Customers Perception Regarding Security, Privacy and Reliability W.S.R.T. Mobile Banking in India

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Abstract

Covid-19 pandemic had changed the world so rapidly that no one could ever think of. And so, is the way of thinking of the masses had changed. Cashless economy had become the necessity of present world. Economies all over the world had started many policies and initiatives to convert themselves into cashless economies. But, as the value of cashless economy grows, so, is the number of frauds associated with the online monetary transactions grows. The aim of this study was to analyze the customers' perception regarding security, privacy and reliability factors w.s.r.t. mobile banking in India. The researcher concluded that there was a significant difference in the rating given by the customers for the security, privacy and reliability features of different banks. The researcher suggested that RBI must issue certain guidelines for increasing the security, privacy and reliability features of the banks and make it compulsory for the banks to implement the same and also, fix the accountability that who will bear how much loss in case of online banking frauds occurs.

Keywords: Banks, India, Consumer Perception, Online banking, Mobile Banking, Security, Privacy, Reliability

Introduction

Banking industry is the lifeline of any economy. Strong banking industry is responsible for the fast growth on any economy. With the advancement of technology and particularly after Covid-19 scenario, online banking had become the basic necessity of any economy. Mobile banking is one such necessity which had taught each and everyone the usage of online banking, especially, mobile banking and mobile wallet. Almost every bank is offering same kind of services to their customers. So, the basic point of having competitive advantage over the others is to provide best quality services to their customers. Security, privacy and reliability factors provide differentiation in the online banking services of different banks. Most online banking users are limited to a few services of their choosing and are unaware of or reluctant to investigate the full range of services available to them.

As a service-oriented sector, it is critical for banks to understand consumer demands, awareness, satisfaction levels, security concerns, obstacles clients confront while using online banking, and preventative steps to combat online banking frauds. Because internet banking had grown so popular, the theft of critical login passwords and valuable client information had quadrupled, wreaking havoc on the banking industry **(George Tubin, 2005; Agbara, 2018; Akanksha, 2018)**. The scope of internet banking scams has grown to the point where they are frequently viewed as wrathful deception techniques. Customers would be harmed by the frequent incidence of online banking scams, which will tarnish the institutions' reputation **(Sukanya & Nagaraja, 2014; Varaprasad., & et al., 2015; Akbari, & et al., 2015)**.

The primary goal of such crimes is to make money, gain access to confidential information, and disrupt business operations. Stronger security, privacy, and reliability measures can help banks attract more customers to online banking services. If the banking industry is to keep up with the rapidly changing technological world, it must provide secure online banking services.

Review of Literature

A good literature review gives a direction to the research and helps in identifying the objectives of the research. Importance of information in mobile banking resistance was investigated by **T. Laukkanen and V. Kiviniemi (2010)** and revealed that a bank's information and advice had the greatest impact on lowering the use barrier. The perceived value of mobile banking in contrast to retail and internet banking was studied by **Singh P. and Bamoriya P.S. (2011)**

and found that the most important challenges for customers were mobile device operability, security/privacy, and service uniformity. Moreover, to examine the difficulties and constraints surrounding mobile banking **V. Devadevan (2013)** performed study in India and discovered that the Reserve Bank of India released a relatively small number of instructions, all of which were connected to transaction limitations in mobile banking and very few for transaction security and authentication.

Effect of trust in predicting mobile wallet uptake among consumers and retailers in North America using Technology Adoption Model was investigated by **N. Shaw (2014)** and found that "self-efficacy and informal learning have a substantial impact on perceived ease of use, perceived utility, and trust of mobile wallet usage among respondents." **Sharma N. (2015)** conducted an "empirical study on mobile banking technology in India to determine the factors influencing its adoption" and found that majority of the respondents found that mobile banking was highly easy and flexible banking and it provides transactional benefits but very few agreed that it was trustworthy. **L. Nosrati and Leili Nosrati (2016)** examined and evaluated the "e-banking system in the context of Iranian banking and revealed that the expansion of technology and its use in the banking business" has given rise to online banking and mobile banking.

"Impact of perceived security and perceived grievance redressal on the usage of mobile wallet in India" was examined by **A. Kumar et al., (2017)** and found that perceived ease of use and usefulness had a large and positive impact on perceived security, and that perceived security and grievance redressal had a positive and mediating impact on the desire to utilize M-wallets in a developing nation. **N. Singh & et al., (2017)** investigated the preferences and satisfaction of north Indian mobile wallet users and showed that age and gender have a substantial impact on M-wallet users' preferences and satisfaction in the research region.

"**Amit Shankar and B. Datta (2018)** investigated the SEM for the factors impacting the endorsement of m-payments in India and revealed that perceived ease of use, usefulness, trust, and self-efficacy had a significant and positive impact on the intention to use mobile payment among Indian customers." "A qualitative study in nine Middle Eastern countries to establish a empirical model for investigating the perceived satisfaction of mobile payment consumers was conducted by **R. Ramadan and J. Aita (2017)** and revealed that the quality of mobile payment applications and customers' experiences and expectations had a beneficial impact."

Variables influencing e-wallet users' perceptions of public and private mobile wallet providers in India was investigated by **B. Mukaria and P. Mishra (2019)** who concluded that government sector e-wallet providers had a lower perception than private sector operators. **"B. Shaw and A. Kesharwani (2019)** investigated the influence of smart phone addiction on the adoption of mobile wallet payment among Indian customers and revealed that smart addiction had a large and positive moderating impact on mobile wallet payment acceptance in the Indian context." Youth behavior regarding mobile banking usage intentions were explored by **S. Shree & et al., (2019)** in Chennai, Tamil Nadu and found that the "convenience, benefits, deliberation, safety and trust factors" are the most important elements impacting the youth's inclination to use mobile banking in their daily lives.

T. Selvi & Balaji (2019) conducted an exploratory study in Chennai and Hyderabad to better understand the effect of demographic features on respondents' behavioral intentions toward mobile banking usage and concluded that consumers' behavioral intentions were highly influenced by performance expectation, effort expectancy, hedonic incentive, trust, and loyalty. Impact of perceived risk, relative benefits, and usability variables on customer loyalty in mobile banking was investigated by **Esmaeili A. et al. (2021)** and found a positive influence. **Widanengsih E. (2021)** conducted research to investigate a technological acceptance model for gauging client interest in mobile banking and discovered that attitudes were unaffected by perceived usefulness. "Perceived ease of use had a considerable impact on attitudes, but perceived utility had no impact on interest in mobile banking. Perceived ease of use had no impact on interest in mobile banking, while attitudes did."

It is clear from the above that many authors had researched on various aspects of mobile banking but very few had researched on the security, privacy and reliability of mobile banking. The researcher aimed to study the customers' perception regarding security, privacy and reliability factors of the mobile banking in India.

Objective of the Research

To study the customers' perception regarding security, privacy, and reliability and online banking frauds.

Research Methodology

A definite research methodology helps in building the roadmap to the entire research.

Hypothesis

H_{01}: **There is no significant discrepancy in the respondents' ratings of different banks' mobile banking privacy.**

H_{02}: **There is no significant variance in the respondents' ratings of different banks' mobile banking reliability.**

H_{03}: **There is no significant discrepancy in the respondents' ratings of different banks' mobile banking security.**

In order to fulfill the purpose of the study, 952 online banking customers were surveyed from 10 different banks. The data so collected was analyzed using parametric and non-parametric tests in SPSS software. Exploratory Factor analyses was used to reduce dependent and independent variables to a smaller number of factors or components. Furthermore, the variables were put through a reliability test. Cronbach alpha was used to check the reliability of the data. Data suitability was checked using "Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). Because Bartlett's Test of Sphericity had a significance of p=0.000 in this study, Exploratory Factor Analysis was suitable, depending on the results of the KMO sampling adequacy." The Kaiser-Meyer-Olkin MSA was computed to determine the sample adequacy, and it was determined to be 0.896. The sample had been determined to be suitable for sampling. The Barlett Test of Sphericity was used to determine the overall significance of correlation matrices, which supported the validity of the data set's factor analysis. **Ronchi C. et al. (2011)** used security, reliability and privacy issues to test the same. After the criteria indicated that the data was eligible for component analysis, the data was extracted using Principal Components Analysis (PCA). Data so collected was then analyzed using ANNOVA.

Data Analyses & Interpretation

Factor1 Mobile banking Reliability

"Due to the inclusion of scale items found and modified from academic literature concerning motivation towards mobile banking linked to Mobile banking Reliability, the first factor with the Total Variance Explained value of 21.826 percent has been interpreted as Mobile banking Reliability."

Table No. 1: Summary of Rotated Component Matrix and Variance

Factor No 1: Mobile Banking Reliability		% of Variance Explained	
Items	Factor Loadings	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings
MBR4	.722	45.596	21.826
MBR2	.721		
MBR1	.674		
MBR6	.653		
MBR5	.567		

Factor 2 Mobile Banking Privacy

"Due to the inclusion of scale items found and modified from academic literature concerning motivation towards mobile banking linked to Mobile banking Privacy, the second factor with the Total Variance Explained value of 19.443 percent has been interpreted as Mobile banking Privacy."

Table No. 2: Summary of Rotated Component Matrix and Variance

Factor No 1: Mobile Banking Privacy		% of Variance Explained	
Items	Factor Loadings	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings

MBP2	.818	8.413	19.443
MBP3	.760		
MBP5	.633		
MBP1	.566		
MBP4	.818		

Factor 3 Mobile Banking Security

"Due to the inclusion of scale items found and modified from academic literature concerning motivation towards mobile banking linked to Mobile banking Security, the third factor with the Total Variance Explained value of 19.017 percent has been interpreted as Mobile banking Security."

Table No. 3: Summary of Rotated Component Matrix and Variance

Factor No 1: Mobile Banking Security		% of Variance Explained	
Items	Factor Loadings	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings
MBS1	.727	6.278	19.017
MBS4	.708		
MBS5	.633		
MBS2	.610		

Mobile Banking
Table No. 4 ANOVA Table

	Levene Statistic	Sig.	Anova	sig.	Welch	Sig.
Mobile Banking Reliability	42.206	.000	77.935	.000	52.359	.000
Mobile Banking Privacy	62.116	.000	19.535	.000	64.937	.000
Mobile Banking Security	78.568	.000	43.321	.000	52.289	.000

When validating your data for the six assumptions necessary to do a one-way ANOVA, the researcher must analyze the outcome for a thorough explanation. This contains relevant and output from your normality and homogeneity of variances Shapiro-Wilk tests. If your data fails to meet the homogeneity of variances assumption, we'll walk you through the Welch ANOVA findings, which you'll have to interpret rather than the conventional one-way ANOVA in this guide. **Nimako S.G. (2013) et al** also used the same technique.

"Test for homogeneity of variance - variance in scores is.000,.000, and.000 for each of the three groups, respectively, in the table above. If the Sig. was less than.05, you should examine the Welch ANOVA findings. Since the Sig. less than. 05 in the Levene statistic test, we will reference the significant value of the Robust test (Welch) in the table above for mobile banking privacy, mobile banking dependability, and mobile banking security."

The table above shows the results of the analysis of variance. Reliability of mobile banking was valued. The dependability and security of mobile banking fluctuate greatly depending on the bank. There was no significant difference between the banks on any of the variables. In the case of mobile banking privacy, mobile banking

dependability, and mobile banking security, the null hypothesis was rejected and the alternate hypothesis is accepted. Post hoc analysis was performed for additional investigation.

"There is a significant discrepancy in the respondents' ratings of different banks' "mobile banking privacy." Accepted

"There is a significant discrepancy in the respondents' ratings of different banks' "mobile banking reliability." Accepted

"There is a significant discrepancy in the respondents' ratings of different banks' "mobile banking security." Accepted

Conclusion

India is the fastest growing economy of the world. Commercial banks are critical for resource mobilization and better allocation in emerging and underdeveloped countries. The banking industry is primarily customer-driven, and its development and success are largely dependent on the services it provides. Security, privacy and reliability are the factors that provide differentiation as well as trust to the customers for using more and more of online and mobile banking services. According to the results, it was concluded that there was a significant difference in the rating given by the customers of different banks regarding mobile banking privacy, reliability and security features. The researcher suggested that the Reserve Bank of India must issue a notification to banks mandating the use of a biometric system as a password instead of a Personal Identification Number. This would help in improving the security features of mobile banking and in turn would help in enhancing the trust of mobile and online banking customers.

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