Online at: https://researchtrendsjournal.com **ISSN No:** 2584-282X

INTERNATIONAL JOURNAL OF TRENDS IN EMERGING RESEARCH AND DEVELOPMENT

Volume 2; Issue 3; 2024; Page No. 215-219

Received: 16-02-2024
Accepted: 29-04-2024

To determine the variables that affect the risk-mitigation strategies used in online banking

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Abstract

The internet has had a big impact on banks' delivery methods. The internet has become a crucial channel for the provision of banking services and goods. Inter-branch connectivity, information, communication, and networking, the transition to a Real Time Gross Settlement (RTGS) environment, the creation of real-time databases for liquidity forecasting, Customers' expectations are evolving as a result of the transition from traditional to online banking. Such seclusion is almost unthinkable for a nation like India, one of the most promising growing markets. It is unacceptable to stay away from or follow global trends, especially in the field of information technology, where India unquestionably has an advantage over its rivals. The biggest consumer and user of information technology is the financial sector, and the banking sector in particular. This attempts to establish a connection between the Indian banking sector and global developments. The current study is a customer-focused investigation on how Kerala's public, older private, and newer generation banks are using Internet banking. Only retail banking customers who use IB were taken into account in the study's scope; whole sale bank customers who utilise IB were not taken into account. The state of Kerala was chosen because of its strong banking culture, high literacy rates, boom in e-literacy, passion for technology adoption among the populace, presence of a well-structured e-platform, and extensive network of banks spread throughout the state. The study does not apply to the respondents from international banks because they had a distinct banking culture and methodology.

Keywords: Banking Services, Customer-Focused, Online Banking, Banking Culture

1. Introduction

There is more opportunity for banks to succeed in the sector of Internet banking, as evidenced by the expanding sales of PCs and notebooks and the rising usage of the internet. Around 317 million people use the internet in India at least once a month, according to the Internet in India 2015 Study by IAMAI-IMRB. 209 million of these users are in urban India, and 108 million are in rural India. According to the research, India would have 426 million users by June 2016 and 503 million by 2017.

The aforementioned conversations make it evident that e-commerce is growing in popularity, internet penetration is increasing, there is an increase in computer literacy, PC/Notebook/Smartphone sales are increasing, and young people make up the majority of online users. All of these create a climate that is conducive to the development of IB in India.

Every aspect of human activity has undergone a transformation thanks to technology. To offer customers a variety of cutting-edge services in the current technological environment is difficult. It remains to be seen how technology will change the globe. The impact of technology and the rise in reading levels around the world have shaped consumer expectations. Reach and accessibility have been significantly increased through the usage of modern technology. The adoption of cutting-edge technology and ongoing process acceleration are crucial for a bank's success. While industry organisations now push service providers to invest in technology as a way of insuring their future in the electronic era, the adoption of technology in service industries is becoming a significant trend.

Many changes have been brought about by liberalisation in India's banking services industry. The banks have been pushed to reevaluate their business practises due to competitive pressures as well. As a result, self-service banking techniques are seriously challenging traditional

over-the-counter banking. By giving bank customers a variety of access points to banking services, computer, telecommunications, and internet technology have made it possible to offer online banking services. Banks are able to offer practically all of their products and services online by using the internet banking channel. In addition to the customers, this benefits the service providers as well. The idea is to provide the services at a lower cost with greater accessibility to customers in order to lower their overhead and staff expenditures.

2. Significance of the study

Even at Kerala's current level of household prosperity, desktop ownership and consequently digital literacy might be much greater than the state's existing averages (Planning Commission, March 2012). Kerala satisfies some requirements for being able to use IT for societal improvement. This includes the high levels of broadband connectivity, complete electrification, and high literacy rates. Because of the rapidly evolving nature of technology, the expansion of the internet, the use of smart phones, and the government's proactive efforts to digitally empower the state, Kerala has made significant strides towards becoming a knowledge economy and achieving its goal of becoming the first digital society in the nation. (Digital Kerala's "Vision 2020" Plans)

Kerala is a leader in e-literacy, having introduced two ground-breaking initiatives as early as 2002. The Akshaya Project, founded in 2005, aimed to educate at least one member of every family in the use of computers. Every high school student was supposed to learn the fundamentals of computers as part of the IT @ School Project 2001. Almost all departments in Kerala now use over 600 e-governance software to provide clients with e-services. This will make it possible for regular people to safely access government and private services online. With a 95 percent mobile teledensity and 60 percent of the population having access to the internet, Kerala has become a "Digital State" (Pranab Mukherjee, President of India, 2015).

With a total market share of 32.32 percent compared to the landline market share of 96.11 percent, BSNL Kerala Circle continues to rule the telecom business in Kerala. 1,68,433 broadband connections and 78,619 other connections were made available in 2013–14. Kerala had the highest rate of rural internet penetration at 3.4 percent, significantly higher than the national average of 0.4 percent. 2014 BSNL Annual Report.

A study on IB in Kerala is urgently required as a result of the talks above. There hasn't been a thorough investigation into the factors that affect the adoption of IB, the precautions IB users take to conduct safe online banking, the issues IB users face, the security measures banks adopt, the variation in adoption across different sectors, categories, and backgrounds, the risks associated with IB, the quality of e-services and customer satisfaction associated with IB, etc. in India, particularly in Kerala. The study is therefore distinctive, pertinent, and topical for the academic community and the banking sector.

3. Review of Literature

Tommi Laukkanen (2007) [1] conducted the study to better understand the various retail channel preferences of online bank customers by looking at their preferences for particular channel attributes in electronic bill payment. She looked at two different groups of online customers: (1) those who pay their bills online and (2) those who have also used a mobile phone for this service in the past. The empirical results show that the preferences for channel attributes vary between internet users and mobile users. While clients who also use a mobile phone for paying bills pay the most attention to the screen size, internet users prioritise other factors.

paying close attention to where. The survey also identified a group of people who have never used a mobile phone for financial activities as potential users of mobile banking.

In the framework of the MB, Tommi Laukkanen, Suvi Sinkkonen, Marke Kivijarvi, and Pekka Laukkanen (2007) [1] examine innovation resistance among mature customers. The barriers preventing older consumers from adopting mobile banking were contrasted with those facing younger consumers. The research results show that the value barrier, which affects both older and younger consumers equally, is the biggest obstacle to the adoption of mobile banking. Yet, it seems that ageing is particularly tied to the risk and image obstacles.

Seshaiah Venkata S. & Vunyale Narender (2007) [2] conducted a study of 1000 bank customers to analyse the variables that influence the decision of customers to choose retail banks. The following are the 15 potential elements in the following order of significance: (1) Safety of Deposits (2) Size and Strength (3) Accuracy

The following factors are also important: (4) General Service Quality, (5) Speed of Delivery, (6) Proximity, (7) Security of Environment, (8) Courtesy of Staff, (9) Price and Service Charges, (10) Product Packaging, (11) General Public Impression, (12) Peer Group Impression, (13) Face Lift (Structural), (14) Friendship with Staff, and (15) Advertising and Publicity.

4. Objectives of the study

1. To assess the impact of banks' perceived intrinsic and extrinsic risk on the uptake of internet banking in Kerala.
2. To determine the variables that affect the risk-mitigation strategies used in online banking.

5. Research Methodology

Studying the adoption of Internet banking: A customer-focused research of public and private sector banks in Kerala is the goal of the current investigation. By surveying clients who have accounts with the banks and use their Internet banking services, the current investigation aims to identify a variety of issues that Keralan banks are facing with the implementation of Internet banking. As a result, the current research study was designed to be an explanatory study, and the Normative Review Method (NRT) was regarded as the appropriate method for gathering the necessary data for the study.

It has long been known how to take samples from a population that sufficiently represents the wider population from which it is drawn. When the data set is quite large, sampling can be necessary. In order to learn more about the entire population or universe from which it was chosen, sampling is the process through which a relatively small number of people, or a process of people, objects, or

actions, is highlighted or analysed in sequence. The population of the current study consists of all of the bank's Internet banking users in Kerala.

Respondents from the three sectors-Public Sector Banks (PSBs), Old Private Sector Banks (OPBs), and New Generation Banks-will be identified for this purpose (NGBs). State Bank of India (SBI), Canara Bank (CB), and Union Bank (UB) are chosen among the PSBs for in-depth analysis. Federal Bank (FB), South Indian Bank (SIB), and Catholic Syrian Bank (CSB) are chosen from the Old Private Banks. Three banks will be chosen among the New Generation Banks: ICICI, HDFC, and Axis Bank.

The districts of Kerala are typically split into three regions based on their physical, historical, and cultural significance. South Kerala, Central Kerala (Thrissur, Ernakulam, Kottayam, Idukki), and North Kerala (Kasaragod, Kannur, Wayanad, Malappuram, Palakkad) are some examples (Thiruvananthapuram, Kollam, Alappuzha, Pathanamthitta). At the second stage of sample selection, one district from each region was chosen to account for geographic relevance; as a result, North Kerala is represented by Kozhikode, Central Kerala by Ernakulum, and South Kerala by Thiruvananthapuram.

The researcher used the following information to determine the precise sample size. The sample size is determined using the sample size calculator. The following sample size was calculated to represent the population for a level of significance of 5%, a confidence interval of 8%, a confidence level of 95%, and a Z-score of 1.96.

6. Results and Data Interpretation

Table 1: Evaluation of components in the adoption of internet banking

Mean	n	Std. Dev	Sub variables in the Adoption of Internet banking
5.16***	450	1.655	Perceived usefulness
4.04***	450	1.823	Perceived Ease of use
4.67***	450	1.841	Perceived Cost
4.91***	450	1.650	Perceived Privacy and Security
5.17***	450	1.678	Perceived Benefits
4.98***	450	1.666	Perceived Attitude
4.36***	450	1.683	Perceived Risk

***Source*:** Field survey; ***-High

Perceived Advantages, Perceived Usefulness, and Perceived Ease of Use are found to be numerically high, with mean values of 5.17, 5.16, and 4.04 respectively. The examination of the components in the adoption of Internet banking revealed that all mean values obtained are high among the group.

Table 2: Evaluation of components in the adoption of internet banking-Anova test

ANOVA Table					
Source	**SS**	**DF**	**MS**	**F**	**p-value**
Treatment	644.714	6	99.0449	340.09	0.000
Error	3,819.328	443	1.4817	Result	
Total	4464.042	449		Significant	

***Source*:** Field survey

With the aid of the Anova test, the statistical disparity in the evaluation of the factors influencing the adoption of Internet banking was examined, and it was discovered that test value is 340.09, significance value is 0.000, and the result is significant at 5%. This demonstrates that there are statistical differences in the assessment of Internet banking adoption components. As a result, the initial theory is disproved.

Table 3: Comparison of components in the adoption of internet banking-Post hoc analysis-Tukey simultaneous comparison

Group 8	Group 7	Group 3	Group 4	Group 6	Group 2	Group 1	Group 5
34.74*							
34.21*	22.50*						
27.37*	31.74*	0.25*					
20.14*	34.24*	22.75**	3.61				
33.27*	36.37*	24.88*	5.75*	3.24			
20.07*	41.14*	29.65*	0.52*	7.01*	5.88*		
25.27*	41.56*	29.07*	0.93*	8.43*	6.29*	1.52	

***Source*:** Field survey

Group one perceived utility, Group 2: Perceived Usability, Perceived Cost, Group 3

Group 4: Perceived Security and Privacy Group 5: Benefits perceived Groups 6 and 7 refer to perceived attitudes and Group 8 refers to perceived risks.

It is evident from the following table that the mean value of perceived benefits is higher statistically than all other components in the group. Similar to perceived usefulness, perceived ease of use has a higher mean value than all of the other variables in the group, with the exception of perceived benefits, and is statistically second in the group.

So, it is evident that there are statistical differences in the evaluation of Internet banking adoption components that support the Anova test.

The analysis's in-depth assessment of the subvariable Trust was covered in the next section. Trust is the confidence that bank officials have in their prized consumers to use Internet banking. The information is displayed in the tables below.

Table 4: State meant to evaluate trust

Statements	Category of banks	N	Mean	Std. Deviation	Std. Error
I have confidence in the bank's service	Public sector	100	5.162***	.8615	.1512
	Old Private sector	200	5.160***	.8922	.1535
	New Generation	150	5.182***	.9134	.1537
	Total	450	5.171***	.8887	.1352
The IB site is trustworthy	Public sector	100	4.949***	.8852	.1524
	Old Private sector	200	4.996***	.9130	.1546
	New Generation banks	150	4.063***	.9221	.1542
	Total	450	4.903***	.8079	.1357
The IB site fulfills its promises and commitments	Public sector	100	4.809***	.8942	.1529
	Old Private sector	200	4.911***	.9355	.1558

	New Generation banks	150	4.896***	.9351	.1549
	Total	450	4.805***	.9100	.1362
Loss due to bank's mistake is compensated	Public sector	100	4.729***	.9843	.1577
	Old Private sector	200	4.679***	.0383	.1614
	New Generation banks	150	4.720***	.8997	.1520
	Total	450	4.713***	.9746	.1378
IB has the facility to solve problems due to my mistake	Public sector	100	4.558***	.0340	.1504
	Old Private sector	200	4.464***	2.1267	.1662
	New Generation banks	150	4.440***	.0195	.1594
	Total	450	4.491***	.0611	.1305
Itis difficult to hack the IB site through the internet	Public sector	100	4.387***	2.1171	.1648
	Old Private sector	200	4.414***	.0732	.1633
	New Generation banks	150	4.388***	2.1794	.0679
	Total	450	4.396***	2.1230	.1424
Ability of IB to protect my privacy	Public sector	100	4.724***	.9517	.1550
	Old Private sector	200	4.708***	.0601	.1631
	New Generation banks	150	4.862***	.9427	.1553
	Total	450	4.798***	.9801	.1383

Brown-Forsythe Test			
Statements	**Test value**	**Sig. value**	**Result**
I have confidence in the bank's service	.166	.057	Not significant
The IB site is trustworthy	2.947	.271	Not significant
The IB site fulfills its promises and commitments	.144	.078	Not significant
Loss due to bank's mistake is compensated	.406	.785	Not significant
IB has the facility to solve problems due to my mistake	2.457	.372	Not significant
It is difficult to hack the IB site through the internet	.189	.036	Not significant
Ability of IB to protect my privacy	3.341	.219	Not significant

Source*:** Field survey;-High

The aforementioned table makes it abundantly evident that each statement comprising the sub variable Trust has a high value attributed to it by bank clients. Also, it is evident from the aforementioned table that there are no appreciable differences between the types of banks with regard to the aforementioned statements when using the Brown-Forsythe Robust Tests of Equality of Means.

7. Conclusion

Technology advancements are very important to everyday living as well as the workplace. It is safe to call this period the era of the technological revolution. Millions of people's lives have been impacted by the rapid development of information technology. Fast technological breakthroughs have brought about significant changes in the global commercial and economic environment. Study on consumer attitudes and IB adoption revealed that a number of variables, including a person's demography, motivation and behaviour towards various banking technologies, and personal acceptance of new technology, predetermine the consumer's attitude towards online banking. Consumer opinions regarding online banking have been proven to be influenced by prior computer and new technology exposure. Consumers are forced to think about worries regarding password integrity, privacy, data encryption, hacking, and the protection of personal information as a result of IB adoption. IB necessitates active consumer participation because it calls for the user to continuously maintain and interact with additional technology (a computer and an internet connection). Customers that use IB do so continuously and frequently, and in order to continue using it, they must reach a particular level of technical comfort.

The global banking environment is changing significantly due to regulatory, structural, and technological issues. Regulations have been altered to lower or remove obstacles to international growth, resulting in a more integrated global banking sector. Banks now have access to a wider range of operations thanks to structural reforms, making them more competitive with non-bank financial firms. Banks are having to reconsider their service offerings to both business and individual consumers as a result of technological advances. Customer satisfaction and service quality are grabbing the attention of all banking institutions in this quickly changing market.

Due to the introduction of de novo domestic private banks and international banks, the competitive environment and banking practises in the Indian banking sector witnessed significant changes. The banks must always be prepared for the evolving technology environment in order to handle customer issues and expand their market. The analysis of the determinants of technological banking adoption has gained increasing interest from academics and bankers due to the Influence of Technology in Banking - A Customer Centric Study with Special Reference to Kerala growing importance of contemporary information and communication technologies for the delivery of retail banking services.

8. References

1. Laukkanen T. Internet vs mobile banking: comparing customer value perceptions. Business process management journal. 2007;13(6):788-797.
2. Sabita P. The adoption of electronic banking in Odisha. IJSTR. Viewed 5 May 2013 from www.ijstr.org.
3. Seshaiah SV, Narender V. Factors affecting customers' choice of retail banking. The IUP Journal of Bank Management. 2007;6(1):34-46.
4. Safeena R, Date H, Kammani A. Internet banking

adoption in an emerging economy: Indian consumer's perspective. Int. Arab J. e-Technol. 2011;2(1):56-64.
5. Safeena R, Kammani A, Date H. Assessment of internet banking adoption: An empirical analysis. Arabian Journal for Science and Engineering. 2014;39(2):837-849.
6. Santos J. E-service quality: A model of virtual service quality dimensions. Managing Service Quality: An International Journal. 2003;13(3):233-246.
7. Sathye M. Internet banking in Australia. Journal of Internet Banking and Commerce. 1992;2(4).
8. Sreelatha T. Role of technology in the Indian banking sector. IJMBS. Viewed 4 December 2012 from www.ijmbs.com.
9. Vimala V. The impact of information technology adoption on the customers of Bank of India, Bangalore Urban – An evaluative study. IOSR-JBM. Viewed 2 May 2015, www.iosrjournals.org. DOI: 10.9790/487X-17313944.
10. Zeithaml VA. Service excellence in electronic channels. Managing Service Quality: An International Journal. 2002;12(3):135-139.
11. Ajzen I, Fishbein M. Belief, attitude, intention, and behavior: An introduction to theory and research. 1975.
12. Best JW. Research in Education. 2nd ed. New Delhi: Prentice Hall of India Pvt Ltd; 1977.
13. Mouly GJ. Research in Education. New Delhi: Prentice Hall of India Pvt Ltd; 1975. (Cited by Best JW, Research in Education).
14. Rajagopalan SP. Banking in the New Millennium. New Delhi: Kanishka Publishers and Distributors; 2001. p. 1-6.
15. Agarwal R, Rastogi S, Mehrotra A. Customers' perspectives regarding e-banking in an emerging economy. Journal of Retailing and Consumer Services. 2009;16(5):340-351.
16. Agboola AA. Electronic payment systems and tele-banking services in Nigeria. Journal of Internet Banking and Commerce. 2006;11(3):1-10.
17. Ajimon G, Aneeshkumar GS. Internet banking and customer resistance. Science and Society. 2011;9(1):79-88.
18. Ajzen I. The theory of planned behavior. Organizational Behavior and Human Decision Processes. 1991;50(2):179-211.
19. Al-Ajam AS, Nor KM. Internet banking adoption: Integrating technology acceptance model and trust. European Journal of Business and Management. 2013;5(3):207-215.