence of their customers.

Banks certainly need to get e-ready by creating proper facilities for being accessible; developing capacities to cater to the customers and seek as well as design more opportunities to use IT enabled services. This will in future determine the success of the Indian banks operating in such a competitive environment.

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