Cashless Transaction Myths And Reality In The Indian Economy: A Case Study

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Abstract

Objectives: ***This paper discusses the*** **general overview of *c*ashless transactions using digital payment systems. It Includes highlights of the impact of demonetisation on non-cash mode of payments.**

Methods: The method aims at classifying the modes of payments and providing a definition of the concept *and how data mining can* be used to gain insight from this huge amount of data to enhance the performance of some of the core business processes in the banking sector.

Findings: Adoption of digital payment system in accordance with cashless transactions appears to have facilitated a reduction in the usage of paper-based mode and increasing electronic modes of payment. This in turn increases the quantity of data in the various repositories(databases). Data mining techniques can be used to gain insight of these data.

Application/Improvements: The study highlights the usage of cashless modes and how it can take individuals as well as economies a step forward.

Keywords: Cashless, data mining, demonetisation, digital payment

I. INTRODUCTION

The term cashless is now used everywhere in our daily life. Cashless economy is one in which cash is not used or least used for exchange of goods and services. Instead of using cash, transactions are done using digital devices such as mobile phones, swipe machines, ATMs, Net banking etc. The economic status of any country is dependent to a great extent on various financial institutions. Digital banking makes the transactions easier by bringing services closer to its customers, thereby improving banking industry performance. The cashless revolution is not new. It has been seen in the banking sector since 1990 in the form of centralized database, ATM, Online trasactions, etc. As a result, the whole concept of banking has changed. With technological advancement more people are getting attracted to it.

Data mining assists banks in finding hidden patterns in a group and discover unknown relationship in data. Today, customers have many options of where they can choose to do their business. So, providing right benefits at the right time is what financial institutions should take up. With increasing adoption of digital payment, particularly e-commerce and m-commerce, there is a growing demand for faster payment services, which, in turn, facilitate ease in doing financial transactions and attracting more customers. According to a 2014 study by Tufts University, the cost of cash In India, cash operations costs the RBI and other Commercial banks about Rs 21,000 crore annually [5] . Despite the demonetization drive, the required infrastructure is still lagging behind. According to the BCG Google report, digital transactions worth $500 billion would be processed by 2050 [6].

Digital Payment

Digital payment is a way of payment which is made through digital modes. In digital payments, both payer and payee use digital modes to send and receive money. It is also called electronic payment. No hard cash is involved in digital payments. All the transactions in digital payments are completed online. It is an instant and convenient way to make payments.

The cash payments process is time-consuming. But in digital payments, money transfers takes place immediately. This process is automatic as customers

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don't have to visit the bank.

II. GOALS FOR GOING CASHLESS

❖ **Easy doing less costing:** Cashless payments save us from long queues of ATMs and banks. If we pay digitally, we won't need to withdraw cash from our account. It also saves lots of time and a little bit of money as well. It also reduces the risk of carrying cash.

❖ **Less paper work:** As people don't go by the manual system of transaction the paper work becomes less.

❖ **Secured and transparent:** A cashless method is more secure and transparent as every transaction can be traced easily as it leaves its footprints.

❖ **Generating Career:** Revolution of cashless transaction has created many career opportunities.

❖ **Reducing tax avoidance:** Since there is less cash in hand and more in banks, there is less chance of hiding income.

III. TYPES OF CASHLESS TRANSACTIONS

The RBI classifies every mode of cashless fund transfer or transaction using cards or mobile phones as 'prepaid payment instrument'. The various modes of cashless transaction are as follows:

Mode	Description
Cheque	Oldest modes of cashless payments.
Demand Draft	Less popular mode.
Online Transfer (NEFT, RTGS, ECS)	National Electronic Funds Transfer(NEFT) , Electronic Clearing Service (ECS) and Real Time Gross Settlements(RTGS) is suitable for high value online transactions.
Plastic Money (Credit/Debit cards)	Also referred to as plastic cards
E-Wallets	Suitable for small-ticket transactions.
Mobile Wallets	Does not require plastic cards for making payments, just load money in the wallet via IMPS and use it.
UPI Apps	Unified Payment Interface(UPI) is suitable for instant transfer using smart phone.
AEPS	Aadhaar Enabled Payment System for those who do not have debit/credit cards.
USSD	Unstructured Supplementary Service Data (USSD) is suitable for feature phones without Internet connectivity.
ATM	Automated Teller Machine(ATM), combination of computer terminal, with cash vault and record-keeping system in one unit.

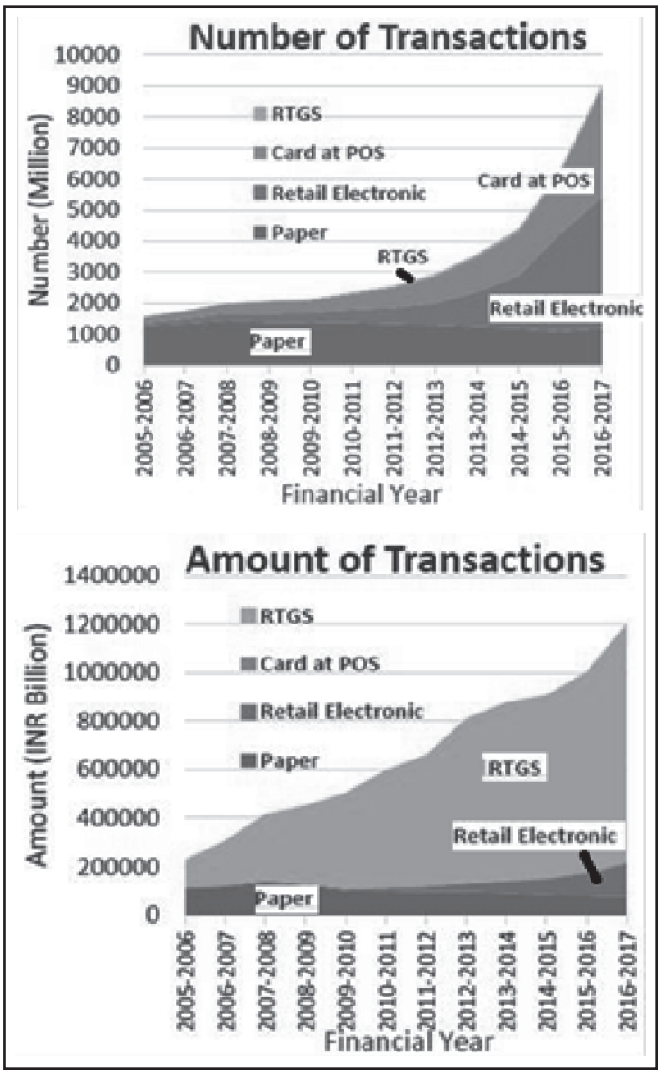
IV. BRIEF ANALYSIS OF CASHLESS TRANSACTIONS

The data (secondary) for analysis were collected from RBI's statistical column, monthly and yearly reports.

Non-cash interbank payment systems have been grouped into four categories viz., paper-based, retail electronic payment systems, cards at point of sale (POS) terminals and the RTGS system (fig. 1) [4].

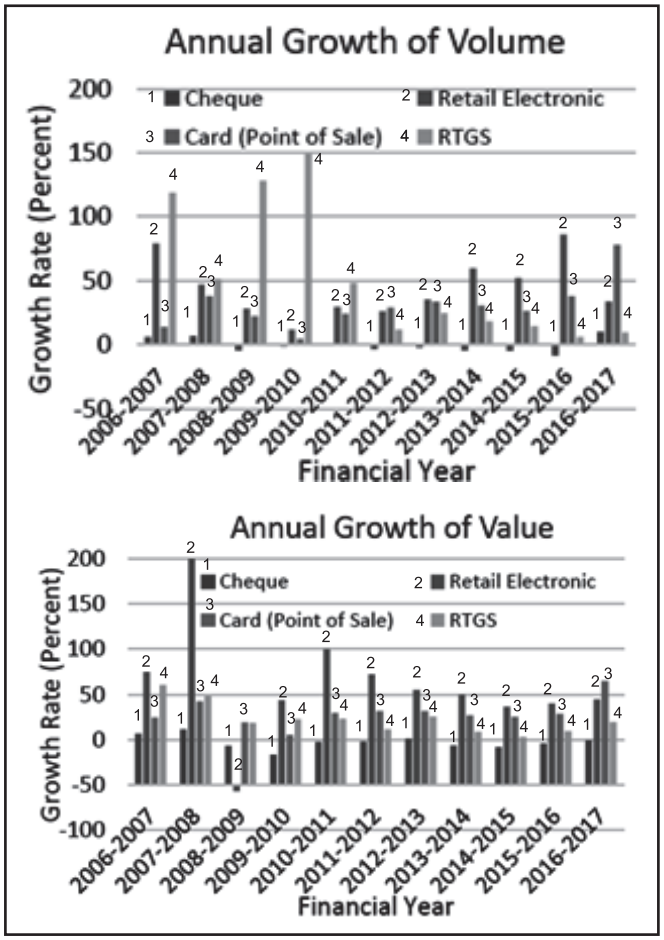
It can be observed from fig. 1 that RTGS system has

Fig. 1. Number and amount of transactions settled - Yearly



minimum volume but maximum value, while retail payment transactions and card usage are growing both in volume and value terms.

Fig. 2. Annual Growth in Cheque Volume and Value

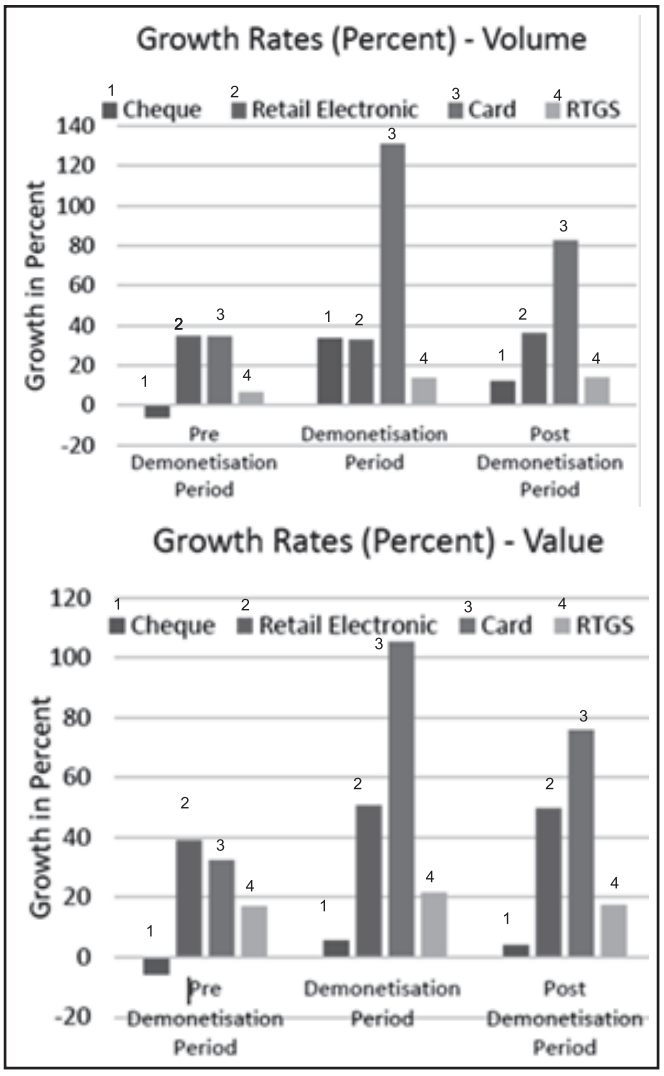


Even as retail payment systems, card transactions at POS, and the RTGS system have been growing steadily, cheque volumes and values have shrunk from 2008-2009 to 2016-2017 except for 2012-2013 in value terms and 2016-2017 in volume terms (fig. 2) [4].

The payment systems data have been grouped into three time categories, viz., pre-demonetisation period from April 2016 to October 2016; demonetisation period from November 2016 to March 2017; and post-demonetisation period from April 2017 to August 2017 (fig. 3) [4].

It can be observed that cheque volumes and values contracted during the pre-demonetisation period recorded positive growth during demonetisation as well as post-demonetisation period. There was a sharp growth in card transactions at Point of Sale (POS) for both

Fig. 3. Growth rates - Pre-demonetisation, during demonetisation, and post - demonetisation



demonetisation and post-demonetisation periods [4].

V. FACTORS AFFECTING CASHLESS TRANSACATION

In India, the factors that may affect the use of cashless transaction are:

❖ **Education and awareness:** In India most of the population lives in rural areas and treats digital payment as a tool meant for educated people and it is not easy to use. So, there is a need to provide basic education about the system.

❖ **Proper infrastructure:** Before implementing a

TABLE I. CASHLESS TRANSACTION AT GLANCE

Month	Volume in million			Number of transactions	Value in billion			Amount
	ECS	RTGS	MB	NEFT	ECS	RTGS	MB	NEFT
Apr 16	3.41	8325513	48.67	111.84	48.68	68411.27	524.83	8324.52
May 16	1.74	8703795	61.73	117.50	14.16	76332.58	618.13	7732.54
Jun 16	1.8	8828509	63.17	118.29	12.87	83834.94	673.48	8815.31
July 16	1.49	8254641	67.47	113.48	10.15	74919.55	809.59	8145.39
Aug 16	1.8	8557454	71.76	118.56	12.2	77588.32	1038.97	8764.14
Sept 16	1.65	8467531	72.63	120.15	10.41	86687.35	1042.60	9880.17
Oct 16	1.78	9006720	78.12	133.21	18.59	76473.29	1139.41	9504.50
Nov 16	1.04	7874669	87.47	123.05	9.27	78479.19	1365.70	8807.88
Dec 16	1.16	8840374	110.64	166.31	14.39	84096.48	1498.18	11537.63
Jan 17	0.96	9330505	106.13	164.19	11.94	77486.07	1383.05	11355.08
Feb 17	0.87	9104185	95.41	148.21	9.35	74218.81	1279.93	10877.91
Mar 17	1.15	12538081	113.65	186.70	11.24	123375.83	1730.88	16294.50
Apr 17	0.68	9543080	106.27	143.17	10.89	88512.19	1612.65	12156.17
May 17	0.79	10432997	114.26	155.82	11.42	90170.52	2134.30	12410.81
June 17	0.77	9828299	115.73	152.34	11.38	92812.58	1807.65	12694.20
July 17	0.57	9380015	102.40	148.14	11.83	87149.26	801.36	12011.60
Aug 17	0.75	99455952	97.89	151.61	11.79	89163.39	795.38	12500.38

Source: www.rbi.org.in statistics column [3] and authors' computation.

process, proper communication medium, devices and networks should be made available at affordable price. This will play an important role.

❖ **Availability of card acceptance infrastructure:** There are 81 crore debit cards in India and just 28.82 lakhs point-of sale (POS) terminals. In order to increase the use of digital payments more POS need to be installed.

❖ **Security and lack of quick redressal mechanisms:** There is high risk of cyber crime and there is no stringent legal process to deal with this.

VI. DATA MINING ASPECTS IN TERMS OF CASHLESS TRANSACTION

Data mining allows extraction of diamonds or jewels of knowledge from historical data, and predict outcomes of future situations. Financial institutions are the pioneers in taking advantage of data mining.

As the wave of cashless transactions has generated a huge amount of data (big data), the repositories are carrying many useful hidden data that can be used to improve the economic state to a great extent. This data is capable of being stored and maintained to produce information and facts. Although at many places we can see the use of cashless transactions, still there are many people who are coping up with the system. So, if we can find out at what point people are lagging behind and the flexibility that can be introduced to shift customers from cash to cashless, the use of cashless transactions will increase. This is where data mining techniques can be of immense help. Hence, we can say that data mining helps to:

❖Optimize business decisions·

❖Identify loyal customers·

❖Detect fraudulent transactions

❖Increase the value of each customer and communication

❖ Cut cost and increase revenues

❖ Improve customer satisfaction

❖ Analyze customers' purchase patterns over time for better retention and relationship

❖ Launching of new product and services, and

❖ Analyze the pattern to increase the GDP

VII. CONCLUSION

Adoption of digital payment system in accordance with

cashless transactions appears to have facilitated a reduction in the usage of paper-based mode and increasing electronic modes of payment. This in turn increases the quantity of data in the various repositories (databases). If this data cannot be qualified it is of no use. For this purpose, data mining techniques can be of immense help to various financial institutions for better targeting and acquiring new customers, fraud detection in real time, providing segment based products for better targeting of customers, detection of emerging trends to take proactive measures in a highly competitive market adding a lot more value to existing products and services. Data mining has a wide application domain in almost every industry where data is generated. This is why data mining is considered to be one of the most important frontiers in database and information systems and one of the most promising interdisciplinary developments in Information Technology.

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