

# Plastic Money: A Critical Analysis on its Usage and Future Prospects



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## Abstract

In India, like other countries around the world, the payment mode of various transactions replacing from coins, cash and cheque to Plastic Money. Today, it is impossible to imagine bank operations, commercial transactions and other kind of payments without using the Plastic Cards. A flagship programme of the Government to make India digitally empowered society also focus on the growth of electronic payments in a significant driver of growth in replacing physical payments with technological based solution. Money, keeping in views the changing technology replacing the traditional concept of payment not through cash but by Plastic money. This research problem was undertaken to study the awareness and acceptability of plastic money among the various users and factors affecting it. The topic therefore was selected for the study is "An Analytical study of the use of Plastic Money: Challenges and Future Prospects."

In the analysis of present study, it was found that due to various benefits consumers prefer to make payment through plastic money instead of paper money. Various factors which stimulate the perceptions of customers towards plastic money includes rise in their disposal income, innovation of new financial products and services, increased travelling frequency, growth of the entertainment sector etc. This is also taken into account of the study that the major issues according to respondents were increased transactional costs, unnecessary formalities to procure the cards from financial institutions and frauds related to card payments. Although these challenge are into existence but the use of plastic money is in increasing trend in India and financial institutions are emphasising to attract the costumers by giving them more facilities to accept plastic money in their daily life activities.

**Keywords:** Plastic Money, Electronic Money, Debit & Credit Cards, Financial Institutions, Transactional Cost Etc.

## Introduction

Plastic Money or Polymer Money, made of plastic, is a new and easier way of paying for goods and services. It is a term used predominantly about the hard-Plastic cards which is used every day in place of actual bank notes. The change in demographic features of consumers in terms of their income, marital status, education level etc., and up-gradation of technology and its awareness has bought the relevant changes in consumer's preference. These changing preferences have also modified their outlook and decision regarding the acceptance and non-acceptance of particular product and services in the market. Thus, plastic money is gaining popularity among bankers as well as customers and getting acceptance in the market place.

Government as well as RBI is taking various steps to enhance Plastic card's usage and popularity through initiatives like Digital India programme, Demonetization, regulating card market to maintain the security levels and to build up confidence of bankers and customers. Despite the strong advances in E-Payment options indicates the tremendous growth potential of this business. The topic, therefore was selected for the study is "An Analytical study of the use of Plastic Money: Challenges and Future Prospects." In present research paper, it was found that due to various benefits consumers prefer plastic money over paper money. Various factors which stimulate the perceptions of customers towards plastic money includes rise in their disposal income, innovation of new financial products and services, increased travelling frequency, growth of the entertainment sector etc.

**Review of Literature**

Many researches have been done on the various aspects of Plastic Money by many scholars in India as well as abroad. The review of some of literatures is as follows-

Manish Vadera and Manoj Srivastava (2017) explain in their research work on "*Online Consumer Behaviour Towards Digital Money Post Demonetization*" that a change in consumer behaviour have been seen towards digital modes of transactions, internet banking & mobile applications since the advancement in technology evolved in financial sector termed as digital money. The study explores the requirement for organization to offer cashless and digital transaction options to the customers or to go for online market platform as the change in consumer behaviour towards shopping and buying process.

Nirmala R., Sonu (2015) in their work "*Analysis of the use of Plastic money*", discussed about the consumer preference and attitudes towards the use of Plastic Money. They have highlighted in their research that convenience of not carrying cash and ease of making transaction is one of the major psychologically influencing factors that encourage the use of plastic money instead of cash. They have concluded that the users are ready to use plastic money to a great extent due to its level of ease, but security issues come forward as a fear for the users using plastic money.

Anoushka Sharma et.al, (2015) in their research study "*An Evaluation of Consumer Perception and Attitudes towards the Usage of Plastic Money in India*" researchers have discussed about the consumer perception and attitudes regarding the use of plastic money and the various factors that affect the consumers to go for card transactions. According to them rise in disposable income, introduction of new products and services, increased travel and growth of the entertainment has affected the consumers for card transactions. Further, after the study of 212 respondents, they have concluded that the advantage of instant transaction is one of the major factors favoring the use of Plastic money now a day. Other reasons for accepting plastic money are its portable and flexible nature and less time consuming of payment system.

P Manivannan (2013) in his research article "*Plastic Money means less Payment of Cash Checking System*" describes that plastic money is the measure of a luxury credit card and the need. In this study, it is observed that people of higher category income normally prefer plastic money and electronic modes for making transactions. The extension of this facility is not only meant for the customers of urban areas but also in rural areas also. Now a day, with the development of banking industry, fixed income group also began the use of plastic and electronic money payment system and specially credit cards.

Govindarajan et.al (2012) in their article "*A Study of the Awareness and Utilization of Credit Cards in India*", discussed about the various efforts of banks in India to popularize Internet banking, mobile banking and usage of debit & credit cards, so that

their cost of operation may come down. It is observed in this study that in terms of numbers of cards in circulation, Debit cards is higher than that of credit cards in terms of business. It is suggested that the users of credit cards must be aware of various features of credit cards such as safety and security while using credit cards, its utility, operational difficulties and support provided by the credit card department.

Anneke Kosse (2012) in their working paper "*Do Newspaper Articles on Card Fraud Affect Debit Card Usage?*" Studied the impact of articles of newspaper related to skimming fraud of card usages on Debit card users in Netherlands. They found that the strength of media and direction strongly effects the debit card users depends upon specific characteristics of the publication, such as type of fraud addressed and its position in the newspaper. They added in their study that the effect of newspaper article is economically small compared to other factors.

**Objective of the Study**

Based on various literature reviews, this paper designed the following objectives-

1. To assess the behaviour of customers towards Plastic Money.
2. To analyse the factors for adoption of plastic money that replaces the paper or cash money
3. To study the challenges associated with the use of plastic money.
4. To examine the present position and prospects of plastic money in India.

**Research Methodology**

Present research study is based on primary as well as secondary data. Primary data for the study has been collected from a sample of 300 respondents including students, working professionals, government officials, house makers, and senior citizens via random sampling method. In questionnaire, a set of 15 questions have been asked by respondents to make the study effective one. The secondary data for the study has been collected from various reports and publications of the apex institution RBI and other financial institutions. The analysed data has been presented in various tables, diagrams and charts to make the presentation more effective.

**Research Hypothesis**

The following hypothesis have been formulated for the study-

**H<sub>0</sub>**

Use of Plastic Money is not beneficial to the users as compare to cash.

**H<sub>1</sub>**

Use of plastic money is favourable to the users as compare to cash.

**H<sub>0</sub>**

Financial institution's products attract the users and plastic money users are not influence in the same manner

**H<sub>1</sub>**

Financial institutions' products and plastic money users are in increasing trend in India.

**Data Analysis and Interpretation**

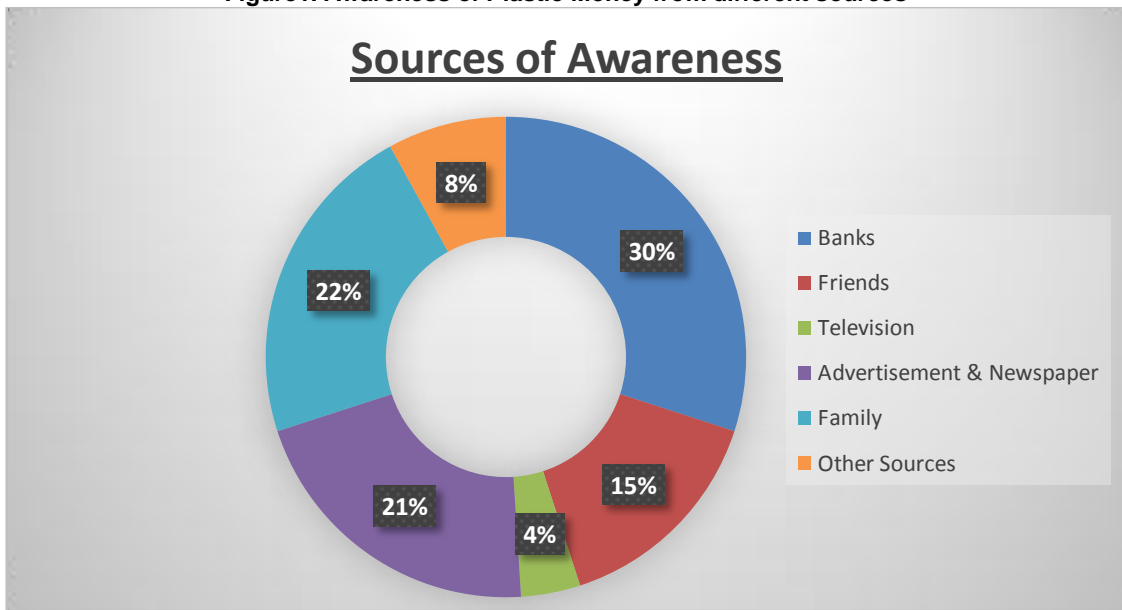
**Table1. Types of card Possessed by Respondents**

S. No.	Parameters	Percentage of Card holding
1	Only Debit Cards	57%
2	Only Credit Cards	15%
3	Both Cards	25%
4	None	3%

Table 1 presents the percentage of cards holding by 300 respondents. Majority of them use

plastic money in the form of debit card. 57% of respondents have only debit card while 15% uses credit cards only. However, 25% respondents use both the cards for their daily purposes. Among 300 respondents, 3% of them do not access plastic money and most of them are homemakers. This table shows the preference of debit card over credit card makes a strong sense of favouritism among the respondents of India, which is far different as compared to other countries where credit card is a primary mode of payment.

**Figure1. Awareness of Plastic Money from different sources**



**Source:** Primary Data Collection

The above chart indicates that the highest respondents which account to 90 (30%) are get awareness from issuing banks while 66 (22%) are the second highest source to become aware from the family members/ relatives. 21 percent people think that various promotional programmes and other advertisements including newspaper are the source from where, they got awareness about plastic money

while 15 percent think that friends helped them to get aware about plastic money. Likewise, 4% from television and 8% from other sources.

**First Method: Likert's Scale Method**

**Testing of Hypothesis**

**H<sub>0</sub>:** Use of Plastic Money is not beneficial to the users as compare to cash.

**H<sub>1</sub>:** Use of plastic money is favourable to the users as compare to cash.

**Table2. Benefits of the usage of Plastic Money**

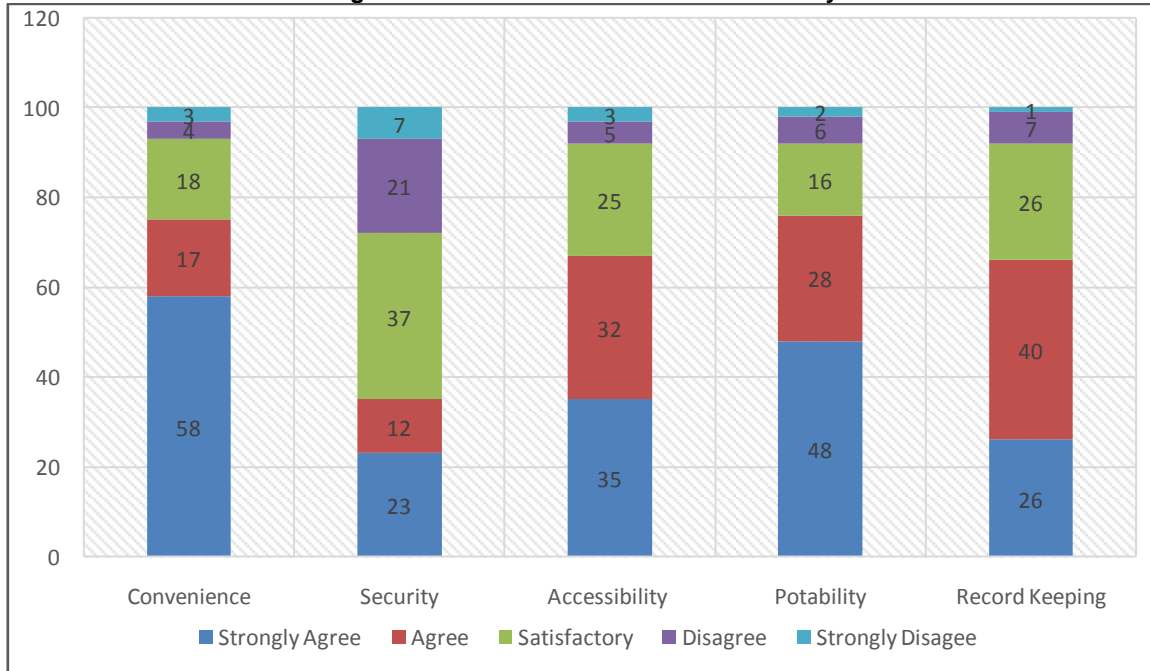
*(Figures in percentage)*

S.No.	Parameters	Strongly Agree	Agree	Satisfactory	Disagree	Strongly Disagree
1	Convenience	58	17	18	4	3
2	Security	23	12	37	21	7
3	Accessibility	35	32	25	5	3
4	Portability	48	28	16	6	2
5	Record Keeping	26	40	26	7	1

**Source:** Primary Data Collection

The benefits of the use of Plastic Money according to respondents may clearly picturize in the following chart-

**Figure2. Benefits of the use of Plastic Money**



In above table, the opinion of respondents about the benefits of plastic money is rated in the five Likert scale method. It is clearly indicated from the above statistic that most of the respondents think that the use of plastic money is convenient, easily accessible, very portable and helpful in keeping records of transactions. However, most of the respondents are not satisfied with the security factor in accessing the cards.

**Second Supporting Method:  $\chi^2$  (Chi Square) Test**

In order to test  $H_0$  the sample size of 300, the following classification was observed:

Total numbers of Plastic Money users are 291 and 09 people are not using plastic money because of number of fears. Out of 291 peoples 273 respondents think that plastic money is beneficial while the perception of 18 respondents is not in favour of plastic money.

In this connection, the test of  $\chi^2$  (Chi Square) will become significant to understand the philosophy of users and will give the conclusion regarding acceptance or rejection of Hypothesis.

**Actual Frequency ( $f_o$ )**

	<b>A (Users)</b>	<b><math>\alpha</math> (Non-users)</b>	
B (Not beneficial)	(AB) 18	( $\alpha$ B) 6	(B) 24
$\beta$ (Beneficial)	(A $\beta$ ) 273	( $\alpha\beta$ ) 3	( $\beta$ ) 276
	(A) 291	( $\alpha$ ) 9	(N) 300

**Calculation of expected frequency ( $f_e$ ) -**

- (AB) =  $A \times B / N = 291 \times 24 / 300 = 23$  (Approx.)
- (A $\beta$ ) =  $A \times \beta / N = 291 \times 276 / 300 = 268$  (Approx.)
- ( $\alpha$ B) =  $\alpha \times B / N = 9 \times 24 / 300 = 1$  (Approx.)
- ( $\alpha\beta$ ) =  $\alpha \times \beta / N = 9 \times 276 / 300 = 8$  (Approx.)

**Calculation of  $\chi^2$**

Class	Observed frequency ( $f_o$ )	Expected frequency ( $f_e$ )	Deviation ( $f_o - f_e$ )	$(f_o - f_e)^2$	$(f_o - f_e)^2 / f_e$
(AB)	18	23	-5	25	1.086
(A $\beta$ )	273	268	+5	25	0.093
( $\alpha$ B)	6	1	+5	25	25
( $\alpha\beta$ )	3	8	-5	25	3.125
Total					$\Sigma \chi^2 = 29.304$

**Conclusion**

The calculated value of  $\chi^2$  (29.304) is more than the table value of  $\chi^2$  at 5% level of significance for 1 d.f. (3.841). Hence, our null hypothesis ( $H_0$ ) is rejected that use of plastic money is not beneficial to

the users as compare to cash. Resulted alternative hypothesis is accepted and concludes plastic money is beneficial to its users.

Although, it is proved that plastic money is beneficial to the users as compare to cash, but

respondents face some problems in possession of cards which is presented in following table-

**Table3. Problems perceived by the respondents on possession of Plastic Money***(Figures in percentage)*

S.No.	Parameters	Strongly Agree	Agree	Satisfactory	Disagree	Strongly Disagree
1	Insecurity	7	51	27	12	3
2	Fear of losing the card	32	34	18	16	0
3	Unnecessary formalities	42	21	7	18	12
4	Problems encountered with the use of ATMs	15	37	29	12	7
5	High processing fees	23	32	6	15	24

**Source:** Primary Data Collection

The above table reveals the problems faced by respondents while using their respective cards. The data shows that the basic problem associated with the use of plastic money is fear among the consumers of losing cards and unnecessary formalities regarding issuance of cards. Apart from this, many respondents face problem while using cards in ATMs to withdraw money like sometimes ATM not able to print slips when demanded, often shortage of cash or running out of money, limit on daily withdrawal, wait in long queues, digital signature problem etc. Moreover, the high processing fee leads

to the problem of excess burden for the customers because they must pay a price to owe a card and pay interest on using it too.

Though, with the help of Chi Square test it was concluded that plastic money is beneficial to the users as compare to cash. But at the same time it's a matter of conflict among the users of plastic money that there are certain fear for which a few precautionary measures are to be taken into consideration. The following table is an explanatory exhibit in this regard-

**Table4. Precautionary Measures while using the Plastic Money for Security**

Precautionary Measures while using the Plastic Money for security	Response	Total	
		Respondents	Percentage
Knowledge about online threats	Yes	203	67.67
	No	97	32.33
	<b>Total</b>	<b>300</b>	<b>100</b>
Use of unsecured websites	Yes	95	31.67
	No	205	68.33
	<b>Total</b>	<b>300</b>	<b>100</b>
Written their PIN on their card	Yes	23	7.67
	No	277	92.33
	<b>Total</b>	<b>300</b>	<b>100</b>
Change PIN once in two months	Yes	145	48.33
	No	155	51.67
	<b>Total</b>	<b>300</b>	<b>100</b>
Use birth date, Phone No etc as PIN	Yes	186	62
	No	114	38
	<b>Total</b>	<b>300</b>	<b>100</b>
High secrecy in holding PIN or not disclosing the PIN	Yes	232	77.33
	No	68	22.67
	<b>Total</b>	<b>300</b>	<b>100</b>

**Source:** Primary Data Collection

The above table clearly indicates that the precautionary measures taken by the customers while using the Plastic Money is high. 67.67 percent are having thorough knowledge about the online threat and internet hacking while using their cards for various purpose in their daily life. 31.67 percent agreed that they are not using the secured web portals for their online transactions when they use their debit and credit cards for their transactions and payments. 7.67 percent write their PIN back of their

cards which is insecure many a times. Only 48.33 percent of the respondents frequently change their PIN say two or three months once for their safe transactions and protect them from frauds of plastic money. 62 percent respondents use their birth date or phone number for PIN of their cards which is insecure. 77.33 percent felt that the high secrecy in holding PIN or not disclosing the PIN to anyone is necessary for security purpose.

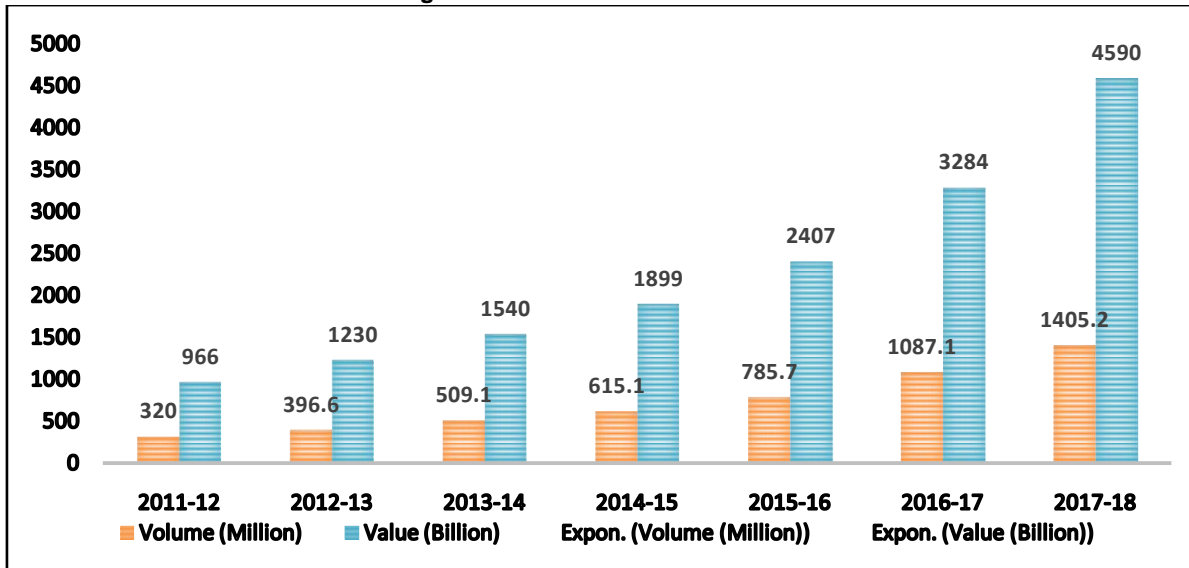
**Table5. Annual Turnover of Credit Cards**

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Volume (Million)	320	396.6	509.1	615.1	785.7	1087.1	1405.2
Value (Billion)	966	1230	1540	1899	2407	3284	4590

**Source:** RBI, Annual Report 2017-18

The annual turnover of credit cards may clearly depicts in the following chart, which gives the trends of its users increase / decrease-

**Figure3. Annual Turnover of Credit Card**



As depicted in above figure the data of annual turnover of credit cards, it is observed that transaction through credit card is constantly rising. A sudden change in the graph shows after demonetization as the annual turnover of credit card

increased rapidly by 38.36% as compared to the financial year 2015-16 in volume, while there is 36.43% growth in the transaction value of credit cards. In the year 2017-18 volume raised by 29.26% while value of transaction by 39.76%.

**Usage of Debit Cards**

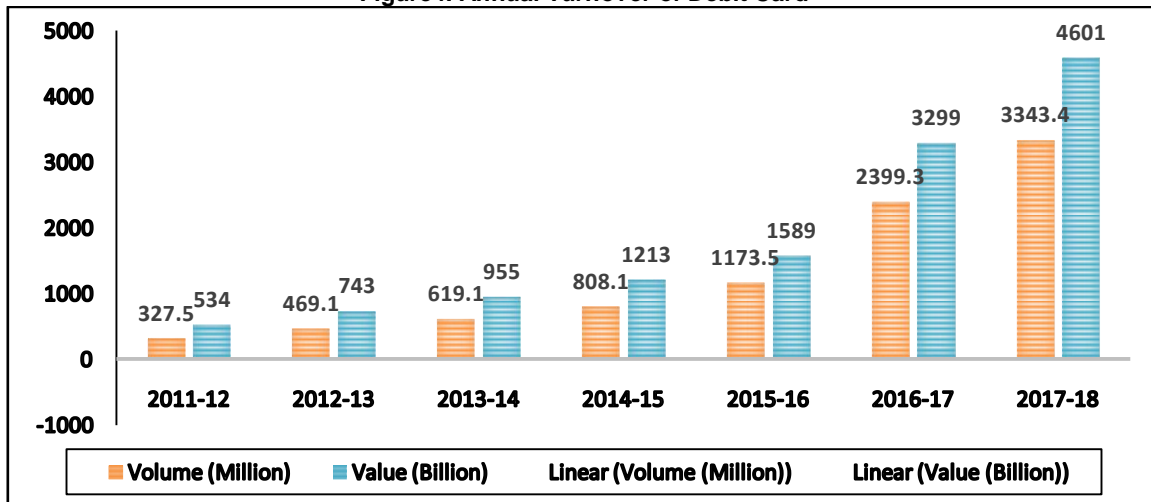
**Table6. Annual Turnover of Debit Cards**

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Volume (Million)	327.5	469.1	619.1	808.1	1173.5	2399.3	3343.4
Value (Billion)	534	743	955	1213	1589	3299	4601

Source: Reserve Bank of India, Annual Report: 2017-18

The annual turnover of debit cards may clearly picturise in the following chart, which gives the trends of its users increase / decrease-

**Figure4. Annual Turnover of Debit Card**



As depicted in above figure the data of annual turnover of debit cards, it shows the similar result like credit cards. The data reveals that both the value and volume of debit cards is increasing but after demonetization it raised in a dramatically manner. After comparing data of 2016-17 with its previous year, we found that the value of transaction via debit

card raised by 107.61% while the volume by 104.45%. In the year 2017-18, the value of transaction raised by 39.46% and volume by 39.34%.

**Conclusion**

On the whole, it is observed that the customers are well aware about the use of plastic money. The findings reveal that majority of

respondents prefer to use plastic money as compare to cash for their daily transactions due to various benefits of using plastic cards. However, the banking products and its E- banking services, based on new technology, has great impact and possibility of fraudulent activities in the current scenario, but that would be dependent on precautionary measurements adopted by consumers. The growth of transaction via plastic cards clearly indicates that the Indian Banking sector is accepting the challenge of information technology and bankers have now recognized it as essential requirement for their survival and growth in future. As result, our second null hypothesis also rejects, and alternative hypothesis is accepted that financial institutions' products and plastic money users are in increasing trend in India. It may conclude that because of the usage of plastic money, the dream of Hon'ble Prime Minister Shri Narendra Modi – Cash to Cashless Economy will be achieved soon in future.

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