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Payments using cash and digital modes - A comparative study

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Abstract

In these days there is a very wide variety of payment modes available for a person, like e-wallets, cards, NFC Payments, and online payments other than cash which was prevalent in our society few years ago. After the demonetization the Government of India has been taking very much effort for the popularization of the use of electronic modes of payment. Along with these kind of payment modes cash is also widely used for transactions in the society. It is proven that there is a positive increase in the total volume of the electronic transactions in the society. But there are variations within the change. This study aims at finding the preferred mode of payments based on value involved, most convenient mode of payment and reasons for using and not using digital modes of payment.

Keywords: Cash, Digital Economy, Digital Payments.

Introduction

The payments system is the infrastructure comprising, components like institutions, instruments, rules, procedures, and standards established to enable the exchange of monetary value between parties discharging mutual obligations. Its efficiency and associated risks determines its usage in the economy in transactions within and between economies. An efficient payments system reduces the cost of transactions, and is essential to the functioning of the interbank, money, and capital markets. A weak payments system may severely hinder the strength and developmental capability of an economy; its failures can result in unproductive use of financial resources, inequitable risk-sharing between agents, actual loss for the participants, and loss of confidence in the system and in the very use of money.

Payments systems are moving from being a narrow channel for transfer of funds to an integrated network for transferring additional forms of value. In addition to it the creation of networks and systems for retail payments has an important role in supporting financial access in developing countries. Indeed, modern retail payment systems and innovative programs to channel recurring payments efficiently can, and are already being used to, integrate the previously underserved



and non-served population into the formal financial sector. A well-functioning infrastructure which efficiently and safely process modern payment instruments is necessary to successfully enhance a country's population's access to, and widespread use of, such modern payment instruments.

Statement of the Problem

Demonetization (2016) is a great leap took by the Government of India in Indian History. It has made several effects in the economy. The Government of India is promoting cashless or digital economy where all financial transactions take place in ways such as USSD Transactions, United Payment Interface, Debit Cards, Credit Cards, Net Banking and E-Wallets. The proportion of current high denomination currencies has been reduced for the purpose of accomplishment of this objective. Also Indians are shopping lovers, they buy goods frequently, and for the purpose of settling payment cash was the most prominent medium. Since the Government is currently promoting Electronic Transactions, the volume of the transaction via electronic media has to increase significantly.

From the report of NITI Aayog for the year 2016-17 we can see that there is a huge increase in the total quantum of electronic transactions. 7046.6 million in 2015-16 to 10928.6 million in 2016-17 period about 55.1 percent increase.

We can analyze these figures and easily say that the Government's move of demonetization and promoting digital payments has found its goal. But there arises so many questions in the various venues that contributed to the growth of digital payments, multi-purpose for which digital payments were used, reasons for the usage of digital modes of payment, benefits and defects faced by using such digital modes of payment and so on.

This humble endeavor is to find the answers for these questions that rose in mind while analyzing the change in these figures.

Objectives of the Study

- ◆ To find the preference of payment modes in smaller value and larger value transactions.
- ◆ To find the most convenient mode of payment.
- ◆ To examine the reasons for using and not using the digital medium of payment.

Research Methodology

This project looks into the various aspects of payment methods used by the people in these days. The questionnaire for collecting data was created with the help of Google Forms. The questionnaire was divided into three sections first section (Question 1 to Question 9) common for all respondents, second (Question 10 to Question 12) and third section (Question 13 to Question 17) depending on the answer for ninth question. The collection of data was done through direct interview as well as by sending the link to the questionnaire through various social media apps like Facebook and Whatsapp. Sample size was determined on the basis of the following equation for calculating the optimum number of samples.



Sample Design

Sample Size – Infinite Population

$$SS = \frac{Z^2 \times p \times (1-p)}{C^2}$$

SS= Sample Size

Z= Z-Value

P= Percentage of population picking a choice expressed as decimal

C= Confidence Interval

$$SS = \frac{3.8416 \times .20 \times .8}{0.0025} = \frac{0.614656}{0.0025} = 245$$

The total responses via Google forms has been 312 .Judgment sampling method is taken for analyzing the complete responses and 256 completely answered responses are taken as sample of the study. The secondary data was collected from various books and internet. The data collected was processed using Microsoft Excel 2010. For analyzing the collected data various tools like percentage analysis, Likert Scale, correlation and T-Test were used. Along with it Histogram, Bar Diagram and Pie Chart is used for presenting the data.

Limitations of the Study

- ◆ The study focuses on entire population, so data collection was difficult.
- ◆ Most of the people who received the questionnaire didn't fill it.
- ◆ Attitude of the respondents while filling the questionnaire is unknown.

Hypotheses

1. **H₀**: There is no difference for expenditure met by digital modes and cash.
H₁: There are differences for expenditure met by digital modes and cash.
2. **H₀**: There is no statistically significant relation between the reasons for not using digital payment modes and using digital payment modes.
H₁: There is statistically significant relation between the reasons for not using digital payment modes and using digital payment modes.

Literature Review

1. Savitha P.V and Vijayakumar V in their study "A Comparative Study on the Perception of Customers towards the use of cash cashless payments in retail sector with special reference to Kasargod District, Kerala" says that



India may not become a cashless economy in the predictable future, but it needs to reduce its abnormally high dependence on cash to bring in much needed lucidity and efficiency in the system. They studied various variables like preference of payment modes in smaller and larger value transactions, factors affecting choice, income level and mode, education and mode.

2. *ManpreetKaur in the study "Demonetization: Impact on cashless payment system"* mentions that

The quantum of cashless transactions keep on increasing day by day and it is the need of the today's society. It is not only safer but also, fast reliable and creates record of the transactions. The conclusions of the study were arrived at by studying the role of demonetization and status of electronic payment system.

3. *RashmiBindra and Bindiya through their study "Going Cashless: Stepping Towards Digital India"*

The future of the Cashless India is promising as the government's move for a cashless India. The lucidity of the economy will increase through the e-commerce transactions and the digital payment gateways which will increase the GDP of the economy. This will increase the creditability of the country and make a rise in investments. They analyzed about the benefits, challenges, and the growth of the economy to reach into their conclusion.

4. *DeepikaKumari in her study "Cashless Transaction: Methods, Applications and Challenges"*

By examining basic concepts of cashless transactions and its security issues, different modes of cashless transactions, associated advantages and disadvantages of cashless transactions, opines that "Even though the Government is trying to make aware the public about cashless transactions there are many of them who haven't even come into its circumference."

Analysis and Interpretation

Choice of mode of payment based on amount involved

Table 1.1

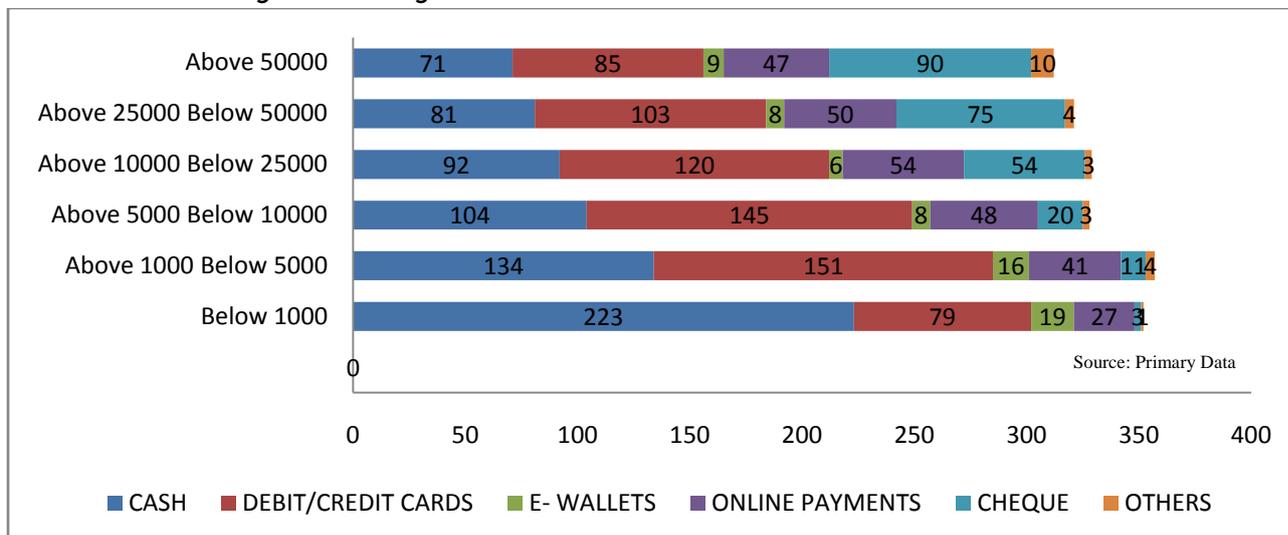
Table showing Choice of Methods Based on Amount Involved

PARTICULARS	CASH	DEBIT/CREDIT CARDS	E-WALLETS	ONLINE PAYMENTS	CHEQUE /DRAFTS	OTHERS
Below 1000	223	79	19	27	3	1
Above 1000 Below 5000	134	151	16	41	11	4
Above 5000 Below 10000	104	145	8	48	20	3
Above 10000 Below 25000	92	120	6	54	54	3
Above 25000 Below 50000	81	103	8	50	75	4
Above 50000	71	85	9	47	90	10
Total Responses	705	683	66	267	253	25



Diagram 1.1

Diagram showing Choice of Methods Based on Amount Involved



Analysis and Interpretation

When all the rows and columns in the above table are considered we can find that cash (705) is the most prominent mode of payment among the group. But moving through the rows we can find that cash is highly used in transactions amounting upto Rs.1000 (223 responses) where all other modes are far below than cash i.e; Debit/Credit Cards -79, Online Payments-27, E-Wallets-19. Going further we can see that Debit/Credit Cards play a prominent is all other amount classes than any other modes of payment, except when amount is higher than Rs. 50000 respondents trust Cheques/Drafts (90 responses).

Most convenient mode of payment

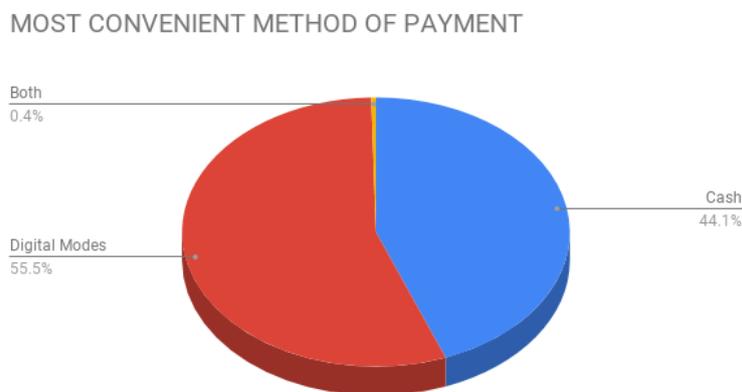
Table 1.2
Table showing Most Convenient Method of Payment

Mode of Payment	No: of Respondents	Share in Percentage (%)
Cash	113	44.10
Digital Modes	142	55.50
Both	1	0.40
	256	100



Diagram 1.2

Diagram showing Most Convenient Mode of Payment



Source: Primary Data

Analysis and Interpretation

55.50% of the respondents are of the opinion that digital modes of payment are the most convenient mode of payment for them. 44.10% of the respondents are of the opinion that cash is the most convenient mode of payment for them. Only 1 among the 256 respondents is of the opinion that both the modes are convenient for payment.

Reasons for using cash over digital modes of payment

Table 1.3

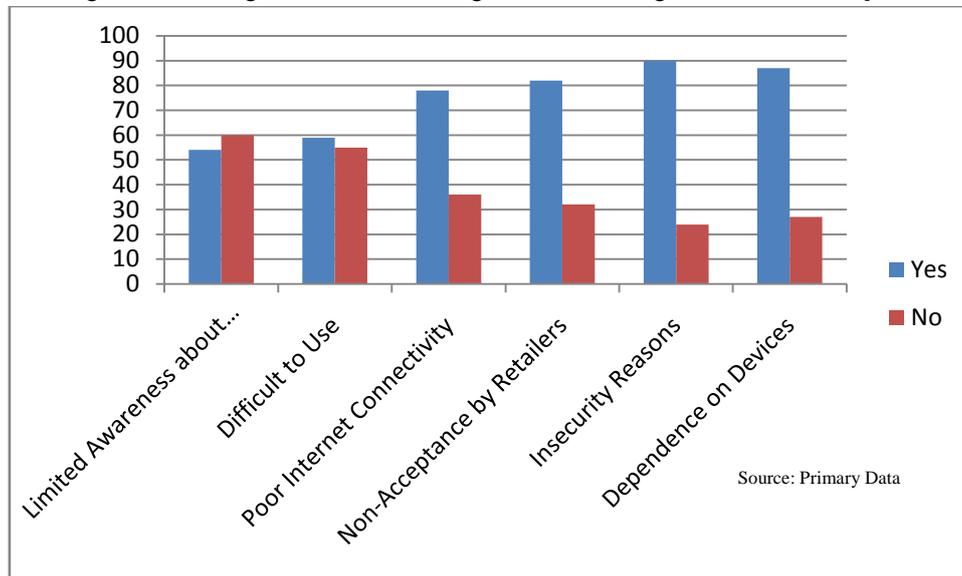
Table showing Reasons for Using Cash over Digital Modes of Payment

Particulars	Yes	No
Limited Awareness about Digital Payments	54	60
Difficult to Use	59	55
Poor Internet Connectivity	78	36
Non-Acceptance by Retailers	82	32
Insecurity Reasons	90	24
Dependence on Devices	87	27



Diagram 1.3

Diagram showing Reasons for Using Cash over Digital Modes of Payment



Analysis and Interpretation

While analyzing the reasons for not using online modes of payment we can see that poor internet connectivity (78), non acceptance by retailers (82), insecurity reasons (90) and dependence on devices (87) are the most prominent reason that contributes to it. Difficulty to use and unawareness is only having a small portion in the whole though process.

Drawbacks of digital payment modes in user's view

Table 1.4

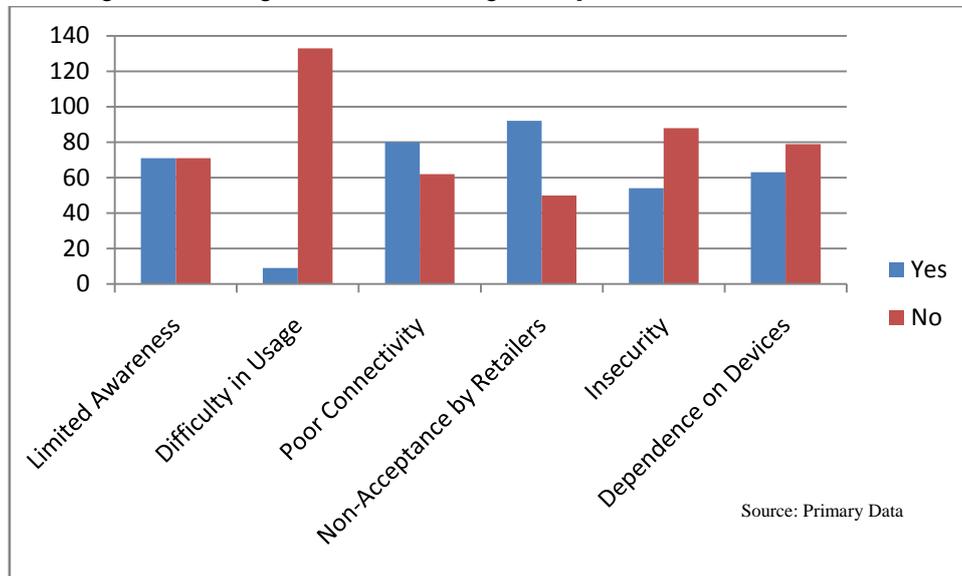
Table showing Drawbacks of Digital Payment Modes in User's View

Particulars	Yes	No
Limited Awareness	71	71
Difficulty in Usage	9	133
Poor Connectivity	80	62
Non-Acceptance by Retailers	92	50
Insecurity	54	88
Dependence on Devices	63	79



Diagram 1.4

Diagram showing Drawbacks of Digital Payment Modes in User's View



Analysis and Interpretation

While analyzing the drawbacks of the digital modes of payment we can see that the main drawback in the respondent's opinion is Non-acceptance by Retailers (92). Poor Connectivity is the next biggest drawback with 80 supporting responses. There is an equal response in the case of Limited awareness about Digital Payment Modes (71). The respondents are of the opinion that digital payment options are not so difficult to use with 133 supporting responses.

Descriptive Analysis

Table 1.5
Table showing Concept of P Value

Concept of P Value			
P Value	Notation	Conclusion	Level of Significance
0.000 to 0.010	**	Reject Null Hypothesis at 1% level	Highly Significant
0.011 to 0.050	*	Reject Null Hypothesis at 5% level	Significant
0.051 to 1	No Star	Accept Null Hypothesis at 5% level	Not Significant
0.000 denoted as < 0.001 **			

1. T-Test

H₀: There is no difference for expenditure met by digital modes and cash.

H₁: There are differences for expenditure met by digital modes and cash.



Table 1.6

Table Showing Results of T-Test

t-Test: Paired Two Sample for Means			Remarks
	1.00	0.00	
Mean	0.71	1.11	
Variance	0.93	1.32	
Observations	255.00	255.00	
Pearson Correlation	0.71		Implies positive correlation
Hypothesized Mean Difference	0.00		
Df	254.00		
t Stat	3.27		
			Reject Null Hypothesis at 1% level
P(T<=t) one-tail	0.00**		Highly Significant
t Critical one-tail	1.65		
P(T<=t) two-tail	0.00		
t Critical two-tail	1.97		

The null hypothesis to study the relation with the expenditure made through digital mode and cash payment is test with “**t-Test: Paired Two Sample for Means**”. The analysis shows a correlation of 0.71 which implies positive correlation with expenditure and mode of payment. The study with mean differences with the payment modes applying T test the P Value is .00** which interprets to reject null hypothesis with high significance @ 1%. Hence there concludes there is difference with the expenditure made through digital and cash mode.

Correlation Analysis

Table 1.7

Table Showing Results of Correlation Analysis

	Limit ed Awa rene ss	Diff icu lt to Us e	Poor Inter net Conn ectivi ty	Nonac ceptan ce by Retaile rs	Inse curi ty Rea sons	Depe nden ce on Devic es	Limit ed Awa rene ss	Diff icu lt to Us e	Poor Inter net Conn ectivi ty	Nonac ceptan ce by Retaile rs	Inse curi ty Rea sons	Depe nden ce on Devic es
Limite d Aware ness	1.00											
Difficul	0.92	1.0										



<i>t to Use</i>		0										
<i>Poor Connectivity</i>	0.92	0.92	1.00									
<i>Nonacceptance by Retailers</i>	0.87	0.86	0.88	1.00								
<i>Insecurity Reasons</i>	0.90	0.89	0.89	0.87	1.00							
<i>Dependence on Devices</i>	0.86	0.86	0.90	0.87	0.87	1.00						
<i>Limited Awareness</i>							1.00	-0.90	-0.89	-0.89	-0.90	-0.89
<i>Difficult to Use</i>								1.00	-0.80	-0.80	-0.81	-0.81
<i>Poor Connectivity</i>									1.00	-0.80	-0.81	-0.80
<i>Nonacceptance by Retailers</i>										1.00	-0.83	-0.83
<i>Insecurity Reasons</i>											1.00	-0.82
<i>Dependence on Devices</i>												1.00



In the correlation analysis through the study of variables reasons for not using digital modes over cash and the drawbacks of digital modes in the user's view is studied. The study returns the result that there is a positive correlation among the reasons for not using digital payments and the main reasons for not using digital payments are limited awareness, difficult to use and poor internet connectivity which. There exists a negative correlation between the drawbacks of the digital modes of payments and the main drawbacks felt by the users are limited awareness, difficult to use and insecurity.

Conclusion

Making payments of various types is a day to day affair in the life of a person. At present there are various modes of payment available for meeting all such payments. Be it Cash or Digital modes it is now approachable and available for all the citizens in our country. Various types of digital mode of payments are available to suit the particular requirements of individual users.

The Government of India has been taking various promotional measures to boost digital payments in the economy since the last Demonetization. Afterwards we have seen the boom of various digital payment modes such as e-wallets like pay tm, Airtel money, BHIM etc. We also saw the rise of total value of payments made through digital modes since that. We can see this as a continuing trend in the economy.

By conducting this study we were able to discover various areas related to payment behavior of the respondents. We found that cash is still the highly used medium of payment. But it is use in transactions with a value of less than Rs.1000. Above that Digital Modes are highly used. The Credit/Debit cards are the most preferred mode of payment among the users. Even though cash plays an important role in the economy credit/debit cards are having a more or less equal role in the economy. But still there are people who refrain from the usage of digital modes due to limited awareness about the usage of digital modes and difficulty for its usage. So initiatives are further required to change the perception of people towards such digital payment options for the purpose of it further growth.

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