CUSTOMERS PERCEPTION ON TECHNOLOGY PAYMENT SERVICES IN COMMERCIAL BANKS – A STUDY

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Abstract

In the last few decades, the Banking Sector in India has been making rapid straights by using information technology as a platform and endeavouring the higher heights Information technology has brought many changes in the Banking industry in India. The effect of this resulted in the technological changes in Payments system in the Indian banking industry. The present study aims to examine the Customers perception on technological payment services in commercial banks. The present study is empirical in nature and the primary data has been collected by using through well-structured questionnaire **and data is analysed through Linear multiple regression analysis and Structural equation model.** *The outcome of this research paper helps the banking industry to improve the quality of payments services which paves the way to improve the banks financial performance and stimulating business growth.*

Key words: Banking, Technology, Payment systems, Growth

Introduction

Technology has provided an altogether a new way of interacting and providing service to bank customers rather than merely replicating activities of the bank employees (Godse, 2005). In this era, banking sector plays a very important and crucial role for the development of Indian Economy. Banking industry in India has experienced several transformations through the up gradation of technology in providing services. The new technologies in banks have emerged because of Privatization, Globalization and Liberalization. Globalization has changed the banking system with new technological advancements. Liberalization has attracted many foreign banks to India by opening up new markets and new products by introducing the proficient delivery channels for the banking industry.

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Developing countries like India are majorly populated with rural communities and partially favourable towards technological changes. "Computerization must be looked upon as a means to improve customer service and efficiency" by The Rangarajan Committee (1989). The Reserve Bank of India also persistently strives towards ensuring the smooth progress of the payments system in India for the growth of the economic system of the country. Hence, Customer perception towards technological payment systems is an important aspect in the Indian scenario. This research paper intends to study the customer perception towards technological payment systems based on the factors such as convenient, accessibility, acceptability, cost, trust, risk, security and privacy, relative advantage.

Technology Payment Systems
The term technology payment systems refer to the 'electronic payment services' can also be defined as the process of payment made without the use of paper instruments. This type of payment services which does not involve any physical cash or money. The payment and settlement systems in India are regulated by the Payment and Settlement Systems Act, 2007 (PSS Act). The PSS Act and the Payment and Settlement System Regulations Act 2008 framed there under and came into effect from August 12, 2008. Most of banks and financial institutions are offering technology based payment services in order to improve their business efficiency and speed of services via., National electronic fund transfer (NEFT), Immediate payment services (IMPS), Real time gross settlement (RTGS), and Electronic clearing services (ECS). This technology driven payment services are being used to attain maximum number of customers at minimum cost and in most effective manner. Hence, the researcher identified eight factors namely convenient, accessibility, acceptability, cost, trust, risk, security and privacy, relative advantage are vital in ascertaining the exact perception of customers towards technology payment systems.

The growth of IMPS based clearing system is increased from Rs.15.4 million in 2013-2014 to Rs.78.4 volumes in million on 2014-2015.The purpose of these banking innovations helps both the banker and customer in a win- win situation by efficient and effective use of technologies has a multiplier outcome on growth and development in the economy.

Literature Review

In the earlier studies, Adeyeye Adewole (2015) identified the ways in which strong consumer payment system confidence can be achieved in the Nigeria. The researcher also identified effective platform and infrastructure, fraud reduction and improved safety and security as areas that should be improved upon in anticipation of the improved infrastructure in Nigeria. Innovation, incentive, convenience and legal framework are the four factors which contribute to support the E-payment system Sanghita Roy, Indrajit Sinha (2014). The delivery channels may give significant direction to Public Sector Banks (PSBs) for more effective cross-selling and up-selling of financial products and services by Vandana Tandon Khanna and Neha Gupta (2014).

Noor Raihan Ab Hamid and AW Yoke Cheng (2013) studied the risk perception analysis between Cash and E-Payment in Malaysia. Cash has the lowest physical risk while E-payment has the highest physical risk, in the other side the time loss risk and psychological risk difference to each other in both Cash and E-Payment systems. Aastha Gupta (2013) explored the 6 principles as Safety, Security, Soundness, Efficiency, Authorisation and Accessibility used to widen payment system of the vision document 2009-2012 in India, there is necessitate of international standard, transference, user-friendly techniques, assurance and convenience also. The financial transaction having transactional risk affects assurance about the services, this result to minimise the transactional risks in the electronic payment system. Culture and perceived security has a positive effect on intent to use electronic payment system Tella, Adeyinka. (2012). Alireza Chavosh et.al, (2011) argued that less educated people face a high level of inconvenience in using electronic payment systems. This is in consistent which identified the security risk associated with electronic payments as one of the two key in factors which can prevent degree and non-degree holder customers from using electronic payment services. Gaps in the Literature Review The national and international literature argued that the technology plays an important role among the banks and it also clearly explains that the payments systems have an immense growth in past few years. None of the studies classified the technology innovation in payment systems in commercial banks in India. Therefore the present research work is carried on customer perception on payments systems in Chennai city.

Objectives of the study

1. To identify factors influencing customer perception towards technological innovative payment systems.
2. To find the relationship between demographic and banking habits of customers on their perception towards innovative payment systems.

Hypothesis of the Study

1. There is no significant difference among the factors influencing customer perception towards technological innovative payment systems.
2. There is no significant influence of demographic and banking habits of customers on their perception towards technological innovative payment systems.
   Limitations of the study
1. The sample for the study is limited only to Chennai City. Hence the findings cannot be treated as representative of entire population.
2. The findings of the study are limited to 150 respondents of public and private sector banks.

Research Methodology

This research is both analytical and descriptive in nature. It depends upon both primary and secondary data. Primary data is collected through a well structured questionnaire after verifying its reliability and validity. Personnel records, journals, books and websites constitute the secondary source of data for the study.

Questionnaire Design

The questionnaire consists of three parts namely demographic details, banking habit details and customers perception towards innovative payment systems. The first two parts comprises of optional type and bipolar type questions, whereas the third part consists of statements in Likert's five point scale. It ranges starting strongly agree to strongly disagree.

Pilot Study

A preliminary investigation was done to check the reliability and validity. The reliability is done for all the questions using normal distribution method and Cronbach's Alpha method. Normal distribution method is applied to verify appropriate distribution of demographic segmentation and banking habit details. The normal distribution method

revealed that the data set is normally distributed with less than 5% admissible errors. The application of Cronbach's Alpha is tested for all the variables pertaining to customer perception.

The validity is done through two stages namely face validity and content validity. Face validity is done by verifying their contents by interacting with expert in the fields, in particular the bank employees. Similarly the content based validity is done to verify whether all the questions are suitable for research. In this case the researcher interacted with academicians as well as bank executives. Both the validations revealed that question is valid in terms of customer perception.

Sample Size

For the present study primary data is collected through a structured questionnaire from 150 respondents of which 75 respondents are the customers of public sector banks and 75 respondents are the customers of private sector banks. Hence, the researcher is able to cover at least 50% of total number of commercial banks in Chennai city. Therefore the sample size of the research is 150.

Analysis and Interpretation

After verifying the reliability and validity, the sampling is made and the responses are subject to the statistical treatment. The Customer perception is obtained from Commercial bank customers in Likert's five point scale. Therefore it is the duty of the researcher to conform the eight factors namely convenient, accessibility, acceptability, cost, trust, risk, security and privacy, relative advantage are responsible for customer perception towards technology services. Therefore the researcher exploits Structural Equation Model (SEM) method using AMOS and Linear Regression Analysis using SPSS 18th version. The results are clearly presented below.

Reliability Statistics

Cronbach's Alpha	N of Items
.938	49

The application of Cronbach's Alpha for all the variables pertaining to customer perception revealed the value .938 which is greater than 0.75. It shows that the variables incorporated by the researcher are meaningful as well as reliable.

Figure : Showing the Structural Equation Model (SEM) model for factors influencing customer perception towards technological innovative payment systems
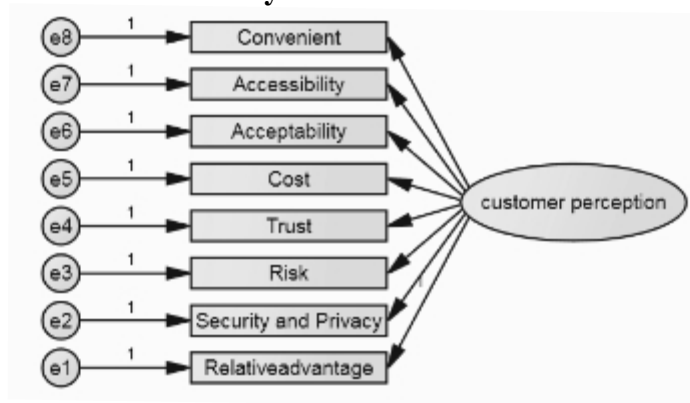
Source: Computed Data

From the above model (fig:1) it is found that eight factors namely convenient, accessibility, acceptability, cost, trust, risk, security and privacy, relative advantage are conformed with significant R^2 variables and variable loadings. Convenient factor with 0.55, Accessibility factor 0.57, Acceptability 0.83, Cost 0.88, trust 0.84, Risk 0.59, Security and Privacy 0.84 and Relative advantage factor 1.00.

These factors are conformed to high degree of explanations. This Structural equation model (SEM) is supported by the following model fit indices, the normed chi-square (CMIN) value 5.887, goodness of fit index 0.814, comparative fit index 0.854, Root means square error of Approximation (RMSEA) 0.181, P close 0.000 are statistical significant at 5% level. Since the entire variable loading values in the model are significantly differing themselves, Hypothesis is rejected at 5% level. Hence it is concluded that there is a significant difference among the factors influencing customer perception towards technological innovative payment systems.

In order to find an influence of demographic and banking details of customers on the 8 factors of customer perception, the researcher used linear multiple regression analysis and the results are obtained below.

Consolidated Table 1:
Linear Regression Analysis of demographic and banking habits of customers towards technological innovative payment systems

Dependent Variable	R²-value	F-Value	Sig	Independent Variable	Beta	t-value	Sig
Convenient	.465	13.499	.000	Gender	.262	3.666	.000
				Number of years of banking	-.435	-4.021	.000
Accessibility	.337	7.912	.000	Type of Bank	.335	3.682	.000
				Number of years of banking	-.271	-2.253	.026
Acceptability	.233	4.713	.000	Type of Bank	.329	3.358	.001
Cost	.492	15.069	.000	Type of account holder	.372	4.846	.000
				Qualification	-.134	-2.059	.041
Trust	.353	8.497	.000	Type of Bank	.313	3.486	.001
				Occuption	-.229	-2.264	.025
Risk	.377	9.398	.000	Type of accou nt holder	.382	4.500	.000
				Age	-.299	-2.419	.017
Security and Privacy	.481	14.428	.000	Type of account holder	.331	4.267	.000
				Age	-.414	-3.663	.000
Relative Advantage	.310	6.999	.000	Gender	.217	2.667	.008
				Occupation	-.520	-4.982	.000

Source: Computed Data

From the above table it is found that R^2 value 0.465, F value 13.499 are statistiacally significant at 5% level, this shows that the regression between independent demographic and banking variables create good influence on a convenient perception of customers. In particular the gender of the respondents (Beta=.262, t value=3.666 p=.000) and number of years of banking of customers (Beta=-.435, t value=-4.021,p=.000) are influencing more on convenient factors. The R^2 value for Accessibility factor is .337, F value 7.912 are statistically significant at 5% level, this shows that the regression between independent demographic and banking variables

create good influence on a accessibility perception of customers. In particular the type of bank either public or private banks (Beta=.335, t value=3.682,p=.000) and number of years of banking of customers (Beta=-.271, t value=-2.253,p=.026) are influencing more on accessibility factors. The R^2 value for Acceptability factor is .233, F value 4.713 are statistically significant at 5% level, this shows that the regression between independent demographic and banking variables create good influence on a acceptability perception of customers. In particular the type of bank either public or private banks customers (Beta=.329,t value=3.358,p=.001) is influencing more on acceptability factors. The Cost factor shows that the R^2 value is .492, F value 15.069 are statistically significant at 5% level, this shows that the regression between independent demographic and banking variables create good influence on a cost perception of customers. In particular the type of account holded by the customers in banks (Beta=.372, t value=4.846,p=.000) and qualification of customers (Beta=-.134, t value=-2.059,p=.041) are influencing more on cost factors.

The above table also indicates that the R^2 value for Trust factor is .353, F value 8.497 are statistically significant at 5% level, this shows that the regression between independent demographic and banking variables create good influence on a Trust perception of customers. In particular the type of bank either public or private banks (Beta=.313, t value=-3.486,p=.001) and occupation of customers (Beta=.-.229t value=--2.264,p=.025)are influencing more on Trust factors. The Risk factor shows that the R^2 value is .377, F value 9.398 are statistically significant at 5% level, this shows that the regression between independent demographic and banking variables create good influence on a Risk perception of customers. In particular the type of account holded by the customers in banks (Beta=.382, t value=4.500,p=.000) and age of the customers (Beta=-.299, t value=-2.419,p=.017)are influencing more on Risk factors. The Security and Privacy factor shows that the R^2 value is .481, F value 14.428 are statistically significant at 5% level, this shows that the regression between independent demographic and banking variables create good influence on a Security and Privacy perception of customers. In particular the type of account holded by the customers in banks (Beta=.331, t value=-4.267,p=.000) and age of the customers (Beta=-.414, t value=-3.663,p=.000) are influencing more on Security and Privacy factors. The Relative Advantage shows that the R^2 value is .310, F value 6.999 are statistically significant at 5% level, this shows that the regression between independent

demographic and banking variables create good influence on a Relative Advantage perception of customers. In particular the gender of the customers in banks (Beta=.217, t value=2.667,p=.008) and occupation of customers (Beta=-.520, t value=-4.982,p=.000) are influencing more on Relative Advantage factors.

Research Findings

The customer satisfaction plays an important role in the banking industry. The findings of the study reveal the customer satisfaction towards technological payment systems in commercial banks. The Cronbach's Alpha for all the variables pertaining to customer perception revealed the value 0.938.

The SEM model was tested, it initially consist of eight factors: convenient, accessibility, acceptability, cost, trust, risk, security and privacy, relative advantage. However it was discovered that all the factors conformed to high degree of explanations. From the findings, all the indicators used to measure the constructs are all statistically significant based on the questionnaire collected. Thus, SEM model indicates that the indicators are good measure of the constructs and concluded that there is a significant difference among the factors influencing customer perception towards technological innovative payment systems.

The linear regression analysis and ANOVA results show that the factors, i.e. convenient, accessibility, acceptability, cost, risk, security and privacy and relative advantage are either positively or negatively influenced by the banking habits towards the customer's perception on technological payment system. Overall, the findings of the analysis reveals that all of the eight factors investigated, and concludes that there is an influence of demographic and banking details of customers on the eight factors of customer perception towards technological payment systems in commercial banks.

Suggestions

Technological changes in the banking industry helps to replace the paper based payment services to technology payment services. In order to achieve this, banks must take initiative to make awareness on payment systems. The banks will also be benefited by increasing the growth of payment systems much higher in the economy. It is recommended that the banks can make awareness programmes on the payment systems

for customers, so that the security and risk factors of payment services will be reduced at a larger extent. The cost factor is the significant concern among the customers of e-payment systems. Hence, the Reserve Bank of India should revise the transaction and service charges affordable to the customers who are utilising technological payment systems in order to reduce their cost burden.

Conclusion

Technology has brought prominent changes in the present scenario of Indian banking industry at a larger phase. The present study examines the customer's perception on technological payment services in commercial banks in Chennai. Overall, the results revealed that the technological payment systems have increased the growth of electronic banking services. However, the effective functioning of e-payment system can be achieved only through proper awareness programmes which help the customers to engage with paper free transactions. Thus, the study clearly explains that the technology has set the stage for new changes in payment system in Indian banking industry.

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