Developing a model for effective adoption of Digital Payment Systems

Prof. Tanuj Nandan,

Professor,

School of Management Studies, Motilal Nehru National Institute of Technology Allahabad,

Prayagraj, India

Vivek Singh Rana

Research Scholar,

School of Management Studies, Motilal Nehru National Institute of Technology Allahabad,

Prayagraj, India

vivek.2022rms10@mnnit.ac.in

Prof. Manish Kumar Srivastava

Professor,

Christ (Deemed to be University) School of Business and Management, Kengeri Campus, Kanminike, Mysore Road, Bangalore, India

Abstract

Digital Payments transactions have been consistently increasing over the last few years as a means of payment. The efficiency, usefulness, and timeliness of this service are all factors that contribute to its success. Financial systems in both established and emerging countries consistently embrace and employ this payment method as a means to simplify and ease commercial payments. In order to foster customer loyalty and repeat business as well as draw in new customers in India, the study aims to identify the motivations and drivers for customers to avail digital payments services. It also offers recommendations to digital payment service providers on enhancing service levels. The researcher took into account six factors, including usefulness, ease of use, trust, security and privacy, perception, and social influence. Frequency tables, measures of central tendency, and correlation were the tools used for data analysis. According to an analysis of the results, there was a "strong correlation" between the adoption of digital payment systems and consumer trust. Digital payment adoption is moderately correlated with usefulness, usability, and perception. The adoption of a digital payment system is inversely correlated with social influence and security.

Keywords: digital adoption; digital payment; India; online transactions; benefits

Introduction

Digital Payments transactions have been consistently increasing over the last few years as a means of payment. The efficiency, usefulness, and timeliness of this service are all factors that contribute to its success. Financial systems in both established and emerging countries consistently embrace and employ this payment method as a means to simplify and ease commercial payments. The essential role that digital payment systems play in modern electronic commerce has attracted the attention of researchers over the past 20 years. This led to in-depth investigations that produced several points like defining e-payments. Experts in information systems, business technology, and accounting and finance have largely looked at these ideas from a number of perspectives. An electronic payment system, for instance, is a sort of financial arrangement between a buyer and a seller made feasible by the use of electronic communications, according to Dennis (2004). Electronic payments can be viewed as a sort of corporate and consumer connectivity made possible by banks and inter-switch firms (Briggs and Brooks, 2011).

Digital payments originally gained popularity in 1918 when the Federal Reserve Bank utilized telegraphs to send money for the first time in the United States (U.S.). But until the Automated Clearing House (ACH) was founded in the US in 1972, that method was not frequently used there. Since then, use of electronic money has increased. This gave the U.S. national treasury and commercial banks an option to using checks for payment (Graham, 2003).

When enterprises including department stores, petrol stations, western union, and hotels started offering cards to their customers so they could pay for goods and services, the history of the credit card industry began. Credit card use has grown after over 40 years of growth because more individuals are using them as a means of payment, particularly for transportation. Prior to the 1990s, when credit cards were completely switched over to electronic payments, only paper-based transactions were carried out using credit cards. The market has grown rapidly as a result of consumers using credit cards more frequently, which has resulted in the development of a debit card as well. Debit and credit cards are used nowadays to pay for all types of goods and services offered internationally (Mohamad et al. 2009).

Literature Review

A digital payment system, as described by Peter and Babatunde (2012), is any form of online money transmission. Similarly, digital payment system, according to Adeoti and Osotimehin (2012), is a

technique to pay for goods and services that are bought online, in stores, or in malls. E-payment systems, by another definition, are payments conducted in an environment of electronic commerce that entail the transfer of money through technological means (Kaur & Pathak, 2015).

In addition, Kalakota and Whinston (1997) describe an electronic payment as a financial exchange between a buyer and a seller that takes place online. Additionally, Humphrey and Hancock (1997) think that electronic currency and associated transactions fall under the notion of electronic payments. E-payment, often known as direct credit or the electronic transfer of credit card information, refers to payment made via an electronic means rather than a cheque or cash (Agimo, 2004).

Antwi et al., (2015) explains digital payment as the transmission of a payer's financial claim to a beneficiary-accepting entity. Digital payments include those made through electronic transfers, card networks, automated clearing houses (Shon and Swatman, 1998; Lin and Nguyen, 2001). According to, digital payments are any financial transactions that are initiated through an electronic communication channel (1998). According to Gans and Scheelings, digital payments are those made by electronic signals that are directly linked to deposit or credit accounts (1999).

A further definition of an e-payment was provided by Teoh et al., (2013) as any transfer of an electronic value of payment made from a payer to a payee using an e-payment channel that permits users to access and control their bank accounts and transactions remotely over an electronic network. According to the aforementioned criteria, an e-payment system can be defined as a set of components and processes that facilitate the electronic exchange of money between two or more parties.

There is evidence that users like efficient, practical, and quick technology. On the other side, the primary explanations for the poor or sluggish adoption of digital payment systems have been mentioned as security issues and privacy concerns. A survey of the literature found that the Technology Acceptance Model (TAM) (Davis, 1989) model was used in the great majority of studies on digital payment systems, with more recent studies expanding the model by taking into account other criteria. Others used the Unified Theory of Acceptance and Use of Technology (UTAUT) model and its expanded variations in their research (Venkatesh et al.,2013). Researchers looked at the effects of several underlying elements in terms of mediation and moderation.

For instance, a research conducted in Indonesia discovered that infrastructure, wealth, and education were all strongly and favourably correlated with perceived preparedness (14.6%) for

going cashless. Younger customers are more likely to use digital financial services/products since they may be more used to the aforementioned technology, according to the authors' findings that age substantially and adversely relates to preparedness. Researchers like Oliveira et al. discovered that acceptance of mobile payments is significantly influenced both directly and indirectly by aspects including performance expectations, innovativeness, compatibility, and social impact.

Research Methodology

Exploratory as well as descriptive research designs are used for this research. Primary data for this study was collected through a structured questionnaire from respondents using convenience sampling (online). This study used a 5-point scale for respondents' opinions, ranging from 1 (strongly disagree) to 5 (strongly agree). Frequency tables, measures of central tendency, and correlation were the tools used for analysis of collected data. In this study, both primary and secondary data were collected, and the scope of each is described in this section. Questionnaires were fairly distributed to respondents (111 valid questionnaires) for the initial data collection. The purpose of these questionnaires was to gather information on application and usage of digital payment systems in India (Wendy et al., 2013). This involves, among other things, the impressions of the customers, as well as timeliness, accuracy, and service quality. It primarily involved gathering material from the internet, electronic books, and prestigious publications for the secondary data collecting.

Reliability and validity are the fundamental measuring tools needed for the study's evaluation. The reliability study would be carried out using the Cronbach Alpha statistic from the Statistical Packages for Social Sciences (SPSS) in order to test. Likert five-point scale format was utilized to let responders choose replies depending on the degree of agreement to disagreement. They were divided into "SA, A, N, D, and SD" categories (Wendy et al., 2013).

The questionnaire is divided into two parts: the first part captures demographic details about the respondents, and the second part contains six dimensions related to the research model: Four questions focused on advantages, four on trust, three on self-efficacy, three on simplicity of use, three on security, and last but not least, four on users' perceptions, three on users' adoption of digital payments.

Research model and hypotheses development

An enhanced TAM approach was used in this investigation. Davis's Theory Reason Action (TRA) is a preceding theory that the TAM builds upon [C. Buabeng-Andoh, 2018]. The TRA model's basic tenet is that people's perceptions of new technology will be influenced by their views and evaluations of it. One's opinion of a new technology's benefits and ease of use has a significant impact on whether or not they accept it.

According to Alalwan et al., (2018), the TAM is a tried-and-true model for predicting the factors that influence technological acceptance. The TAM model states that a person's decision to embrace new technology is significantly influenced by their judgments of the usability and usefulness of the technology. The company's opinion of the utility of technology influences how well it performs, as demonstrated by the usefulness perception.

Businesses' perception that adopting new technology is a natural process may be shown in the idea of ease of use [Davis, 1989]. The perceived utility of a technology has a major influence on people's inclinations to use it, prior research on the TAM has repeatedly demonstrated. According to the TAM hypothesis, perceived usability affects perceived usefulness since perceived usability can improve the usefulness of a system [Rafique et al., 2020]. Understanding the elements that affect perceived usability would enable business participation, boosting adoption and application of innovation. According to a prior study that showed that perceived ease of use positively promotes perceived usefulness, perceived ease of use is substantially related to intention through its impact on perceived usefulness [Davis, 1989].

The TAM's two most essential exogenous components are perceived usefulness and ease of use, while the two most significant endogenous components are attitude and usage intention. Positive or negative attitudes about adopting a certain technology may affect a person's intention to use that technology and their rate of adoption [Kim et al., 2016; Merhi et al., 2019]. An earlier study found that users' views of a system's utility and perceived ease of use had a positive effect on users' motivation to use the system [Cheng et al.,, 2019]. However, as the results of such a relationship differed in the various cultural and industrial contexts, further considerations were required.

According to F. D. Davis (1989), ease of use is the degree to which a person thinks utilizing a given system would need little to no physical or mental effort. According to earlier research [P. Y.

K. Chau, 1996], perceived ease of use affects usefulness, attitude, intention, and actual usage. According to F. D. Davis, perceived ease of use is an important secondary driver of people's intents to use computers and has a direct and indirect impact on usage through its influence on perceived utility through the attitude toward utilizing the Internet. The results of Chau's study also demonstrated that although perceived ease of use did not significantly alter intention to use, it had a considerable impact on near-term usefulness.

A person's ideas about the decision-making process are addressed by perceived usefulness, which is based on expectation theory (Rigopoulos and Askounis, 2007). According to F. D. Davis (1993), perceived usefulness is "the extent to which a person feels that utilizing a certain system will increase his or her performance." The perceived usefulness construct was seen to be redundant by definition with the performance expectation construct, which was described as "the degree to which a person feels that utilizing the system would allow him or her to accomplish improvements in work performance" (Fishbein and I. Ajzen, 1975). The association between perceived usefulness and utilisation was found by F. D. Davis to be stronger and more dependable than the relationship between other factors mentioned in earlier research.

When an online buyer makes a purchase rather than merely researches a product, the significance of perceived ease of use increases. In an interesting finding, Wu and Wang discovered that in a research on the adoption of digital payment, perceived ease of use did not substantially influence behavioral intention. He and Mykytyn discovered that behavioral intention to use as well as general pleasure are directly correlated with perceived ease of use. According to earlier research, perceived usability was positively correlated with behavioral intent to use, attitude toward using, social impact, and actual usage. As a result, the following hypotheses are therefore formulated:

H1: Usefulness positively influences adoption of digital payment.

H2: Ease of use positively influences adoption of digital payment.

According to Griffin, trust is the conviction that a characteristic of an item, an event, or a person's behaviour in the face of a dangerous scenario will achieve the desired goal (Demircan and Ceylan, 2003). Consumers' perception of confidence in the e-payment systems is their anticipation that their e-payment transactions will be executed in line with their expectations (Mallat, 2007; Kim et al., 2010). Customers could not have faith in DPS because of operational and environmental

uncertainties. Both the adoption of DPS and the desire to employ DPS may be adversely affected by these. Yet, putting your faith in suppliers and service providers lowers your risk of DPS (Mallat, 2007).

H3: Perceived trust positively influences adoption of digital payment.

Social influence refers to a person's perception that their friends and acquaintances expect them to utilise a certain technology. According to Venkatesh et al. (2003), social circles have an impact on people's behaviour because they can maintain peace within their own groups and between them. Previous studies have looked at the major effect that social factors have on individuals' intentions to adopt technologies (Alshare & Mousa, 2014; Musa et al., 2015; Sharma et al., 2017). Thus, the following is suggested based on the debate above.

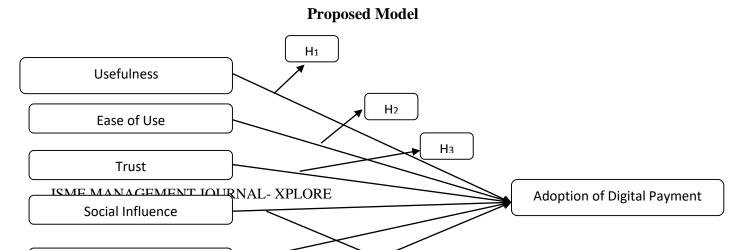
H4: Social influence positively influences adoption of digital payment.

According to Soodan et al. (2020) and Milberg et al. (2000), privacy and security are key factors that influence the adoption of e-wallets. Kaur et al. (2018) argues that using an e-wallet without a security feature will offer hackers with an opportunity to steal personal data. Hence the following hypothesis is put forth:

H5: Security and Privacy negatively influences adoption of digital payment.

According to Teoh et al. (2013) self-efficacy and simplicity of use are couple of important factors that are considered by Indian consumers while using electronic payment services. Jalil et al. (2014) demonstrates that customer trust is the most crucial factor that that influence Indian customers while using internet banking services. Research by Chong et al. (2010) and Eriksson et al. (2005) show favorable effect of trust on customers' intentions to utilise internet banking. According following hypothesis is formulated.

H6: Perception positively influences adoption of digital payment.



Research Participants

Respondents came from two important Indian cities. It was ensured that there is equitable distribution of questionnaires across the cities. As a result of the participants' voluntary completion of the questionnaire, a total of 111 respondents—all educated people regardless of their degree of education—participated in the study. The questionnaire, which consists of 25 questions (including demographic ones) and was mostly compiled from academic articles written by other researchers (Wendy et al., 2013), was created in order to precisely assess the true impact of the digital payment system in India. The items were rated on Likert scale as "Strongly Disagree (SD)," "Disagree (D)," "Neutral (N)," "Agree (A)," and "Strongly Agree (SA)". The most popular methodology known as "Cronbach Alpha" was used to assess the reliability of the questionnaire in the end.

Objectives of the study:

- i) To examine the effects of factors such as ease to use, trust, social influence, security and privacy and perception on adoption of digital payment
- ii) To study the risk and challenges faced by consumers in use of digital payment.

Demographic data of participants

Gender may have a big impact on someone's view and attitude (Gefen and Straub, 1997). Many academics believe that gender has a significant influence on how buyers intend to behave (Riquelme and Rios, 2013; Zhang, 2012;). In their research, Jayawardhena et al. (2009) discovered a difference between men's and women's knowledge of any transferrable acceptance.

Demograph	nic Variables	Number	Percentage (%)
Gender	Male	75	67.6
	Female	36	32.4
Age	Below 20 years	42	37.8
	20 to 35 years	48	43.2
	36 to 50 years	16	14.4
	Above 50 years	5	4.5
Level of Education	High School	1	0.9
	Graduation	47	42.3
	Post Graduation	57	51.4
	Ph.D.	6	5.4
Family Income	25,000-50,000	51	45.9
(Rs.)	50,000-75,000	21	18.9
	75,000-1,00,000	16	14.4
	Above 1,00,000	23	20.7
Experience with	Less than a year	43	38.7
Digital Payment	2-4 years	45	40.5
Digital Layment	5-9 years	18	16.2
	Above 10years	5	4.5

The demographic information of the respondents is shown in the above table. There were one hundred and eleven (111) people in total, 75 men (67.6% of the total) and 36 women (32.4% of the total). In terms of respondents' age groups, 48 respondents between the ages of 20 and 35, 42 respondents below the age of 20, 16 respondents between the ages of 36 and 50 and last but not least, 05 respondents above 50 years. The greatest level of education among the participants, with 57 replies and a percentage of 51.4, was at Post Graduate level. The holders of bachelor's degree came in second, with 47 having 42.3%.

Reliability test

A reliability test was done to assess the reliability of the instrument using "Cronbach Alpha". Constructs with reliability value of 0.6 are considered acceptable, values below the acceptable threshold are considered to be unfit (Sekaran, 2000).

Reliability test for questionnaire constructs

Constructs	Number	Cronbach
	of Items	Alpha
Usefulness	4	0.872
Trust	4	0.897
Social Influence	3	0.778

Ease to Use	3	0.879
Security	3	0.603
Perception	4	0.903
Adoption	3	0.898
TOTAL	24	0.948

The reliability coefficient of higher than 0.6 in Table illustrates all aspects, implying that the associated questions were sufficient. The obtained findings were quite appealing and suggested that the search may be used as proof thanks to an overall reliability of "0.948," which is for a comprehensive questionnaire.

Normality Test

	Sl	Shapiro-Wilk			
	Statistic	N	Sig.		
Usefulness 1	.762	111	.000		
Usefulness 2	.799	111	.000		
Usefulness 3	.786	111	.000		
Usefulness 4	.801	111	.000		
Trust 1	.848	111	.000		
Trust 2	.892	111	.000		
Trust 3	.854	111	.000		
Trust 4	.847	111	.000		
Social Influence 1	.887	111	.000		
Social Influence 2	.888	111	.000		
Social Influence 3	.869	111	.000		
Ease to use 1	.798	111	.000		
Ease to use 2	.826	111	.000		
Ease to use 3	.779	111	.000		
Security 1	.886	111	.000		
Security 2	.878	111	.000		
Security 3	.854	111	.000		
Perception 1	.856	111	.000		
Perception 2	.842	111	.000		
Perception 3	.789	111	.000		
Perception 4	.818	111	.000		
Adoption 1	.815	111	.000		
Adoption 2	.823	111	.000		

		444	
Adoption 3	.794	111	.000

Data is considered to be normal if the Sig.Value based on Shapiro Wilk test is higher than 0.05. A value lower than 0.05 indicates deviation from normal distribution of data. Here, test rejects the hypothesis of normality as the p-value is less than 0.05. If the data distribution is non-normal, then one can use non parametric test only.

Results and Discussions

A detailed discussion based on analysis is provided in the following section.

Factors Affecting Satisfaction of Digital Payment

The table that follows shows, with respect to the mean and standard deviations, how each element in our study influences the overall happiness of the consumers who use digital payments for online transactions in India.

Factors affecting the satisfaction of customers using digital payment

Fact	tors	Usefulness	Trust	Social	Ease to	Security	Perception
				Influence	use		
N	Valid	111	111	111	111	111	111
	Missing	0	0	0	0	0	0
M		4.059	3.6396	3.3093	3.9640	3.4865	3.9234
SD		0.845	0.938	0.927	0.801	0.727	0.861

According to the above table, there are a number of factors that affect customer satisfaction with digital payments in India as well as their standard deviations.

In the results obtained from the survey, it appears that usefulness in DPS (M=4.059; SD=0.845) is one of the primary factors affecting the satisfaction of customers with digital payments in India. Ease of use (M=3.96; SD=0.801) is the next aspect that came in "second" in our research; the

majority of consumers for this factor were positive.

Perception (M=3.92; SD=0.861), the "third" ranked problem that has an impact on the adoption of digital payments, suggests that customers' perceptions are very important for adoption of digital payment system.

Trust (M=3.64; SD=0.94) is the "main factor" that influences customers' satisfaction of Digital payment. Security was the "fifth" examined factor (M=3.49; SD=0.73), indicating that customers in India are prepared to accept the technology provided they are aware of its purpose and how secure it is. Social Influence was the sixth examined element (M=3.31; SD=0.93), indicating that if clients realize that using digital payment would satisfy them, they are delighted to accept it. Many experts (including Kaplan and Pucciarelli (2016), Wendy et al. (2013), and Cao et al. (2016) have highlighted the reasons why these obstacles prevent the acceptance and appropriation of digital payment. The researchers showed that "trust" plays a fundamental role in acceptance. If friends and loved ones are already using digital payment and also think that digital payment is great, then people are likely to purchase that technology. Further, experts show that perceived accessibility plays an important role in adoption of digital payment services. Additionally, Phillips et al. (2017) state that acknowledging any invention depends heavily on seeming convenience. The scientist claims that while new innovations should be simple to use, the more complicated they are, the harder it is for customers to adopt them.

Correlation Analysis:

Hypothesis	IV	DV	R Value	Coefficient	Supported
				(Positive/Negative)	
H1	Usefulness	Adoption	0.560	Positive (Moderate)	Supported
H2	Ease of use	Adoption	0.591	Positive (Moderate)	Supported
Н3	Trust	Adoption	0.593	Positive (Moderate)	Not
					Supported
H4	Social influence	Adoption	0.279	Positive (Weak)	Supported
H5	Security	Adoption	0.178	Positive (Weak)	Not
					Supported
Н6	Perception	Adoption	0.584	Positive (Moderate)	Supported

H1: Usefulness positively influences adoption of digital payment. Correlations

			Usefulness	Adoption
Spearman's rho	Usefulness	Correlation Coefficient	1.000	.560**
		Sig. (2-tailed)		.000
		N	111	111
	Adoption	Correlation Coefficient	.560**	1.000
		Sig. (2-tailed)	.000	
		N	111	111

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Spearman correlation between Usefulness and adoption of digital payment:

As shown in the above table, Spearman correlation analysis is used to determine the relationship between usefulness and adoption of digital payment, which basically supports hypothesis (H2). According to the table above, hypothesis H2 clearly shows a moderate positive correlation. As a result of the correlation, we can conclude that, indeed, there is a positive correlation between the usefulness and adoption of digital payment. Furthermore, the table displays the variables mentioned, with significant values at P 0.000, N 111, and C 0.560. Moreover, a two-tailed test indicates a significant relationship between both variables (DPS usefulness and adoption of digital payment)

H2: Ease of use positively influences adoption of digital payment.

Correlations

			Adoption	EaseToUse
Spearman's rho	Adoption	Correlation Coefficient	1.000	.591**
		Sig. (2-tailed)		.000
		N	111	111
	EaseToUse	Correlation Coefficient	.591**	1.000
		Sig. (2-tailed)	.000	
		N	111	111

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Spearman correlation between ease to use and adoption:

As shown in the above table, Spearman correlation analysis is used to determine the relationship between ease to use and adoption, which basically supports hypothesis (H3). According to the table above, hypothesis H3 clearly shows a moderate positive correlation. As a result of the correlation, we can conclude that, indeed, there is a positive correlation between the ease to use and adoption. Furthermore, the table displays the variables mentioned, with significant values at P 0.000, N 111, and C 0.591. Moreover, a two-tailed test indicates a significant relationship between both variables (DPS ease to use and adoption)

H3: Perceived trust negatively influences adoption of digital payment.

Correlations

			Adoption	Trust
Spearman's rho	Adoption	Correlation Coefficient	1.000	.593**
		Sig. (2-tailed)		.000
		N	111	111
	Trust	Correlation Coefficient	.593**	1.000
		Sig. (2-tailed)	.000	
		N	111	111

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Spearman correlation between trust and adoption of digital payment

As shown in the above table, Spearman correlation analysis is used to determine the relationship between trust and adoption of digital payment, which basically supports hypothesis (H4). According to the table above, hypothesis H4 clearly shows a moderate positive correlation. As a result of the correlation, we can conclude that, indeed, there is a positive correlation between the trust and adoption of digital payment. Furthermore, the table displays the variables mentioned, with significant values at P 0.000, N 111, and CC 0.593. Moreover, a two-tailed test indicates a significant relationship between both variables (trust and adoption of digital payment)

H4: Social influence positively influences adoption of digital payment Correlations

			SocialInfluence	Adoption
Spearman's rho	SocialInfluence	Correlation Coefficient	1.000	.279**
		Sig. (2-tailed)		.003
		N	111	111
	Adoption	Correlation Coefficient	.279**	1.000
		Sig. (2-tailed)	.003	
		N	111	111

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Spearman correlation between social influences and adoption of digital payment

As shown in the above table, Spearman correlation analysis is used to determine the relationship between social influences and adoption of digital payment, which basically supports hypothesis (H5). According to the table above, hypothesis H5 clearly shows a weak positive correlation. As a result of the correlation, we can conclude that, indeed, there is a positive correlation between the social influences and adoption of digital payment. Furthermore, the table displays the variables mentioned, with significant values at P 0.000, N 111, and CC 0.279. Moreover, a two-tailed test

indicates a significant relationship between both variables (social influences and adoption of digital payment)

H5: Security negatively influences adoption of digital payment.

Correlations

			Security	Adoption
Spearman's rho	Security	Correlation Coefficient	1.000	.178
		Sig. (2-tailed)		.062
		N	111	111
	Adoption	Correlation Coefficient	.178	1.000
		Sig. (2-tailed)	.062	
		N	111	111

Spearman correlation between Security and adoption of digital payment

Using Spearman correlation analysis, the relationship between security and adoption of digital payment, can be determined, as shown in the above table, which basically does not prove hypothesis (H6). In the table above, the result of hypothesis H6 is clearly displayed, showing a weak positive correlation between security and adoption of digital payment. The correlation demonstrates that, indeed, there is a positive relationship between the average ease of use of the Digital Payment Systems and the customers' usage of the Digital Payment Systems. The table also shows that correlation between security and adoption are statistically significant.

H6: Perception positively influences adoption of digital payment Correlations

			Perception	Adoption
Spearman's rho	Perception	Correlation Coefficient	1.000	.584**
		Sig. (2-tailed)		.000
		N	111	111
	Adoption	Correlation Coefficient	.584**	1.000
		Sig. (2-tailed)	.000	
		N	111	111

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Spearman correlation between perception and adoption of digital payment

Using Spearman correlation analysis, the relationship between the perception and adoption of digital payment, can be determined, as shown in the above table, which basically proves hypothesis (H7). In the table above, the result of hypothesis H7 is clearly displayed, showing a moderate correlation between the perception and adoption of digital payment. The correlation demonstrates that, indeed, there is a positive relationship between the average ease of use of the Digital Payment

Systems and the customers' usage of the Digital Payment Systems. The Table also displays the mentioned variables, significantly at p=0.000, N=111, and cc=0.584. Additionally, Sig. 2-tailed shows significance between both mentioned variables (perception and adoption of digital payment).

Conclusion and Recommendations

According to the study of the obtained data, there was a "high link" between the advantages and simplicity of the Digital Payment System. Results obtained demonstrated that Internet banking, mobile banking, ATM, and POS technologies had a good and significant impact on customers' impression. The user prefers these digital payment systems over the conventional ones since they are so simple to use.

- > Strong correlation exist between the trust and adoption of digital payment system.
- ➤ Usefulness, Ease to use and Perception have moderate correlation with Adoption of digital payment.
- > Social Influence and Security have weak correlation with adoption of digital payment system.
- ➤ Hypothesis related to trust and adoption is rejected

Limitations of the Study

- > Constraints on time acted as a major limitation
- > The respondents were reluctant to provide valid answers.
- ➤ One of the limitation was self-reporting inherent in survey design

Respondents in this survey ranged in age from 18 to 64 and majority of them had urban education. Future studies might duplicate the research design to include participants from rural India and from lower education level. A cashless society intends to incorporate a large majority of the people. Self-administered surveys are another drawback since they might lead to problems like social desirability and fraudulent reporting. The perspectives of users of digital payments may be quickly and easily acquired through surveys, but focus group research or interviews may be used to further understand the motivators and barriers. Face-to-face encounters with respondents, particularly those with lesser educational backgrounds, are seen to be more effective at gathering data than self-administered surveys, which don't have the chance to clear up any misunderstandings.

Focus groups and interviews facilitate researchers to better comprehend the motivations behind the acceptance of digital payment systems. Future studies might include factors like income and education levels in adoption model. Furthermore, factors like peer and social influence have been demonstrated to have a large direct impact on the uptake of mobile payments; hence, future research may look at these possible factors as both drivers and inhibitors.

Since the study is based on India, the results can be generalised to other Asian economies. Caution must be exercised when generalising the results to Western nations. For instance, research concentrating on culture (i.e., uncertainty avoidance) have produced conflicting results, with some finding that the factor considerably moderates the acceptability of digital payment systems and others finding no significant influence. The usage of digital payment services has grown in the past two months in the nation and potentially globally as a result of the ongoing corona virus pandemic, in our opinion. Countries like India have ramped up their efforts by "forcing" individuals to stay at home by executing movement restriction orders. Delivery services for groceries and meals have increased as a result, which helps to reduce the likelihood of the virus spreading. Hopefully, this circumstance has sparked a future increase in the use of electronic wallets and other digital payment systems.

References:

Afsharpour, M., & Pahlevani, M. (2013). review and prioritization of payment tools and equipment of e-banking using Analytical Hierarchy Process (AHP). Seventh National Conference and the First International Conference of Ecommerce and Economy, Tehran.

Alghamdi, R., Drew, S., & Al-Ghaith, W. (2011) Factors influencing e-commerce adoption by retailers in saudi arabia: a qualitative analysis, *The Electronic Journal on Information Systems in Developing Countries*, 47(1), 1-23.

Antwi, S. K., Hamza, K., & Bavoh, S. W. (2015) Examining the Effectiveness of Electronic Payment System in Ghana: The Case of e-ZWICH in the Tamale Metropolis. *Research Journal of Finance and Accounting*, 6(2), 163-177.

Anyanwu, A. C., Ezugwu, A. E., and Abdullahi, S. E. (2012) Electronic Payment System (EPS): Facilitating the Development and Adoption in Nigeria. *International Journal of Computer Science Issues*, *9*(2), 462.

Ayo, C.K., & Ukpeke, W.I. (2010), Design of a secure unified e-payment system in Nigeria: A case study. *African Journal of Business Management*, 4 (9), 1753 – 1760.

Baddeley, M. (2004) "Using E-Cash in the New Economy: An Electronic Analysis of Micropayment Systems", *Journal of Electronic Commerce Research*, 5(4), 239-253.

Bourreau, M., & Valetti, T. (2015). Competition and interoperability in mobile money platform markets: What works and what doesn't? *Communications and Strategies*, 99, 11-32.

Cao, T. K., Dang, P. L., & Nguyen, H. A. (2016). Predicting consumer intention to use mobile payment services: Empirical evidence from Vietnam. *International Journal of Marketing Studies*, 8(1), 117-124.

Changsu, K., Wang, T., Namchul, S. & Ki-Soo, K. (2010) An empirical study of customers" perceptions of security and trust in E-payment systems. *Electronic Commerce Research and Applications*, 9(1), 84-95.

Chen, X., & Li, S. (2016). Understanding continuance intention of mobile payment services: an empirical study. *Journal of Computer Information Systems*, *57*(4), 287-298.

Cheung, C. M., & Lee, M. K. (2005). Consumer satisfaction with internet shopping: a research framework and propositions for future research. In Proceedings of the *7th international conference* on *Electronic Commerce* (pp. 327-334).

Coulson, A. (1999). Electronic Commerce: the ever Evolving Online Marketplace. *IEEE Communications Magazine*, 37(9), 58-60.

Dalvand, M. R., Nejat, A., Nouraee, M., Jahromi, A. M., & Zohdi, M. H. (2014) Feasibility study of implementing electronic commerce in petrochemical industries with a case study. International *Journal of Business Information Systems*, 17(2), 248-259.

De Luna, I. R., Liébana-Cabanillas, F., & Muñoz-Leiva, F. (2019). Mobile payment is not all the same: The adoption of mobile payment systems depending on the technology applied. *Technological Forecasting and Social Change*, *146*, 931-944.

Duane, A., O'Reilly, P., & Andreev, P. (2014). Realising M-Payments: modelling consumers' willingness to M-pay using smart phones. *Behaviour & Information Technology*, 33(4), 318-334.

Enna, H. (2019). Service characteristics and customer satisfaction in the container liner shipping industry. *The Asian Journal of Shipping and Logistics*, *35*(1), 24-29.

Ezeoha, A. (2006, April). Regulating Internet Banking in Nigeria, Problem and Challenges-Part 2. *Journal of Internet Banking and Commerce*, 11(1), 363-365.

Fabian, S., Christian, S., & Bernd, S. (2015). Advance payment systems: Paying too much today and being satisfied tomorrow. *International Journal of Research in Marketing*, 32(3), 238-250

Fathian, M., Shafiea, M., & Shahristani, M. (2009). The impact of e-banking implementation in increasing customer satisfaction. *International Journal of Business Information Systems*, 3(1), 148-179.

Hasan, I., Schmiedel, H., & Song, L. (2012) Returns to retail banking and payments. *Journal of Financial Services Research*, 41(3), 163-195.

Heng, S. (2007) E-commerce settles for established payment systems: Limited market potential for innovative payment systems, *Deutsche Bank Research Economics Working Paper*, (62), 56-98.

Hiram, T., Yusman, Y., & Lona, L. (2016). Intention to Use Mobile Payment System: A Case of Developing Market by Ethnicity. *Journal of Procedia- Social and Behavioral Sciences*, 224, 368-375.

Ifinedo, P. (2012) Facilitating the Intention to Expand E-business Payment Systems Use in Nigerian Small Firms: An Empirical Analysis. *E-business–applications and Global Acceptance*, 19, 58-60.

James K.C., Amrita, B., & Jackhuu, B. (2015). Services innovation impact to customer satisfaction and customer value enhancement in airport. *Journal of Technology in Society*, 43, 219-230.

Jayaram, J., & Prasad, P. N. (2013) Review of E-banking System and Exploring the Research Gap in Indian Banking Context. *International Journal of Innovative Research and Development*, 2(2), 407-417.

Jayawardhena, C., & Foley, P. (2000), Changes in the banking sector- the case of internet banking in the UK. *Internet Research*, 10(1), 19-31.

Jennifer, G., Kenneth, L. K., & Jason, D. (2003) Environment and policy factors shaping global e-commerce diffusion: a cross country comparison, *The Information Society*, 19(1), 5-18.

Laukkanen, T., & Pasanen, M. (2008). Mobile banking innovators and early adopters: How they differ from other online users? *Journal of Financial Services Marketing*, 13(2), 86-94.

Lisa, Y. C., & Wu, W. N. (2017). An Exploration of The Factors Affecting Users' Satisfaction With Mobile Payments. *International Journal of Computer Science & Information Technology*, 9(3), 97-105.

Liu, C., & Arnett, K. (2000). "Exploring the Factors Associated with Web Site Success in the Context of Electronic Commerce", *Information and Management*, 38(1), 23-33.

Lwoga, E. T., & Lwoga, N. B. (2017). User acceptance of mobile payment: the effects of user-centric security, system characteristics and gender. *The Electronic Journal of Information Systems in Developing Countries*, 81(1), 1-24.

Munnukka, J. (2007). Characteristics of early adopters in mobile communications markets. *Marketing Intelligence & Planning*, 25(7), 719-731.

Mutia, S., Mahadzirah, M., & Wan, Z.W. (2015) E-Commerce Service Quality on Customer Satisfaction, Belief and Loyalty: A Proposal. *Mediterranean Journal of Social Sciences*, 6(2), 260.

P. Y. K. Chau (1996), An empirical assessment of a modified technology acceptance model, *Journal of Management Information Systems*, 13(2), 185-204.

Roycroft, T., & Anantho, S. (2003) Internet Subscription in Africa: policy for a dual digital divide" *Telecommunications Policy*, 27(1-2), 61-74.

Taghizadeh, H., & Sepehri, A. (2013). Reasons of public reluctance to use e-banking card (Case Study: customers of Mellat bank. *Journal of Economics and Business*, 79-88.

Tahir, M., & Guru, P. (2017). What factors determine e-satisfaction and consumer spending in e-commerce retailing? *Journal of Retailing and Consumer Services*, 39, 135-144.

Takele, Y., & Sira, Z. (2013) Analysis of factors influencing customers" intention to the adoption of e-banking service channels in Bahir Dar city: an integration of TAM, TPB AND PR. *European Scientific Journal*, 9(13).

Tennyson, O., & Mercy, O.E. (2014), E-payment system and its sustainable development in the Nigerian economy. *European Journal of Business and Management*, 6 (8), 48-56.

Teoh, W., Chong, S., Lin, B., & Chua, J. (2013). Factors affecting consumers' perception of electronic payment: an empirical analysis. *Internet Research*, 23(4), 465-485.

Tigre, P., & Dedrick, J. (2004) E-commerce in Brazil: local adaptation of a global technology *Electronic Markets*, *14*(1), 36-47.

Vatiero, M. (2009) Understanding Power. A Law and Economics Approach. *Journal of Economic Issues*, 46(1), 259.

V. Venkatesh, M.G. Morris, G.B. Davis, F.D. Davis. (2003) User acceptance of information technology: toward a unified view. *MIS Quarterly*, 425-478.

V. Venkatesh, J.Y.L. Thong, X. Xu. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 157-178

Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2013). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.

Veit, D., Clemons, E., Benlian, A., Buxmann, P., Hess, T., Kundisch, D., & Spann, M. (2014) Business models. *Business & Information Systems Engineering*, 6(1), 45-53.

Zhou, T. (2014). An empirical examination of initial trust in mobile payment. *Wireless Personal Communications*, 77(2), 1519-1531.