

A Study on Factors Influencing Consumers' Attitude For Using Digital Payment System

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ABSTRACT - India has witnessed several technological advancements in technology enabled digital payment system either offered by the banks or any other third party payment gateways in the recent years. This widespread evolution in the digital payment system took pace especially after the demonetization in November, 2016 in India. Several mobile apps such as PayTm, Bhim UPI, Rupay, SBI Yono and many more are now in the market to facilitate the transactions through the handheld devices including with the internet banking websites as well. E-retailing/ Online commerce also get benefitted from this by offering cash backs, bonus points etc on using any of the online payment system rather than selecting the cash on delivery. But, consumers' attitude and behaviour for the overall selection for the payment system or application depends on several factors such as security, reliability, trust, convenience fee etc. Even some technological advancement in the payment gateways, devices which increases the complexity or ease in doing transactions, also influences consumer frequency of using the system in same manner. This research is intended to examine the factors affecting the consumers' attitude and behaviour for the use of digital payment systems or gateways. A sample size of 104 respondents of Udaipur and Mumbai was selected for the study on convenience sampling basis.

Keywords: Digital Payment System/ Gateways, Cash on Delivery, Consumer Attitude, Mobile Apps, E-Retailing/ Online Commerce.

I. INTRODUCTION

Digital Payment System technologies are not only getting acceptance from users of different geographical locations, but also they offers several advantages to the users especially in online shopping/ e-retailing in the form of cash backs, discounts, reward points etc. Beside, all the aforementioned benefits digital payment system have many other advantages against the other payment methods, such as account accessibility anywhere and anytime with all its features, individualistic use of account with full authorization, customized payment services, instantaneous payment transfers, mobility and many more. The integration of banks with third party digital payment service providers such as Google Pay, PayTM, Phone Pay etc. are also encouraging people for adopting the digital payment system, most of the third party companies are offering mobile compatible service application for digital payment. Without lieu of the age of introduction of digital payment system in India popularity of several digital payment methods especially mobile apps popularity is boosting every day. One of the most driving factors of digital payment system is the growth of online commerce/ e-retailing around the globe. The rapid expansion in the e-commerce activities look for the advanced payment

systems to offer the ease into payment transaction to both the parties, so the improvement and integration of technology in the transaction is now become mandatory.

Despite of the several technological advancements and handpicked advantages of digital payment system, customer hesitates to accept it and use it in their daily operational activities. It is because of several obvious factors such as lack of awareness, lack of trust over the reliability of IT infrastructure, no proper IT act for protection of users' rights, convenience fees, threat of misuse of personal and private information and data, risk of data loss and theft, tendency to use the conventional systems, no proper IT infrastructure, network connectivity issues, smart phones/ computers requirements, dependency over internet connectivity, and many more such factors affect the adoption of digital payment system. Some of the potential factors are also there which affects the adoptions such as no proper assistance and consulting services from banks and payment gateways, continuous evolution in technologies, lack of user friendliness, and many more.

Growth and advancement in the e-payment systems resulted into the introduction of a wide range of e-payment/ digital payment system service providers and service features such as electronic cash, plastic cards (debit

cards/ credit cards/ smart cards), electronic cheques, mobile/ digital wallets, internet banking, mobile banking, SMS banking, and several others also. However, in India after demonetization in November, 2016 applications of digital payment systems observed great rise in its use by the common people but as the movement of physical cash become smoother a good percentage of fall in observed in the use of digital payment systems and related applications in India. It is because of no compliance for the compulsory use has been applied by the Government of India or the Banks on users.

The some of the popular digital modes of payment in India are plastic cards (credit/ debit/ smart cards), mobile/ digital wallet, Internet banking, Mobile Banking, Banking apps (SBI Yono etc.), third party apps (PayTM, Google Pay etc.), ATM banking, POS. This research work aims to assess the factors of digital payment system which impede the user or customer to use any of the digital modes of payment in E-Retailing in comparison to the cash on delivery as a payment option. Brief descriptions of some of the digital payment modes used by the users in online commerce practices in India are as follows:

- 1. Banking Cards** - Credit Cards and Debit Cards both are suitable for both online and offline transactions and due to the most convenient form of performing the cashless transactions it is most widely used digital mode of payments. Some banks issues rechargeable cards too with certain amount capacity. Every card has its own transaction limit and expiry.
- 2. UPI (Unified Payment Interface)** - Allows transferring of funds through mobile apps. It is quite suitable for the instant money transfer with a limit of Rs. 2 lakh per day. For confirming the transaction recipients' virtual payment ID and mPIN is mandatory.
- 3. Mobile Wallets** - Also known as E-Wallet. It is digital version of physical wallet where user can store certain amount and can even transfer the amount to the bank account also. It is another popular mode of payment due to cash backs and other reward points.
- 4. Point of Sale** - It is a handheld device with the capacity to read the plastic cards and perform the transactions. It is available as Physical PoS, Phone Pos, and Virtual Pos. In this mode merchant has to avail the POS service from any bank or third party payment service provider.
- 5. Internet Banking** - It allows customer to perform all banking activities through a website gateway. It allows performing RTGS/ NEFT/ IMPS through the website channel of the bank where user can logged in with a username and password.

- 6. Mobile Banking** - This mode of digital payment allows customer to perform all banking activities through a mobile device.

Even after the penetration of digital technologies and high internet speed enabled mobile phones in daily routine life of the common people, the use of digital payment system in e-retailing and other daily transactions practices is still very small. However, some of the digital payment systems such as PayTM, BHIM etc., growth were very high since it was first launched. So, the same is to be observed for entire digital payment system and the same trend is to be followed. Based on these, it is quite essential to measure the factors that impede the users or consumers to use any of the digital payment system or service. So, this study will reveal the extent of significance of the factors which influence the user to use digital payment system in e-retailing or any other daily routine transactions.

II. REVIEW OF LITERATURE FACTORS AFFECTING THE USE OF DIGITAL MODES OF PAYMENT

Digital payment system proposes the fast, secured and convenient form of the transactions between the accounts. Even after several technological advancements, the use and penetration of digital system among the users in their regular transaction is found very low in Indian context. This section of the paper will present the research works already done on studying the factors which impede customers or users significantly for using digital payment systems.

Divya et. al. (2018) worked on "A study on digital payments in India with perspective of consumers' adoption." They concluded that use of digital payment system had improved the banking system performance and user involvement in banking as well. But, the study also confirmed the lack of awareness among the users for the digital payment systems' which impede them to choose any one of the digital payment services offered by banks. So, banks should take effective measures for creating more awareness among customers especially related to technology and security.

Zhou (2013) and Srivastava et. al. (2013) in their studies examined factors affecting the adoption of digital payment modes especially mobile payment system in their daily transaction practices of e-retailing. The studies concluded that flow and speed of services is one of the prominent factor which influence the adoption of technology enabled payment services. The studies also confirmed that quality of services, perceived reputation, trust are some other factors which impede a customer to adopt the digital payment mode.

Nitsure (2014) in his study reported that in developing economies like India integration of digital payment system is challenged by the weak and non reliable information

technology framework. The study put emphasis on factors such as security issues, rules and regulations, IT framework management to be considered by the digital payment service providers to make the system successful. Rebecca Dyer & Alex Hamilton (2017) in their study opined that before implementing the digital payment system, retailers should overhaul their system with innovation, trust & security, and stability to ensure the minimal disturbance from the aforementioned barriers.

Sanghita and Indrajit (2017) in their study on "Factors affecting Customers' adoption of Electronic Payment: An Empirical Analysis" opined that perceived constructs of Technology Acceptance Model such as usefulness, ease of use, risk and security significantly influences the customers' intention to adopt the digital payment system. The study also suggested that knowledge and awareness of these constructs can motivate the customers positively for using the advanced payment modes.

III. RESEARCH METHODOLOGY

Digital Payment Systems or Mobile Payment Systems are the most advanced form of the payment option now days and continuous evolution in this field is making the system more reliable and secure and also offering ease to users to perform regular transactions with lesser convenience fee and complexity. Even after several advantages over the conventional payment methods its acceptance and frequency use is still confined with the literate and urban people. Even in the urban segment a good percentage of the population do not frequently use digital payment system because of several technical and nontechnical factors which impede them to use digital payment system for daily transactions. Though, a good number of studies have already been conducted but for the selected geographical location profile respondents studies pertaining to impeding factors for digital payment system adoption by common users are hardly found. So, with the primary objective of present research work is to assess the significance of factors impeding users' to use the digital/electronic payment modes in online shopping/e-retailing or for the regular payments. Following are the research objectives of the present research work under which research is guided:

1. To assess the significance of the factors impeding the acceptance of digital payment system by the users in e-retailing and daily payments.
2. To assess the association between the demographic characteristics of users and factors impeding their acceptance of digital payment system in e-retailing and daily payments.

Geographical Scope of the Study: The respondents of the study area were from two different tier cities one is Mumbai tier 1 city and Udaipur tier 3. Both the geographical locations are rich in terms of socio-economic

diversity so a good variation and mix of demographic and socio-economic characteristics was incorporated into the study. Literacy level of the study locale is also good which would be good for the study purpose especially in congruence with the technical competency and knowledge about the different digital payment modes.

Research Design: To attain the aforementioned research objectives qualitative method was used during the primary data collection instrument (questionnaire) development, so, the present research work was combination of exploratory and descriptive research. The study was carried out to assess the significance of the factors impeding the acceptance of digital payment system by the users in e-retailing and daily payments, and the association between the demographic characteristics of users and factors impeding their acceptance of digital payment system in e-retailing and daily payments.

Population of the Study and Sampling: Convenience sampling method a pattern of non-probability sampling method was used to choose the sample for the study work. While choosing the sample respondents, sometime researchers became judgemental also so, for some cases judgmental sampling method was also use in the research work. A sample size of 104 respondents of 56 male respondents and 48 female respondents of Mumbai and Udaipur was chosen for the study purpose. An equal stratum of 28 male and 24 female respondents were sampled for the study purpose from both Mumbai and Udaipur geographical locale.

Data Collection Method: A well structured set of questionnaire was developed to assess the respondents' opinion for the factors impeding their acceptance of digital payment systems in e-retailing and daily payments. The questionnaire was distributed among the sampled respondents of Mumbai and Udaipur. Generally, shopping malls, multiplexes, banks, MNC offices were the places tapped to find the suitable respondents for the study purpose by the researcher. The questionnaire was a good package of questions related to the demographic, socio-economic characteristics, and factors impede the acceptance and use of digital payment systems by a common user in e-retailing and for daily payments.

Formulated Hypotheses:

H₁: There are no significant factors which impedes the acceptance of digital payment system by the users in e-retailing and daily payments.

H_{1a}: There are significant factors which impedes the acceptance of digital payment system by the users in e-retailing and daily payments.

H₂: There is no significant association between the factors impeding to use digital payment system and users' demographic characteristics.

H_{2a}: There is significant association between the factors impeding to use digital payment system and users' demographic characteristics.

IV. RESEARCH VARIABLE AND MODEL

Independent Variables: Demographic Characteristics (Gender, Age, Occupation, Monthly Income, and Qualification), Opinion for Impeding Factors (Lack of Proper IT Infrastructure, Lack of Knowledge and Awareness, Technical Complexities Issues, Trust and Security Issues, Cost and Convenience issues, Brand and Reputation issues).

Dependent Variables: User acceptance for the digital payment systems.

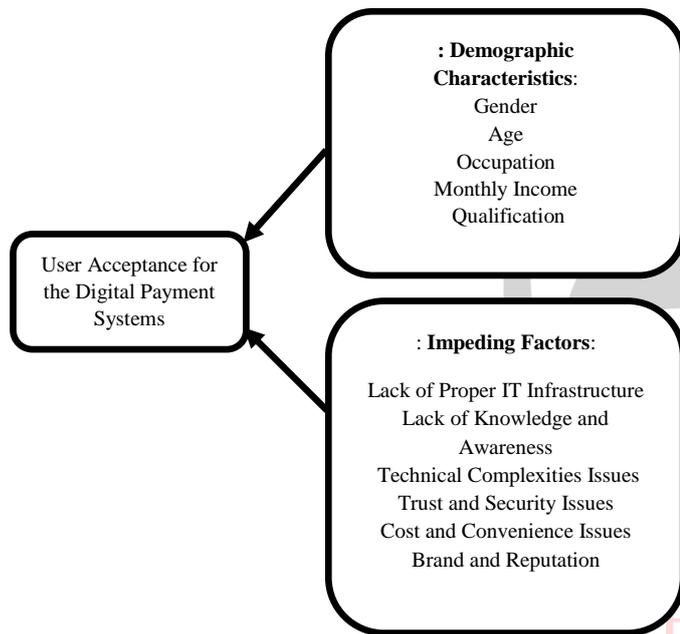


Figure 1: Research Framework

Source: Author's Research Framework

Statistical Analysis of Data: Primary data collected from the guided questionnaire for the sampled respondents were tabulated and analyzed through the IBM SPSS 21.0 statistical package. For the statistical analysis over the accumulated datasets from the duly filled questionnaires of 104 respondents of the study, ANOVA, Regression and frequency distribution test were chosen to measure the significance of factors and association between the participated variables of the study. The statistical analysis over the data sets would be helpful to get the value based output to assess the extent of association between the participating variables and would also be helpful to measure the significance of the hypotheses stated to attain the research objectives.

ANALYSIS AND DISCUSSIONS ON INTERPRETATIONS

This section will present the statistical view of measuring the significance of factors which impedes the acceptance

of digital payment system by the users in e-retailing and daily payments and association between the factors impeding to use digital payment system and users' demographic characteristics.

A. Reliability Testing: Reliability value shows the internal consistency of the study constructs and confirms that further analysis can be performed over the data set. Threshold value suggested is 0.7, means if value is equal or greater than 0.7 than data set internal consistency is good and dataset can be used for further analysis.

Table 1: Reliability Analysis

Variable(s) / Characteristic(s)	Cronbach's Alpha (α)	N Items
Lack of Proper IT Infrastructure	0.798	7
Lack of Knowledge and Awareness	0.854	5
Technical Complexities Issues	0.745	6
Trust and Security Issues	0.761	5
Cost and Convenience Issues	0.821	4
Brand and Reputation	0.883	4

Source: SPSS Output Table

Reliability statistics revealed that for all the variables/ Constructs involved in the study has more than 0.7 Cronbach's alpha (α) value, so further analysis over the dataset can be performed.

B. Demographic Descriptive analysis of Respondents:

This statistical snapshot will cover the frequency, and mean based distribution of statistics of respondents of the study. Table 2 showed below exhibits descriptive of demographic characteristics:

Table 2: Descriptive of Demographic Characteristics

Variables	Categories	Frequency	Mean
Gender	Male	56(54%)	1
	Female	48(46%)	2
Age	< 30 years	22(21%)	1.97
	30 to 40 years	46(44%)	2.53
	40 to 50 years	27(26%)	2.99
	> 50 years	9(9%)	3.8
Occupation	Salaried	56(54%)	1
	Business Owner	42(40%)	2
	Not Working	6(6%)	3
Monthly Income	< 20,000	15(14%)	1
	20,000 to 40,000	62(60%)	2
	> 40,000	27(26%)	3
Qualification	Below Graduate	12(12%)	1
	Graduate	42(40%)	2
	Post Graduate	38(36%)	3
	Professionally Qualified	12(12%)	4

Source: Author's Compilation

The statistics of above table revealed that out of 104 respondents male were 56 (54%) and female were 48(46%) which shows a good mix of gender participated for the study. For the age variable statistics revealed that majority of the respondents 46(44%) were of 30-40 years of age group, and the second highest participation 27 (26%) was observed form 40-50 years age group respondents. Majority of the respondents 56 (54%) were salaried and 42 (40%) were having their own businesses.

62 (60%) of the respondents' monthly income was 20,000-40,000 per month and 27 (26%) respondents' monthly income was higher than 40,000. With reference to the qualification variable out of the sample population 42 (40%) respondents were graduates, 38 (36%) respondents were post-graduate and 12 (12%) respondents were professionally qualified. So, with respect to all the demographic characteristics the study shows a good mix of different class respondents.

C. Significance Analysis of Factors which Impedes the Acceptance of Digital Payment System by the Users:

Table 3: One Sample T-test

Impeding Factors	N	Avg.	Std. Dev.	T	Df	Sig.
Lack of Proper IT Infrastructure	104	13.42	1.64	42.46	103	.001
Lack of Knowledge and Awareness	104	18.18	1.86	52.22	103	.001
Technical Complexities Issues	104	12.64	2.24	36.54	103	.001
Trust and Security Issues	104	14.11	1.66	28.94	103	.001
Cost and Convenience Issues	104	13.48	2.08	34.32	103	.001
Brand and Reputation	104	16.46	1.76	38.30	103	.001

Source: Primary Data

With 95% level of confidence and .001 levels of significance for the all the above stated impeding factors (Lack of Proper IT Infrastructure, Lack of Knowledge and Awareness, Technical Complexities Issues, Trust and Security Issues, Cost and Convenience Issues, and Brand and Reputation) there was no evidence to reject the hypothesis confirming the significance of factors as impeding the users' acceptance for the digital payment system in e-retailing and daily payments.

The above statistics confirmed that average of lack of proper IT infrastructure was 2.684 and standard deviation was 0.328, level of significance .001 confirms that lack of proper IT infrastructure is a significant factor which impedes the acceptance of digital payment system by the users in e-retailing and daily payments. Average of lack of knowledge and awareness was 3.636 and standard deviation was 0.372, level of significance .001 confirms that lack of knowledge and awareness is a significant factor which impedes the acceptance of digital payment system by the users in e-retailing and daily payments. Average of technical complexities issues was 2.528 and standard deviation was 0.448, level of significance .001 confirms that technical complexities are significant factors which impede the acceptance of digital payment system by the users in e-retailing and daily payments.

Average of trust and security issues was 2.822 and standard deviation was 0.332, level of significance .001 confirms that trust and security issues are significant factors which impede the acceptance of digital payment system by the users in e-retailing and daily payments. Average of cost and convenience issue was 2.696 and standard deviation was 0.416, level of significance .001 confirms that cost and convenient issue is a significant factor which impedes the acceptance of digital payment system by the users in e-retailing and daily payments. Average of brand and reputation was 3.292 and standard deviation was 0.352, level of significance .001 confirms that brand and reputation is a significant factor which impedes the acceptance of digital payment system by the users in e-retailing and daily payments. So, for all the impeding factors the level of significance was .001 which confirmed that respondents' opinion for all the factors was positive and they affirmed that these factors stops them to use the digital payment system.

Table 4: Friedman Test

Impeding Factors	Avg.	Std. Dev.	Ranking	Chi	df	Sig.
Lack of Proper IT Infrastructure			3.96	1106.23	5	.001
Lack of Knowledge and Awareness			3.78			
Technical Complexities Issues			3.33			
Trust and Security Issues			2.97			
Cost and Convenience Issues			2.06			
Brand and Reputation			1.98			

Source: Primary Data

According to the table above, for all the impeding factors the chi-square value was found 1106.23 with sig. value .001 which also confirms the significance of all the impeding factors. Highest ranking was observed for lack of proper IT infrastructure that is 3.96 and lowest ranking was for brand and reputation factor (1.98). Thus, H_{1a} is accepted which confirms that Lack of

Proper IT Infrastructure, Lack of Knowledge and Awareness, Technical Complexities Issues, Trust and Security Issues, Cost and Convenience Issues, and Brand and Reputation are the significant factors which impedes the acceptance of digital payment system by the users in e-retailing and daily payments.

D. Significance Analysis of Association between the Factors Impeding to Use Digital Payment System and Users’ Demographic Characteristics:

Table 5: Regression Analysis (Model Summary ^c)

Model	R	R ²	Ad. R ²	Std. Error	Change Statistics					Durbin Watson
					R ² Change	F Change	Df1	Df2	Sig. F Change	
1	.729 ^a	.531	0.529	0.4612	0.086	17.235	6	97	0.014	2.321
2	.756 ^b	.572	0.566	0.4456	0.027	8.224	6	97	0.011	

a. Predictors: (Constant), LPIT, LKA, TCI, TSI, CCI, BR
b. Predictors: (Constant), Gender, Age, Occupation, Monthly Income, Qualification
c. Dependent Variable: Use of Digital Payment System

Source: Primary Data Compilation

R value measures the degree of association between the actual and predicted higher value represent higher association. For model 1 multiple correlation coefficient R=0.729 confirms higher association and for model 2 multiple correlation coefficient R=0.756 also confirmed the higher association between the dependent and independent values. Table statistics revealed that that 52.9% of the variation for model 1 in use of the digital payment system is explained by Lack of Proper IT Infrastructure, Lack of Knowledge and Awareness, Technical Complexities Issues, Trust and Security Issues, Cost and Convenience Issues, and Brand and Reputation, and for model 2, 56.6% of variation was observed for the use of digital payment system by demographic characteristics (Gender, Age, Occupation, Monthly Income, and Qualification). So, both the model represented good variation and found as best fit model. The table also revealed that the Durbin – Watson value is 2.321, which is used to assess the auto correlation and generally value ranges from 0 to 4. As the value lies in between 1.5 to 2.5 it confirms independence of the observations as confirmed by Garson & G. David (2010).

Table 6: ANOVA Analysis of Association measurement between the Factors Impeding to Use Digital Payment System and Users’ Demographic Characteristics

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.226	6	64.226	19.940	.000 ^a
	Residual	64.328	97	3.221		
	Total	128.554	103			
2	Regression	59.992	6	59.992	28.352	.000 ^b
	Residual	38.225	97	2.116		
	Total	98.217	103			

a. Predictors: (Constant), LPIT, LKA, TCI, TSI, CCI, BR
b. Predictors: (Constant), Gender, Age, Occupation, Monthly Income, Qualification
c. Dependent Variable: Use of Digital Payment System

Source: Primary Data Compilation

From the above table it was identified that for model 1, the association between the impeding factors (Lack of Proper IT Infrastructure, Lack of Knowledge and Awareness, Technical Complexities Issues, Trust and Security Issues, Cost and Convenience Issues, and Brand and Reputation) and use of the digital payment system found significant (F=19.940 and sig. =.000). For model 2, the association between the demographic characteristics (Gender, Age, Occupation, Monthly Income, and Qualification) and use of the digital payment system found significant (F=28.352 and sig. =.000). So, it could conclude that H_{2a} must be accepted which confirms that there is significant association between the factors impeding to use digital payment system and users’ demographic characteristics.

V. LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

The study attained the stated objectives such as assessing the significance of the factors impeding the acceptance of digital payment system by the users in e-retailing and daily payments and assessing the association between the demographic characteristics of users and factors impeding their acceptance of digital payment system in e-retailing and daily payments. But, some limitations were identified pertaining to geographical scope that is Mumbai and Udaipur. Comparative assessment can be performed as both the locations are of different tier cities. Operational scope is limited to the impeding factors, so more variables focusing on the pushing factors can be incorporated with the study. However, aforementioned limitations can

eliminate through broadening of scope with more detailed analysis.

VI. CONCLUSION

Research resulted that respondents' opinion for the factors (Lack of Proper IT Infrastructure, Lack of Knowledge and Awareness, Technical Complexities Issues, Trust and Security Issues, Cost and Convenience Issues, and Brand and Reputation) impeding the use of the digital payment system is found significant which confirmed that all the issues drives the user acceptance for the use of the digital payment in their e-retailing and daily payment applications. The study also concluded that there is significant association between the factors impeding to use digital payment system and users' demographic characteristics (Gender, Age, Occupation, Monthly Income, and Qualification). Thus, it is also confirmed that personal characteristics are also influential variables to accept the digital payment system by the individual for making any payment or transaction.

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