

A study on the Perception of the Impact of Payment Technology

B. Venkat¹, Dr. Trinley Paldon²

¹MBA Student, MBA Department, KL University, Vaddeswaram-02.

²Assistant Professor, MBA Department, KL University, Vaddeswaram-02.

Abstract:- The researchers have examined whether there is relation between the perception of user and payment technologies with regard to the convenience and security aspects. The study was conducted in Andhra Pradesh via primary data collection. The statistical tools applied were Kruskal Wallis Test, Mann-Whitney U Test and descriptive statistic. From the result analysis, it is found that Male have felt more convenient than the female respondents in using E-payment technologies while females are found to be using E-payment technologies from security perspectives.

Keywords: E-payment, Third party payment, Debit card, Credit card, E-wallet, convenience, security

Introduction:

The human never stop to innovate or invent new things. Day by day humans are adding new technology and improvement in the world to make day to day operations convenient. In recent years, since the advancement of the technologies there has been huge demand of internet of things. The vision of the current Government of India of Digital India has transformed India through the power of technology and bridged the digital divide. This extraordinary development or push of a digital ecosystem is taking place in sync with the larger and conventional IT profile of India (Prasad Shankar Ravi, 2018). Digital India has also taken shape into the traditional banking sector in the form of e-payments and various online payments that are currently available with that of UPI apps (unified payment interface), Cards, Credit cards, Debit cards, Prepaid cards and E-Wallets.

Consequently, as transactions among business partners continue to prosper on the e-commerce platform, an electronic payment solution will replace the former cash-based payment systems. The advent of this development in the global business environment challenged most organizations to automatically switch from the conventional paper-based money transactions to an electronic payment system which is widely known as the e-payment system. Generally, electronic payment can be defined as a platform used in making payments for goods/services purchased online through the use of internet. The emergence of Information and Communication Technology (ICT) had completely changed the lives and operations of individuals and organizations respectively. ICT and Digital technologies had made great evolutionary development in finance, economics, operational costs and enhanced organizational performance. The era of ICT and digital innovations has come along with a dynamic change in the world business environment, whereby business transactions are constantly shifting from cash-based transactions to electronic-based ones. Also, the global proliferation of the internet and its rapid use over the years had contributed much in facilitating electronic commerce in global business environment.

Third Party Transfers: A transaction where persons other than the principals are involved. Often, a third party transaction involves the buyer, the seller and another party who is not affiliated with the two. The third party can be an online payment portal or broker.

Internet of Things: The internet of things is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.

Payment System: payment system is any system used to settle financial transactions through the transfer of monetary value, and includes the institutions, instruments, people, rules, procedures, standards, and technologies that make such an exchange possible. A common type of payment system is the operational network that links bank accounts and provides for monetary exchange using bank deposits.

Need for Study

The study is done to know the perception on usage of payment transactions on the basis of its convenience and security and how useful the payment technology is in the present world where new innovations are added in all the fields like that in Finance, Medical, and Management etc.

Problem Statement:

The study involves a survey on the perception of the respondents on using E-Payment system which is perceived as easy to access and quicker mode of transaction.

E-Payments are growing at a highest rate ever. Having card has become the need of every person. But then since its at baby stage and not introduced long in the Indian context; being one of a kind so there are still doubts regarding its convenience and security.

Thus, this study covers to understand and pursue an interesting and daring task on the user's perception of e-payment on its convenience and security.

Objectives of the study:

- To examine whether there is association between respondent's age and payment technology innovations from convenience and security perspectives.
- To understand the relationship between the respondent's education qualification on their perception on impact of payment technology from convenience and security perspectives.
- To analyze the relationship between respondent's gender on their perception on the impact of payment technology from convenience and security perspectives.
- To know the relationship between respondent's marital status on their perception on the impact of payment technology from convenience and security perspectives.
- To give suggestions and findings on the basis of the test results.

Hypothesis of the study:

H1: There is no significant impact of age on the opinion of respondents towards convenience and security.

H2: There is no significant impact of education on the opinion of respondents towards convenience and security.

H3: There is no significant impact of gender on the opinion of respondents towards convenience and security.

H4: There is no significant impact of marital status on the opinion of respondents towards convenience and security.

This study is thus aligned through introduction, review of literature, methodology, result analysis, findings, further scope of study and conclusion

Review of Literature:

The cashless payment system in India is using for control the transaction of the retail sector. The card payment (both debit and credit) is the most secure and useful mode of the cashless payment of the retail market. **(Das Ashish and Agarwal Rakhi, August 2010)**. Also reorganized cost of bank and card companies would continue to gain. **(Khan Jashim and, Craig-Lees Margaret, Vol.1, n.1, 2009)**. It is helping to reduce the currency management cost, track, and recording the transaction, check tax fraud and etc. In the cashless payment, we feel that the less valued and improved to buyer behaviour toward the cashless transaction. **(Kumar Piyush, 2015)** Now a day, only in cash the secondary effect is the influence the society, and also the cashless transaction is a smart way to payment and risk-free for robbery. **(Noor Raihan Ab Hamid And, Aw Yoke Cheng, 2013)**. Virtual shopping, the digital economy, e-cash, e-commerce these are a sample in the range of economically charged terms that have to rise in recent years to accompany the overflow of new vocabulary issues by the development and commercialization of the Internet. Recent advances technology has seen the development of a contactless smart card, in another word, one in which the chip communicates with a card reader using radio frequency identification Stored value cards and either employs a magnetic stripe or smart card technologies in order to store data.

Empirical Background

Technology has arguably made our lives easier. One of the technological innovations in banking, finance and commerce is the Electronic Payments. Electronic Payments (e-payments) refers to the technological breakthrough that enables us to perform financial transactions electronically, thus avoiding long lines and other hassles. Electronic Payments provides greater freedom to individuals in paying their taxes, licenses, fees, fines and purchases at unconventional locations and at whichever time of the day, 365 days of the year. After analysis and comparison of various modes of electronic payment systems, it is revealed that it is quite difficult, if not impossible, to suggest that which payment system is best. Some systems are quite similar, and differ only in

some minor details. Thus there are number of factors which affect the usage of e-commerce payment systems. Among all these user base is most important (Karamjeet Kaur, Dr. Ashutosh Pathak).

(Dr. M Sumathy and Vipin KP) The developments in digital world each and every activities of human being had changed. As a part of policy change cash is no longer becoming a mode of transaction. The country needs to move away from the cash-based towards a cashless payment system. This will provide multiple advantages like, reduce currency management cost, track transactions, check tax avoidance or fraud etc., enhance financial inclusion and gradually integrate the parallel economy with the main stream. Additionally as the Mobile wallets usage crosses the boundaries of big cities and gains popularity in villages also. The development in digital payments system makes a new spending behavior of persons in these areas.

Methodology:

It gives the outline for the methodology of the study. It deals with formulation of hypothesis, research design that includes sampling design, data collection, survey instrument and methods of planned analysis.

Research Design:

Research design is a blue print for collection, measuring and analysing the data. In primary stage, an explorative research study was carried out and this type of research is used to find out the output of objectives of the research through generating hypothesis and finding out the gaps.

Sampling Design:

A sample design is the framework that serves as a basis of sample selection. Convenience sampling has been used in this study.

Sample Size:

For Pilot test, this study has used N=30. For the main test, this study has used N=150 respondents.

Sampling Technique

In this study simple random sampling technique is used to collect data for analysis.

Development of Instrument

The collected data was analyzed by using questionnaire.

Proposed tools on hypotheses testing:

Reliability test, Normality test, Frequency test, Kruskalwallis test, Mann-Whitney test were used as the data is not normally distributed.

Result Analysis

Descriptive statistics:

Demographics (Gender, Age, Marital status, Education)

Gender:

Gender	Percent	Frequency
Female	40.7	61
Male	59.3	89
Total	100.0	150

Interpretation:

From the table it can be observed that 59.3% (89) of the respondents are male and 40.7% (61) of the respondents are female.

Age:

Age	Percent	Frequency
21 - 25	32.0	48
26 - 30	32.0	48
31 - 35	15.3	23
36 - 40	13.3	20
Above 40	7.3	11
Total	100.0	150

Source: Computed from primary data.

Interpretation:

From the table it is observed that 32% of respondents are in the age group between 21-25 years, while 32% are in the age group between 26-30 years. 15.3% are in the age group between 31-35 years. Where 13.3% are in the age group between 36-40 years. And the remaining 7.3% are in the age group above 40 years.

Marital status:

Marital Status	Percent	Frequency
Married	60.0	90
Unmarried	40.0	60
Total	100.0	150

Source: Computed from primary data.

Interpretation:

From the table it is observed that 60% of the respondents are married, where the remaining 40% are unmarried.

Education:

Education	Percent	Frequency
Diploma	7.3	11
Graduation	23.3	35
Post-Graduation	55.3	83
Doctorate	14.0	21
Total	100.0	150

Source: Computed from primary data.

Interpretation:

From the above table it is observed that 7.3% of the respondents have Diploma degree and 23.3% of the respondents have completed Graduation. While 55.3% of the respondents have P.G degree. And remaining 14% of the respondents are Doctorate degree holders.

Reliability statistics:

Reliability Statistics	
Cronbach's Alpha	N of Items
0.704	14

Source: Computed from primary data.

Interpretation:

From the above table, it is observed that Cronbach’s Alpha value is 0.704 (which is greater than 0.7). Hence the data is said to be reliable and the questionnaire can be used for further analysis.

Normality Test:

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Total	.140	150	.000	.949	150	.000

a. Lilliefors Significance Correction

Source: Computed from primary data.

Interpretation:

From the above table, it is observed that the normality is not satisfied as the significance value is 0.000 which is less than 0.05. If the normality test results having significance value is less than 0.05 then it is said that the data is significantly deviated from a normal distribution. So, Non parametric test is conducted for further data analysis.

Non parametric test:

Kruskal-Wallis Test

Objective 1: To examine whether there is association respondent’s between age and payment technology innovations on traditional finance industry from convenience and security perspectives.

Perception of respondents based on age on the convenient usage of E-payment:

Ranks		
Age	N	Mean Rank
21 – 25	48	89.41
26 – 30	48	67.92
31 – 35	23	59.07
36 – 40	20	64.95
Above 40	11	101.45
Total	150	

Source: Computed from primary data

Test Statistics ^{a,b}	
	CT
Chi-Square	14.922
df	4
Asymp. Sig.	.005

a. Kruskal Wallis Test

b. Grouping Variable: Age

Interpretation:

There was a statistically significant difference between age category on levels of convenience in using payment technologies where Chi-square is 14.922 with a p-value of .005 which is less than 5 percent value with a mean rank of 89.41 (ages between 21-25 years old), 67.92 (ages between 26-30 years old), 59.07 (ages between 36-40 years old) and 101.45 (ages above 40 years old). Therefore, there is a difference between different age group on the convenience in usage of payment technology.

Perception of the respondents based on age on E-payments security:

Ranks		
Age	N	Mean Rank
21-25	48	76.13
26-30	48	73.96
31-35	23	80
36-40	20	63
Above 40	11	92.82
Total	150	

Source: computed from primary data

Test Statistics ^{a,b}	
	ST
Chi-Square	3.816
Df	4
Asymp. Sig.	.431

a. Kruskal Wallis Test

b. Grouping Variable: Age

Interpretation:

There was no statistical significant difference between age category on the perception of security in usage of payment technology where Chi-square is 3.816 with a p-value of .431 which is more than 5 percent value with a mean rank of 76.13 (ages between 21-25 years old), 73.96 (ages between 26-30 years old), 80.00 (ages between 31-35 years old) and 63.00 (ages between 36-40 years old) and 92.82 (ages above 40 years old). Thus, there is no differences on the perception of the respondents from different age groups on the security in usage of the payment technology.

Objective 2: To understand the relationship between the respondent's education qualification on their perception on impact of payment technology innovations from convenience and security perspectives.

Relation between convenient and Education:

Ranks		
Education	N	Mean Rank
Diploma	11	42.68
Graduation	35	89.29
Post Graduation	83	74.14
Doctorate	21	75.1
Total	150	

Source: computed from primary data

Test Statistics ^{a,b}	
	CT
Chi-Square	9.981
df	3
Asymp. Sig.	.019

a. Kruskal Wallis Test

b. Grouping Variable: Education

There was a statistically significant difference between education category on levels of convenient where Chi-square is 9.981 with a p-value of .019 which is less than 5 percent value with a mean rank of 42.68 (Diploma), 89.29 (Graduation), 74.14 (Post Graduation) and 75.10 (Doctorate). Hence, there is difference between different educational backgrounds on the convenience in usage of payment technology.

Relation between Security and education:

Ranks		
Education	N	Mean Rank
Diploma	11	82.14
Graduation	35	56.67
Post Graduation	83	84.86
Doctorate	21	66.4
Total	150	

Source: computed from primary data

Test Statistics ^{a,b}	
	ST
Chi-Square	11.902
Df	3
Asymp. Sig.	.008

a. Kruskal Wallis Test

b. Grouping Variable: Education

Interpretation:

There was a statistically significant difference between education category on the perception of security in usage of payment technology where Chi-square is 11.902 with a p-value of .008 which is less than 5 percent value with a mean rank of 82.14 (diploma degree holders), 56.67 (graduation degree holders), 84.86 (post graduate degree holders) and 66.40 (Doctorate degree holders). It states that there is a difference between perceptions of security on the usage of payment technology among the different educational groups.

Mann-Whitney U test:

Objective 3: To analyse the relationship between respondent's gender on their perception on impact of payment technology innovations on traditional finance industry from convenience and security perspectives.

Perception of the respondents based on gender on the convenience of the E-payment technology usage:

Relation between Gender & Convenient:

Ranks			
Gender	N	Mean Rank	Sum of Ranks
Male	89	84.29	7502
Female	61	62.67	3823
Total	150		

From the above table, it can be seen that Male are having Mean Rank of 84.29 and Female are having 62.67 convenience of E-payment usage. Meaning Male is known to have felt more convenient than the female respondents in using E-payment technology.

From the above table it can be concluded that the condition 3(E-Payment system open 24 hours a day), 7(Exchange money

Test Statistics ^a										
	Convenient									
Mann-Whitney U	2637.000	2416.000	2187.500	2408.000	2297.500	2710.500	1844.000	1826.000	2535.500	2078.500
Wilcoxon W	4528.000	4307.000	4078.500	6413.000	4188.500	6715.500	3735.000	3717.000	4426.500	3969.500
Z	-.327	-1.219	-2.201	-1.238	-1.703	-.016	-3.512	-3.616	-.723	-2.535
Asymp. Sig. (2-tailed)	.743	.223	.028	.216	.089	.987	.000	.000	.470	.011

a. Grouping Variable: Gender

Source: Computed from primary data.

from one location to another location), 8(A greater choice for customer and merchant in the way they send and receive payments) and 10(Get quick response in it) based on gender and their perception on convenience of E-payment usage was statistically significantly higher than the condition 1(E-Payment System saves your time and money), 2(E-Payment system is better than offline payment system), 4(Getting quick access through digital payments), 5(Reduces paper work), 6(Consumer can transfer money easily without having to visit a bank), 9(It is reliable service) and 10(Get quick response in it). The conditions 1(E-Payment System saves your time and money), 2(E-Payment system is better than offline payment system), 4(Getting quick access through digital payments), 5(Reduces paper work), 6(Consumer can transfer money easily without having to visit a bank), 9(It is reliable service) and 10(Get quick response in it) is having significance value of more than 5 percent meaning there exists no statistically significant difference between the two independent groups that is perception of gender on the convenience of E-payment usage.

Perception of the respondents based on their gender on E-payment usage security:

Relation between Gender & Security

Ranks			
Gender	N	Mean Rank	Sum of Ranks
Male	89	74.24	6607.5
Female	61	77.34	4717.5
Total	150		

Source: Computed from primary data.

From the above table, Female respondents are shown to have greater Mean rank of 77.34 than Male respondents who have Mean Rank of 74.24. Therefore it can be concluded that

Female are using E-payment as they feel the E-payment technology is secure to use than the male respondents who are shown to have little difference in Mean Rank by a small margin in using E-payment technology.

Test Statistics ^a				
	Security	Security	Security	Security
Mann-Whitney U	2610.000	2646.000	2479.500	2511.000
Wilcoxon W	6615.000	6651.000	4370.500	6516.000
Z	-.422	-.275	-.941	-.812
Asymp. Sig. (2-tailed)	.673	.784	.347	.417

a. Grouping Variable: Gender

Source: Computed from primary data.

From the above table it can be concluded that the all the conditions (Hacker can access to digitized information and record of E-payment, Transactions are secured with 3rd party payments, 3rd party payments provides a legal record of Business Communication, Lack of trust in Technology) based on gender and their perception on convenience of E-payment usage was shown not having statistically significance as the significance value is more than 5 percent.

Objective 4: To know the relationship between respondent’s marital status on their perception on impact of payment technology innovations on traditional finance industry from convenience and security perspectives.

Perception of the respondents based their marital status on their Convenience in using E-payment technology:

Relation between Marital Status & Convenient:

Ranks			
MaritalStatus	N	Mean Rank	Sum of Ranks
Married	90	73.83	6645
Unmarried	60	78	4680
Total	150		

Source: Computed from primary data.

From the above table, the respondents who are not married are shown to have greater Mean rank of 78.00 than married respondents who have Mean Rank of 73.83. Therefore it can be concluded that majority of the respondents who are not married felt convenience in using E-payment technology comparing to the married respondents.

Perception of the respondents based their marital status on their Convenience in using E-payment technology:

Test Statistics ^a										
	Convenience									
Mann-Whitney U	2107.000	2541.500	2434.500	2234.500	2140.000	2448.000	2045.000	2517.500	2635.000	2039.000
Wilcoxon W	6202.000	6636.500	4264.500	4064.500	6235.000	6543.000	6140.000	4347.500	4465.000	6134.000
Z	-2.512	-.649	-1.112	-1.886	-2.294	-1.034	-2.650	-.745	-.263	-2.642
Asymp. Sig. (2-tailed)	.012	.516	.266	.059	.022	.301	.008	.456	.792	.008

a. Grouping Variable: Marital Status

Source: Computed from primary data.

From the above table it can be concluded that the conditions 1(E-Payment System saves your time and money), 5(Reduces paper work), 7(Exchange money from one location to another location), and 10(Get quick response in it)based on marital

status and their perception on convenience of E-payment usage was statistically significantly higher than the condition 2, 3, 4,5,6,8, and 9. The conditions 2 (E-Payment system is better than offline payment system), 3 (E-Payment system open 24 hours a day), 4 (Getting quick access through digital payments), 6 (Consumer can transfer money easily without having to visit a bank), 8 (A greater choice for customer and merchant in the way they send and receive payments) and 9 (It is reliable service) is having significance value of more than 5 percent meaning there exists no statistically significant difference between the two independent groups that is perception of the respondents based on their marital status on the convenience of E-payment usage.

Perception of the respondents based on their marital status on the E-payment usage security:

Relation between Marital Status & Security:

Ranks			
Marital Status	N	Mean Rank	Sum of Ranks
Married	90	76.44	6879.5
Unmarried	60	74.09	4445.5
Total	150		

Source: Computed from primary data.

From the above table, the respondents who are married are shown to have greater Mean rank of 76.44 than not married respondents who have Mean Rank of 74.09. Therefore it can be concluded that majority of the respondents who are married are using E-payment technology due to its security.

Test Statistics ^a				
	Security	Security	Security	Security
Mann-Whitney U	2650.000	2382.500	2649.000	2467.500
Wilcoxon W	4480.000	4212.500	4479.000	6562.500
Z	-.202	-1.276	-.205	-.930
Asymp. Sig. (2-tailed)	.840	.202	.838	.352

a. Grouping Variable: Marital Status
Source: Computed from primary data.

From the above table it can be concluded that the all the conditions (Hacker can access to digitized information and record of E-payment, Transactions are secured with 3rd party payments, 3rd party payments provides a legal record of Business Communication, Lack of trust in Technology) based on marital status and their perception on security of E-payment usage was shown not having statistically significance as the significance value is more than 5 percent.

Findings

The findings of the present study add to our understanding of the payment technology on the traditional finance, providing insights into the processes and mechanisms that allow an individual to survive and even flourish under conditions that often undermine the convenient and Security of many others.

- It observed that 59.3% (89) of the respondents are male and 40.7% (61) of the respondents are female.
- It is observed that 32% of respondents are in the age group between 21-25 years, while 32% are in the age group between 26-30 years. 15.3% are in the age group between 31-35 years. Where 13.3% are in the age group between 36-40 years. And the remaining 7.3% are in the age group above 40 years.
- It is observed that 60% of the respondents are married, where the remaining 40% are unmarried.
- It is observed that 7.3% of the respondents have Diploma degree and 23.3% of the respondents have completed Graduation. While 55.3% of the respondents have P.G degree. And remaining 14% of the respondents are Doctorate degree holders.
- It is observed that Cronbach's Alpha value is 0.704 (which is greater than 0.7). Hence the data is said to be reliable.
- It is observed that the normality is not satisfied as the significance value is 0.000 which is less than 0.05. So, Non parametric test is conducted for further data analysis.

- It can be concluded that most Females are using E-payment as they feel that E-payment technology is secure to use than the males.
- As when the female users go far off places they feel it more secure when transacting through E-payment channels than using hard cash.
- From the analysis, it is found that Males have felt more convenient than the female respondents in using E-payment technology.
- So it can be concluded that it is more user friendly to males than females.
- Majority of the respondents who are unmarried felt convenience in using E-payment technology comparing to the married respondents.
- Most of the married respondents are using E-payment technology due its security and reliability.

Further scope of study:

- On the basis of this research, we recommend to manage the convenience and Security of the cash and cashless transactions.
- Further study can be carried with regard to perception on usage of payment technology influenced by peer pressure and trend.
- Future researchers are advised to collect the responses from customers through qualitative as well as quantitative researchers to know more about the influence of these variables on the customer's perceptions of cash and cashless transactions.
- This study was limited to Guntur Town only. Future research should cover either whole country or a significant number of large and small cities to have a broader outlook of customer's perception toward usage of cashless transaction in India.

Conclusions:

The Internet of things brought about changes with the third party payments or digital payments which increased 7% i.e. thrice in growth of GDP in just 3 years in India (Financial Express, 2018). This research examined the convenience and security towards cash and cashless transactions. The development in digital payments system makes a new spending behaviour of persons in these areas.

The objective of conducting this research is to identify the impact of the customer's perception toward the cash and cashless transactions. From the analysis, it is found that Male have felt more convenient than the female respondents in using E-payment technology. It can be concluded that Female are using E-payment as they feel the E-payment technology is secured.

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