
Customers Intention to Use Electronic Payment Systems in India - A Study

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ABSTRACT

Indian banking industry is gradually moving towards adopting the best practices with a number of changes. Most of the banks have begun to take an innovative approach towards Electronic payment systems with the objective to reduce cashless banking. The Various Innovations in Banking through payment systems are Debit and Credit cards, Electronic clearing services (ECS), National Electronic fund transfer (NEFT), Immediate Payment Service (IMPS), Real time gross settlement (RTGS) and many more. The present article focuses on the changing Banking trends from paper based systems to Electronic payment systems. This study analysed the awareness, usage and the benefits of using electronic payment systems in banking with the help of primary and secondary data collection. However, the findings can help the Indian commercial banks to enhance the technological payment systems in order to improve the business performance and economic growth.

Key words: *Indian Banking, Innovations, Electronic payments, Growth.*

INTRODUCTION

In the past decade the pace of development for the Indian banking industry has been tremendous and new technological innovations in banking sector increased the growth and development of banks. Banks are focusing on Research and Development to implement various innovative ideas and technology due to the emergence of Privatisation, Globalisation and Liberalisation in India. The use of the modern innovations in technological payment system in the banking sector of India has increased many folds after the economic liberalization in 1991 as the country's banking sector has been exposed to the world's market. The Payment and Settlement Systems Act, 2007 enables the Reserve Bank of India (RBI) to regulate, supervise and lay down policies involving payment and settlement space in India. The RBI has actively encouraging all banks and consumers to use electronic payments system in order to reduce the paper based instruments. However, the technological payment system facilitates the banks to improve financial performance which further leads to increase in economic growth.

TECHNOLOGICAL PAYMENT SYSTEMS:

Electronic payment enables the people to carry out most of their banking transactions using a banks website which is operated by respective banks. There is a close relationship between the

development of banking sector and the new innovations in technology. The banks are now offering innovative and technology based payment systems like Debit and Credit cards, ECS, NEFT, IMPS and RTGS and many more new services to their customers and cope up with competition. ECS is used by institutions for making bulk payment or bulk collection of funds from one's bank account or to many bank accounts. National Electronic Fund transfer system was implemented in November 2005 is a nationwide fund transfer system to facilitate one to one fund transfer requirement of individuals as well as corporate organizations. National Payments Corporation of India (NPCI) has initiated the concept of Immediate Payment Services (IMPS), is a service through the money can be transferred immediately from one account to the other account with the MMID (Mobile Money Identifier) Code provided by their respective banks. The Real Time Gross Settlement (RTGS) system enables to transfer funds for the large value payments.

The benefits of technological payment systems specify User friendly and Convenience as a very important factor for attracting users. Easy to transfer funds and quick to complete are the two main factors for users' attitude, intention and actual adoption of e-payment system. Accessibility is especially important for those who use computer for the first time, like old people and illiterates, because they will avoid working with the complex systems. The reduction in paper handling and time saving helps customers to transfer funds cashless from anywhere and anytime banking through computerization.

STATEMENT OF THE PROBLEM:

The study has arisen as there is a technological change in the usage of electronic payment systems in banking industry. Electronic payment system has become popular among the customers in the recent years. Hence there is a need to study Customer perception towards benefits of Electronic Payment Systems in Commercial banking industry in the Indian scenario. Therefore, the present research is conducted to study the emerging payment systems in Indian banking sector, and the benefits of using payment systems to customers.

OBJECTIVES OF THE STUDY:

1. To identify the awareness and usage of technological payment systems among customers of commercial banks.
2. To analyze the benefits of technological payment systems among commercial banks customers in Chennai city.
- 3.

HYPOTHESIS USED FOR THE STUDY:

1. H_0 - There is no significant difference between the Qualification of the respondents and awareness of technology payment systems.
2. H_0 - There is no significant difference between the marital status of the respondents and their Usage of technology payment systems.

LITERATURE REVIEW:

Many researchers have studied on technological payment services. In Indian banking system the emerging trends for funds transfer are ECS, RTGS, NEFT and IMPS. The researchers examined the benefits and challenges of bank customers.

The funds transfer systems in banking sector is highly beneficial to the customers and the banks need to create awareness among rural area customers for using those electronic services Vidyashree & Pralhad (2015). Today's generation has adapted to all such technology enabled banking facility and utilised the payment settlement systems Neha Yajurvedi (2015). Convenience is an important factor to reduce the risk and to develop both usefulness and ease of use payment system that can lead to single platform E-payment system among Malaysian customers Lai Poey Chin (2015).

Fatemeh Soleimani et.al (2015) measured the customer satisfaction Speed, Efficiency, Security, Trust and accountability are considered as the major E-payment tools and concludes that there is a relationship between E-payment tools and customer satisfaction among the Pasargad Bank E-payment company customers in Iran. Aastha Gupta & Munish Gupta (2013) explores that the six principles Safety, Security, Soundness, Efficiency, Authorisation and Accessibility factors used to develop payment system of the vision document 2009-2012. The authors also specify to necessitate of international standard, transference, user-friendly techniques, assurance and convenience also.

Manjit Singh and Robin Kaushal (2012) identified the innovation, incentive; customer convenience and legal framework are the four main factors which contribute to strengthen the e-payment system. The researches explores that e-payment is affordable and convenience to use, also reduces risk but also the fees charged by the public sector banks are affordable than the private sector bank. Alireza Chavosh et al.,(2011) in his study reveals that Degree Holder Customers depicted a high level of satisfaction with E-payment services than the traditional ones and Non-Degree Holder Customers in using E-payment services is feeling inconvenience, while Degree Holders concerned about security issues. The researcher highlights the two major issues are security and privacy concerns while advantages as convenience, cost reduction and time reduction.

LIMITATIONS OF THE STUDY:

The present study is conducted in Chennai city and so the findings cannot be treated as representative of the entire nation. The time and cost limitation also can be consider as another major constraint in collecting data for the study. Therefore the population of the study was geographically limited to Chennai and a further study can be conducted in other parts of Tamil Nadu especially in the rural areas. The other major limitation was that respondents may give biased data for the answers required.

RESEARCH METHODOLOGY:

The present study is concerned with payment systems in Indian commercial banks. The present study is based on the Primary and Secondary data. It analyses the available literature on

technological banking and various emerging payment systems offered by Commercial banks in India. Primary data is collected using a structured questionnaire from the customers of banks in Chennai city of Tamil Nadu state in India. The questionnaires were received from the 150 customers of banks, who are considered as sample respondents. Questions were framed using the Likert 5 point rating scales and multiple choices. Journals, research papers, books, periodicals and annual reports of RBI constitute the secondary source of data for the study.

ANALYSIS AND INTERPRETATION:

The data collected from 150 respondents through the primary data collection process has been analyzed using SPSS and presented below. The reliability of the data per Cronbach’s Alpha is 89.6%. In order to achieve the objectives of the study statistical techniques and factor analysis were performed and the results are presented below.

Table - 1 showing the socio-demographic factors of the respondents

Demographic Factors	Classification	No. of Respondents (n = 150)	Percent
Age	Less than 30 years	65	43.3%
	31-40 years	41	27.3%
	41-50 years	25	16.7%
	51-60 years	14	9.3%
	Above 60 years	5	3.3%
Gender	Male	103	68.7%
	Female	47	31.3%
Marital status	Married	70	46.7%
	Unmarried	80	53.3%
Qualification	Matriculate	17	11.3%
	Graduate	51	34.0%
	Post Graduate	56	37.3%
	Professional	21	14.0%
	Others	5	3.3%

Source: Primary data

Inference: It is inferred from the above table 1 that the majority of the respondents 43.3 % are in the Age group of less than 30 years. The majority of the respondents 68.7% are male and 53.3% respondents are unmarried. The table 1 also reveals that the majority of the respondents are post graduates with 37.3%.

Table - 2 showing the One-way Analysis of Variance between the Qualification of the respondents and their Usage of Technology payment systems

Awareness of Technological payment systems	F value	P value
Debit Card	4.286	.003*
Credit Card	.742	.565
ECS Debit/Credit	2.438	.050
NEFT	9.765	.000*
IMPS	13.463	.000*
RTGS	2.913	.024*

Source: Computed data

*5% Level of Significance

H_0 - There is no significant difference between the Qualification of the respondents and their Awareness of Technology payment systems.

Inference: It is inferred from the above table that the p-value of the variables Debit Cards, NEFT, IMPS and RTGS are less than the table value at 5% level of significance. Hence null hypothesis is rejected and it is concluded that there is significant difference between the qualification of the respondents and their awareness on technology payment systems.

Table 3: Showing the Independent t-test between the Marital Status of the respondents and their Usage of Technology payment systems

Usage Technological payment systems	Levene's Test for Equality of Variances		T- test for equality of means	
	F	Sig.	T Value	P value
Credit Card	11.894	.001	-2.018	.045*
ECS Debit/Credit	7.939	.006	-1.417	.158
NEFT	.003	.958	.026	.979
IMPS	1.271	.261	-3.400	.001*
RTGS	3.641	.058	.944	.347

Source: Computed data

*5% Level of Significance

H_0 - There is no significant difference between marital status of the respondents and their Usage of Technology payment systems.

Inference: It is inferred from the above table that the p-value of 0.045 Credit Card and 0.001 for IMPS are less than the table value at 5% level of significance. Hence null hypothesis is rejected and it is concluded that there is significant difference between the marital status of the respondents and usage of technology payment systems and marital status.

Factor Analysis being used to reduce the variable to Predominant Factors

The application of factor analysis was performed on the 14 variables included in the questionnaire in order to analyze the benefits of electronic payment system. Principal component analysis with varimax rotation was conducted. The below tables represents factor loading matrix and also includes tables of KMO and Bartlett’s Test, Communalities, Total Variance Explained, Component Matrix and Rotated Component Matrix. The analysis of the data in these tables is presented below.

Table 4: Showing KMO and Bartlett’s Test for Factors of Customers Benefits for Technological Payment Systems

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.766
Bartlett's Test of Sphericity	Approx. Chi-Square	927.122
	df	91
	Sig.	.000

From the above table 4 it is found that Kaiser-Meyer-Olkin Measure of Sampling adequacy is 0.766, Bartlett's Test of Sphericity with approximate chi-square value is 927.122 is statistically significant at 5% level of significance. This implies the 14 variables of KMO statistic indicates that correlations are relatively compact. Bartlett test also signifies that there is relationship between the variables.

Table 5 : Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.393	38.522	38.522	5.393	38.522	38.522	2.546	18.184	18.184
2	1.450	10.357	48.879	1.450	10.357	48.879	2.394	17.098	35.282

3	1.305	9.321	58.200	1.305	9.321	58.200	2.187	15.625	50.907
4	1.045	7.463	65.663	1.045	7.463	65.663	2.066	14.757	65.663
5	.931	6.648	72.311						
6	.764	5.455	77.766						
7	.714	5.098	82.865						
8	.553	3.952	86.816						
9	.517	3.691	90.507						
10	.388	2.774	93.281						
11	.346	2.470	95.751						
12	.241	1.721	97.471						
13	.185	1.324	98.796						
14	.169	1.204	100.000						

Extraction Method: Principal Component Analysis.

In the present study, Principal component analysis is performed for the factors of customer benefits for using technological payment systems to verify whether it is possible to reduce the variables into few significant variables. Thus from the above table 5 it is found that before extraction for 14 components is 38.522 % of the variance whereas subsequent factors explain small amount of extraction. It is clear that four factors can be extracted. Before rotation factor 1 accounted for considerably more variance than the remaining three (38.522% compared to 1.450%, 1.305% and 1.045%). However after extraction it accounts for only 18.184% of variance compared to 17.098%, 15.625% and 14.757% respectively. The variable loadings in each factor are identified in the following rotated component matrix.

Table 6: Rotated Component Matrix^a

	Component				Communalities
	1	2	3	4	
Instant acknowledgement	.766				.688
Provides appropriate statement	.736				.644

Time saving	.728				.668
Reduced Paper Work	.638				.643
Quick to complete a transaction		.474			.671
Clear and easy to operate		.799			.682
User friendly		.664			.471
Secured fund transfer		.552			.576
Reasonable Cost			.808		.683
Highly Reliable			.670		.753
Comfort and Convenient			.545		.659
Accessibility				.864	.798
Easy to transfer funds				.657	.567
Safety and Security				.560	.690
Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 8 iterations					

From the above table 6 communalities of 14 variables range from .471 to .798 indicating large amount of variance has been extracted by the factor. Using varimax orthogonal criterion and by suppressing the factor loadings less than 0.5 the rotated component matrix is obtained and is given in table 6. This implies that all the variables are highly loaded in the first 4 components. In other words, 14 variables are grouped into four factors on the basis of the inter relationship among themselves.

From the above table 6 it is found that Factor 1 is loaded with 4 variables: Instant acknowledgement, Provides appropriate statement, Time saving, and Reduced Paper Work. Therefore this factor can be called as “Transparency”. Factor 2 is loaded with 4 variables: Quick to complete a transaction, clear and easy to operate, User friendly and Secured fund transfer. Therefore this factor can be called as “Flexibility”. Factor 3 is loaded with 3 variables: Reasonable Cost, Highly Reliable and Comfort and Convenient. Therefore this factor can be called as “Affordable”. Factor 4 is loaded with 3 variables: Accessibility, Easy to transfer funds and Safety and Security. Therefore this factor can be called as “User friendliness”.

FINDINGS OF THE STUDY:

The study presents a clear portrait of the technological payment systems. The analysis of the study clearly indicates that there is significant difference between the qualification of the respondents and their awareness on technology payment systems with regards to Debit Cards, NEFT, IMPS and RTGS and there is significant difference marital status of the respondents and usage of technology payment systems and marital status with regards to Credit cards and IMPS services. The KMO statistic indicates that correlations are relatively compact and Bartlett test signifies that there is relationship between the variables. Further, the study revealed that the 14 variables can be reduced into 4 predominant factors using the factor analysis approach, where the factors named as transparency, flexibility, affordable and user friendliness. Thus, these technology driven payment systems are being used to reach out maximum number of customers with more convenience at lower cost in most efficient manner.

SUGGESTIONS:

The technological payment systems help the Indian banks to change the pace of banking and facilitates for the economic growth. The present study clearly says that some of the respondents are aware of technological payment but still not making use of the services. The awareness knowledge about technological payment systems is necessary to customers. In order to create better awareness on technological payment systems the banks needs to provide awareness programmes.

CONCLUSION:

The present research concludes that technological payment systems is a very fast, convenient with any time anywhere time access. As the services of different technological payment systems provided by banks are increasing day-by-day, simultaneously the number of users is also increasing. However, both the customers and service providers are benefited from technological payment system. This leads competitiveness among banks and challenges for the long run. The successful implementation of technological payment system depends on benefits of both consumers as well as bankers, in turn leads to the growth of economic systems.

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