

A STUDY ON ADOPTION OF ELECTRONIC PAYMENT SYSTEM AND ITS IMPACT ON CUSTOMER SATISFACTION IN CHENNAI CITY

Dr.G.Rajesh

Assistant Professor, PG & Research Department of Commerce, The Quaide Milleth College for Men, Medavakkam, Chennai- 600 100, Affiliated to University of Madras.

Dr.R.H.Abdul Hajee

Assistant Professor, PG & Research Department of Commerce, The Quaide Milleth College for Men, Medavakkam, Chennai- 600 100, Affiliated to University of Madras.

Dr.S.Anitha

Assistant Professor, PG & Research Department of Commerce, Anna Adarsh College for Women, Anna Nagar, Chennai -600 040, Affiliated to University of Madras.

Dr.A.Kamaruniza

Assistant Professor, PG & Research Department of Commerce, The Quaide Milleth College for Men, Chennai 100, Affiliated to University of Madras.

Abstract

Digital revolution has altered the routine life style of people. The power of world wide web and digital payment is having pivotal role in getting connected and making any time any where payments at your fingertips. Even though there are enormous advantages, a technology can be successful only if it is able to attain user satisfaction and there by leads to consumer loyalty. This paper focussed to analyse the determinants influencing E-payment usage and thereby the factors leading to consumer satisfaction. The factors so revealed includes perceived use, perceived easy of use and actual usage of the system. The findings based on various literature reviewa recommends that trust consumer interaction service delivery ensuring security from hackers are the determinants which needs to be considered.

Key words: *customer satisfaction, e-payment system, satisfactory level.*

1. Introduction

With the change in technology and growth in population customers are wants to make financial transaction convenient and easy. Electronic payments system is the best way for the customers to make transaction anywhere, anytime. Digital payment system is an electronic medium that allows consumers to make electronic commerce transactions for their purchase and also financial transactions. Money can be transferred from one person to another electronically through various electronic payment systems in India. The initiatives and steps taken by the Reserve Bank of India has created a strong technology based system for electronic payments, allowing seamless

electronic fund transfer between two parties with very minimal transaction cost. From the followings are the modes of electronic payments viz,

1.1 Credit Card

Payment using credit card is one of most common mode of electronic payment. When a customer purchases a product via credit card, credit card issuer bank pays on behalf of the customer and customer has a certain time period after which he/she can pay the credit card bill. It is usually credit card monthly payment cycle.

1.2 Debit Card

It is required to have a bank account before getting a debit card from the bank. The major difference between a debit card and a credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed; whereas in case of a credit card transaction, there is no such compulsion.

1.3 Smart Card

Smart card is again similar to a credit card or a debit card in appearance, but it has a small microprocessor chip embedded in it. It has the capacity to store a customer's work-related and/or personal information. Smart cards are also used to store money and the amount gets deducted after every transaction. Smart cards can only be accessed using a PIN that every customer is assigned with. Smart cards are secure, as they store information in encrypted format and are less expensive/provide faster processing. Mondex and Visa Cash cards are examples of smart cards.

1.4 E-Money

E-Money transactions refer to situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient and save a lot of time. Online payments done via credit cards, debit cards, or smart cards are examples of e-money transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant have to sign up with the bank or company issuing e-cash.

1.5 Electronic Fund Transfer

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in the same bank or different banks. Fund transfer can be done using ATM (Automated Teller Machine) or using a computer. Nowadays, internet-based EFT is getting popular. In this case, a customer uses the website provided by the bank, logs in to the bank's website and registers another bank account. From the followings are the important types of electronic fund transfer;

1.5.1 NEFT (National Electronics Funds Transfer)

The NEFT payment system was introduced in 2005 to facilitate one to one fund transfers. The National Electronic Funds Transfer is a nation-wide money transfer system which allows customers with the facility to electronically transfer funds from their respective bank accounts to any other account of the same bank or of any other bank network. Not just individuals but also firms and corporate organizations may use the NEFT system to transfer funds. Funds transfer through NEFT requires a transferring bank and a destination bank. With the RBI organizing the records of all the bank branches at a centralized database, almost all the banks are enabled to carry out an NEFT transaction. Before transferring funds via NEFT customers are required to register the beneficiary, receiving funds. For this customer must possess information such as name of the recipient, recipient's bank name, a valid account number belonging to the recipient and his respective bank's IFSC code. These fields are mandatory for a funds transfer to be authorized and processed. Any sum of money can be transferred using the NEFT system with a maximum of Rs. 10,00,000/-NEFT transactions can be ordered anytime, even on holidays except for Sundays which are designated bank holidays. However, the transactions are settled in batches defined by the Reserve Bank of India depending upon specific time slots. There are 12 settlement batches operating at present between the time slot of 8am to 7 pm on weekdays and from 8 am to 1pm on Saturdays with 6 settlement batches.

1.5.2 RTGS (Real Time Gross Settlement)

Real Time Gross Settlement as the name suggests is a real time funds transfer system which facilitates to transfer funds from one bank to another in real time or on a gross basis. The transaction isn't put on a waiting list and cleared out instantly. RTGS payment gateway, maintained by the Reserve Bank of India makes transactions between banks electronically. The transferred amount is instantly deducted from the account of one bank and credited to the other bank's account. Users such as individuals, companies or firms can transfer large sums using the RTGS system. The minimum value that can be transferred using RTGS is Rs. 2 Lakhs and above. However there is no upper cap on the amount that can be transacted. The remitting customer needs to add the beneficiary and his bank account details prior to transacting funds via RTGS. The details required while transferring funds would be the beneficiary's name; his/her account number, receiver's bank address and the IFSC code of the respective bank. On successful transfer the Reserve Bank of India acknowledges the receiver bank and based on this the both the remitting bank as well as the receiving bank may/ may not notify the customers.

1.5.3 IMPS (Immediate Payment Service)

Majority of the funds transferred using electronic channels are processed via NEFT or RTGS. But as the funds could only be cleared in batches using these transfer gateways, the National Payments Corporation of India introduced a pilot mobile payment project also known as the Immediate Payment Service (IMPS). Available to Indian public, IMPS offers instant electronic transfer service using mobile phones. IMPS interbank transfer service is available 24X7 and allows

to use mobile phones to access the account and to authorize transfer of funds between accounts and banks. The IMPS service also features a secure transfer gateway and an immediate confirmation on fulfilled orders. IMPS are offered on all the cellular devices via Mobile Banking or through SMS facility. To be able to transfer money via IMPS route customer must first register for the immediate payment services with customer bank. On obtaining the Mobile Money Identifier (MMID) and MPIN from the bank customer can login or make a request via SMS to transfer a certain amount to a beneficiary. Meanwhile the beneficiary must link his/her mobile number with his/her respective account and obtain the MMID from the bank to be able to receive money. To initiate a transfer customer must enter the beneficiary's mobile number, beneficiary MMID, the transfer amount and MPIN while requesting the fund transfer. The transaction reference number can be noted for future reference. Thus IMPS enables customers to use mobile instruments as an instant money transfer gateway, facilitating user convenience and saving time and effort involved in other modes of transfer.

2. Review of Literature

GokilavaniR., et al (2018) has conducted a study on perception of consumers towards digital payment in Coimbatore district and 300 customers are selected by using simple random sampling method. The t-test and ANOVA test are done to find out the difference between socio economic statuses of the consumers and their perception towards digital payment. The results revealed in this study that there is significant difference between perception towards digital payment and socio economic statuses of the consumers. The superiority, safe and secure, cost and time saving, efficiency, user friendly, protection of consumer's privacy, convenient and easiness are positively and significantly influencing the rate of digital payment among customers.

Sarika, P., &Vasanth S (2018) have studied an influence of trust on mobile wallet adoption and its effects on users' satisfaction. This study review literature proposes a conceptual model on influence of trust and its effects on users' satisfaction. This study has considered that trust is a factor that affects users' satisfaction directly and users' satisfaction positively influences the actual usage of mobile wallets. Mobile wallets makes everyone's life comfortable to do 24/7 online transactions. Security and privacy are the component of trust which is the main important factors determines mobile wallet adoption and user satisfaction. It was concluded in the study that trust is the main factor affecting users' satisfaction directly and it impacts on many users intention adopt mobile wallet.

Sana Khan.,&Shreya Jain (2018) have attempted to find out the usage of e-payments for sustainable growth of online business. This study was conducted by selecting 100 respondents who are using e-payments for purchasing products in online on the basis of age, purpose of usage, frequency of usage, various problem faced by using it and e-payments effects on business growth. It was observed in the study that maximum users purchase due to discount and convenience. It has been noticed that advantages of e-payment methods are frequently related to the benefits provided by the smart phones, which include independent payment, easy to access the services anywhere

anytime, doorstep services, easily tracked and avoid the queues and cash payment. It was suggested in this study that organizations should consider more trust in respect of security and privacy concerns rather than only focusing on discounts or cash back offers.

MamtaBrahmbhatt (2018) has conducted a descriptive research to measure the customers' perception regarding e-wallets in Ahmadabad. A structured questionnaire was prepared and sample of 102 people was taken up for this research. The results revealed in this study that there is significant difference among satisfaction level of using e-wallet services when classified by respondent's occupation and there is no association between gender of respondents and sources of awareness about government's initiative of promoting e-wallet services. It is further reported in the results that there is no significant difference among age group, gender regarding their satisfaction on e-wallet services. It was recommended in this study that companies and government both should create awareness by organizing cashless society workshop, seminar at school, college workplace etc.

De Rose, V. J. L. (2017) has attempted to analyse the consumer preference towards e-payments. This study has examined various literatures on the discussed area and has also comprehended the usage of e-payments. The researcher indicated in this study that e-payments eliminate the security risks that come with handling cash money. Electronic invoicing customers can digitally monitor their banking activity. Debit card and online bill payments allow immediate transfer of funds from an individual's personal accounts to a business account regardless the designated place by few clicks without any actual paper transfer of money. This study also suggested that e-payment is very convenient compared to traditional payment method such as cash or cheque. It was concluded in this study that e-payments offers a variety of facilities to opt for rather than physically handling cash.

Singh, S., &Rana, R. (2017) conducted a study to find out the consumer perception of digital payment mode. This study based on primary data collected from 150 samples from the different parts of Delhi. The results revealed in this study that there is no significance variance in consumer perception based on the demographic factors such as gender, age, profession and annual income of the respondents. Education was found to significant influence for adoption of digital payments. Majority of the respondents agree that mobile wallet, digital payment provides benefits to individual for purchase of product, improve the quality of decision, helpful in buying products as compared to traditional method. It was concluded in this study that demographic factors except education does not have much impact on the adoption of the digital payment and the growth of smart phone and internet penetration in such area also facilitated the adoption of digital payment.

Radhika R and Dr. Florence John (2016) have studied the customer intensions to use electronic payment system in India. This study focuses on changing banking trends from paper based system to electronic payment system, awareness, usage and benefits of using electronic payment system in banking with the help of primary data collection using a structured questionnaire from the customers of banks in Chennai city of Tamil Nadu. 150 samples are

collected from the customers of banks. The results revealed in this study that there is significant difference between qualification of the respondents and their awareness on technology payment systems with regards to debit cards, NEFT, IMPS, and RTGS. It was further suggested in this study that the awareness knowledge about technological payment system is necessary to customers. In order to create better awareness on technological payment systems the bank need to provide awareness programs.

Kapoor, H. (2015) has conducted a study to find out the factors that contribute to customer satisfaction with internet banking services. This study conducted from Tricity covering 480 various banks customers and the questionnaire were administrated through judgment sampling method. The results revealed in this study that most of the customer satisfied (high mean score 4.346) with the charges imposed by the bank on online banking and (low mean score 3.05) indicated that internet banking suitable for every customers. It is clearly observed that internet banking facilities should be convenient and comfortable for every customer.

Rouibah, K. (2015) conducted a study that evaluates electronic payment systems use and satisfaction in Arabic country evidence from Kuwait. This study was evaluates the degree of current use, satisfaction, intension to adopt and perceived obstacles toward existing electronic payment system. 350 consumers are selected for this study and the results revealed that most used systems are credit card, debit card, cash on delivery, shop and ship service, prepaid petronet card and mobile payment system. It is most perceived obstacle of the customers are related to lack of law and regulations that protect online customers, risk perceptions, lack of security protection, lack of failure to fulfill the service and products are promised and lack of reputation of electronic payment service providers.

Chavosh, A., et al (2011). have conducted a study to investigate bank customer's satisfaction rate with e-payment services in Malaysia. The comparative analysis is provided by investigating the satisfaction rate with e-payment services in Malaysia's banking industry between 2 sample groups in Penang. These 2 groups consist of degree holders and non degree holders who use electronic payment services. 350 individual samples were selected for this study. The results revealed in this study that degree holder customers strongly believed that e-payment service can reduce cost of transaction in comparison to traditional payment services offered by banks and non degree holder customers believed in a higher level of privacy provided by banks in electronic payment systems than traditional ones. It was concluded in this study that security issues must be considered more carefully by bank managers and e-payment service providers.

3. Methodology

This study focuses on the adoption of electronic payment system and its impact on customer satisfaction in the metropolitan Chennai city. Electronic payments customers are selected for this study as respondents. This study is based on the primary data collected through structured questionnaire to observe the views of electronic payments customers. 119 samples were used for this study and convenient sampling method adopted to select the respondents. This study comes

under the category of descriptive research. The instrument poses a set of 13 questions designed to calculate the adoption of electronic payment and customer satisfaction of the service. A 5 point Likert scale is used in this study, anchored by ‘strongly disagree’ to ‘strongly agree’. Research tool SPSS have been used to analyze and interpret the data. Multivariate techniques like ANOVA, Chi-square and t-test used to test the various hypotheses.

3.1 Objectives

1. To identify the influence of demographic variables on making electronic payment
2. To identify the customer satisfaction level of electronic payment methods

3.2 Hypothesis

- I. There is no significant difference between respondent’s education qualification and satisfaction level of electronic payment system
- II. There is no significant difference among different age group regarding their satisfaction level of electronic payment system
- III. There is no significant difference between genders of the respondents and satisfaction level of electronic payment system
- IV. There is no association between occupation of the respondents and types of electronic payment systems

4. Findings and discussion

Table 1 Demographic profile

| Particulars | Classification | No. of Customers | Percentage |
|-------------------------|------------------|------------------|------------|
| Gender | Male | 69 | 58.0 |
| | Female | 50 | 42.0 |
| | Total | 119 | 100 |
| Age Group | Below 18 | 17 | 14.3 |
| | 18 to 25 | 40 | 33.6 |
| | 25 to 35 | 31 | 26.1 |
| | 35 to 45 | 21 | 17.6 |
| | Above 45 | 10 | 8.4 |
| | Total | 119 | 100.0 |
| Education Qualification | Illiterates | 7 | 5.9 |
| | School level | 26 | 21.8 |
| | Graduate/Diploma | 70 | 58.8 |
| | Professionals | 16 | 13.4 |
| | Total | 119 | 100.0 |

| | | | |
|-------------------|----------------------|-----|-------|
| Occupation | Private organization | 32 | 26.9 |
| | IT/MNC | 40 | 33.6 |
| | Government employee | 16 | 13.4 |
| | Business and others | 23 | 19.3 |
| | Unemployment | 8 | 6.7 |
| | Total | 119 | 100.0 |

Source: primary data

Table 2 Reliability test

| | |
|------------------|---------------|
| Cronbach's Alpha | No. of. Items |
| .870 | 13 |

Source: primary data

Table 2 shows that reliability test for the actual study for total 119 respondents, the Cronbach's Alpha coefficient for 13 variables with .870, which means has an excellent internal consistence and it's reliable of overall items in the questionnaire. As Olorunniwo et al (2006) stated that if Cronbach's Alpha coefficient is more than 0.70, the questionnaire reliability is acceptable.

Table 3 Satisfaction levels of Electronic Payment Methods

| Factor | Statement | Mean Score | Std. Deviation |
|--|---|-------------------|-----------------------|
| Satisfaction levels of Electronic Payment Methods | Cost and time saving | 3.067 | 1.1254 |
| | Safe and secured | 2.831 | .9326 |
| | User friendly | 3.563 | .9264 |
| | Protection of privacy | 3.294 | .8062 |
| | Suitable for every customer | 3.042 | .9056 |
| | Highly secure comparing to conventional payment methods | 3.369 | .9375 |
| | Difficulties of access | 2.991 | .9432 |
| | Charges for service | 3.395 | .9407 |
| | High risk | 3.327 | .9751 |
| | Reliable for the transactions | 3.067 | .9805 |
| | Benefits for making electronic payments | 3.025 | 1.1005 |
| | Convenient and easiness | 3.428 | .9439 |
| Terms and conditions of transactions | 3.529 | .9551 | |

Source: primary data

Table 3 shows the result of mean score and standard deviation for the satisfaction levels of electronic payment methods. It is observed in the results that high mean score 3.563 and SD .9264

is user friendly with the electronic payments. Safe & secure and difficulties of access is low mean score 2.831 and 2.991.

H1 There is no significant difference between respondent's education qualification and satisfaction level of electronic payment system

Table 4 one way ANOVA

| | Sum of squares | Df | Mean Square | F | P Value. |
|----------------|----------------|-----|-------------|-------|----------|
| Between Groups | 303.935 | 3 | 101.312 | 1.567 | .201 |
| Within Groups | 7436.418 | 115 | 64.665 | | |
| Total | 7740.353 | 118 | | | |

Source: primary data

The P-value obtained is .201 which is greater than 0.05, so we accept null hypothesis. Thus it can be concluded that there is significant difference among satisfaction levels of using electronic payment service when classified by respondent's education qualification.

H2 There is no significant difference among different age group regarding their satisfaction level of electronic payment system

Table 5 one way ANOVA

| | Sum of squares | Df | Mean Square | F | P-Value. |
|----------------|----------------|-----|-------------|-------|----------|
| Between Groups | 457.896 | 4 | 114.474 | 1.792 | .135 |
| Within Groups | 7282.457 | 114 | 63.881 | | |
| Total | 7740.353 | 118 | | | |

Source: primary data

The P-value obtained is .135 which is greater than 0.05, so we accept null hypothesis. Thus it can be concluded that there is significant difference among satisfaction levels of using electronic payment service when classified by respondent's age group.

H3 There is no association between occupation of the respondents and types of electronic payment systems

Table 5 Chi square

| Occupation | Types of electronic payment service | | | | | | Chi square value |
|----------------------|-------------------------------------|------------|------------|----------|-------------|-------|------------------|
| | Credit Card | Debit Card | Smart Card | E-Wallet | Net Banking | Total | |
| Private organization | 9 | 9 | 7 | 1 | 6 | 32 | p-value .131 |
| IT/MNC | 14 | 9 | 7 | 3 | 7 | 40 | |
| Govt. Employees | 3 | 3 | 0 | 5 | 5 | 16 | |
| business and others | 7 | 6 | 2 | 3 | 5 | 23 | |

| | | | | | | | |
|--------------|-----------|-----------|-----------|-----------|-----------|------------|--|
| Unemployment | 1 | 3 | 0 | 0 | 4 | 8 | |
| Total | 34 | 30 | 16 | 12 | 27 | 119 | |

Source: primary data

Here, significant value is greater than 0.05 so, accept null hypothesis means that there is association between occupation of the respondents and types of electronic payment service

H4 There is no significant difference between genders of the respondents and satisfaction level of electronic payment system

Table 5 t-test

| Satisfaction levels of electronic payment method and gender | t-test for Equality of Means | | p-value | Analysis |
|---|------------------------------|-----|---------|----------------|
| | t | df | | |
| Satisfaction level of e-payment. | -2.314 | 117 | .021 | H0 is rejected |

Source: primary data

It is observed from the above table that there is significant different in satisfaction level of electronic payment and respondent's gender.

5. Suggestion

A genuine text message from bank will never ask to provides, personal or financial information in a message. Never share a onetime password (OTP), debit/credit card number, card verification value number (CVV) personal identification number (PIN) with another person. Nowadays, most of the banking companies are sending awareness messages to the customers for protecting from deception. To avoid the fraud from the transaction customer must be followed banking company's advices and be aware about the fraud.

6. Conclusion

Based on the results we can conclude that user friendliness of electronic payment, terms and conditions of the transactions, convenient and easiness of the transaction, charges for the service, high secure transactions, protection of privacy were highly satisfied with the electronic payment users meanwhile safe and secure, difficulties of access, reliable for the transaction, suitable for the all category peoples were low score of the customer satisfaction. Further results indicated that there is no significant difference among satisfaction levels of using electronic payment service when classified by respondent's education qualification and there is significant difference among satisfaction levels of using electronic payment service when classified by respondent's age group. Security and privacy are the component of trust which is the main important factors determines adoption of electronic payment for the user satisfaction.

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