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Editor – Mr. A. P. Singh"

Mr. A. P. Singh
Director, Amity School of Insurance Banking and Actuarial Science
Amity University, Uttar Pradesh
Sector – 125, Noida
Uttar Pradesh,
India.

From the Desk of Editor

It gives me an immense pleasure to launch first issue of Amity Journal of Insurance Banking and Actuarial Science. (AJIBAS) .There are lot of challenges which the researchers, practitioners and academicians face in the realms of teaching management education. Education and Technology can play a vital role in bringing about this change to bridge the gap between the academics and practical skills required on the job.

Banking and Insurance sector are vital for the growth of the economy. In many ways it spells financial stability of a country as recently there have been so much changes and recent development happening in both the sectors. Access to the banking system has also improved over the years due to persistent government efforts to promote banking technology and promote expansion in unbanked and non metro Indian Banking Industry has recently witnessed the roll out of innovative banking modules like payment and small banks and Pradhan Mantri Jan Dhan Yojana (PMJDY) Financial Inclusion Scheme.

The Government of India has taken a number of initiatives to boost the insurance industry like introduction of Pradhan Mantri Vaya Vandana Yojana and Pradhan Mantri Suraksha Bima .The Union Cabinet has approved the public listing of five Government owned General insurance companies and reducing Government`s stake to 75 percent from 100 percent which is expected to being higher levels of transparency and accountability and enable the companies to raise resources from the capital market to meet their fund requirements .

Amity School of Insurance , Banking and Actuarial Science has launched this Journal to update the readers with recent development happening in Insurance and Banking sector . This first issue of this Journal carries five articles on the recent development in banking sector like introduction of payment and small banks , impact of demonetization , financial innovation , impact of digital banking to drive less cash economy and Big Data Analysis.

This Journal is a product of successful team work by all the faculty members of Amity School of Insurance , banking and Actuarial Science. (ASIBAS) . We would like to express our gratitude to Honorable Founder President D. Ashok K Chauhan for his constant motivation and inspiration.

We are grateful to our respectable Chancellor Dr. Atul Chauhan for his continuous guidance. Our sincere thanks to Vice Chancellor Dr. Balvinder Shukla for continuous guidance and motivating in publication of compendium of research papers.

Editor

A. P. Singh

Contents

The Study of Evolution of Indian Payment System from Manual Clearing Settlement System to Digital Banking

Mr Avadh Raj Tiwari

Deputy Branch Manager, ICICI Bank Limited

Indian payment System has been rapidly changing fast and has evolving from the last few years . Journey of Indian Payment System that started with barter system having features of double coincidence of wants without any common mode of exchange. Barter system was followed up with medium of exchange inform of gold, silver, coins and precious metals. Coins were useful as a standard of medium for commercial domestic as well as International trade and economic activity. With currency as a common medium of exchange have double advantage of safety and simplicity and security aspect was covered with increasing habit of people for using bank account and new instrument cheque. Initially, people use cheques for high value transactions. This was a revolutionary stage of payment systems which moved from paper based to Digital banking payment Systems in three decades. This paper focus on various factors and stages that lead to this evolution of Indian Payment System from manual paper based clearing settlement system to Cheque Truncation to Digital banking payment System.

Key Words: Clearing System, Digital Banking, Cheque Truncation System, Real Time Gross Settlement, Electronic Funds Transfer

Introduction

The progress and Journey of Payment System in India has been termed as a silent revolution which has been evolving and changing growing for last three and half decades. This silent revolution has undergone many changes in the banking needs of the customer and accordingly to satisfy the customer`s needs, banks have adopted different level of technology and introduced different types of products. Payment system is very important aspect of the financial system because it focuses on faster and accurate transfer and movement of funds and thus pushes the economic activities in an economy at large scale. Reserve bank of India has taken many initiatives to convert the manual clearing house system of settlement to Machine based processed of cheques through Magnetic Ink Character Recognition (MICR) Technology in 1985. With the increasing volumes of cheques and longtime taken for processing the same in giving the final credit to the beneficiary, MICR Technology was replaced with Image based Settlement called Cheque Truncation System in 2009.

While the RBI vision was always to promote cash less and cheque less business transactions in Indian Economy and Banking System, E Banking and Digital Banking was the recent important agenda in the hand of Government of India and Reserve Bank of India.

This research paper traces different stages of evolution of Indian Payment System and various accepted modes of paper based and electronic payment systems by customers. This paper also highlights the various factors that impact customer perception to choose a particular type of payment system according to their individual and business needs.

Objectives of this study

- To understand the different stages of Indian payment System from manual clearing days to digital banking era.
- To analyse the payment system indicators volume and value wise .

Four Stages of Evolution of Indian Payment System

It's very simple to define the term " Payment " as exchange of money for goods bought or sell when any commercial or economic activity take place. In Barter System goods and services are exchanged by the people with each other according to their needs and there was no standard of value. When Concept of money was introduced in terms of gold, silver and precious metals, more standardized way of settlement of business transactions started happening. This was followed by introduction of coins and paper currency notes as a medium of store and value .When more and more people started using the currency it leads to more buying and selling of commercial transactions.

Banking habits also started evolving as the customer`s need safety and security of their money as well as want to transfer the money to other customers. Under negotiable instrument act, 1881, cheque system was introduced for making payments instead of using cash. Bearer cheques were used for cash payment to the drawer as Self and order cheques were used for payment to the beneficiary whose name appeared on the cheque as Payee. Order cheques were issued for making payment to Payee to a specified person or through his order . Concept of setting up of clearing houses came into picture when the cheques deposited by the customer at different bank`s branches need to be settled. This was the beginning of Stage 1 of Manual Clearing Payment and Settlement System in Indian banking System.

Stage 1 – Manual Clearing Payment System

Clearing house can be defined as a place where settlements of cheques deposited by the customers and drawn on another bank are settled and credit is afforded to their respective accounts. Clearing houses are voluntary organization and form of association approved by the management of the banks where all banks settlement current accounts are maintained. Since the volumes of cheque were less so these cheques used to be exchanged manually by the representatives of the different bank at clearing house. Clearing houses were managed by RBI wherever its office of the banking department is there. In the absence of RBI offices, State Bank of India and any one Scheduled Public Sector banks managed clearing House. Manual sorting of cheques were done by clearing branch of the bank called Service branch and manual listings of details of cheque number , drawee bank and amount is prepared. These cheques and listings were exchanged in clearing houses by the representatives of different banks and Clearing House Managing Bank keep noting the details of cheques drawn in favor or against the banks. The netted figures are debited and credited respectively to bank`s current account for he cheques which were honored by the banks and for dishonored cheques , Cheque Return Clearing house were conducted in the evening. In 1998, 14 clearing houses were managed by SBI, 840 by SBI and remaining 6 by Public Sector banks.

Stage 2 – MICR Clearing Settlement

With increasing volumes of cheques, opening more of new retail banking branches and number of accounts, it became difficult to handle the settlement of cheques through manual clearing settlement. Customers were also complaining of more time being taken for example 4-5 days in the final credit of the cheques deposited by them. Computerization of clearing operations was the next big evolution and was the major step taken for use of technology in banking operations. In early eighties, microprocessor based computer systems were set up as claim based settlement in Delhi, Kolkata and Mumbai. In 1986 Magnetic Ink based character (MICR) Solution of faster processing of cheques settlement system was introduced. these cheques were to be processed on readers sorters so new cheque formats were redesigned with MICR code line High speed sorters have the capacity of reading 2400 cheques in a minute for local clearing instruments. MICR Clearing was introduced in Chennai and New Delhi in 1987 and in Kolkata in 1989. MICR Code line contains 6 digit cheque number, 9 digit City Bank Branch Code, Two Digit Account type like 10 for Savings or 11 for Current Account and Two Digit Type of Payment instrument like Cheque, Pay order or demand draft.

Stage 3 – Cheque Truncation System

In 2008, An Image based cheque clearing settlement system was introduced in New Delhi in which the physical movements of the cheques from the bank branches to clearing houses were stopped. CTS was introduced after 20 years of MICR Clearing as the cheque volumes increased and clearing differences reconciliation problems started arising . Benefit of CTS was a faster clearing settlement cycle, cost reduction

, restricted loss of instruments in transit and no reconciliation problem. In CTS electronic image of the cheque is captured and data is saved and the credit is given to the customer within 24 hours i.e. T + 1 Basis. CTS was introduced in Chennai in 2011 and in Mumbai in 2013.

Cheque Truncation System was different as compared to Manual clearing , Microprocessor and MICR Settlement because here the movement of the cheques were stopped .The images of cheques are digitally secured and ensure safety of funds in the CTS Process and transfer from branches to clearing house electronically..

Stage 4 – Digital banking / Payment System

With the growth of usage of cheque payment system and development in banking, role of technology changed from the support function to enabler function. New Types of payment instruments were developed all over the Globe and customer start using the same for faster and accurate settlement of commercial and economic activity. Indian Story of strong payment systems also evolved after 1990`s with introduction of various electronic payment systems by Reserve bank of India. RBI formulated payment system vision to achieve these miles stones since 2008 and latest one is Vision 2015-2018 to create awareness among the customer and modernization of payment system with advanced technology. Rangarajan Committee on computerization in early 1980`s suggested a phased plan for mechanization and computerization. This was followed by various initiatives taken by RBI through Saraf Committee, Patil Committee, Burwan Working Group.

At present Indian Banking System is having different payment systems to meet the funds transfer and remittance requirements of customers based on their requirements depending upon the cost and time.

National Electronic Funds Transfer (NEFT): In 2005 Reserve bank of India started a funds transfer facility one to one basis without any paper instruments like cheques. Every retail branch need to be NEFT enabled and individuals, companies and firms can transfer funds. There is no maximum or minimum limit on the finds transfer through NEFT. NEFT is settled in twelve batches stating from 8 am to 7 pm from Monday to Friday where as on Saturdays, there are only 6 settlements from 8 am to 1 pm.

Real Time Gross Settlement (RTGS): In March 2004 Reserve Bank of India introduced a new system of online order by order basis funds transfer system on real time basis. These payment transactions are final and irrevocable and done individually. RTGS is an individual transactions settlement payment system where as NEFT is deferred net settlement system in batches with particular time. RTGS system is for high value transactions for 2 lacs and above with no maximum amount. RTGS is available for customers between 9.00 hours to 16 30 from Monday to Friday and from 9.00 hour to 14.00 hours on Saturdays. The customer need to obtain IFSC Code from their bank branch where the account is maintained and there are more than 1, 00,000 RTGS enabled bank branches in India.

Immediate Payment Service (IMPS): is an interbank instant real time funds transfer system electronically and it offers services through mobile phones. This payment system facility is available 24 by 7 including bank holidays throughout the year. IMPS is designed on the framework of national Financial Switch Network and controlled and supervised by National Payments Corporation. Customer has to save the IFSC Code of Beneficiary and his account number. There is a daily cap limit of 2 lacs in IMPS and SMS based mobile banking can be used for transactions up to Rs. 5000 /-

Aadhaar Enabled Payment System (AEPS): is an initiative by Ministry of Electronics and information to ensure cashless, paperless and faceless payment system. This is bank led model where customer Aadhar number is linked with bank account and allows online interoperable commercial transaction at merchant place / point of sales. Bank Mitra and Business Correspondent plays an important role in AEPS for service activation and operations .Maximum and minimum funds transfer limit is fixed by the banks to individual customers where RBI does not have any capped or limit. Various services offered are funds transfer, cash deposit, withdrawal, funds enquiry and payment transactions. Services are available at more than 118 banks and interoperable/

Unified Payments Interface: is any participating single mobile application that powers and connects multiple bank accounts. UPI has various banking transactions, merchant payments and fund routing platform. Customer must have smart mobile phone linked with bank account and having internet facility. Customer need to have A Debit card for generating MPin or resetting whenever required. Funds transfer limit is Rs. 1 lac and virtual address, IFSC and MMID is required by the customer for sending and receiving money.

Electronic Clearing Service (ECS): This electronic funds transfer mode of payment is used by the customer for periodical in nature and of repetitive nature like monthly salary, payment of utility bills, rent receipts etc. There are two types of ECS – Debit and Credit and includes various transaction processed at NACH – National Automated Clearing House. ECS is further classified into three categories based on the geographical location – Local, Regional and National ECS. Institution need to obtain one time ECS Registration through their bank and then prepare input file consisting of account number , name , amount , MICE code of bank and branch . There is no limit on the value of ECS Transactions and amount is credited with in 24 hours.

Aadhaar Payment Bridge System (APBS): This payment system is a way to transfer funds without any cheque and debit card. This system i slinked with Aadhar Enabled payment System and not linked to any bank or branch. This initiative has also been taken by NPCI. The major benefits of AEPS are that financial and non-financial transactions can be done through banking correspondent of any branch. It's very secure, fast and safe payment system as every individual has its own fingerprints and no one copy the same.

BHIM: Bhart Interface for Money is a unique and recent initiative to promote cash less, fast. reliable and secure financial funds transfer through mobile. This payment system in interoperable with other applications like UPI and bank applications. Bhim is an Indian Initiative payment system by NPCI. It work with simple operations by registering with bank and setting the password with UPI Pin. Mobile number of the customer act as his virtual payment address and one can immediate start the funds transfer.

The Payment System Data shows that all payment system are reflecting the increasing trends as compared to last year 2016.

- RTGS Volumes have increased from 98.34 million in 2015-16 to 1252.88 million in 2016 and 2017 where as value has increased from 1035551.64 billion in 2015 -16 to 1253652 billion in 2016 -17
- CTS volumes have increased from 958.39 million in 2015 -16 to 111.86 million in 2016 -17 where as value has increased from 69889.65 billion in 2015 -16 to 74035 .22 billion to 2016 -17.
- IMPS volumes have increased from 220.81 million in 2015 -16 to 506.73 million in 2016 -17 and value have increased from 1622. 26 billion in 2015 -16 to 4111.06 billion in 2016 -17.
- Mobile Banking Volumes have increased from 389.49 million in 2015 -16 to 976.85 million in 2016 - 2017 where as value have increased from 4040.91 billion in 2015-16 to 13104.17 billion in 2016-17
- National payments Corporation have taken various initiatives on the cash less and promotion of digital banking payment instruments. NPCI has also reached the mile stone by issuing 25 million RuPay Discover Global Cards which can be used at more than 40 million points of sales terminals.

Data Analysis and Trends:

Payment System Indicators								
System	Volume (Million)				Value (₹Billion)			
	2016-17	2017			2016-17	2017		
		Jun.	Jul.	Aug.		Jun.	Jul.	Aug.
	1	2	3	4	5	6	7	8
1 RTGS	107.86	9.83	9.38	9.46	1,253,652.08	116,200.57	110,562.10	113,827.58
1.1 Customer Transactions	103.66	9.51	9.07	9.16	849,950.51	83,330.95	77,675.80	79,157.81
1.2 Interbank Transactions	4.17	0.32	0.31	0.30	131,953.25	9,481.63	9,473.46	10,005.58
1.3 Interbank Clearing	0.018	0.002	0.002	0.002	271,748.31	23,387.99	23,412.84	24,664.19
2 CCIL Operated Systems	3.65	0.30	0.30	0.27	1,056,173.36	90,919.03	86,663.63	87,499.01
2.1 CBLO	0.22	0.02	0.02	0.02	229,528.33	21,892.28	21,736.46	22,784.18
2.2 Govt. Securities Clearing	1.51	0.12	0.11	0.08	404,389.08	36,913.97	34,047.29	31,959.78
2.2.1 Outright	1.34	0.11	0.10	0.07	168,741.46	13,709.92	13,400.47	9,795.75
2.2.2 Repo	0.168	0.017	0.016	0.017	235,647.62	23,204.05	20,646.82	22,164.03
2.3 Forex Clearing	1.93	0.16	0.17	0.17	422,255.95	32,112.78	30,879.88	32,755.05
3 Paper Clearing	1,206.69	95.47	95.35	94.81	80,958.15	6,669.43	6,572.52	6,403.59
3.1 Cheque Truncation System (CTS)	1,111.86	91.85	92.20	92.05	74,035.22	6,409.95	6,342.50	6,224.34
3.2 MICR Clearing	–	-	-	-	–	–	–	–
3.2.1 RBI Centres	–	-	-	-	–	–	–	–
3.2.2 Other Centres	–	-	-	-	–	–	–	–
3.3 Non-MICR Clearing	94.83	3.61	3.15	2.76	6,922.93	259.48	230.02	179.25
4 Retail Electronic Clearing	4,204.96	426.75	432.20	442.79	132,250.12	14,113.17	13,471.67	13,988.09
4.1 ECS DR	8.76	0.13	0.14	0.12	39.14	0.89	0.93	0.83
4.2 ECS CR (includes NECS)	10.10	0.64	0.43	0.63	144.08	10.49	10.90	10.96
4.3 EFT/NEFT	1,622.10	152.34	148.14	151.61	120,039.68	12,694.20	12,011.60	12,500.38
4.4 Immediate Payment Service (IMPS)	506.73	65.84	69.07	75.66	4,111.06	596.55	604.76	651.49
4.5 National Automated Clearing House (NACH)	2,057.27	207.79	214.42	214.77	7,916.17	811.05	843.47	824.43
5 Cards	12,055.87	1,032.50	1,070.22	1,097.79	30,214.00	2,989.67	2,956.25	3,072.12
5.1 Credit Cards	1,093.51	110.03	111.38	115.99	3,312.21	357.50	342.15	366.03
5.1.1 Usage at ATMs	6.37	0.55	0.61	0.66	28.39	2.67	2.85	3.05
5.1.2 Usage at POS	1,087.13	109.47	110.76	115.33	3,283.82	354.83	339.30	362.99
5.2 Debit Cards	10,962.36	922.47	958.85	981.81	26,901.79	2,632.17	2,614.11	2,706.09

5.2.1 Usage at ATMs	8,563.06	667.81	703.23	716.36	23,602.73	2,256.93	2,268.42	2,351.96
5.2.2 Usage at POS	2,399.30	254.66	255.61	265.45	3,299.07	375.24	345.68	354.13
6 Prepaid Payment Instruments (PPIs)	1,963.66	255.65	270.24	261.14	838.01	85.07	98.56	102.88
6.1 m-Wallet	1,629.98	221.63	235.46	225.43	532.42	53.10	69.34	72.62
6.2 PPI Cards	333.11	33.97	34.74	35.67	277.52	29.87	27.07	28.53
6.3 Paper Vouchers	0.51	0.05	0.04	0.03	25.36	2.10	2.15	1.72
7 Mobile Banking	976.85	115.73	102.40	99.64	13,104.76	1,807.65	801.36	799.13
8 Cards Outstanding	884.72	825.31	836.11	843.51	–	–	–	–
8.1 Credit Card	29.84	31.48	32.06	32.65	–	–	–	–
8.2 Debit Card	854.87	793.83	804.05	810.87	–	–	–	–
9 Number of ATMs (in actuals)	222475	222926	222653	222568	–	–	–	–
10 Number of POS (in actuals)	2529141	2776949	2840113	2882422	–	–	–	–
11 Grand Total (1.1+1.2+2+3+4+5+6)	19,542.66	1,820.50	1,877.69	1,906.25	2,282,337.40	207,588.96	196,911.89	200,229.08
Note : Data for latest 12 month period is provisional.								
1.3: Pertain to multiateral net settlement batches.								
3.1: Pertain to three centres – Mumbai, New Delhi and Chennai.								
3.3: Pertain to clearing houses managed by 21 banks.								
6: Available from December 2010.								
7: Include IMPS transactions.								
9: Includes ATMs deployed by Scheduled Commercial banks and White Label ATMs (WLA). WLA are included from April 2014 onwards.								

Impact of Demonetization on Digital Banking

Business line, 19th May, 2017 reported that Demonetization of High Value currency notes of Rs. 500/- and Rs 1000 /- implemented in November 2016 have reflected the remarkable and long lasting impact of reduction of cash and currency. There is a clear cut growing evidence of non cash mode payment of four out of every ten funds transfer and payment instructions. SBI Chairman said that digital foot print and usage of cards system have increased and 38% increase in digital transaction volume in third quarter December 2016

. Mobile payment, internet banking and Debit card point of sale have shown the increasing trends of usage by the customer's .Internet Banking has suddenly shown the rising trends of 27% share of total non-cash payments whereas Point of Sales has doubled in SBI and touched 163000 merchant base.

Economic Times, 30th Oct, 2017 reported that liquidity crunch has eased in the Indian Economy and as a result there has been a marginal dip in number of transactions on retail electronic payments. HDFC Bank have said that it's a misleading statement that there has been decline in the currency with the customers as compared to the pre demonetization levels which shows that there is a structural drop in cash usage. The retail electronic transactions volumes has shown growth up to 1.30 billion in December 2016 but once the sufficient cash is available in the economy , volumes has gone below this level .

Finance Minister Sheri Arum Tetley said that after RBI`s annual report 2016 -17 that main vision of demonization was to reduce the cash in the economy , promote the growth of electronic and digital banking transactions, expand tax base and fight illegal money in the parallel economy.

Conclusion

Indian payment System is a growth story and journey of present day digital evolution from barter system with nearly 46 million internet users and a growth rate of 7 to 8%. This digital revolution also known as the Internet Economy is expected to generate new market growth opportunities , jobs and become the biggest business opportunity for businesses in the next 30 -40 years.

India has shown promise and proved leadership in the digital technologies over the past decade. It is time India's new leadership supports and fuels the digital economy to turn it into a major growth enabler. Prime Minister Narendra Modi's "Digital India" programme's mention among the top priorities for the government is a welcome change and is a resounding nod to the digital opportunities. These new payment systems will continue to evolve with increasing financial awareness and increase usage by the bank`s customer to achieve the vision of cash less economy.

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Impact of Financial Innovation in Indian Economy

Abhishek Tripathi

Manager – Retail Banking , Axis Bank Limited

Financial Innovation is a very old phenomenon with long history of new positive forces with in banking and financial services. The Journey of Indian Payment system starts from manual to E and Digital financial intermediation between the banker and the customers. With various banking reforms from nationalization of banks and insurance companies, from manual operations, banks and financial services companies have recently move to on line and net banking procedures with new digital products. This paper focus on many recent financial innovations have happened that have a positive impact and increasing trends of adaptation of usage of new financial innovation products in new financial markets.

Key Words: Financial Innovation, Intermediation, New Product Development, Technological Innovation and On Line Banking.

Introduction

Financial Innovation is not only just two words but also it comprises to create way and path by having ethical, moral and technical knowledge to use them by innovating the new product and services.

- The New Product Development required by new financial system.
- The New Services Development required by new financial system.

To discuss the historical back ground of the Financial System one has to remember the barter system era when a goods and services were used to be exchanged with each other. Then currency came into the existence post which credit and banking came into the picture. But now the modern world has entered into the age of the new innovation era which can be identified as "financial innovation".

Definition: Financial Innovation is an environment of economy, country and market to produce goods and services according to the new adopted era for sale and purchase resulting development at Micro and Macro level in the economy.

Details:
In the past there was no trend to explain the goods, services and capital market separately but here we can discuss in the Financial Innovation which is include that countrymen will produce the goods, services but when a person having equity and bonds which is indirectly going to be the part of producing goods and services should also recognize. In the financial innovation we can take challenge to make country and economy in developed state by having the higher GDP and this can be efficacy possible by Financial Innovation. Means when an individual and non individual is going to buy an equity the movement they possess the shares of that institution they will be the part of producer of goods and services. For the debt funds investment an individual and non individual park their funds at the certain rate of return for a specific period of time is also going to some of the production concern like goods and services production.

The financial system can be assumed as the adopted new economic system of the country which includes:

Equity Market

Debt Market

Goods Market

Service Market

The Shape of the Financial Innovation:

As concerned with all four types of above markets which are covering all the commercial and economic activity of the Economy and Country as a whole. To give the boost and control these markets we need to have some Techniques, Procedure and Theory which can be elaborated as "Financial Innovation". This Financial Innovation can give the path to en economy and country to have higher GDP and Foreign Reserve by Exporting the Goods and Services.

In The Economics terminology there are few terms which can the parts of the Financial Innovation include: New Adopted Change in the Environment- Financial and Economic

- New Adopted Change in the Environment- Financial and Economic
- To identify Target market
- Human Behavior – A required research to be conducted
- Technological Innovation

These are the pillars of Financial Innovation Research we have to discuss these in details which will help us to have the better context of Financial Innovations to be needed.

i. New Adopted Change in the Environment - Financial and Economic

The changes are the nature of law and adoption of new changes are the symbol to way forward , As the Economy is every time required the good rate of return to have sustainable development of the country. Every economy have to create a positive economic and financial environment by the way of certain rules and regulations:

- Tax Reform.
- New Industry Setup Subsidy.
- New Kind of Market development for a specific Goods & Services.
- What are the new habits adopted by the consumer.
- Private Industries to be promoted.

These are the few points to be elaborated for the detailed discussion on the environment of economic and financial. If an Economy start focusing on these, there are the chances to grow like anything because so many economic theories say economy wants big Push and a healthy competition within and environment.

ii. To identify Target market:

Equity Market:

The equity market of the economy is something which includes all the trade and investment. This market is itself a kind of way to contribute in the economy by investing the capital to gain on equity. In the financial Innovation we can have the equity market as an opportunity to be the part of GDP by an individual on non individual.

The ways to invest in equity could be:

- Investing in shares of the Ltd Companies.
- Investing in shares of the Government Companies.
- Investing in shares of Pvt. ltd companies.

The above are the ways to invest in equity or to place a capital of individual or non individual which is directly proportionate to produce the goods and services by which the GDP can go on higher side.

2-Debt Market:
This is the market in which customer can have the fixed returns investments in market instruments like FDR, Bonds, Government Security and Debentures.

In this market an individual or non individual are keeping their money for tenure to get the fixed returns.

The objectives of these kind returns also contribute in GDP by investing further on different sectors.

3-Goods Market:
In the financial Innovation we are having huge to discuss about the goods market. This market covers approx. 80% of the total market in which we can have need of financial Innovation. This market include all tangible from small particle to world's large particles goods which are marketed by individual or non individual.

This market includes industries:

- Oil and natural gas
- Food grain
- Clothing's
- Flowers
- Heavy Vehicle, all vehicle
- Toys
- Housing
- Etc…

Many more which are involved in production of tangible goods. These are the market to utilize the resources of country for sustainable economic development.

4-Services Market:
These are the market for intangible service which is to be marketed by the people of country. This market includes:-

- Hotel and Hospitality
- Tourism
- Health
- Education
- Sanitation

Many more can be included related to the services

iii. Human Behavior – A required research to be conducted
As far as the above discussion about environment and target market we have describe few aspects by covering the very general terms, now we have to discuss the third and important point Human Behaviors.

The human behavior is something which needs to be examined by the need and demand of a particular product and services; We have to conduct time to time research in this concern which can help us to quantify our supply status by producing goods and services.

The financial Innovation which can help an economy and financial system to grow and reach on new heights. A lot of research is required in this context which can make the healthy financial and economic environment to the country. Through the research in financial Innovation we can explore the new level of innovation by increasing the GDP of the country by production of goods and services.

iv Technological Innovation
In both the innovations good and services there is a back boon innovation can be taken place as technological innovation. This can include the process innovation and new technique innovation. We will explain the new process innovation and technique innovation.

Process and Technique Innovation:

These are playing important role in the new goods and services development. The technique and process every time keep generating for betterment of the community basis the requirement of new goods and services. This process and technique can be elaborated by mentioned below.

1. Internet Data Services Innovation.
2. Banking New Techniques & Process Innovation.

Internet Data Services Innovation – This is very important kind of innovation which has been developed to disseminate and utilized the information and new technological platform. The devices and gadgets are to be required with new goods and service which can include:-

- Android Platform
- IOS Platform
- Google Search Engine
- Twitter
- YouTube
- Mobile Applications Apps
- Internet services
- Airtel Data Service
- Vodafone Data Services
- Jio Internet Data Services (15 Crore Users)

These above are together the result of technological and process innovation. Importantly the data services innovation has given rapid growth by Jio Data Services which has make the free services available to the nation for approximately 9 months. Now days there are so much dependency on mobile phones for anything required like an advertisement of Just Dial App DJ app by Mr. Amitabh Bachchan quoting why to have every app have only JD App all can be connected.

Banking New Techniques & Process Innovation

In 20th century the banks having their own structures of services offered to the customers. For account opening in a Bank in 20th

Century was not an easy task and for business entity also it was a long time taking process .This was a main challenge during the day to adopt the LPG (Liberalization Privatization and Globalization) Model. Then in 1994 new generation private sector banks are came into existence. Which the nations to present as "Now India Is Ready" for world level economy with their Banking new Techniques and Process Innovation. The following New Generation Banks initiated the new financial innovation process in Indian Economy.

- AXIS Bank (Formerly UTI)
- ICICI Bank
- HDFC Bank
- INDUSIND Bank
- Kotak Mahindra Bank
- Yes Bank
- Royal Bank of Scotland and many ore…

The new banking and process and technology innovation done in 21st century. These can be explained with the new practice has been adopted by the banks which are very user friendly:

- Payment Option
- Collection Option
- Investment Option

Payment Option
In the new process banking has innovated new concepts of the payment methods which are mentioned below:-

- Debit Card (Pay by using on POS Machine and online site with ATM cum Debit card linked with savings/ Current Account)
- Credit Card (A limit to be set on individual finance eligibility open credit limit account issue the card which can be treated as a sanctioned loan ready to use. This card can be used online, POS,etc)
- NEFT (National Electronic Fund Transfer which can be done to pay any one by using the account number and IFSC code irrespective of any amount by visiting bank or through Net Banking)
- RTGS (Real Time Gross Settlement is also processed through bank and net banking with minimum 2 lakhs Rupees. It is processing instantly within Bank hours)
- IMPS (Immediate Payment Services is best innovation of the banking industry by which any one can send money to anyone beyond time limit. There is no holiday it is working 24x7x365)
- NETBANKING (Internet Banking is offered to each and every customer of the bank. The customer can use their account access likewise bank branch except cash deposit)
- BNA Machine (Bulk Note Accepter Machine is a kind of ATM machine with facility of cash deposit to the any bank account of the same bank the moment they deposit the cash the beneficiary get the message of credit in account on registered mobile number)
- MOBILE APP (Most of the every bank is offering mobile banking application through which the all kind of payment recharge and request can be done on customers mobile)
- BHIM APP (Bharat Interface for Money is the app of NPCI by Govt to connect all bank accounts of an individual with this APP to transact with bank account number and IFSC)

UPI APP (Unified Payment Interface this is the application which is offered by most of the banks to connect all bank account with one APP)

NPCI (National Payment Corporation of India is the organization which is provide the innovative technologies of the banking industry to the all individual and non individual)

Collection Option

- In this banking innovative era there is so many collection options has been innovated likewise POS Machine, M Visa, QR Code, Online Collection through URL, and Challan system.
- POS MACHINE (This machine called Point of Sale machine means through which anyone can use debit and credit card to swipe on this and the money will credit to the linked accounts)
- M-VISA (This is again new innovative techniques which are used in collection of the payments through debit and credit cards. This is a device can be connected to the registered mobile and then cards can be swiped. This can be travelled anywhere in India to have collection)
- QR CODE (Quadratic Code which is in the shape of square picture which can scan by mobile application to fetch the bank account details to pay instantly)
- ONLINE URL (This is also new innovative way of collection of money by generation of URL uniform resource locater through which any on website you can buy the goods and services the seller proceed payment through URL and send it to buyer then buyer click on that and choose the payment option debit card credit card and net banking)

Investment Option:

In this new era of Financial Innovation there are technique innovation which is now days providing the options to save the customers money by investment tool like mutual fund investment, Online FDR, and Online Trading platform.

- MUTUALFUND APP (The mutual fund application on mobile are very user friendly if you want to invest download the mutual fund app and start investing)
- ONLINE FDR (Fixed Deposit in bank now a days are very easy to invest in FDR customers can login internet banking, download mobile app and do the FDR)
- ONLINE TRADING (This is again important innovation through an individual and non-individual can do the investment in equity shares of the company by online trading platform login and mobile application)

Conclusion

To conclude the Financial Innovation an Economy, few highlight that we are in the era of things moving automatically by old perception and experience without an introduction of new economic challenge and prospect. As the sustainable development is an essential requirement by any of the country and the sustainable development can take place with higher GDP growth and this growth take place only by the Financial Innovation of Economy. As the goods can be produced by a countrymen by their ability to make and services can be produced by specialist who lean things by an institution. If countrymen are fully aware about what they have to do to earn their bread and afterwards how they can do contribution in the country's GDP it definitely possible to make a country developed from under developed and developing.

We have certain qualities and positive environment in Indian people which can help in this financial innovations direction. This Financial Innovation can only shape the plans and strategies already in place in the current economic system.

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A Study of Impact of Payment and Small Banks in Achieving Financial Inclusion

Mr Gaurav Taneja

Senior Manager & Regional Trainer, Axis Bank Limited

Financial Inclusion is not a new term In India as provisions of banking facilities should be available to all individuals in the economy .Financial Inclusion is a right of every citizen and every one must have one bank account and enjoy all banking facilities. Opening of savings account with zero balance as a basic account at affordable costs with additional services like life insurance, general insurance and small amount of loans for all individuals with the minimum documentation is the main vision of financial inclusion.

Around 2 billion people in the world have no bank account and access to financial services. There are various reasons for financial exclusion like required documents not available, lack of financial awareness, illiteracy; women are shy to go to bank to open accounts etc. Different financial institutions like Banks, Mutual Funds, Life Insurance companies, General Insurance Companies, NBFCs (Non-Banking Financial Services), Micro-Finance Institutions etc. need to work together for financial awareness to customer to avail such services.

Key Words: Small Bank, Payment Bank, Financial Inclusion, Financial literacy, Financial Exclusion

Introduction

In April, 2005 the term Financial Inclusion was defined with new vision and in new framework by Reserve bank of India in Annual Policy. Both Government of India and RBI took joint initiatives with Banks to revise their existing process and strategies in accordance with the objective of Financial Inclusion. This was the major concern of Reserve bank of India that a vast majority of Population in India, at that time, was not covered in formal Banking Umbrella. After this, RBI implemented the recommendations of Khan Committee Report, by giving directions to Banks to provide "No Frills Bank Accounts". Further relaxation was given to common public who intends to open accounts with annual deposits of less than Rs 50000/-.

The Banks and Financial Institutions have an important role to play as pure business proposition and not as a social obligation that is why they are caked as commercial banks. The major awareness and great focus on Financial Inclusion has come from the Government and RBI. The Banks have to achieve this outcomes at by being in touch with the customers to increase Financial Awareness and Deepening at the ground level. Government of India (GOI) and Regulators have been outing their best efforts and actively involve including people in the Financial System since 1975. Government of India have tried to achieve Financial Inclusion through various schemes like Kisan Credit Card (KCCs), Bhoomiheen Credit Card (Bank of India and Dena Bank),Banking Correspondent-Banking Facilitator Model, Ultra Small Branches, SHG-Bank Linkage Program, Direct Benefits Transfer, USSD Mobile Banking and Swabhimaan Campaign, Regional Rural Banks, Rashtriya Mahila Kosh, Rashtriya Swasthya Bima Yojana. All these schemes were brilliant in Principle. The two important initiatives taken by the banks for increasing their branch network and customer base have improved the situation in many states and regions. But in general, the schemes could not deliver the expected results as it was envisaged by Government of India and regulator. Bank Accounts were opened but it was not able to change the old age unorganized Money Lenders system. Rural Populations continues to borrow from money lenders through Informal sources at a higher rate of interest and without any written documentations. 43% of rural populations borrow money from unregulated sources and only 11% of rural population has saved the amount in these basics no frill accounts in 2011-12. Most of accounts are dormant since they were opened. No transactions had been done, so this cannot be treated as Financial Inclusion. The amount of credit which is disbursed does not seems like bigger achievement as villagers has to grease the palms of middleman/mediators to get the Loan sanctioned. Insurance is difficult task to be penetrated deep as poor people in villages could not afford paying regular premiums.

To achieve this mission of 100% financial inclusion all the stake holders like Bankers, Reserve Bank of India, Government of India has taken another innovative step by giving permission to corporate to start up Payment Banks as well as in-principle approval has been given to Micro-Finance Institutions for launching up of Small Banks in India. Payment Banks along with Small Banks will play an important role in change the design and structure of the Banking Sector in India in emerging future. A Total of 11 entities out of which 3 entities have change their decision and withdrawn their application to become Payment Bank, so at present 8 new payment banks will be coming in India and 10 MFIs (Micro-Finance Institutions) have got permission from RBI to set up Small Banks. These twin objectives are game changing initiatives and can lead to be an important success factor.

This Research paper attempts to point out the role and positive impact of Payment and Small Banks for successful achievement of the main goal of Financial Inclusion. Both these banks will help in provide basic account opening along with allied services like remittance , insurance , loans for lower income people and create awareness to shift from unorganized and informal sources to regulated sources.

Payment Banks & Small Banks – Highlights and Features

Back Ground: Prepaid Instrument Providers (PPI) are mobile operators which issues Wallet and this wallet is connected with customer's Mobile on the receipt of request by debiting his regular bank Account and through this customer can pay Bills, can do Shopping, purchase movie tickets etc.

Features & Characteristics of Prepaid Instrument Providers

- KYC Norms will apply as per PMLA Act 2002
- Regulated by Reserve Bank of India under Payment & Settlements Act 0f 2007.
- Max Deposit Limit is Rs 50000/- only.
- No interest will paid to customers on deposit amount in wallets
- Cash cannot be withdrawn from wallet except in few circumstances.
- Money will be utilized or debited for any expenses incurred.
- Transaction fees will be applicable for each & every transaction. e.gAirtel Money charges 0.5% as commission.

  Examples of PPI

  - Airtel Money
  - Prepaid Gift cards issued by banks through online mode.
  - Oxigen Prepaid cards
  - Paypoint
  - Zipcash
  - Flipkart Wallet
  - Freecharge
  - Mobikwik
  - M-Pesa from Vodafone
  - Paytm

Figure 1: Various Facilities for Customers in AIRTEL MONEY Application

Reserve Bank of India appointed a committee under NachiketMor, committee observed that:

1. No interest rate offered by PPIs. So, this is disadvantage for poor people as they cannot save money.
2. Money which is shown in wallet is deposited in escrow account in some Bank. Every time customer do something using digital wallet, PPI takes out money from that escrow account and pay on behalf of customer. "Contagion Risk" can be increased with nested models.

Dr. NachiketMor's thought process was like that:

1. Reserve Bank of India should not give licenses to open more Prepaid Instrument Providers.
2. If any Firm or Company is interested, RBI should insist for BCs (Banking Correspndents) or they can apply for Payment Bank Licenses.

Dr. Nachiket recommends in his study report to RBI to issue licenses for opening of new design of banks under Banking Regulation Act to be called as Payment banks. These banks will offer transactional, payment services, remittances , create awareness and offering investment products like life and Health Insurance and Risk Management. Dr. NachiketMor, was appointed was appointed as Chairman for committee on comprehensive financial services. This committee had focused on financially including all the households with low income and small businesses for their benefits

Terms of reference

1. Financial literacy and Financial Inclusion in India - A new strategy and new vision to be framed.
2. To review existing process and strategies and replace innovative ones that remove specific barriers to for success of these initiatives taken to promote Financial Inclusion.

3. To motivate and all the stakeholders and participants to achieve this mission of 100 % financial inclusion with consistent efforts and coordination with focus on financial literacy and deepening.
4. To formulate a new set of guidelines and principles for the development of regulation and institutional framework.
5. *To lay down a comprehensive system of monitoring the achievement as per the deadlines to ensure the progress as per the planned timelines and track the progress on a nationwide basis.*

The four Design principles–

1. Balance-Sheet Transparency,
2. Systemic Stability
3. Institutional Neutrality
4. and responsibility towards the customer.

These principles will ensure deepening strategies and the new framework to design different types of banking System and services will be design having different functions. .

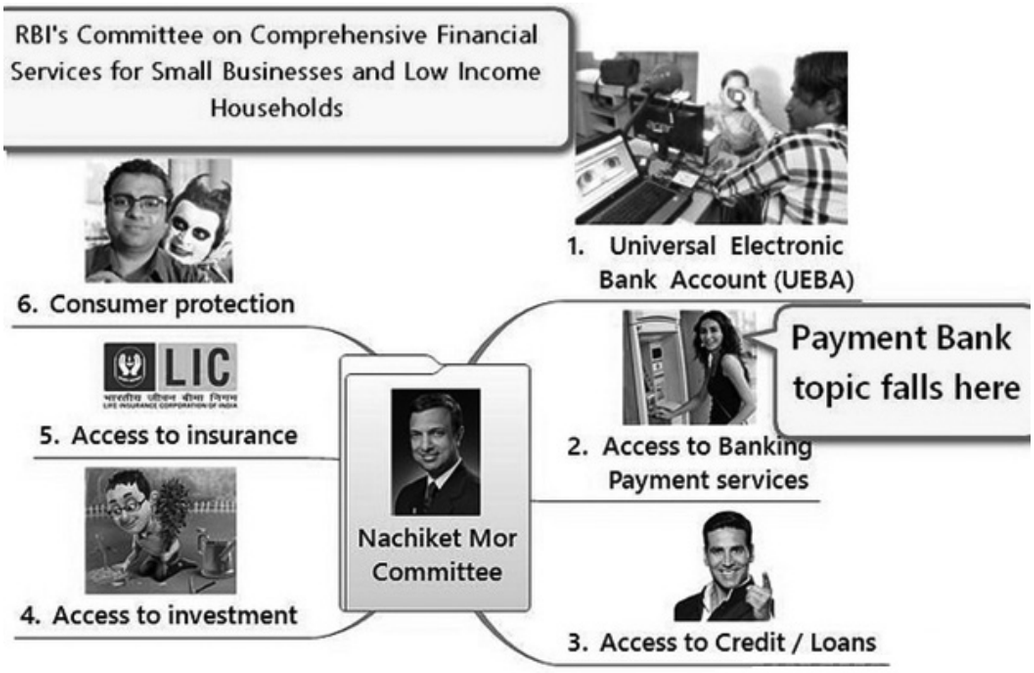
Brief History for Payment Banks and Small Banks

Reserve Bank of India issued Draft guidelines for granting new license to Payment Banks & Small Banks and sought feedback, comments & suggestions from all interested parties and General Public. The Reserve Bank of India released set of guidelines to new banks in the private sector in Feb 2013. Reserve Bank of India issued important guidelines on its website on Small & Payment Banks on 27th Nov 2014 and clarifications on queries raised on 01st Jan 2015. The last date for submission of applications for Payment and Small Banks was extended till 02nd Feb 2015. RBI had declared that names of all applications would be displayed on RBI's Website to ensure transparency.

Payment Banks are permitted to take Deposits up to Rs One Lakh per account but are prevented from granting any type of Loans and issuance of Credit Cards. They can sell third party products like Life Insurance Policies, General Insurance Policies, Mutual Funds, Online Demat Trading Accounts etc. Payment Banks will play a unique role in banking industry and not only simple intermediary of credits. They will act as a one stop shop for making all types of payments like payment of utility Bills, Grocery Bills, School Fees, College Fees, and Domestic Remittances etc.

This will help common man to undertake his day to day transactions through Payment Banks or can route Transactions through Payment Banks using Mobile Applications. Semi-literate population in the country can be hugely benefitted by these payment Banks as users of Smart Mobile Phones are increasing day by day in India and to carry out banking transactions, they will use Mobile Applications of payment banks without maintaining huge balances in the account. Compulsion of maintaining huge balances in the account can be done away with advent of payment Banks and moreover ease of carrying out transactions. A lot of workers who are semi / unskilled have been migrated abroad or regions domestically, within India, they will find very simple process of funds transfer and remittances to anywhere in the far off or remote locations in India and abroad.

The whole process will be very fast and transactions can be expedited in overall financial sector within the country. Payment banks can be new avatar or new model of instant Money Transfer Institutions and Agency with the unique features of convenient one stop payment of all utility bills. The young generation or New Gen X, who are using more internet banking and mobile banking services will be, benefitted more with anywhere and anytime benefits. Growth and introduction of Payment Banks will lead to reduction of cash and paper based payment systems like cheques, draft and pay orders etc. As a result of which Currency Deposit Ratio will come down and digital banking initiatives will get more push. Another advantage of payment Banks will be that they would not deal with the problem of NPAs (Non-Performing Assets) in their Balance Sheets.



List of Entities who have been granted In-Principle Approval by RBI to open Payment Banks

- Aditya Birla Nuvo
- Airtel M Commerce Services
- Cholamandalam Distribution Services
- Department of Posts
- FINO PayTech
- National Securities Depository
- Reliance Industries
- DilipSanghvi, Sun Pharmaceuticals
- Vijay Shekhar Sharma, Paytm
- Tech Mahindra
- Vodafone M-Pesa
- Cholamandalam Distribution Services, DilipSanghvi-Sun Pharmaceuticals and Tech Mahindra have withdrawn their application to set up Payment Banks.

Characteristics & Features of Small Banks

Another set of Banks which are going to come in our Banking Sector in India is Small Banks. Deposits and lending by Small Banks continue to functions just like a scheduled commercial Bank in India. As per guidelines laid down by Reserve Bank of India for Small banks, half the Loans which will be given by Small Banks should be restricted up to 25 Lakhs and 10% single Borrower cap and 15% to Group Borrowers cap. These caps will minimize credit default and NPA with close credit monitoring. Payment and Small Banks may provide stiff competition to Big Banks in India. Mid-sized Banks need to fully equipped them with

advanced level of technology and must improve quality of Human Resource practices along with staff as otherwise they may face a stiff competition and may become nightmare for these Banks

Other Conditions & Clarifications

1. The Core Banking System of the Bank should be fully operational and networked and technology driven right from the day one of the launch in compliance with generally accepted guidelines, standards, IT Act and Payment and Settlement System norms.
2. The Business Plan should be viable and it has to be realistic and viable. Entity has to provide Business plan covering next five years. It should give detailed strategic plan of the bank for road map of its achievement of objectives of Financial Inclusion.
3. Bank should keep in place provision for Centralized Customer high powered complaint handling and customer Grievance mechanism cell for timely resolution of resolving customer complaints.
4. The SARFAESI Act & DRT legal provisions and mechanism will be available to Small Banks also.
5. The requirement of ownership and control by Residents applies to all entities promoting or converting into a Small Bank which also includes NBFCs and MFIs.

List of Entities who have been granted In-Principle Approval by RBI to open Small Banks

1. Au Financiers (India) Ltd., Jaipur
2. Capital Local Area Bank Ltd., Jalandhar
3. DishaMicrofin Private Ltd., Ahmedabad
4. Equitas Holdings P Limited, Chennai
5. ESAF Microfinance and Investments Private Ltd., Chennai
6. Janalakshmi Financial Services Private Limited, Bengaluru
7. RGVN (North East) Microfinance Limited, Guwahati
8. Suryoday Micro Finance Private Ltd., Navi Mumbai
9. Ujjivan Financial Services Private Ltd., Bengaluru
10. Utkarsh Micro Finance Private Ltd., Varanasi

Concerns & Issues

There are contradiction and speculations among the bankers and economists that on these twin initiatives of Introduction of payment banks and Pradhan Mantri Jandhan Yojana because of their similar objectives and overlapping nature. Moreover, PMJDY scheme that has been designed and marketed in such a way that it has drawn attention the most. Few people have criticized the concept of Payment Bank and observed that:

1: **Nothing New Under the sun :** Out of 11 corporate entities granted in principle approval , three have already withdrawn and dropped and for remaining eight entities , time lines to start the banks appears doubtful and hazy. This has been creating suspicious and fears of failures of a revolutionary experiment tried by RBI.

2: **Not 100% financial inclusion:** Twin objective of Payment bank is one to achieve financial inclusion by promoting digital banking infrastructure and second widening Fintech culture in tune with RBI Vision. Since payment banks will be having restriction on funds deployment like investing 75% of their total deposits in SLR Securities like Treasury Bills, government bonds and remaining in other SCBs. Since, payment banks are not permitted to lend and they need to invest in secured government and

bank FD`s, their net return may fall to 1% so these banks may focus on more profitability instead of financial inclusion.

3: Price wars: Payment bank focus on low ticket deposits capped at Rs. 1 lac for profitability so make it more viable, it requires fine balance between offering competitive pricing on loans and transaction charges.

- Schedule commercial banks are allowed to run Payment banks by forming their subsidiaries. SBI after merger of its subsidiaries have become a big financial player and this will defeats the whole objective, If Big banks start small and payment banks then the small players cannot compete with them..
- NBFCs and private companies should not be allowed to open "Payment banks" as it will create a wasteful competition with existing (commercial) banks,
- The progress report of PMJDY as on 25th Oct , 2017 shows figures of real success and achievements which is a self explanatory answer to the above critics .
- Pradhan Mantri Jan - Dhan Yojana
- **(All figures in Crore)**

Beneficiaries as on 25/10/2017					
Bank Name / Type	Number of Beneficiaries at rural/ semiurban centre bank branches	Number of Beneficiaries at urban metro centre bank branches	Number of Total Beneficiaries	Deposits in Accounts(In Crore)	Number of Rupay Debit Cards issued to beneficiaries
Public Sector Banks	13.46	11.18	24.64	53172.37	18.43
Regional Rural Banks	4.15	0.76	4.91	11870.82	3.61
Private Sector Banks	0.59	0.38	0.98	2042.51	0.91
Grand Total	18.20	12.32	30.53	67085.70	

Progress So far

Airtel Payments Bank: The first payment bank which started its operations last year in November 2016 Rajasthan. The bank has attracted the customers with high 7.25% interest on savings account as compared to 3.5 /% to 4% offer by major scheduled commercial banks and private sector banks. Airtel payment bank is charging 0.65% on withdrawal amount above Rs4, 000. Rs3, 000 crore investments and objective to provide banking services to at least 100 million out of its 270 million Airtel customers

India Post Payments Bank: The second entity which started its operations in January 2017. India Postal Bank will be launching pilot in Raipur and Ranchi. The bank is offering 4.5-5.5% on savings account. It is providing door step banking services by charging a nominal fee of Rs15-35 per visit for amount below Rs10, 000. Rs 500 crore funds have been allocated to India Post payment Banks and they will use 650 post offices as branches by September 2017.

Paytm Payments Bank: Mr. .Vijay Shekhar Sharma has received final license from RBI in January to set up his payments bank. Paytm Payments Bank is planning to start the pilot project in Uttar Pradesh and has received Capital funds in form of investment to the tune Rs 220 crore from two investors - Sharma and One97 Communications. The bank has set itself a target of 200 million accounts, across current and savings accounts, and mobile wallets, within 12 months of the launch.

Fino Pay Tech Ltd : The company is expecting to get the final nod to launch bank operations from RBI. Fino Pay Tech plans to launch payment bank in Maharashtra, Madhya Pradesh, Uttar Pradesh and Bihar with 400 branches in the initial phase. It has expected the Fino Pay Tech bank will fix the interest rate within range of 4 to 5 % on its savings bank deposits.

National Securities Depository Ltd: The depository intends to start operations in two months and is finalizing on a team which will handle payment bank operations.

Aditya Birla Nuvo Ltd: No yet drafted plans to start payment services and operations and released in the public domain.

Vodafone m-Pesa Ltd: It received equity infusion worth Rs 47,700 crore from its parent company and yet to announce the plans in the public domain.

Reliance Industries Ltd: It signed an agreement with State Bank of India (SBI). No defined plans regarding operations are released in public domain.

Conclusion

In next few years, there might be increased demand for Mergers and Acquisitions of Small and Mid-Sized Banks. Banking Sector may witness huge volatility and acute competition. The innovative idea of Payment Banks and Small Banks is not an easy nut to crack and in facts, it is road less travelled. We can say, a revolution will take place in Indian Banking industry which will further increase Financial Inclusion in our country. Both Small and Payment Banks are the future of the Banking Sector and can easily achieve Financial Inclusion.

Some Analysts are of the view of overlapping nature of PMJDY and Payment & Small Banks .If PMJDY works out as plan , one wonder whether there will be much more space left for payment banks .Why would a customer go to payment banks that only provides deposit and payment services when he has access to a full scope bank. The Jan Dhan scheme has now evolved fully with .At the moment, even it overlap with the small and payment banks – both are a road map to achieve the mission of including the unbanked customers. Pro arguments of Pradahan Mantri Jan DhanYojana are:

- Age old unorganized money lenders evil system of lending will end and will villagers get relief.
- Can household savings will increase like after Bank Nationalization in 1969.
- Schemes like Direct Benefit Transfer (DBT) need to serve as a tool of transformation of savings into capital. need to build a mechanism for zero Subsidy leakage.
- Insurance penetration should increase.
- Sanctioning of Overdraft must be after due diligence, eligible person and credit monitoring process to ensure no NPA /defaults.

Both these initiatives are complementary to each other with common vision to achieve 100% financial inclusion. The major difference between Small banks and payment banks is based on two important factors of area of operation and types of products offered by them to their customers. Small bank will offer various basic banking products such as savings account , fixed deposits and small loans in a local and limited areas , where as payments banks will provide only traditional CASA Products , loans , advances , clearing , internal transfer , remittance . Payments bank will expand their branches , distribution channels , customer access touch points specially to remote areas .They will adopt distribution channels model through own branches network or through Business Correspondents (BCs) or through networks provided by others. Higher level of advance technology at very nominal costs is an added advantage.

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Introduction to Big Data and Limitations with respect to Hadoop EcoSystem

Dr. Kamal Gulati

Associate Professor, Amity University, Noida, India

Data becomes big data when its volume, variety, and velocity exceed the abilities of our systems architecture and algorithm. This paper examines about significant wellsprings of huge information, for example, machine produced information, individuals created information and association produced information. 6V's of Big Data: Volume, Velocity, Variety, Valence, Veracity and Value along with we discussed the different variety of data: structured, semi-structured and un-structured data like sensor, images, PDF, CSV, JSON, RDMS, database, table data etc. out of which approximately 5% of available data is in structured form rest other data is in either un- structured or semi structured. Big data is facing lots of challenges due to volume, variety and other complexity in the data. Hadoop is the platform where we can find all our solution related to big data to store process and analysis purpose. The main objective of this paper to describe how Hadoop can solve different challenges of Big data by using HDFS (Hadoop Distributed File System), Hadoop Ecosystem components like Hive, Sqoop, HBase, Pig, spark, Flume, Kafka etc. and Map Reduce.

Keywords: Big Data, 6 V's, Structured Data, Unstructured Data, Semi Structured Data Hadoop, HDFS, Hadoop Ecosystem

Introduction

Annual data production is increasing day by day. By 2020 rate of data generation will reach ten times greater than the data generated nowadays. For example, the size of a single sequenced human genome is approximately 200 gigabytes. Enormous information is a developing term that depicts any spacious measure of organized, semi organized and unstructured information that can possibly be dug for data. the traverse of a lone sequenced human genome is around 200 gigabytes

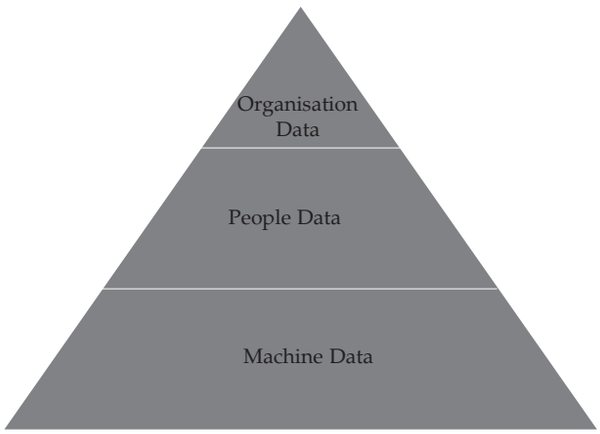


Figure 1.1 –Big Data coming from different Data

1.1 Source of data: These data is coming from machine, people and organization.

1.1.1 Machine generated data: It is the major source of Big Data. With machine generated data, we refer to data generated from real time sensors in industry machinery or vehicles like car, aircraft. Data comes from various sensors, cameras, satellites, log files, bio informatics, activity tracker, personal health care track and many other sense data resources. Biggest source of big data, about 90% of data is generated by the machine, and there are many devices like Body temperature, Heart beat monitor, sleep monitor devices etc., they are generation huge

of data every hour, every day. The widespread availability of the smart devices and their interconnectivity led to a new term being coined, The Internet of Things (IoT). Think of a world of smart devices at home, in your car, in the office, city, remote rural areas, the sky, even the ocean, all connected and all generating data.

1.1.2 **People generated data:** People are generating terabyte/petabyte amounts of data every day. As social media is very popular among everyone. We are doing various activities on social media websites like Facebook, Twitter, LinkedIn, Instagram or online photo sharing sites like Flickr, or Picasa. In addition, a huge amount of information gets generated via blogging and commenting, internet searches, more via text messages. Email, and through personal documents. Most of this data is unstructured, as there is no proper format or well-defined structure is available. This data is very huge, this data can be in the .txt, .pdf, .csv, .json or it can be any format.

1.1.3 **Organization generated data:** This data is highly structured form of data. Organizations storing their data on some type of RDBMS like SQL, Oracle, and MS Access etc. This data is in a fixed format inside the field or file/table. Traditionally, IT has managed, and processed organization generated data in both operational and business intelligence system. Organization stores the data for current and future use as well as analysis of past.

1.2 6V's of big data: Volume, velocity, variety, valence, veracity and Value.

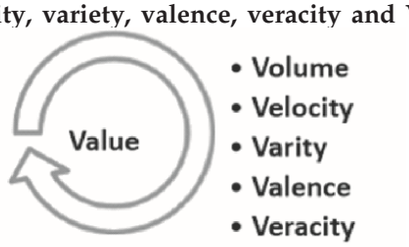
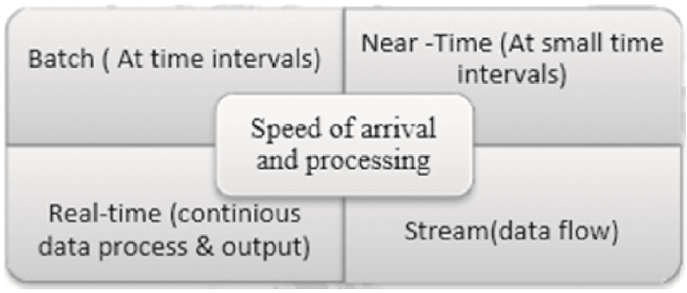


Figure: 1.2 6V's of Big Data

1.2.1 **Volume:** Volume is the big data aspect that relates to the total size of big data. This volume can originate from substantial datasets being shared or numerous little information pieces and occasions being gathered after some time. Consistently 205 million messages are sent, 300,000 photographs are transferred, and 1.8 million preferences are produced on Facebook. On YouTube, 1.4 Million recordings are seen, and 96 hours of video are transferred. Huge Synoptic Survey Telescope (LSST): —Over 30 thousand Gigabytes (30TB) of pictures will be created each night amid the decade – long LSST study sky. This all create an immense measure of information. Our customary databases can't deal with this enormous measure of information.

Velocity: Velity to the expanding speed at which enormous information is made and the expanding speed at which the information should be put away and broke down. Data may in the following way:-



1.2.3 **VVariety:** There is variety of data is generated by different sources like text data, network data, Image data geographic maps, computer generated simulations are only a few of the types of data we encounter every day, this variety of data may be Structured or Unstructured.

1.2.4 **Veracity:** Veracity of Big Data refers to the quality of the data, because big data can be noisy and uncertain. It can be full of biases; abnormalities and it can be imprecise. Data is of no value if it's not accurate, the results of big data analysis are only as good as the data being analyzed.

1.2.5 **Valance:** Simply put Valence refers to Connectedness, the more connected data is, the higher its valence. This can lead to complex molecules due to elements being interconnected through sharing electrons.

1.2.6 Value: Value is the total outcome after processing of big data. Does the data have value; if not is it worth being stored or collected? The analysis needs to be performed to meet the required purpose. The final output of all task is Value.

1.3 Types of data: Big data contains unstructured, semi structured or structured large amount of data. This data is generated from different sources.

1.3.1 Structured Data: The data which can be co-related with the relationship keys, in a geeky word, RDBMS data! Maximum processing is happening on this type of data even today but then it constitutes around 5% of the total digital data.

1.3.2 Semi Structured Data: Semi structure data is not in a form of table or a specific structure, but it can be converted to a defined structure. The most common form of semi structured data is .CSV file, which can be easily converted to structured format.

1.3.3 Unstructured Data: All the left behind data having no structure at all, falls into this category and according to IDC estimate, it represents whopping 90% in share. Social networking media data such as YouTube, Instagram, WhatsApp, Tumblr, Facebook, Snapchat, Viber, Line, Pinterest, Twitter, LinkedIn, and Flickr.

Mobile data: This includes data such as text messages and location information, chat information.

Website content: This is huge information which is available in the form of image, or video in YouTube, or text documents etc.

II Challenges of Big Data

Today, consistently, sees creation of gigantic measures of information. Each extensive organization is worried to discover approaches to make this information helpful. Nonetheless, this isn't a simple assignment. The measure of information created makes it exceptionally hard to store, oversee, break down and use it. The treatment of enormous information is extremely mind boggling. A few difficulties looked amid its mix incorporate vulnerability of information Management, huge information ability hole, getting information into a major information structure, matching up crosswise over information sources, getting helpful data out of the huge information, volume, aptitude accessibility, arrangement cost, information stockpiling and quality, security and protection of information and so on.

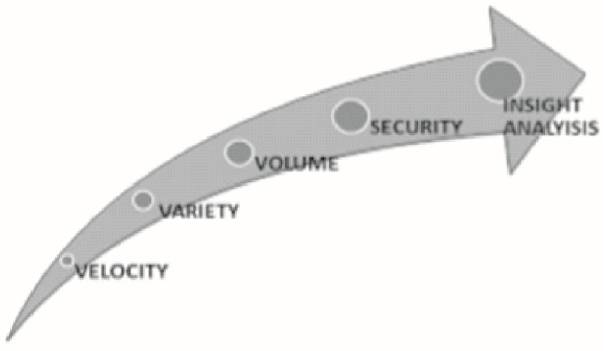


Figure 2: Challenges of Big Data

2.1 Velocity: If your associations are producing new information at a quick pace and needs to react progressively, you have the speed related with huge information. Most associations that are engaged with web based business, web-based social networking or IoT fulfill this rule for enormous information.

2.2 Variety: If your information dwells in various organizations, it has the assortment related with huge information. For instance, enormous information stores normally incorporate email messages, word

handling records, pictures, video and introductions, and also information that dwell in organized social database administration frameworks (RDBMS).

2.3 Volume: Big information is any arrangement of information that is large to the point that the association that claims it faces challenges identified with putting away or preparing it. In actuality, patterns like web based business, portability, online networking and the Internet of Things are producing so much data, that almost every association most likely meets this rule.

2.4 Security and privacy of the data: When, associations and affiliations comprehend how to use colossal data, it gives them a moved extent of shots. This at last prompts a danger of introduction of the information, making it very defenseless. Along these lines, the production of a regularly expanding number of data grows security and insurance concerns. Thusly making it fundamental for specialists and data analysts to consider these issues and deal with the data in a way that won't expeditious the unsettling influence of assurance.

2.5 Insight Analysis: Difficulties in Big Data examination fuse data inconsistency and insufficiency, adaptability, idealness, and security. Going before data examination, data must be all around created. In any case, considering the gathering of datasets in Big Data, the valuable delineation, access, and examination of unstructured or semi-dealt with information are 'in the not too distant past troublesome. From now on, current genuine databases are extremely defenseless against clashing, insufficient, and uproarious data. In this manner, various information preprocessing procedures, including information cleaning, joining, change, and lessening, ought to be connected to evacuate clamor and right irregularities. Each sub-process faces an alternate test regarding information driven applications. Along these lines, future research must address the rest of the issues identified with privacy. These issues incorporate encoding a lot of information, decreasing the calculation energy of encryption calculations, and applying diverse encryption calculations to heterogeneous information..

III Hadoop: Solution For Big Data

Hadoop is a most major platform for storage, processing and analysis of big data. Hadoop is an apache open source program. Google had taken steps towards developing Hadoop through MapReduce concept. With the launching of MapReduce algorithm, Google has solved many problems regarding big data. MapReduce algorithm divides the task into small parts and assigns it to different nodes, and collects the result after processing. Using this solution by Google, Dough cutting and his team developed Hadoop platform. The first release of Hadoop was launched on 10th December 2011[5] and the first stable version (2.7.3) came into existence on 25th August 2016. It is used by many companies like Google, Facebook, Yahoo, YouTube, Twitter, LinkedIn etc. It simple uses the filesystem provided by Linux to store data. Hadoop has five daemons they are: NameNode, Secondary NameNode, DataNode, Job Tracker, and Task Tracker. Each daemons runs separately in its own JVM. Hadoop follows master-slave architecture means there is one master machine and multiple slave machine. The data you give to Hadoop is stored across these machines in the cluster.

Two important components of Hadoop are: HDFS (Data Storage) and Map-Reduce (Analyzing and Processing).

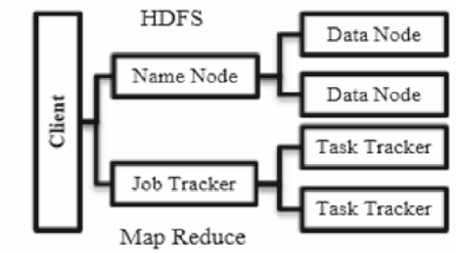


Figure: 3.1 Hadoop Architecture

3.1 HDFS: The first most important challenge is volume, because due to high volume our tradition data warehouses cannot manage all different set of huge data. Hadoop HDFS (Hadoop Database File System). HDFS is used to store very huge amount of data. HDFS follow master-slave architecture means there is one master machine called Name Node and multiple slave machine called Data Node. The data that we store in Hadoop is store in different clusters across the nodes.

HDFS is piece organized record framework in which singular document is part into a few squares of equivalent size and put away crosswise over at least one machine in a group. HDFS squares are 64 MB of course in Apache Hadoop and 128 MB as a matter of course in Cloudera Hadoop yet it can be expanded according to require. In the event that document measure is 10 MB and HDFS square size is 128 MB then it takes just 10 MB of room.

Name Node: Name Node is the controller/master of the system. Name node spreads data to data node. It stores the metadata of all the files in the HDFS. This metadata includes name, location of each block, block size and file permission.

3.2 Hadoop Ecosystem to handle variety of data: The next most important challenge is variety of data. The Hadoop Ecosystem consists of tools for data analysis and moving large amounts of unstructured, semi structur0ed and structured data into HDFS. These tools are specialized to handle variety of data, like sqoop is used to inject database/tables in HDFS. Hive, Pig, HBase is used to manage un-structured and structured data.

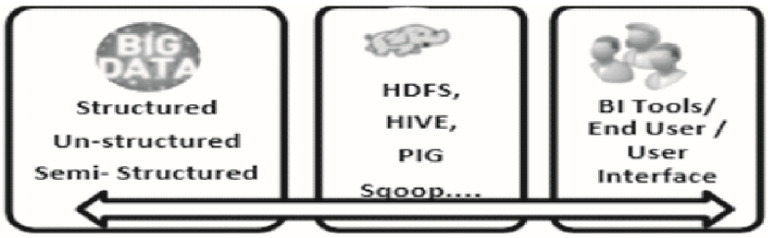


Figure 3.2: Hadoop Process Data Model

3.3 Security: The Hadoop organic framework contains distinctive sections. We need to secure the different Hadoop organic framework sections. Hadoop society comprehended that more solid security controls were required, and in this manner, a gathering at Yahoo! focused on affirmation, and picked Kerberos as the check instrument for Hadoop.

3.3.1 Mutual Authentication with Kerberos RPC (SASL/GSSAPI) on RPC Connections: SASL/GSSAPI were utilized to execute Kerberos and commonly validate clients, their procedures, and Hadoop benefits on RPC associations.

3.3.2 Enforcement of HDFS document authorizations: Access control to records in HDFS could be upheld by the NameNode in view of document consents - Access Control Lists (ACLs) of clients and gatherings.

3.3.3 Network Encryption - Affiliations using SASL can be organized to utilize a Quality of Protection (QoP) of requested, keeping up encryption at the system level – this joins affiliations utilizing Kerberos RPC and coming to fruition endorsement utilizing assignment tokens.

3.3.4 Job Tokens to Enforce Task Authorization: Another security compels can accomplish by utilizing Job tokens by the Job Tracker. Occupation tracker makes work tokens and moves into Task Trackers and guarantees that the relegated employment ought to be finished. The Task tracker capable to finish the dole out occupation. Errands could likewise be designed to keep running as the client presenting the activity, influencing access to control checks easier.

3.4 Insight Analysis: The fundamental target of Hadoop to investigate the information and locate the concealed valuable data. The enormous information is extremely tremendous as far as volume, assortment and speed. HDFS gives us to store this tremendous volume of information. In Hadoop understanding investigation is accomplished by utilizing MapReduce.

MapReduce breakdown enormous information in parallel for handling, it has two primary advances initially is Map and other is decrease. MapReduce can wear down petabytes of data. The central tongue of MapReduce is in Java yet we can moreover work with Ruby, Python, R or Scala. Bigger sum impression of Map Reduce is available. For instance, an instrument named Pig which is information stream dialect and makes an interpretation of them into MapReduce. Another device, Hive, takes SQL inquiries and runs them utilizing MapReduce for examination of Big information.

3.5 Hadoop Ecosystem Project: The Hadoop is not a single software rather it's a group of different application, which works together to form a Hadoop Ecosystem. Most of the solution or projects are to provide services for Hadoop's four core elements (HDFS, MapReduce, YARN, and Common). However, many other commercial projects or application provides much other functionality. The table below provides detail of some Hadoop ecosystem projects and their purpose:-

Hadoop Project Name and Purpose

Project Name	Purpose
Hive	An information distribution center framework that gives information outline and impromptu questioning." It's a framework that gives clients the instruments to make effective inquiries and get comes about regularly continuously.
Pig	Pig is a platform which deal with substantial informational collections
HBase	Base is a non-relational database management system that runs on top of HDFS. It is built to handle sparse data sets common to big data projects
Mahout	Mahout is a Apache project used for clustering, classification and filtering using MapReduce.
HCatalog	It is table storage management tool. Used to write data into the grid, by using Pig and Mapreduce.
Impala	It's an open source, native analytic database for Apache Hadoop. Impala is shipped by Cloudera, MapR, Oracle, and Amazon.
Sqoop	Sqoop is used to import and export RDBMS Database or table into the Hadoop. It's a command line interface, we can import data into HDFS and similarly export data from HDFS to relation tables.
ZooKeeper	Zookeeper is a service for coordination among Hadoop ecosystem.
Spark	Spark engine is used for data analysis on large datasets. Sparks uses its own data processing techniques. Spark uses the language called SCALA. Spark is using for graph analysis, real time data processing, complex operation and machine learning.
Strom	Apache Storm is a free and open source distributed real-time computation system.
Solr	Solr powers the search and navigation features of many of the world's largest Internet sites, enabling powerful full-text search and near real-time indexing. Whether users search for tabular, text, geo-location or sensor data in Hadoop, they find it quickly with Apache Solr.
Apache Cassandra	Apache Cassandra is a free and open-source distributed NoSQL database management system designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure.

Conclusion

This paper presents the fundamental concepts of Big Data Ideas, Limitations with respect to Hadoop Ecosystem as a solution to solve all challenges. These concepts include explaining how data is generated and make data as big data. The increase in data due to three major sources: machine, people and organization, only organization data is in form of structured data, rest machine and people data is in form of semi-structured or un-structured form. Big data have many challenges because of volume, variety and velocity of data. Hadoop is giving solution to manage, store, process and analysis of this huge data. Hadoop ecosystem has variety of application which gives higher level of abstraction to manage and analysis of data. Like sqoop is used to ingest structured data or Database/table from RDBMS to Hadoop HDFS (Hadoop Database File System). Similarly hive and Pig used to store, and analysis of semi structured or un- structured data.

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A Study of Influences and Challenges Post Demonetization in Indian Economy

Amarjit Singh Kabo

AVP, HDFC Bank Limited

Waquar Azahar

MBA Student, First Semester, ASIBAS, NOIDA

Demonetization can be defined as a single act or series of action to remove any legal tender denomination of currency in any economy. It is also referred as stripping of status of any form of current currency or pulled from the public circulation. There are many reason for demonetization like replacing old currency with new currency , controlling illegal money , terrorist activity , fake currency , replacing high value legal tender with small values and also shifting the public to adopt e banking and digital banking products like ATM and cards. Demonetization is not a new phenomenon and have been used in various countries in past also. This paper focus on the various challenges and influences being faced by Indian economy post demonization and the various lessons learnt for this landmark reform.

Key Words: Demonetization, Demonetization, Digital Banking, Non Cash payments, HIGH Value Currency.

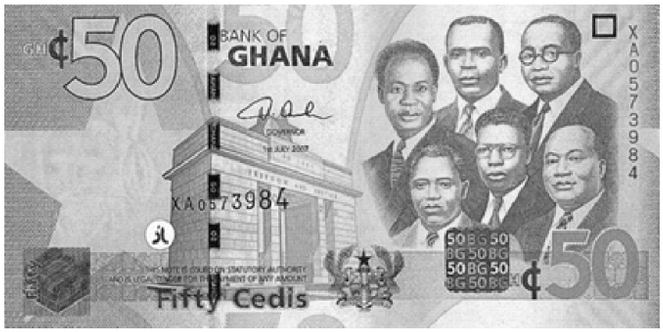
Introduction

In Demonetization legal tender currency of one country is removed from the economic system with the purpose of replacing the old unit of currency with a new units or change in denominations. Rs.500 and Rs. 1000 high value notes (currency) were banned from the midnight of 8th November , 2016 after the announcement was made by Prime Minister Mr. Narendra Modi .Indian government's has three fold objectives of demonetization . First objective was to remove fake, illegal / black, counterfeit currency from the system. These high value notes were being leading to nonpayment of taxes, corruption and terrorist activities. Rs 500 and Rs. 1000 notes contributes to 86% total share in the market .Second objective was to push for digital banking to achieve vision of less cash economy. Since cash do not have audit trail so it become a big source of suspicious and doubtful transactions from illegal sources.

Evolution of demonetization in world

Facing support and accusation in equal amounts, the measure of demonetization is an age old radical monetary step and not a new technique. There were other countries too which have adopted and change their respective currency and replaced with new units and denomination. Let us take a look on some of these countries:-

1. Ghana



To control money laundering and remove corruption Ghana Government decided to demonetize their 50 cedi currency notes in 1982. The step was not accepted happily by the citizens of Ghana and this lead to disarray across the country and as a result they had to move back to physical assets and foreign currency.

2. Nigeria

Nigeria's economy collapsed after the 1984 demonetization move that did not go as per the plan. The military government of then President Muhammadu Buhari had to remove black money from the economic system and to abolish their old currency introduced different coloured notes.

3. Myanmar

In 1987, the Military in Mynamar`s replaced and demonetized around 80% of currency with objective to control black money. This decision of demonetization also resulted in a lot of protests and non acceptance by the people and the country witnessed several killings.

4. Soviet union

Under the governance of Mikhail Gorbachev in 1991, the then Soviet Union demonetized the higher denominations of ruble bills, the 50s and 100s. The decision was not accepted in a positive way and Mikhail's loss the leadership role within eight months of the launch of the demonization.

5. North Korea

In 2010 North Korea also adopted demonetization of their currency which led to major economy breakdown with people left to starve for basics.

3. Impact of Demonetization on digital banking

Nearly one year after India's historical demonetization, Prime Minister Shri Narendra Modi Vision of Start Up, Make in India and Digital India gave the push to the financial technology (Fin Tech) movement in the country. Various Digital payment systems like BHIM and UPI played an important role for cash less or less cash economy. Though it took long time to bring the paradigm shift in moving the bank customers from traditional banking to digital banking, the various data from RBI shows that the there is an increasing trends in usage of digital payment. These innovations are very simple and innovative tool linked with mobile and bringing convenience to the customers to do banking transactions from their home or office. There is no need to have lap top or computer and look for electricity points and hose were largely acceptable by common man.

Figure 1-Select Digital Payment Growth Rates Following Demonetization

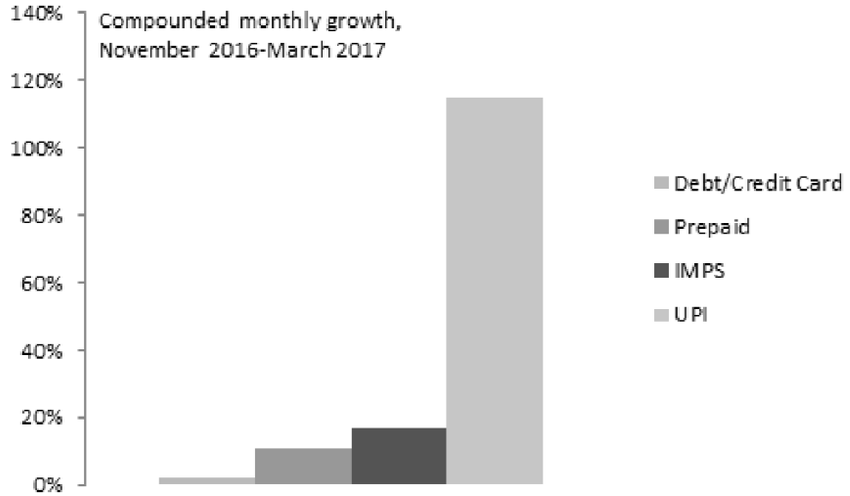
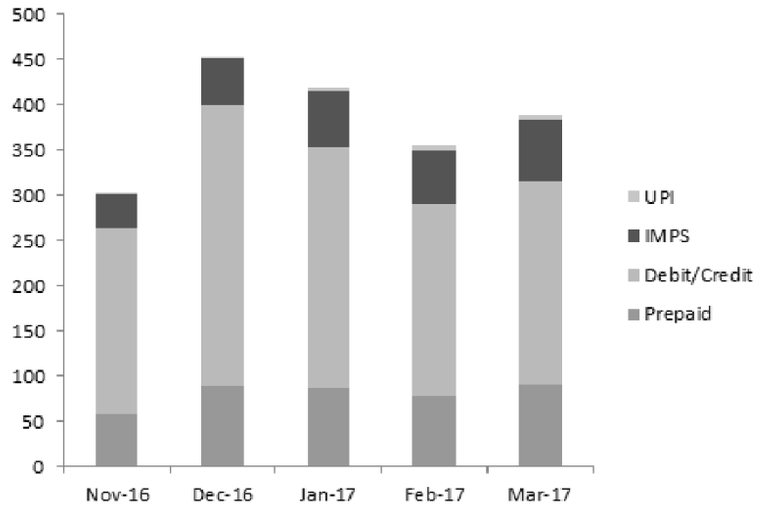
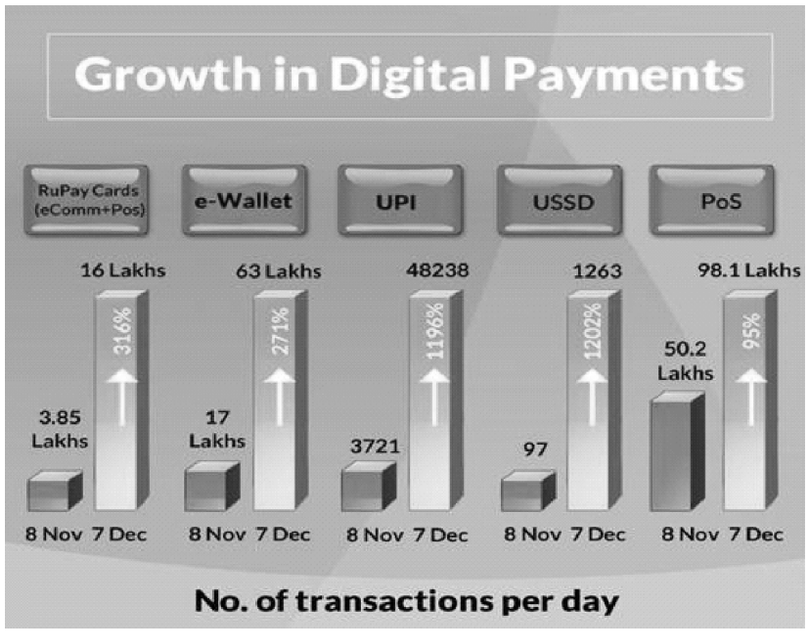


Figure 2: Select Digital Payment Volumes (Millions of Transactions)



Source RBI

Figure 3: Number of Transactions in Digital Payments



Influences and challenges post demonetisation

The 50-day period ended on December 30, 2016. A day later, on December 31, 2016, Prime Minister Narendra Modi was on television again, thanking the people for their unstinted support. His remarks dripped with understanding: He said that he realized that the people had to stand in long queues to access their own money; that they had to face hardships. But he was also quick to remind them that this pain was nothing when compared to the trauma the nation would have continued to suffer if the black money hoarders and the corruption had continued their free run. He structured the demonetization narrative as a battle between the good and the evil. He assured that normal days were just round the corner.

By then, of course, queues at banks had largely disappeared and ATMs, although still short of cash, were not as dry as they were in the immediate aftermath of November 8. Withdrawal limits for customers were still in place, though somewhat relaxed. Re-monetization had begun with the currency printing presses working round the clock to fill in the gap created by the sudden with drawl of the high value currency of Rs 500 and Rs 1,000 notes. People faced difficulty in exchanging and with drawing limited amount of money in first two months of demonetization and this was the most critical period and, if it can, in collaboration with the Reserve Bank of India (RBI), manage the re-monetization process effectively. As many experts as the common people, who backed the Prime Minister's move, have remarked, the government machinery now has to ensure that the measures succeed and the disruption caused by the demonetization, are accepted as essential, inescapable and for a good cause.

Meanwhile, those who had callously berate the Government's supposed failure to tackle the decision's fallout

— if not criticize the merits of the decision itself — need to understand the massive overhauling that the money market has gone through. According to estimates in the public domain, a whopping 17.17 billion number of Rs. 500 denomination notes were in circulation as on November 8; the Rs. 1,000 notes were at a no less impressive 6.86 billion. All of these were, in a matter of four hours to be sucked out of the system, except for a small portion allowed to be spent on essentials, till December 15, 2016-a decision reflecting a humane approach. People were warned to turn over such denomination notes to the banks by the end of December 2016 and, after that, to the nearest RBI branch with valid justification. While the RBI, within a few days from November 8, started issuing new Rs 500 notes and replaced the Rs 1,000 denomination with Rs 2,000, the cash crunch that resulted, caused understandable inconveniences to the people who were thus far totally dependent on cash transactions. It wasn't easy to quickly repair the breach. Between November 10 and December 19, the number of new Rs 500 and Rs 2,000 notes issued were 2.2 billion in number — a drop in the ocean when compared to the amount earlier in circulation..

More sets of figures will point to the enormity of the challenge the Government has faced. While the value of new currency notes issued between November 10 and December 19 stood at Rs 5.93 trillion, the total value of the denominated currency as on November 8 was more than Rs 15 trillion. Finally, the notes banned on November 8 comprised close to 25 per cent of the total currency circulation by volume (by value, as stated earlier, it was over 85 per cent).

These are mind-boggling figures that give an idea of the monumental nature of the task that the government has undertaken. It's has huge political and economic risk implications and the final outcome will mark a new era in reshaping the Indian economy, indeed the way Indians will use their money in the future. The question being asked is whether there could have been an easier way out? Noted economists supporting the move have been quick to point out that the malaise was so deeply ingrained into the system that any amount of superficially tinkering with the issue, would have been ineffective if not counter-productive, sending a mistaken impression that the Government was making an effort, but far from enough to cause any real impact. The Prime Minister was obviously aware that he would be making too many enemies in one go, not the least among the political class. After all, the political system has for decades had a stake in maintaining the flourishing black money market, most especially in contesting elections. This largely explains why the political class had been hesitant all these years to the take the bull by the horns. This also largely explains the all-round condemnation of the initiative from the political class, including those which have been championing as anti-corruption platform.

Since the jury is still out on the November 8 hammer-blow, there remains enough space for the critics and the defenders of demonetization to remain at each other's throats for a while more. But this is an opera that is going to play out longer than one would expect an 'economic' decision to, because of the far-reaching implications. There is of course the economic implication; but there is also the political implication.

All parties have decided to exploit the issue in a bid to garner voter support. While the ruling party's rivals have branded the decision as a cruel joke on the common people of the country and an attempt to please a handful of the very rich and powerful, the Prime Minister and his

team have cast the matter as a decisive blow to the corrupt and the black money hoarders, and to restore the pride of the honest citizen. The Bharatiya Janata Party draws justifiable comfort from its performance in a clutch of local body elections in the post-demonetization period, but the real test will be the coming State polls. It is banking on the positivity that has been generated among the ordinary citizens, while the opposition parties are hoping to encash on the frustration among these very peoples over difficulties that demonetization has brought on them. In Uttar Pradesh, the crisis within the ruling Samajwadi Party, which has escalated over the last week, is certain to impact the poll prospects of not just that party but also that of its opponents, the BJP and the Bahujan Samaj Party — though in different ways. Punjab has its own set of issues, with the drug factor and anti-incumbency sentiments being spun with vigor by rivals of the ruling Shiromani Akali Dal-BJP coalition regime. Similarly, Goa and Manipur have very specific local issues that will count in elections.

The impact on the economy will take some time to tabulate. In the short term, experts have been giving out predictions of a slowdown in the GDP growth — from the projected 7.6 per cent to 7.1 per cent this fiscal. If this were to indeed happen, it is argued, the impact would be only short lived and get absorbed, sooner than expected. While it true that many sectors have seen a dip in their business because of the currency crunch and the uncertainties ahead, yet the flip side is that this so-called economic contraction has not impacted revenue collection. Union Minister for Finance Shri Arun Jaitley recently quoted figures to establish that thing weren't bad. He said that between April 1 and December 19, the direct tax collection went up by over 14 per cent (to nearly Rs. 6.6 lakh crore); the indirect tax collection as on November 30 showed a rise of more than 32 per cent; excise duties collection had risen by over 43 per cent; and the service tax netted was up by close to 26 per cent.

Besides these collections, the banks have had a windfall gain in terms of deposits of scrapped notes over the 50 days period, and this should help them lower their interest rates and pass on the benefits to consumers of their various services. The Prime Minister in his December 31, 2016, address, nudged the banks to be sensitive to the concerns of the common man in the given situation, and there are reports that some banks have already taken the first steps in that direction. Of course, not all the deposits that have come in to the system are 'clean' in nature. According to Income Tax Department statistics, nearly four lakh crore rupees of deposits made since November 8 are suspect and being investigated. If the depositors fail to convince the tax authorities about the source of income, then they will pay and the Government's collection kitty will only swell. At last count, the tax authorities had issued as many as 5,000 notices and conducted over 1,000 surveys post-demonetization — collecting close to Rs 4,200 crore as undisclosed income.

According to reports in the media, deposits in Jan Dhan accounts across the country doubled in 45 days since demonetization, touching a rocking Rest 87,000 crore. The Income Tax Department is looking carefully at these accounts, because it's reasonably suspected that a bulk of money deposited into these might belong to parties that are not the actual account holders. The accounts were used as a parking lot by black money hoarders and the corrupt. There are similar such anomalies in the regular accounts too; the case of a Gujarat-based businessman under the taxman's scrutiny, is one such example. There is no doubt that a lot of muck is going to be unearthed. This, coupled with the Prime Minister's stated determination to crack down on benami transactions, could well break the back of the black money economy in the country. But we have to wait and see what comes out of the investigations and what actions the Government takes in implementing and strengthening the benami business laws. Of course, these are only the tips of the iceberg and the final figures will have its own story to tell.

While demonetization took off as a tool to tackle black money and corruption, it has had other consequences too. The cash has crunch forced lakhs of Indians to adopt the digital payment mode. The number of transactions through the RuPay card too rose four times to touch 16 lakh per day. Mobile wallet companies across the countries and off-line payment platforms have never had it so good. All of these, according to Minister for Information Technology Ravi Shankar Prasad, represented a massive jump of 100 per cent to 400 per cent in digital payment transactions. There cannot be any doubt that the digital payments system is good for the economy as the money is accounted for and can be traced back easily, unlike cash transactions. The Prime Minister recently unveiled BHIM (Bharat Interface for Money), an Aadhaar-based mobile wallet system by

which people can make payments directly from their bank accounts without the need for an Internet and with the help of a thumb impression.

The important message coming out of the above is that people, including the common man are willing to adopt new ways of transition from the cash to less-cash economy by placing trust in the private entities. Firms like PayTm's traffic increased by a whopping 435 per cent, apps download went up by 200 per cent, and overall transaction by volume and value grew by close to 250 per cent. Airtel's mobile wallet, according to a senior company official, saw a jump of 435 per cent in its traffic and a 200 per cent increase in transaction value. Mobikwik recorded an overall transaction increase by 18-fold, and said that it had seen a 200 per cent increase in the 'add cash' option on its site. A recent study conducted by industry body, Assocham, said the transaction volume of mobile wallet payments was likely to see a massive compounded annual growth rate of over 90 per cent. The transaction value too is slated to rise to Rs 2,000 lakh crore by fiscal 2022, as compared to eight lakh crore rupees in fiscal 2016. According to some reports, Indians make about one trillion dollars payments annually, of which more than 90 per cent used to be in cash. This should be changing now in a big way, bringing in its wake a great deal of transparency and accountability in the way private businesses have been conducted so far.

Of course, the ride is not entirely smooth. Digital payments are still problematic in many parts of rural India, which are hard hit by the cash crunch. Lack of awareness and digital connectivity has been major impediments. Aware of the problem, the Government has formed a task force to promote the practice in the hinterlands. Just 55,000 merchants in rural India have begun to accept cashless payments while 2.5 million rural households have been enrolled in digital transactions. The National Payment Corporation of India has been asked to simplify the formats of Net-based as well as the UPI modes of payment. Besides, there are other issues. For instance, BHIM can take off enormously if rural Indians have Aadhaar-liked bank accounts. The Ministry of Rural Development has now a target to have 35 million job accounts linked to Aadhaar. The other problem with cashless transactions has to do with the inadequate number of biometric machines at Government ration shops to identify MGNREGA workers. Only 35 per cent of the 1, 60,000 ration shops across the country had installed such machines.

This are the challenges, but amongst the challenge lays a huge opportunity of the type never witnessed before. The Government machinery and the private sector will have to make systemic changes in the country's payment regime following demonetization, less-cash if not cashless, must eventually become the order of the day so that even after the cash crunch eases, and it should not lapse into business as usual with people returning to cash as their preferred mode of transaction. The opportunity to revamp the system in the long-term should not be allowed to be lost.

Sector	Impact	
	Effect through end-December	**Likely longer- term effect**
Money/ Interest rates	Cash declined sharply	Cash will recover but settle at a lower level
	Bank deposits increased sharply	Deposits will decline, but probably settle at a slightly higher level
	RBI's balance sheet largely unchanged; return of currency reduced the central bank's cash liabilities but increased its deposit liabilities to commercial banks	RBI's balance sheet will shrink, after the deadline for redeeming outstanding notes
	Interest rates on deposits, loans and government securities declined; implicit rate on cash increased	Loan rates could fall further, if much of the deposit increase proves durable
Financial System Savings	Increased	Increase, to the extent that the cash-deposit ratio falls permanently
Corruption		Could decline, if incentive for compliance improve
Unaccounted income/ black money (*underlying activity may or may not be illicit*)	Stock of black money fell, as some holders came into the tax net	Formalization should reduce the flow of unaccounted income
Private Wealth	Private sector wealth declined, since some high denomination notes were not returned and real estate prices fell	Wealth could fall further, if real estate prices continue to decline
Formalization/ digitisation	Digital transactions amongst new users increased sharply; existing users transactions increased in line with historical trend	Some return to cash as supply normalises, but the now-launched digital revolution will continue
Real estate	Prices declined, as wealth fell while cash shortage hindered transactions	Prices could fall further as investing undeclared income in real estate becomes more difficult; but tax component could rise, especially if GST imposed on real estate
Broader economy	Job losses, decline in farm incomes, social disruption, especially in cash-intensive sectors	Should gradually stabilize as the economy is remonetized

Learning lessons

Any change of process or procedure breaks the comforts and not accepted so easily by people. What does demonetization teach us, the common Indian citizens who lead a very honest life with taxable or below- taxable income? Obviously the first learning lessons can be figure up best with an old saying 'Honesty is the best Policy'. But as far as meeting the pragmatic needs of living goes, honesty alone cannot be the answer. We need to have some establishments to withstand such shocks and pressure situations. While queuing up at bank branches to exchange their overnight demolished currencies many so called honest Indians with appropriate source of income thought of never keeping enough cash at home. But, that is just a small aspect of the whole learning demonetization overture. It is actually a change of mindset among people and shift of approach in regard to savings, investment and personal finance that every Indian should consider at large.

Never deny the tax dues, find a legitimate way to save tax

Cash has long served or furnished as the sweet old pathway to avoid the tax rules and become quick rich. That is how many of the retailers, traders, wholesalers and even so called white collar professionals used to assume and move. Many of them used to operate without any proper bills, vouchers or receipt and they used to disclose only an ignoble part of their income as taxable. Now the demonetization just overnight spin their cash deposits into waste and forced them to take the legal ways of disclosing their income.

Let us see the situation from different aspects. Didn't these people made their income and accumulated resources accessible to financial risks and loss? Couldn't it be a better choice to make tax saving investments rather than avoiding tax? Yes, of course instead of taking the wrong path of avoid tax they could focus on positive growth through Investment channels to safeguard dual benefits of tax savings as well as growth in investment portfolio. It is needless to say, above all they could enjoy the noble strength of a law abiding citizen.

Time to have medical insurance

In the very first week consecutive the move of banning the high value currency we have witnessed the cash crisis tearing apart medical and healthcare system as most of the people just could not manage cash to pay the health care treatment facilities. This is constrained to happen in a country where the majority of people including the upscale class do not have any medical insurance policy in their name for critical situations. There is nothing as important as medical emergencies and to address them nothing can be as reliable as medical insurance and healthcare policies.

Prepare for contingencies plan in place

When you do necessary financial planning, the first and foremost important step is to have a contingency plan for times of crisis. People who often focus on financial planning with long term achievement in mind forget about the liquidity of assets. When the ATMs are shut or lock and you need cash for your daily needs or to pay for any medical treatment, a high value property won't help much. So, your financial planning must have a contingency fundamental with high liquidity. Your financial portfolio must include investments that can be benefit or liquidated in just a day's notice. Stocks, short term unlocked MFs, some commodities like Gold, have good liquidity benefits. And some of them like high liquid MFs are great for tax significance as well.

Conclusion

This is the well planned move by the Prime Minister Narendra modi which do focuses on new economy reforms that leads to cashless economy that changed public perceptions at large. Well it also links to various initiatives taken by the government that bring Indian economy as an example of global change. Demonetization often leads to bring trends in the use of digital mode of payments which set up remarkable change in habits of the Indian citizen. Such toughest decisions decides our economy stability in future as from digital India to demonetization we will see a significant growth in banking as well financial sector that results in affordable financial solutions. Demonetization happens for a good cause in which we the citizen of India makes another history which leads our economy much better than ever. With lower expenditure and reduced purchasing power, people were not able to buy costly goods and incur huge expenditure on marriages and other functions.

Banks were able to improve CASA Ratio and liquidity in the bank improved as banks were flooded with low cost deposits. Since it was difficult for the customers to withdraw the large amount as restriction was imposed, the digitalization in real sense took off. Point of sales and use of debit card increases from Rs. 219 billion to peak of Rs. 580 billion. After one year of demonetization when cash is freely available, the total debit card point of sales is still Rs. 354 billion which show an overall increase of 61 %. Technology and analytics played an important role in tracing the source of huge cash deposit in accounts and strictly being followed by Income Tax Department. Recalibration of ATMS, formulations of standard operating procedures,

modalities and procedure of distributing and exchanging new notes were the various steps taken to make the demonetization smooth and success.

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