

A study on digital banking with regard to Demonitisation in India

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Abstract

Indian economy witnessed a drastic change on 8th November 2016 with the Demonitisation of the Rs.500 and Rs.1000 notes. These notes ceased to be legal tender from midnight of 8th November 2016. Exchange of these currencies were possible up to 30th December 2016. Demonitisation in India was implemented as an effort to curb black money, reduce fake currencies and promote digital banking. While Demonitisation in India was previously implemented in 1946 and 1978, in 2016, the Demonitisation was quite a jolt to the economy. The 2016 Demonitisation had its merits and demerits. The present study tries to identify if Demonitisation was linked to an increase in digital banking. Today technology has made its way through in every field and banking has been no exception. To customers today Digital banking is time saving with less procedures and easy access. The main objective of this study was to see if Demonitisation increased digital banking.

Keywords: *Demonitisation, Black money, Fake currencies, Digital banking, Technology, Time saving, Less procedures, Easy access.*

1. Introduction

Digitization plays a key role in banking today all over the world. Indian customers in today's technological world prefer to use digital banking services. Demonitisation that was announced in India in 2016 addressed various issues and framed a pathway for future financial and economic growth. Digitization in banking is not a new concept however the concept had not gained full momentum. Customers had their reservations with digital banking services which included security issues, risks etc. When Demonitisation was introduced in 2016 customers had no option but to use digital banking services. The present paper compares digital transactions pre, during and post Demonitisation trying to analyse if

Demonitisation has paved way for increased digital banking using secondary data.

2. Research Objectives

- ❖ To compare digital transactions pre, during and post Demonitisation.
- ❖ To analyse if Demonitisation had paved way for increased digital banking.

3. Review of Literature

- Dr. Partap Singh and Virender Singh (2016) in their research paper "Impact of Demonitisation on Indian Economy" studied the experience of impact of Demonitisation in various countries in the past years, the current immediate impact of Demonitisation on Indian economy, and the probable consequences of Demonitisation they found that if money finds its way in the economy it could have a meaningful impact, and concluded that different countries show that Demonitisation failed to fix a debt burdened and inflation ridden economy.
- S.Vijaykumar and T.Shivakumar (2016) in their research paper "Demonitisation and complete Financial Inclusion" discussed about the issues related to Demonitisation and its linkage to complete financial inclusion, they also discussed the economic imperatives of old high denomination currency notes in India and its aftermath. They concluded their study by saying that through Demonitisation has given temporary pain it has taught financial lessons, it also provided a reaping time for banks that made considerable investments on digitization of banking services, which led to a cashless and transparent that gained momentum post Demonitisation.
- Prof.Sandeep Kaur (2016) in his research paper "Demonitisation and its impact in India", attempted to study the impact of Demonitisation

on 8th November 2016 by the present Government on Indian economy and system and concluded that Demonitisation could lead to improved tax compliance, better fiscal balance, lower inflation, lower corruption, complete elimination of fake currency and another stepping stone for sustained economic growth in the longer term.

- K Veerakumar (2017) in his research paper “A study on people impact on Demonitisation” described the Demonitisation concept in India, analysed the demographic profile of the respondents in Coimbatore district and identified the people’s impact on Demonitisation. He concluded his study saying that alternative payment methods such as e-wallets, online transactions using e-banking, debit and credit card usage have been increased and that this would render to shift to an efficient cashless infrastructure.
- Virendra B.Shahare (2017) in his research paper “Assessing the impact of Demonitisation on rural economy” attempted to understand the nature and forms of rural economy and the status of farmers and daily wage labourers in India, to evaluate the impact of Demonitisation on farmers and daily wage labourers in rural India and to study the impact of Demonitisation and cashless digital economy, its utility, accessibility and availability for rural people. He then concluded that financial literacy is a must for bringing more and more people to digital platform and digital payments or payment through banks, instead of paying cash should be encouraged.

4. Theoretical Framework

- ✓ Demonitisation
Demonitisation is the act of stripping a currency unit of its status as legal tender. It occurs whenever there is a change of national currency: the current form or forms of money is pulled from circulation and retired, often to be replaced with new notes or coins. The above meaning of Demonitisation is given in investopedia.
- ✓ Digital Banking
Digital banking is the digitization of all traditional banking activities and programs that historically were only available to customers when physically inside of a bank branch. This included activities like: money deposits, withdrawals, transfers, checking/saving account management, applying for financial products, Loan management etc. meaning given Don Bergal who is the CMO, building and leading worldwide marketing at Avoka.
- ✓ Automatic Teller Machine(ATM)
An automatic teller machine (ATM) is an electronic banking outlet, which allows customers

to complete basic transactions without the aid of a branch representative or teller. Meaning of ATM given in investopedia.

- ✓ Point Of Sales (POS)
POS is an abbreviation for Point Of Sale, which generally means any location where a sale or transaction may take place. In banking a POS label appears on a bank statement when a debit card is used to complete a transaction. Meaning given in an article in lightspeed.
- ✓ Debit Cards
Debit card is an electronic card used to compile and execute financial transactions of its card holders, it is also a facility or utility provided by banking companies to its customers to help them execute different financial transactions anytime and anywhere that too with ease, comfort, speed and safety. Definition given by Gaurav Akrani in Kalyan city life
- ✓ Credit Cards
Credit cards are standard-size plastic tokens, with a magnetic stripe that holds a machine readable code. Credit cards are a convenient substitute for cash or cheque. Credit card holders draw on a credit limit approved by the card-issuer such as a bank, store, or service provider. Definition given in the business dictionary.
- ✓ National Electronics Fund Transfer (NEFT)
NEFT short form of National Electronics Fund Transfer is a country-wide electronic fund transfer system for sending money from one bank account to another in a safe and hassle-free manner. Meaning taken from bankbazaar.com.
- ✓ Real Time Gross Settlement (RTGS)
RTGS stands for Real Time Gross Settlement which can be defined as the continuous settlement of funds transferred individually on an order or on order basis. 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually. Meaning taken from the RBI website.

5. Research Methodology

The research paper is based on descriptive research design, meaning a description of the state of affairs as it exists at present. Secondary quantitative data has been used which has been obtained primarily from the RBI website and other references were obtained from various other online websites, journals and books. The sample chosen is based on convenience sampling as the data got from RBI website from whole of India has been taken. The tools used include percentage analysis, trend analysis and Compound annual growth rate. A brief explanation of the same is given below:

Percentage Analysis

One of the most common and simplest but effective analysis used is percentage analysis. As easy as it looks and with less amount of knowledge and expertise to perform and interpret it, the analysis is most used by research students. Percentage analysis helps to not only group the data but also identify frequency.

Trend Analysis

Trend Analysis is the practice of collecting information and attempting to spot a pattern, or trend, in the information. Trend analysis is the process of comparing data over time to identify any consistent results or trends. A strategy can be developed to respond to these trends in line with the goals of the study. Trend analysis helps us understand how a particular factor has performed and predict where current operations and practices will take us. Done well, it will give us an idea about how we might change things to move in the right direction.

CAGR

The compound annual growth rate (CAGR) is the rate at which something (e.g., revenue, savings, and population) grows over a period of years, taking into account the effect of annual compounding. In the below study since months have been used the formula below was used converting the data to years. A compound is composed of two or more parts. In the case of compound growth, the two parts are principal and the amount of change in the principal over a certain time period, which is called "interest" in some circumstances. This is sometimes called "growth on growth" because it measures periodic growth of a value that is itself growing periodically. The formula for compound annual growth rate is:

$$\left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{\frac{1}{\text{# of Years}}} - 1$$

There are five variables in a compound growth rate calculation:

- Beginning value
- Ending value
- Length of time between the values
- Periodic scale (days?, months? years?)
- Periodic rate of change

6. Limitations of the Study

- ★ An attempt has been made to conduct a detailed study, still there are areas which have not been covered.

- ★ Data has been limited only to two years based on the objectives of the study.
- ★ Not all digital banking services were included for the study.
- ★ Data taken in the analysis is based on secondary data obtained from RBI website, the limitations of the data received from RBI website are also applicable to the research.
- ★ Data has been recorded based on availability and hence in few instances up to date data has not been shown.

7. Results & Discussions

COMPARISON DIGITAL TRANSACTIONS PRE, DURING & POSTDEMONITISATION

Digital transactions before Demonitisation were compared during the three months of August, September and October 2016. The Compound annual growth rate for various digital banking services was used to determine the growth rate.

The CAGR for ATM's stood at 7% which was the least CAGR amongst all the digital banking service transactions, however the average growth rate did not show much fluctuation. The highest CAGR 101% was calculated for NEFT, however again average growth was not significant. From the above table it is clear that through CAGR was significant, the average growth rate for all the digital banking services before Demonitisation was not very significant and consistent.

Table no: 1: Digital transactions before demonitisation

DIGITAL BANKING SERVICES	Aug-16	Sep-16	Oct-16
ATM	202801	204218	205151
		1%	0%
CAGR	7%		
POS	1461972	1480309	1512068
		1%	2%
CAGR	22%		
DEBIT CARDS	887267444	867325283	942651385
		-2%	9%
CAGR	44%		
CREDIT CARDS	84601242	78530855	89485806
		-7%	14%
CAGR	40%		
RTGS	8557454	8467531	9006720
		-1%	6%
CAGR	36%		
NEFT	118556378	120147454	133213109
		1%	11%
CAGR	101%		

After Demonitisation the CAGR dropped down for all the digital banking transactions .The Highest CAGR

was recorded for RTGS (67%), followed by NEFT (45%). However the average growth for all the transactions was not consistent and significant. The lowest CAGR was recorded for ATM transactions at 1%.

**TABLE NO: 2
DIGITAL TRANSACTIONS DURING
DEMONITISATION**

	Nov-16	Dec-16	Jan-17
ATM	205409	205860	206609
CAGR	4%	0%	0%
POS	1590714	1767733	2015847
CAGR	313%	11%	14%
DEBIT CARDS	797822285	1045928190	1040970708
CAGR	391%	31%	0%
CREDIT CARDS	98314444	116458762	113243193
CAGR	133%	18%	-3%
RTGS	7874669	8840374	9326505
CAGR	175%	12%	5%
NEFT	123046178	166306956	164187826
CAGR	462%	35%	-1%

During the span of Demonitisation the above table shows that the CAGR was quite high and significant for all the digital banking services, however the average growth rate was not significant and consistent. The Highest CAGR was recorded for NEFT (462%) followed by Debit cards (391%) and the lowest was recorded for ATM's at 4%.

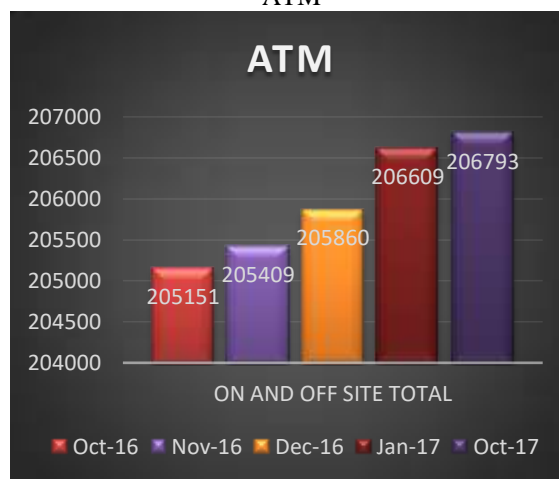
**TABLE NO: 3
DIGITAL TRANSACTIONS POST
DEMONITISATION**

	Oct-17	Nov-17	Dec-17
ATM	206793	206694	207036
CAGR	1%	0%	0%
POS	2958301	2998733	3027382
CAGR	15%	1%	1%
DEBIT CARDS	1020265921	1002296886	1054319993
CAGR	22%	-2%	5%
CREDIT CARDS	124043614	116587732	124482521
CAGR	2%	-6%	7%
RTGS	9999427	10825229	10892992
CAGR	67%	8%	1%
NEFT	158780244	161968321	169049753
CAGR	45%	2%	4%

ANALYSING IF DEMONITISATION HAD PAVED WAY FOR INCREASED DIGITAL BANKING

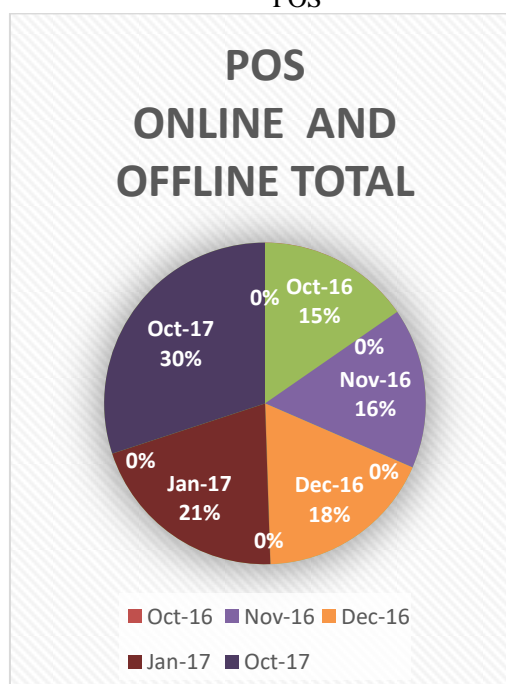
In order to analyse if Demonitisation had paved way for increased digital banking percentage analysis and trend was used. The below tables and charts through light on the same.

**CHART NO: 1
ATM**



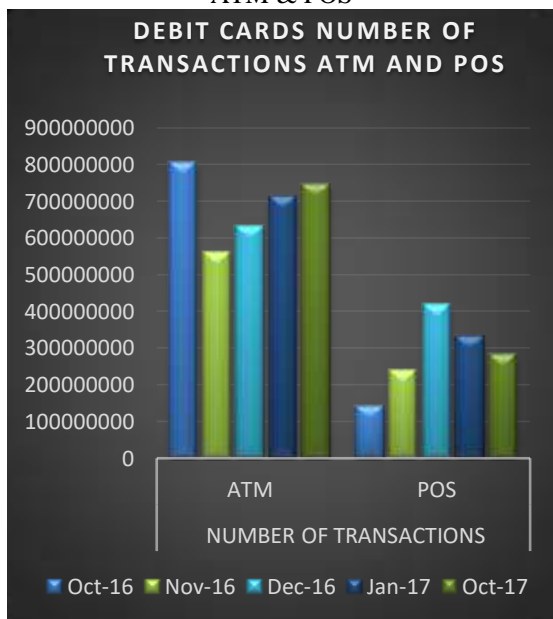
The Chart above shows the on and off site totals of the number of ATM transactions. In the month of October 2016 the total number of transactions stood at 205151 which was the lowest recorded number of transactions before during and after Demonitisation. During the period of Demonitisation there has been a steady rise in total number of transactions recorded in November, December 2016 as 205409 and 205860 respectively. Post Demonitisation the number of transactions recorded was the highest the number of transactions totaling to 206793.

**CHART NO: 2
POS**



From the above chart it can be inferred that the highest percentage 30% (2958301) of the POS transactions was recorded in October 2017 post Demonitisation. In October 2016 before Demonitisation 15% (1512068) was recorded as the number of transactions in POS. In November and December 2016 during Demonitisation one (1590714) and two percentage (1767733) increase respectively from October 2016 was recorded. In January 2017 post Demonitisation 21% (2015847) was recorded.

CHART NO: 3
DEBIT CARD NUMBER OF TRANSACTIONS
ATM & POS



It can be inferred from the above chart that number of ATM based debit card transactions in the month of October 2016 before Demonitisation has been the highest and was recorded as 802064418. After which the number of transactions were fluctuating there was a reduction in November 2016(561355720), followed by an increase in December 2016 (630466234) and again an increase in January 2017 (712347249) and October 2017 (741867386).

The POS based debit card transactions in the month of December 2016 was recorded as the highest 415461956. While all the other months the transactions were recorded moving up and down, in October 2016 the number of transactions stood at 140586967 with a steady rise in November 2016 and again a dip in the number of transactions in January 2017 (328623459) and October 2017 (278398535).

CHART NO: 4
CREDIT CARD NUMBER OF TRANSACTIONS
ATM

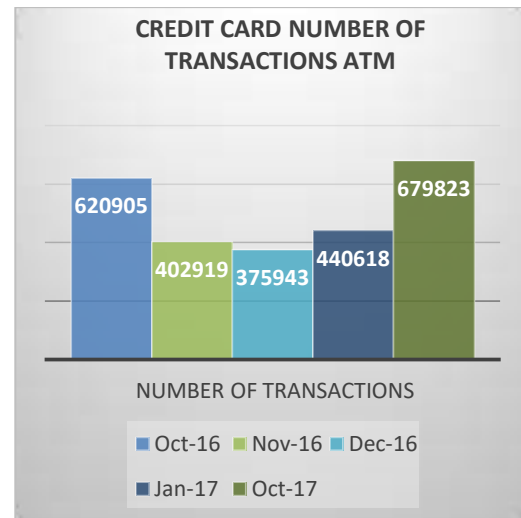
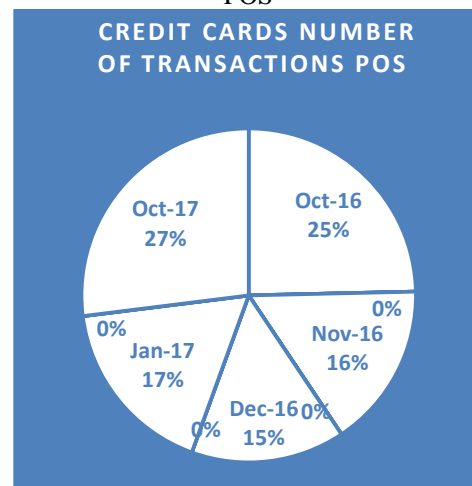


CHART NO: 5
CREDIT CARD NUMBER OF TRANSACTIONS
POS



From the above charts it can be interpreted that in the credit card service the number of transactions for ATM was the highest in October 2017(679823) followed by in the month of October 2016 (620905). The transactions during the months of November 2016, December 2016 and January 2017 were fluctuating and were recorded as 402919,375943 and 440618 respectively.

The percentage of number of credit card transactions under POS shows that October 2017 recorded the highest percentage 27% (123363791). During the months of November and December 2016 the percentage stood at 16% (97911525) and 15% (116082819) respectively. October 2016, percentage recorded was at 25% (88864901).

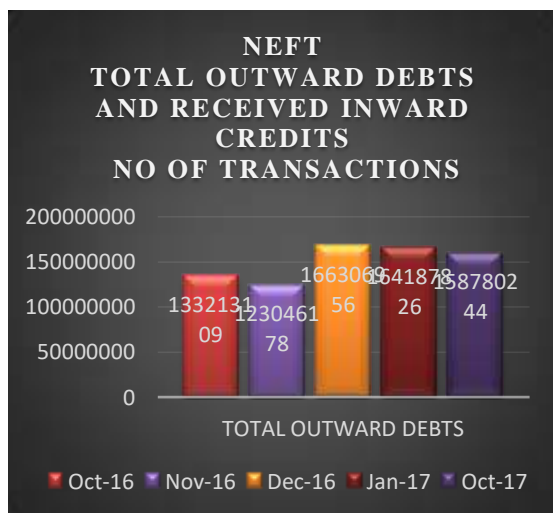
TABLE NO: 4
RTGS

MONTH AND YEAR	INWARD			OUTWARD		
	INTERBANK	CUSTOMER	TOTAL	INTERBANK	CUSTOMER	TOTAL
Oct-16	334656	8672064	9006720	334656	8672064	9006720
Nov-16	315386	7559283	7874669	315386	7559283	7874669
Dec-16	371170	8469204	8840374	371170	8469204	8840374
Jan-17	344809	8981696	9326505	344809	8981696	9326505
Oct-17	289962	9709465	9999427	289962	9709465	9999427

From the above table it can be inferred that both inward and outward transactions given the same total, and the highest number of transactions were recorded in October 2017 (9999427). The lowest number of RTGS transactions were recorded in one of the months of Demonitisation which amounted to 7874669. December 2017 and January 2017 recorded as 8840374 and 9362505 respectively.

It can be inferred from the above chart that December 2016 recorded the highest number of NEFT transactions which was 16630656, followed by January 2017 recorded at 16418726. The lowest number of transactions were recorded in November 2016 (123046178). In October 2017 the number of transactions stood at 15780244.

CHART NO: 6
NEFT



8. Findings

COMPARISON DIGITAL TRANSACTIONS PRE, DURING & POSTDEMONITISATION

The findings for the comparison of the digital banking transactions pre, during and post Demonitisation revealed that during Demonitisation there was huge rise based on the CAGR calculated for all the digital banking services except in the case of ATM transactions. However Pre and post Demonitisation based on the CAGR calculated there has been not much increase or decrease, also in the average growth rate there has been no significant increase or decrease.

ANALYSING IF DEMONITISATION HAS PAVED WAY FOR INCREASED DIGITAL BANKING

In the case of the digital banking ATM on and off site transactions Demonitisation showed a steady rising upward trend since Demonitisation. In the case of digital banking POS transactions there was a rising percentage and the trend was steady rising upward. Both these digital banking services showed an increasing trend during Demonitisation and after and thus it can be inferred that Demonitisation had paved way for increased digital transactions.

Debit card transactions relating to ATM and POS showed fluctuating trends with no significant increase during the period of Demonitisation. Again the debit card transactions relating to POS showed a fluctuating inconsistent trend with a steep rise during December 2016 one of the months of Demonitisation and again dipping back low. It can be found from both the above digital banking services that Demonitisation did not have much effect on the same.

Credit card transactions relating to ATM and POS showed inconsistent fluctuating trends with no significant increase during the months of Demonitisation thus having no effect on its number of transactions.

RTGS transactions showed an upward trend after the month of November 2016 which shows that Demonitisation did have an impact on the RTGS transactions and NEFT transactions showed a fluctuating inconsistent trend.

9. Conclusion

Demonitisation has managed to help the overall economic front to some extent however digital banking services studied in this paper shows that even though there has been a tremendous increase in most of the digital banking services during demonitisation, this upsurge has



not been constant post demonitisation. While digitisation seems to be a craze today especially among the youth, digital banking is yet to reach its full form. The government and banks need to spread awareness among the people about digital banking. Also the banks need to meet the grievances of the customers with regard to digital banking services at the earliest and remove the fear from the people with regard to risk and security in digital banking services. Demonitisation had paved way for an age of digitization in banking, however India is yet to see Digital banking services in its full form and in the coming years we can expect digital banking services to reach its peak.



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