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Emerging Trends and Scope in Cashless Economy

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AND
SCOPE IN CASHLESS ECONOMY

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The Threshold of Trauma: Demonetization in India

Dr. Malvika Joshi-Mehta*

Introduction

The announcement of Demonetization in India was made on 8th November,2016.High denomination currency notes of Rs.500 and 1000 of the total amount of 15.7 trillion was discontinued and existing were called back through banks without declaring them illegal. The purpose of the Demonetization was to eliminate counterfeit currency, control over the corruption, black money and terror funding proportion of cashless economy, digitalization, financial inclusion and financial savings, etc. were also expected as by-products of the same.

New employment opportunities, growth of GDP were some of the inbuilt expectations of the government. It was assumed that demonetization may result in some positive developments like increase in the tax base, possibilities of lower tax rates and adoption of modern technologies. The economic rationale behind the great move was mainly focused on the following factors:

- Confiscation of counterfeit currency
- Control over the hyper-inflation
- Broadening the tax base
- Growth of GDP

Some other expectations were that demonetization would help to reduce the rate of interest of the banking system and will also result in the flash of huge funds as well as the possibility of pass-on effect of fall in the interest rates of the investments. It was also expected by then dispensation that the demonetization will reduce the use of bank accounts, hard currencies and it will also increase the usage of digital transactions which will make the economy cashless and paperless as well.

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The interesting fact is that the major chunk of the black money was invested in various dubious Businesses, stock market, real estate, gems and jewelry and Benami Property. India, as a third world country, is by and large cash –driven society. Only 20 % of the population is using the other mode of transactions.

Denotation of the Demonetization

Demonetization is an act of stripping a currency unit of its status as legal tender. The current form of money is being pulled from the circulation and replaced by new notes or/and coins.

Review of Literature

Dr.Pratap Singh (2016) has worked on the impact of demonetization of Indian economy and concluded that if the money disappears, as some boarders would not like to be seen with their cash pill, the economy will not be benefitted. On the other hand, if the money finds its way in economy, it would have a meaningful impact.

Sukanta Sarkar (2010): Conducted a study on the parallel economy in India: courses, impacts and government initiatives in which he focused on the existence of causes and impacts of black money in India. According to Sarkar, the prime reason behind the generation of black money is the Indian political system. i.e. Indian government has just focused on the constitution of committees rather than implementing the recommendations of the committees. He concluded that laws should be implemented properly to control black money.

CMA Jai Bansal (2017): Bansal Reveals that GDP of the country slightly decreases as compare with the previous year, but we cannot say that it will be the same in future also this intervention is a one-time draining of this current stock of black money but unless those root causes of corruption are removed, corruption will continue, it is a sort of dialysis. More of a short term cleaning up than a solution of it needs to be repeated periodically.

Objectives

The objectives of the study are as below:

- The main purpose of the study is to analyze the impact of demonetization on the Indian economy and the growth of GDP.
- To understand the implementation of demonetization on different sectors.
- To understand the goal of demonetization has been achieved or not and the adverse effects Of the demonetization.
- **Demonetization and Economic Growth**

To evaluate the significances of demonetization, the fourth quarters of different years are compared.in the last quarter of the year 2015-16, the growth rate was 9 % which has been slashed down to 6% in the year 2016-17and has been stayed stable at 6% thereafter. We appraise this impact that the demonetization is clear for the

industrial sector with its growth slashed down to zero percent in first quarter of 2017-2018 which had been about 10% for each of the past threeyears. Service sector was neural from the implication of demonetization is reported stable growth. The investment growth measured through capital formation was about 10% in the year 2016-2017. A period before demonetization was slashed down to negative in the fourth quarter of the same financial year and about 2% in the years 2017-2018.

- **Demonetization and Real Economy**

The behaviour of the index of industrial production at the aggregate level as well as based on sectors and consumption based classification. The index of industrial production is the demand side indicator in the economy. The fall in the growth of IIP in the first quarter of the year 2012-2013 and in 2015-2016 as well. We can say that the fall in growth of IIP in the first quarter of the year 2017-2018 is attributed to demonetization in terms of consumption based classification.

Primary goods index remains stagnant with the minor fluctuations.in terms of impact on productive capacities, it is observed that IIP for capital goods saw significant dip in the year 2016-2017.The capital good index reported higher growth after demonetization compared to its average. Level of the year 2013-15. The infrastructure sector experienced a downfall in the year 2015-2016 which can be the reason of more stringent laws for the real-estate sector. The mining sector has reported a volatile behaviour due to the stringent implication of the regulatory mechanism.

- **Demonetization and Inflation**

The growth rate in consumer price index is evident that inflation is measured through consumer price index (CPI) and CPI for industrial workers has remained around 10% during the year 2013 and reached around 4 % in the year 2017-2018.it suggests that inflation level has eased after demonetization. The inflation scenario combined with the trend in money supply, as slowdown in money growth has eased the inflation, partly based on this logic, it can be inferred that higher money supply might have created asset bubbles and demonetization along with other monetary policy measures have helped to restrain these bubbles

- **Demonetization and Balances of Government**

The impact of demonetization on the central government account is mainly received on the tax revenue collection. The tax collection was 24 billion INR in the fourth quarter of the year 2015-2016 and the same has increased to 28 billion in the fourth quarter 2017-2018. It is observed that the tax revenue in the absolute terms over the corresponding quarters of every year is rising. This outcome is obvious as the economy is expanding its base over a period of time.in sum, if we see the growth pattern measured in ration terms the tax revenue has not increased considerably and hence, demonetization dose not seen to have much impact.

Conclusion

The political move of demonetization of the demonetization can be criticized in a different manner, and the socio-psychological impact can also be evaluated by using different tools but so far I have chosen the economical aspect, I will confined to that only. Here are a few conclusive points

- The demonetization has helped the banks in improving the credits in the terms of large sums of white or legitimate funds.
- The Demonetization has reduced the growth Speed of economy and adversely affected the industrial sector as well as production sector.

On a positive note, we should accept the economy moved back to previous levels very rapidly. Post -demonetization effects can be studied in a different manner in future.

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Notes

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2

A Study on Cashless Economy in India: Making Hands Free from Cash

Dr. Kiran Raj*

Introduction

Cash may no longer be king. Cashless economy is a financial system within which there's little or very low income in an exceedingly society and goods and services are bought and paid through electronic media. This research consider concept of cashless economy, pros & cons and to understand the modes of cashless transactions. The digital India might be a number one programme of the government of India with a vision to convert India into a digitally authorized society and knowledge economy. Digitalization might be a process which may help the economy towards a cashless society. By the 2010's digital payment method where widespread in many countries with examples including intermediaries like PayPal, digital wallet systems operated by companies like apple, contract less and NFC payments by electronic card or smart phone and electronic bills and banking, tired wide spread use. By 2016 within the UK it had been reported in 1 in seven people not carries or use cash. The 2016 us user consumer survey study claims that 75% or respondents preferred a credit or credit account credit as their payment method while only 11% of respondents preferred cash. By 2017, digital payment methods like Venmo and square contribute to cashless transaction. Venom allows individual to form direct payment to other individual without having cash accessible.

Why is Cash Required?

The magnificence of cash is that it just works; even within the isolated whereabouts of India, where the government won't be present physically with its paraphernalia, its injunction runs within the design of measure that public uses for business on an everyday basis. An oversized informal economy that supports a

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significant a component of Indian population and their livelihoods also runs in cash. This may be why Cash is yet King. The underside reality reveals, a majority of transactions in Kirana stores, the go-to buy daily purchases in India are cash based transactions, because these are generally small ticket transactions. The consumers, yet as Kirana store owners feel more comfortable in managing cash for tiny transactions, while these merchants also provide credit facility to customers. The modus operations for corruption are cash so unless we rid our society of corruption in any respect levels this may be an oversized task. Imagine paying a corrupt official through your e-wallet it'll never happen. Also another point to ponder on is why India has such less tax payers in a very very population of over 1.2 billion people. this can be one in every of the issues that has got to be addressed and hopefully with more transaction moving electronic & records of the identical being made available more people should be the tax net be it small merchants, professionals etc. Will this segment of society adapt to electronic modes of payment so as that the state can get pleasure from a higher collection leading to better benefits to society at large?

Indians are the fourth-largest user of cash within the globe. The speed of cash to GDP is the highest, i.e. 12.42 percent in India. The advantage to circulation to non-public consumption ratio in India is 20 percent, and Card transactions account for 4 percent of the Individual consumption expenditure. For them cash is that the foremost convenient and easy sort of medium of exchange, free from hassles. Cash provides individuals and families with liquidity. One needn't to worry a pair of system crashing, power going off, and losing transaction midway. Use of cash doesn't involve any extra cost as within the utilization of debit/credit cards. Even within the foremost cashless countries like France and also European country, cash still accounts for 40 percent or more of all consumer transactions. Usually cashless economies have low corruptions and fewer black money. The strain on online transactions provides convenience and tangible benefits to the people or just boost stress and additional transaction charges remains a matter of debate.

Advantages of Cashless India

- **Black Money are Going to be Reduced:** Black money is that cash that you simply simply have earned but not accounted meaning this is often often that money which is hidden from paying taxes. And this black money is prohibited and has the potential of reducing a government to bankruptcy. If the technology behind the digital economy is powerful and well updated, then governments can track all transactions within the economy which helps in maintaining transparency and authenticity of income.
- **Transparency:** Corruption in India exists right from Ministerial level to a watchman level, all due to the dearth of transparency in our measure. Transparency could also be an enormous issue in an economy as big as

India's. Corruption scandals in India like CWG or 2G scams or Rafale Jet scams are broken out because of the shortage of transparency in transactions. To be frank, a touch essay on cashless India won't be enough to talk about all the corruption scandals in India since its independence. Corruptions like these are reduced to a superb extent if the cashless economy is achieved throughout because the foremost important advantage of a cashless economy is that the authorities can track and thus the origin and also the endpoint of a transaction easily.

- **Easy and Simple:** With such plenty technological revolutions happening around, it'll be impossible to look out someone without a smartphone during this 21st century. Almost every Indian features a smartphone. Hence the good thing about transaction through fintech platforms like Paytm, google pay or phonepe are easier than ever before. The hassles of carrying currency are eliminated. The government of India has produced platforms like UPI (Unified Payments Interface) for hassle-free cashless transactions.
- **Tracking Expenditure:** it's easier to remain track of one's spending if all transactions are on record. it'll also help while filing taxation returns and, just just in case of a scrutiny, people will find it easy to elucidate their spends. Besides the tax, it'll even have an honest impact on budgeting.
- **Budget Discipline:** The record will help keep tabs on people's spending and this could cause better budgeting. Various apps and tools will help people analyse their spending patterns and present good insights over a pair of years. Controlled spending could also end in higher investing. If the identical amount of cash doesn't flow back to circulation and others still use mobile wallets and cards, it is also likely to bring down the latte factor. this implies that the Rs 10 you spent on candy or chips, or that regular cup of coffee office is perhaps visiting require successful since you will be in need of loose change and smaller currency notes. There's a lesser chance of budgetary leaks and unaccounted for spends sneaking into your budget at the tip of the month.
- **Lower Risk**: If stolen, it is simple to dam a credit card or mobile wallet remotely, but it's impossible to induce your cash back. This is often very true while travelling, especially abroad, where loss of cash can cause great inconvenience. Moreover if the futuristic cards are evolved to use biometric ID (finger prints, eye scan, etc), it should be extremely difficult to repeat, making it a very safe option.
- **Small Gains**: it shouldn't appear to be much of a plus, but being cashless makes it easy to stay unfree borrowers. Another plus is that you simply just can pay the precise amount without worrying about not having change or getting it back from shopkeepers.

Disadvantages of Cashless India

- **Hacking and Online Theft:** As technology is improving on a daily, so is online fraud and cheating incidents. Incidents of online thefts reported on news channels have made people consider before making large transactions online.
- **Lack of Infrastructure:** We aren't just talking about government infrastructure but on a non-public level still. You would like a gadget (a smartphone), data connectivity and electricity for charging the phones day after day to be able to make online transactions often. Before aiming for the dream of cashless India to return true, governments should confirm of these problems.
- **Losing Phone**: Since one is obsessive about the phone for all transactions on the move, losing it can sway be a double trouble. It cannot only make one susceptible to fraud, but one could even be rendered helpless within the absence of physical cash or the opposite payment option. This might be especially problematic if someone is travelling abroad or in smaller towns or villages with lack of banking infrastructure or other payment options. Another drawback is that one must keep the phone constantly charged. If the phone gets discharged within the center of a vital purchase or addressing an emergency, one are visiting be stranded.
- **Overspending:** While there is no denying the convenience of card or mobile wallet transactions, it could open a spending trap for an unsuspecting population. To manage their spending. This is often the rationale that people could find you overspending, throwing their budgets into disarray.

Modes of Cashless Transactions

- **Credit card OR Debit credit:** credit card or Debit Card is another cashless payment method. The usage of credit card and revolving credit was limited in India. However, usage of credit card and revolving credit is increasing now because of demonetization. The restrictions of this payment method are an availability of swipe card facility at merchant end.
- **Cheque:** The cheque is one in every of the oldest methods of cashless payment. It's a known method to everyone. During this method, you issue a cheque for the precise amount to somebody else. The cheque gets deposited within the respective bank. The bank processes a payment through a financial organization. The full transaction done through cheque gets recorded and there is an emblem of payment. However, there are instances where cheque payments get dishonored due to signature mismatch or insufficient fund so on avoid such issues, we are going to use other cashless payment options.
- **Demand Draft:** Demand draft is another rudimentary way of cashless transaction. It's safest option to receive payment from anyone. Demand draft

(DD) never gets defaulted because it's signed by the banker. The disadvantage of DD and cheque is you'd prefer to attend a bank so on deposit cheque and demand draft. The clearance of cheque or DD takes overtime.

- **Online Transfers- NEFT or RTGS**: the sole method for cashless transactions is online transfer using NEFT or RTGS. So on attempt to do online money transfer, you'd like internet banking facility. Online transfer are often done from anywhere using internet facility.
- **Mobile Wallets:** the following cashless method is also a mobile wallet. Youdo not need a debit credit or credit card or internet banking password for creating payment employing a mobile wallet. You'll be ready to download mobile wallet app from play store. Few samples of mobile wallets are Paytm, PayUmoney, Mobikwik, Phonepay, etc.

Conclusion

The Prime Minister's move to incentivize digital payments will offer a strong support to the continuing efforts in helping the country leapfrog the cash generation to digital payment solutions. this might not only help countless Indians overcome the hassles of dealing in cash but also act as a serious step towards propelling India to emerge as a really cashless economy. Through Digitalization, the government is trying to solve various aspects of Indian society. First of all, it creates how for all purchases to be tracked and recorded, which can work towards limiting the effectiveness of the black market yet as stemming the movement of funds towards various terrorism activities. The long run of the cashless India looks pretty promising because the response of the country people towards this move of the government and so the support towards it is a transparent indication that the government's move is maybe visiting succeed. The transparency within the economy will increase through the e-commerce transactions and so the digital payment gateways which may increase the GDP of the economy. This will increase the credibility of the country and make a rise in investments. This step of cashless is really visiting create ripples of big success and it will help to attain vision of Prime Minister Modi's vision of Digital India. India hopes to create a cleaner, more transparent economy via digitalization which can cause an improved climate for foreign investment, boost process, and ultimately propel the country to the subsequent chapter of its emerging markets story i.e., the Green Economy, an economy that aims at reducing environmental risks and ecological scarcities, which aims for sustainable development without degrading the environment.

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3

A Study on Cashless Economy in India

Srijita Mandal*
Swarup Saha**

Introduction

Prime Minister Narendra Modi announced on 8th November, 2016 that bank notes of high value were being withdrawn from circulation. There has since then been a gush of commentary across the World on whether the currency reform would actually curb the black money, the extent to which the immediate cash shortage would hurt economic growth, the political calculations behind this gamble and whether there was a fiscal windfall awaiting the government because of the destruction of some part of the currency stock. After the demonetizations cashless transactions has promoted rapidly. There is an simultaneous economy arises in India which is called cashless economy.

Transformation into cashless economy is an international issue and many of the countries already almost become cashless. A cashless economy is where financial transactions are not being done in the term of currency notes, coins or physical cash money. It was in trend by barter age of cash less transactions and other methods of exchange like food crops or other goods. However, the new concept of cashless transactions in cashless economy is made with the help of digital currencies where legal tender (money) is exchanged and recorded only in the electronic digital form. So many challenges and opportunities are associated with the effect of digital transactions. Indian population where 98 per cent of total economic transaction by volume is being done through cash (Economic times, Nov. 23, 2016), much of the cash transactions being done in the country are small exchange of goods and services. Infrastructural facilities and lack of knowledge to use online payment are main hindrance to implement and successful continuation of cashless economy. Developing countries like India, the challenges for implementation of this economy

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and understanding the basis need for digitalization in payment system in rural and small town areas. It is a huge task for the Central and State Government of India and their highest policy maker to transform their society into a cashless economy or less cash economy with the India's fast growing population. The introduction of cashless transaction has made the government of India to move towards cashless economy. India was the world's fastest growing major economy in the last quarter of 2014 (G20 an International Forum). India also topped the World Bank's growth outlook for 2015-16 for the first time with the economy rate having grown 7.6% in 2015-16 and also expected to grow 8.0%+ in 2016-17.It is seen that growth of the Indian economy in the future is positive. India has already introduced some of the option of payment methods such as Airtel money, Ola money and PayTM, Google pay, Phonepe accounts to pay different transactions via internet banking.

Literature Review

Jain, (2017), in her article "Making towards a cashless economy: challenges and opportunities for India" said that the impact on taxes would be negative because of compression in demand. The demand for gold and luxuries will increase as have attempted to convert cash balance into such metal. She also said that collapse of confidence has affected not just domestic investors but also their foreign counterparts.

Shendge, (2017) in their article "Impact and importance of cashless transaction in India" used descriptive approach to analyse the impact and importance of cashless transaction. They said that financial safety over digital payment channel is important for pushing the cashless economy idea.

Chaudhari (2017) said that cashless transaction systems are not possible without adequate internet facilities, so government must investigate in infrastructure availing internet.

Akinola (2012) said that Cashless Society, Problems and Prospects, Data Mining Research Potentials focused on understanding the cashless society and the problems related to the same in Nigeria. The study shows that cashless society will face a lot of challenges and criticism by the citizens of Nigeria.

According to Alvares, Cliford (2009) in their reports, "The problem regarding fake currency in India" said that the country's battle against fake currency is not getting easier and many fakes go undetected. It is also stated that counterfeiters hitherto had restricted printing facilities which made it easier to discover fakes.

Jain, P.M (2006) in the articleAn Analysis of Growth Pattern of Cashless Transaction System. Available funds can be optimally used if fullest advantage of technology, quick payments and remittances is ensured. This will largely benefit banks, financial institutions, business houses and common citizen of India. He also pointed out the need for e-payments and modes of e-payments and communication networks.

Vincent, (2005) in the article "Credit cards – Modern payment system", provided information about credit card functioning in India and settlement and concluded that it is a blessing to both the traders and customers.

Objectives of the Study

- To know the basic concept of cashless economy.
- To study the current scenario of cashless India.
- To identify the prospects and challenges of cashless transaction system in India and to know the effect of Covid-19 on it.

Research Methodology

Electronic database and online libraries are searched for relevant literature using a comprehensive set of keywords and graphical representation relating to cashless technology of different countries including India. Information was gathered from secondary data using web based search engine, published literature, article, Government record, journal etc.

Limitations of the Study

- Full paper is based on secondary data collected from different websites.
- Time constrain is main hindrance to prepare this research paper.
- This research is based on Indian perspective and its economic environment.

Around the World Scenario

Table 1: Non-cash Payment and Use of Debit Card in Percentage of Different Countries

Name of Country	Non-cash Payment (%)	Use of Debit Card (%)
Australia	86	7
Belgium	93	86
Canada	90	88
France	92	69
Germany	76	88
South Korea	70	58
Sweden	89	96
The Netherlands	85	98
United Kingdom	89	88
United States of America	80	72

Source: Goel, Sahai, Vinaik, Garg. (2019) Moving From Cash to Cashless Economy: - A Study of Consumer Perception Towards Digital Transactions, International Journal of Recent Technology and Engineering (IJRTE). ISSN: 2277-3878, Volume-8, Issue-1, May 2019.

Overview of Indian Cashless Economy

- **Various Concepts of Cashless Transactions**
  - **Less Cash Society:** Any society which uses less amount of cash in its day to day activities and use digital mode of payment.

- **Cash less Economy:** Cashless economy is characterized by exchange of funds by cheque, debit or credit cards or electronic methods rather than the use of cash.
- **Digital Economy**: The Digital Economy is an economy wherein all the major activities in economy becomes paperless and accomplishes with the help of electronic media.

- **Methods of Digital Payment in India**
  - **Banking Cards:** These includes all types of plastic cards such as credit card, debit card, cash card, travel card etc. they provide 2 factor authentications for a secure transaction.
  - **USSD:** Unstructured Supplementary Service Data is an innovative of making payments without the use of internet and smartphone. The payments can be made by a feature phone by dialling *99#.
  - **AEPS:** Aadhar Enabled Payment System is a means by which a person can make payments at the point of sale by Aadhar authentication.
  - **UPI:** Unified Payment Interface powers multiple bank accounts into a single mobile application, merging all or some of the banking services.
  - **Mobile Wallets:** It is a means of carrying cash in digital format. Credit card or debit card can be linked to the mobile wallet for making payments or some money can be loaded into the mobile wallet.
  - **Internet Banking:** It is a medium through which various banking services like NEFT, RTGS, ECS, and IMPS etc. can be availed over the institution's website.
  - **Mobile Banking**: It is a service provided by banks providing its customers a platform to conduct various banking services by use of their mobile phones or tablets through the apps provided by the bank.

- **Strengths of India Going Cashless**

A planned strategy: The government of India followed a detail criterion by first SIT on black money, then Jan Dhan Yojana which was followed by tracking on foreign accounts and money hoarders. Then, the income declaration scheme and finally, demonetization.

Financial inclusion: The government of India is focussing on reaching the entire corner and to every citizen. Many bank accounts were created throughout the country as an initiative taken up by government. Steps taken by Government:

- Launch of BHIM app for smartphone users based on UPI.
- Launch of Aadhar merchant pay.
- Direct benefit transfer

- **Weakness Faced by India**
  - Cash is the dominating means of payment in the Indian economy.
  - There is no 24X7 electricity in all over India especially in rural area.
  - E-illiteracy is also a major weakness.
  - Smartphone market is still untapped.
  - Lack of technological infrastructure.
  - Sluggish economy.
- **Opportunities Available with India after Going Cashless**
  - Curbing black Money: Going cashless will bring an end to the parallel economy running by black money.
  - Tax Collection: With digitization, tax collection will be made easy.
  - Reduced Real Estate: Going cashless will ensure only payment in white money.
  - End of corruption: Going cashless will ensure a proper check on bank accounts, which will reduce the system of bribery.
- **Threats with Going Cashless**
  - Threats of Cyber Crime
  - Threat of loss of database
  - Threat of data encryption
  - Cash is considered the most convenient and fastest mode of payment.

Analysis and Interpretation

For analysis of Indian cashless economy, researcher considered 5years cashless transactions in different sectors from RBI Report from their official website. This analysis will try to explore the acceptability of digital transaction among Indian consumers rapidly grown up and it can also be said that Covid-19 scenario in India and whole world economy has forced the users of physical money to convert their transactions into digital cash. However this paper tried best to find the growth of this kind of transactions in last 5 years which will help to predict the future growth and trends in this sector rather we can say a new avenue.

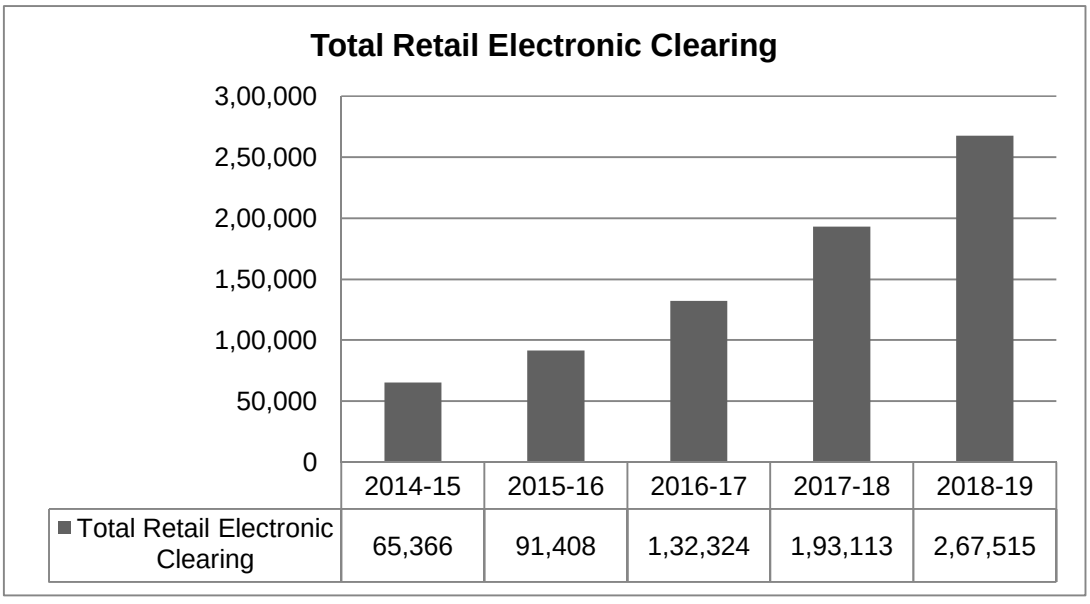
Table 2: Payment System Indicators – Annual Turnover

Items	Value (Rs. in Billion)				
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Systemically Important Financial Market Infrastructure (SIFMIs)					
1. RTGS	754,032	824,578	981,904	1,167,125	1,356,882
Total Financial Markets Clearing (2+3+4)	**752,000**	**807,370**	**1,056,173**	**1,074,802**	**1,165,510**
2. CBLO	167,646	178,335	229,528	283,308	181,405
3. Government Securities Clearing	258,917	269,778	404,389	370,364	509,316
4. Forex Clearing	325,438	359,257	422,256	421,131	474,790
Total SIFMIs (1 to 4)	**1,506,033**	**1,631,948**	**2,038,077**	**2,241,927**	**2,522,392**

Retail Payments					
Total Paper Clearing (5+6+7)	**85,434**	**81,861**	**80,958**	**81,893**	**82,461**
5. CTS	66,770	69,889	74,035	79,451	81,536
6. MICR Clearing	1,850	0	0	-	-
7. Non-MICR Clearing	16,814	11,972	6,923	2,442	925
Total Retail Electronic Clearing (8+9+10+11+12+13)	**65,366**	**91,408**	**132,324**	**193,113**	**267,515**
8. ECS DR	1,740	1,652	39	10	12.6
9. ECS CR	2,019	1,059	144	115	132.35
10. NEFT	59,804	83,273	120,040	172,229	227,936
11. Immediate Payment Service (IMPS)	582	1,622	4,116	8,925	15,903
12. National Automated Clearing House (NACH)	1,221	3,802	7,916	10,736	14,762
13. UPI	-	-	69	1,098	8,770
Total Card Payments (14+15+16)	**3,326**	**4,483**	**7,421**	**10,607**	**14,097**
14. Credit Cards	1,899	2,407	3,284	4,590	6,033
15. Debit Cards	1,213	1,589	3,299	4,601	5,935
16. Prepaid Payment Instruments (PPIs)	213	488	838	1,416	2,129
Total Retail Payments (5 to 16)	**154,126**	**177,752**	**220,703**	**285,613**	**364,073**
Grand Total (1 to 16)	**1,660,158**	**1,809,701**	**2,258,780**	**2,527,540**	**2,886,465**

Source: RBI report 2016-17 and 2018-19 (Compiled by the authors)

Figure 1: Total Retail Electronic Clearing (in Billion)

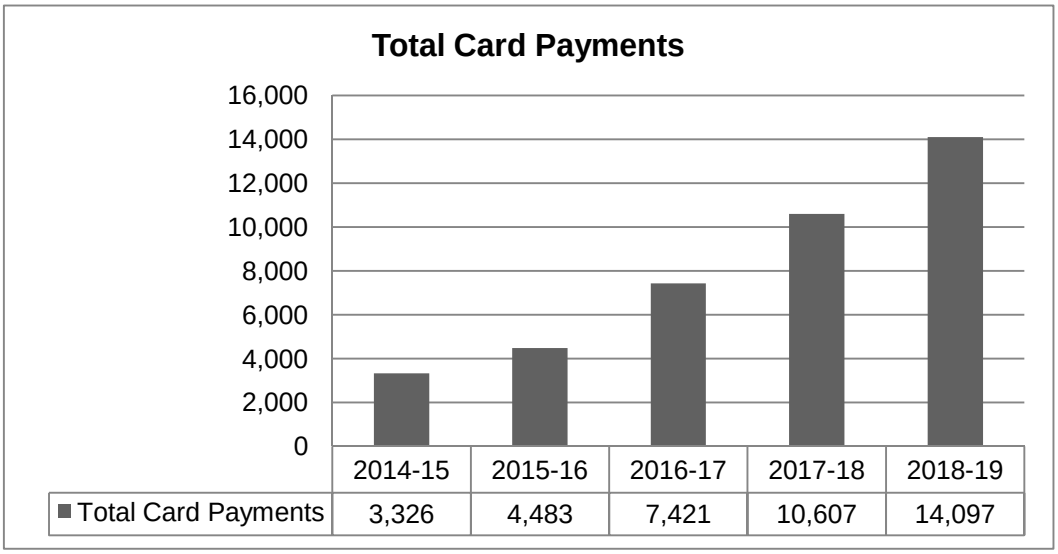


Source: Compiled by the authors

Interpretation

From the above figure 1, we can conclude that total retail electronic clearing is gradually increased year after year starting from 2014-15 to 2018-19. Also find that it increased at least 4th times compared to 2014-15.

Figure 2: Total Card Payments (in Billion)

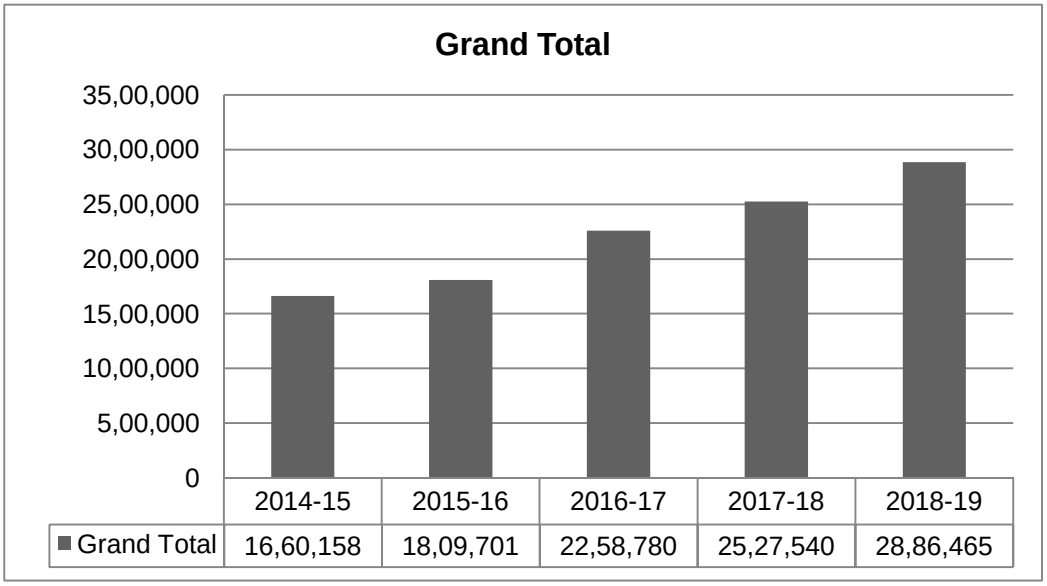


Source: Compiled by the authors

Interpretation

This figure 2 reflects total card payments value including debit card, credit card, PPIs etc. From here we can estimate the increased value of card payment from 2014-15 to 2018-19. In 2014-15 it was 3,326 billion and in 2018-19 it was 14,097 billion in India.

Figure 3: Grand Total in payment system indicators (in Billion)



Source: Compiled by the authors

Interpretation

Finally in figure 3 we can analyse the overall scenario of India in respect to cashless payment or digitalisation. This grand total included financial market clearing, paper clearing, retail electronic clearing, card payment and retail payment. In 2014-15 16,60,158 billion, in 2015-16 18,09,701 billion, in 2016-17 22,58,780 billion, in 2017-18 25,27,540 billion and finally in 2018-19 28,86,465 billion. It shows that Annual turnover was increased almost double from 2014-15 to 2018-19 and it was increased almost at a same percentage every year. It was also indicated that overall cashless payment system increased in India, according to last 5 years scenario.

Impact of Covid-19 on Cashless Economy

Going in the background, in the last four years, digital payments have grown immensely from a mere 5% to over 30%, backed by demonetization and sustained campaign by the Government to move towards a cashless Indian economy. Online Travel Aggregators, movie and event booking portals and entertainment industry, together form a major part of the digital payments industry in India, contributing to almost 40%. The rest comes from utility bills and financial services segments. However, FinTech experts believe it is too early to analyse the impact of COVID-19 on the industry, whether the digital payments will go up or there will be some short-term impact. The effect could only be ascertained in the next 15-20 days, whether there has been a rise or fall in the digital payments as travel and tourism were down since the start of the year.

Conclusions

We can conclude that there is a long way to go for India to become a cashless economy. People still lack trust and confidence while using digital payment methods in any circumstances. Prime Minister Narendra Modi has already announced “Digital India” campaign for us and Government has been taking lot of initiative to implement and make this campaign as successful for better future of India as far as possible. But on the contrary a lot of development in the field of infrastructure is required to make the dream of Digital India a reality. There are many people who are still not aware about the cashless economy not only in India but outside of India. Government has faced a lot of criticism in the past from the public for the various plans implemented on the public. There are a lot of challenges in fulfilling the dream of digital India but in the long run cashless economy will help in growth and will bring a lot of benefits and opportunities with it. In the time of Covid-19 pandemic this proposal and its implementation work has forced by the situation to become a successful. In this situation of Covid-19 uses of digital transactions have increasing and it will create a habit to become digital and make our country to become a fully digitalised country in near future. But beyond this hindrance India has rapidly do well in digital transactions in last 5 years which has showcased in analytical part. This is a good sign for this new economy which will have a huge market in future.

Recommendations

- Government of India should educate their people about the benefit of going cashless before taking any steps.
- Infrastructural development should be done in rural area before implementing the digital economy.
- Adequate Security mechanisms should be put in place to safeguard the interest of consumes.
- Government should plan to give some extra financial or non-financial benefits to the users of digital payment which will motivate others to adopt this means..
- Online transactions should be made as cheap as possible.

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4

An Overview of Payment and Settlement Systems in India

Bheem Singh Shekhawat*

Introduction

In any economy, howsoever primitive it is, the economic agents transact with each other. According to Adam Smith, specialization is a natural phenomenon bound to happen in every human society. Specialization gives birth to transactions among individuals in a society. As these societies grow in size and develop relationship with other societies, specialization leads to intra society and inter society trade and creation of markets- that is, places where these transactions or trade takes place. No transactions, in any economy can be effected in the absence of a payment system. A payment system is a mechanism that enables one economic agent to transact with another economic agent and settles their liabilities and claims against each other. In a primitive economy these transactions may be enabled through the barter system, in which both the economic agents exchange goods and/ or services between themselves - that is the payment of goods and/or services of one economic agent is made in terms of the goods and/or services of the other. In such an economy we have an 'in- kind' payment system as each economic agent gets paid in kind and goods and/ or services become the instruments by means of which payment is made. The settlements are mostly immediate but may involve deferred payments in-kind depending upon the nature of the goods and services traded between the parties. Such a payment system has its own limitations. The feasibility and volume of transactions is limited by double coincidence of wants - that is exchange can take place only if each party has what the other party wants. Further limitations on the feasibility and volume of transactions are imposed by the indivisibility of certain goods, lack of a common measure of value, lack of standard for deferred payments[1], lack of store of value[2]. Specialization, transactions, trade and the growth of an economy are

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1 Even in a barter economy payments can be deferred if the instrument used for deferred payments is some good or service, for e.g. grains, cattle. Both the principal and interest can be paid in terms of the good; but this involves inefficiencies.

2 Commodity as a store of value is a source of inefficiency and inconvenience.

hindered by the above mentioned inefficiencies of the Barter system in some or the other way. If the economy has to grow, which can happen only through unhindered transactions and trade, then the barter system has to give place to a commonly acceptable medium of exchange i.e. money and the 'in-kind' payment system has to give place to a new and more desirable payment system which is based on this commonly acceptable medium of exchange. Historically, the most convenient form of money has been metallic or paper currency. With barter system giving place to the currency system, an in-kind payment system is replaced by the cash based payment system. As long as the transactions are driven by needs and the state has very limited functions, the cash based payment system may take care of the transactions and the resulting payments and settlements in the economy, but when the state assumes greater responsibilities, which is an indispensible characteristic of almost all the modern political systems and desires backed by purchasing power become the driving force behind the transactions, the volume of transactions in the economy increases enormously. Under such circumstances the cash based payment system develops certain inefficiencies as cash as an instrument of payment suffers from some disadvantages. Some of the disadvantages are: (1) cash does not fetch any return to the holder, in fact it entails a cost in terms of the interest foregone; (2) there is always a risk of theft and an additional cost in the form insurance premium, if the holder of cash wishes to cover loss or theft; (3) carrying large quantities of cash for making large-value payments involves security risk and transportation costs[1]. Moreover, frequent visits to the banks, increase the economic and time costs of the economic activities. It also increases the cost per transaction for the banks and makes the financial sector sluggish. As production, commerce and trade expand the disadvantages associated with the cash-based payment system lead to inefficiencies, which begin to hinder this very expansion and hence the growth of the economy.

The requirements of a modern economy in regard to settlement of transactions are diverse and variegated and the needs of manufacturing, trade, and commerce activities involve large value payments over vast geographic distances. External trade with the rest of the world involves payments in different currencies. Payments can no longer be completed by simple cash transfer in such cases. Therefore, there arises the need for additional forms of payments, which can be facilitated with improved financial intermediation and expansion of financial instruments[2]. This need becomes more compelling with the emergence of e-commerce as an important manner of conducting commerce in the modern economies. Since no single payment system can fulfill the payment and settlement needs of a modern economy, therefore multiple payment and settlement systems efficiently catering to these variegated needs have to be designed. Before discussing the various types of payment and settlement

[1] Payment Systems in India, RBI
[2] ibid.

systems in India, let us first define what Payment and Settlement Systems are. *Payment and Settlement Systems are systems that facilitate production, commerce and trade (all the economic activities) in an economy by providing mechanisms that enable smooth transactions and settlements between economic agents.*

Types of Payment and Settlement Systems in India[1]

On the basis of value of the transactions the payment and settlement systems can be classified into high value payment and settlement system and retail payment and settlement systems. The high value payment and settlement systems deal with transactions that are lesser in number but large in terms of value whereas the retail payment systems deal with transactions that are low in value but very large in number. Let us first try and understand the retail Payment and settlement system in India.

Retail Payment and Settlement Systems in India

Retail transactions are transactions related to sale and purchase of goods and services or borrowing, lending and repayments between individuals, firms, businesses and corporate[2]. The retail payment systems include the payment systems based on cash, **paper instruments** such as cheques, drafts, banker's cheque, interest or dividend warrants, gift cheques and the electronic payment systems (card and non card) that do not involve the use of paper instruments. The major retail payment system/instruments/services in India are:

- **Cash based Payment System**

Cash is the most acceptable payment instrument and the payment system based on it is the most commonly used payment system in the world and particularly in the developing countries. In this system immediate or deferred payment of cash is made to settle the transaction pertaining to the purchase of goods and services, lending, borrowing and repayments.

- **Paper based Payment System**

The most popular and extensively used paper instruments are cheques. After cash, cheques are the second most widely used instruments for settlement of transactions in India (in terms of volume and not value,). The transactions related to the paper based instruments are settled in the clearing houses. Earlier the functioning in the clearing houses was completely manual but as the volume of the cheque based transactions increased and manual clearing became unmanageable, costly and time consuming some degree of mechanization was introduced with the induction of the Magnetic Ink Character Recognition **(MICR)** technology. The cheques now have a MICR codeline printed on them and MICR- cheque processing centres in the clearing

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1 Payment and settlement services and payment instruments are also discussed under this heading.

2 Transactions of individuals and companies with banks and other financial institutions related to repayment of loans, installments and premiums are also included.

houses are equipped with machines that can read this codeline and the clearing process becomes fast. Recent innovation in the paper based payment system is the **Cheque Truncation System (CTS)** which eliminates the need for the physical movement of the cheques. Only an image of the cheque, along with MICR data and other information is electronically sent to the drawee and clearing is done on the basis of this image itself. This has reduced the time required for the clearing the cheques and has made the process faster.

- **National Electronic Fund Transfer System (NEFT)**

NEFT is an electronic fund transfer system which allows transfer of funds from one bank account to another bank account. The accounts may belong to any NEFT enabled branch of any bank. This payment system is used for single payments. The transfer of funds does not occur on a real-time basis. The settlement takes place through 48 half-hourly batches between 00:30 am to 0:00 am on a daily basis. Through NEFT the net (not the gross) amount is settled in every such batch. This system is operated by the Reserve Bank in India. It can be used by individuals, firms , businesses, corporate etc. This system is being widely used in India for 'single', account to account transfer.

- **Electronic Clearing System (ECS)**

ECS is a payment and settlement system that allows electronic credit and debit operations on a regular basis. It can be understood with the help of an example. Suppose a company wishes to pay salaries to its 1000 employees. Instead of paying cash or giving 1000 cheques, one each to each of its employees it can make use of the **ECS credit** facility in which the company's account will be deducted by the total amount in one (debit) transaction, which will be settled against 1000 credit transactions one each into the accounts of the 1000 employees of the company. Similarly if each of these 1000 employees pays a monthly premium for an insurance cover of life provided by an insurance company, then the **ECS debit** facility can be used to debit individual accounts every month and credit the amount into the account of the insurance company. This happens electronically without the use of paper therefore this settlement system is called Electronic Clearing System. So, the ECS (Credit) facility is used mainly for large-value or bulk payments where the receiver's account is credited with the payment from the institution making the payment and the ECS (Debit) facility is used mainly for small value payments from consumers/ individuals to big organizations or companies. ECS is widely used in India for payment of salaries, premiums, repayment of loans etc.

- **Immediate Payment Service**

IMPS is a recent payment and settlement system introduced and managed by the National Payments Corporation of India. It is an 'immediate' payment service in the sense that money can be transferred from one account to another account

instantly without any time lag. The service is available round the clock on all days of the week including holidays. The service can be availed either through MMID code issued to the user by the bank or simply by using the account number and IFS code. It is a real time settlement system just like the RTGS but is different from it as the service is available 24x7 for 365 days.

- **Unique Payment Interface (UPI)**

UPI is like a unique identity/ virtual address of an individual, whose multiple bank accounts can be brought together under the umbrella of a mobile application by linking them to this virtual address. Each participating bank provides its own UPI application for different mobile operating systems. An individual is free to choose UPI App of any bank. Money can be transferred from one individual to another using virtual address or scanning the QR code. This system has been developed by the National Payments Corporation of India and is regulated by the Reserve Bank of India and uses the unique identity/ virtual address (account no., IFSC and other details are not required) of the user to transfer money and make payments through the IMPS.

- **Debit /credit/ Prepaid Cards based Payment Systems**

Debit, Credit and Prepaid cards are physical instruments (plastic money) that can be used either physically by swiping at the POS (Point of Sale) or virtually by entering the details of the cards and One Time Password online for purchasing goods and services. The payments made using the cards are processed through the payment gateways. The mobile wallets also use the card details for recharging the wallets or for direct payment for transactions such as bill payments, mobile recharges, booking of movie tickets and other selected payments.

- **Bharat Bill Payment System (BPSS)**

BPSS is a bill payment system that provides a platform to the users to settle all their recurring payment at single window using different modes of payment including cards(credit, debit, prepaid), UPI (IMPS), pre- paid wallets, net banking, AEPS(5). This service provides instant confirmation through messages and receipts. It uses a network of agents for the purpose.

- **Internet Banking Service**

Internet banking or online banking allows the customer to make various banking transactions without visiting the bank. It makes use of a ‘user id’ and ‘password’ that enable the user to access his bank account and avail banking services through the online banking website of the bank. After login the customer can make various banking transactions including transfer of funds using the RTGS, NEFT or IMPS options. Payment for online purchases, bill payments, television and phone recharges can also be done through the online payment gateways.

- **Mobile Banking Service**

With the advent of mobile phones, mobile banking has come into vogue. Now, one does not require an internet connection and a PC to make banking transactions. Banking transactions can be done through mobile banking Apps. In addition to availing other banking services mobile banking allows the customer to transfer funds using RTGS, NEFT or IMPS, make bill payments for utilities and recharge TV and phones. Most of the Apps also provide the facility for transferring funds using UPI and allow payments through QR code scanning.

- **Mobile Money/Wallet**

This refers to a service that enables the user to make transactions using a mobile phone with the help of an App provided by the service provider. These include payments for recharges and bill payments, payment for goods and services using the wallet that has to be recharged from the customer's account. Direct payments (i.e. without transferring money into the mobile wallet), using the card details or UPI and net banking, can also be made for certain purchases through such Apps. Money can be transferred from one wallet to another wallet and the recent development in the mobile wallets allows for the transfer of money from one account to another account using UPI. Paytm, PnonePe, Google pay and Amazon pay are some examples of mobile wallets.

High Value Payment and Settlement Systems in India

Real Time Gross Settlement (RTGS), Government Securities Clearing System, Foreign Exchange Clearing System, the Inter-Bank Cheques Clearing System are the high value payment and settlement systems in India. The Foreign Exchange Clearing System deals with the transactions related foreign exchange. The Government Securities Clearing System deals with transactions related to sale and purchase of government securities. Both these systems are managed by the Clearing Corporation of India Limited. The Inter-Bank Cheques Clearing System is managed by the Reserve Bank of India. The most widely used high value payment and settlement system in India is RTGS.

Real Time Gross Settlement (RTGS)

This high value payment and settlement system is maintained by the Reserve Bank of India. It enables the transfer of money from one account to another account provided the amount to be transferred is not less than two lakhs. These accounts may be in any RTGS enabled branch of any bank anywhere in the country. The transfer of money through this system takes place on a real time basis, which means that there is no waiting period and the transaction is processed and settled immediately. It is called the gross settlement because there is no bunching of transactions and settling of net amount, the entire amount is processed and settled on a one to one basis. This payment system can be used by anyone including

individuals, firms, companies, financial intermediaries and other financial institutions. It is widely used for inter-bank transfers. This facility is available from 7:00 am to 6:00 pm on all working days except bank holidays. For inter-bank transfers the time is from 6:00 pm to 7.45 pm.

Legal and Institutional Framework for Payment and Settlement Systems in India

An overview of the Payment and Settlement Systems in India would be incomplete without the knowledge of the legal and the institutional framework in which these systems operate. All the Payment and Settlement Systems in India fall under the purview of the Payment and Settlement Act, 2007 and the regulations framed there under. The Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)[1], is the apex policy making body on payment systems in India. Clearing Corporation of India Limited (CCIL), is the organization responsible for clearing and settlement of trade in government securities market, money market, and foreign exchange market. National Payments Corporation of India is an Umbrella organization for operating various Retail Payment Systems in India. Finally the reserve Bank of India, as envisaged in the Payment and settlement Act, 2007 is responsible for the monitoring and regulation of payment and settlement systems in India.

Conclusion

Payment Systems provide the channels through which trade and commerce flow. Greater efficiency of the payment and settlement systems implies a faster flow of the liquidity in the economy. These enhance the time value of money and promote faster creation and transfer money between various hands engaged in economic activities. This provides an impetus to the economic activities thereby accelerating the process of economic growth in a nation. But the fruits of greater economic growth, development and prosperity can be enjoyed only if the payment systems are safe i.e. there is minimum risk involved in the payment and settlement process; if the payment systems are fully trusted by the people; if they are well rooted in the sense that they operate smoothly in all times within a sound legal and operational framework with enough transparency; if they are efficient i.e. there is optimality in terms of cost and turn around time and if they are accessible to all the sections of the society at reasonable costs. These qualities of Payment and Settlement Systems become all the more important in the era of globalization if a nation wishes to benefit from smooth international trade and from foreign investments. The responsibility for ensuring that the Payment and Settlement Systems possess these qualities rests primarily on the shoulders of the Reserve Bank of India in our country.

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[1] It is a sub-committee of the central board of the RBI.

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5

Digital India Platform: Empowering Society

Afreen Niyaz[*]
Younis Ali[**]
Saveela Salam[***]

Introduction

Digital India a movement launched by the Government of India to make certain that the Government's services are ready to the nation by machine and enhance online communications by growing internet arrangement and connectivity or by building the nation digitally empowered in the pasture of machinery. The initiative comprises plans to connect rural areas with internet networks. Digital India consists of three core components which are as follows:

- The improvement of safe and secure digital communications,
- Deliver government services digitally and,
- Universal digital literacy.

Kumar, et.al. (2018) carried out a research on "Digital India- A Digitally Empowered Society". The results revealed that the Digital India Programme is just beginning of a Digital Revolution, once implemented properly it will open new opportunities in the society and also the gates of employment for the youth. Also, Singh,(2017) conducted a research on Digital India platform and it was found that introducing the concept of Digital India is the step towards transformation in ways of making a new India where citizens are digitally empowered and economically sound. Moreover, Digital India is providing digital literacy and enrichment with knowledge of technology in rural as well as urban areas. Kapur and Ramamurti (2001) in their study argued for even broader impacts, extending to industries such as biotech, chemicals, media and entertainment as well as construction, all require knowledge services that go beyond the basic definition of IT-enabled services.

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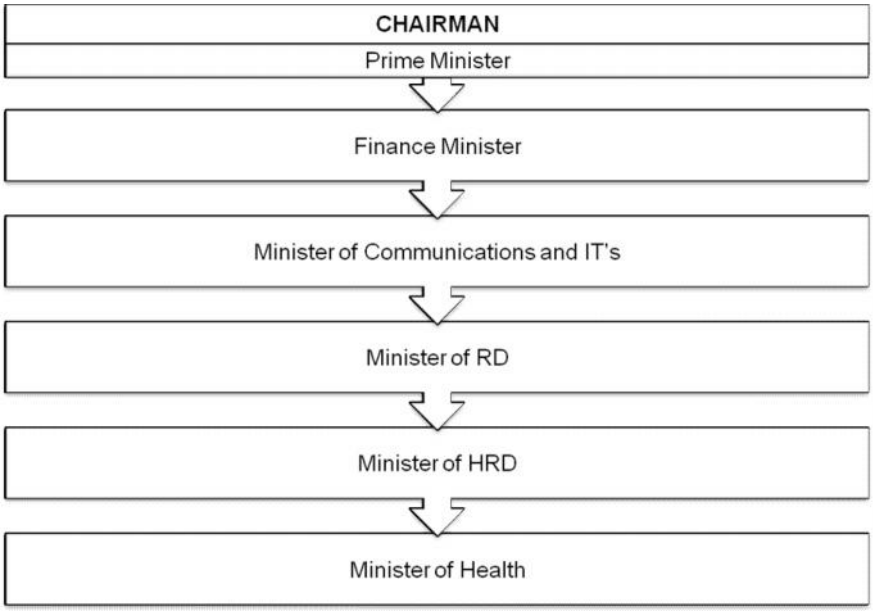
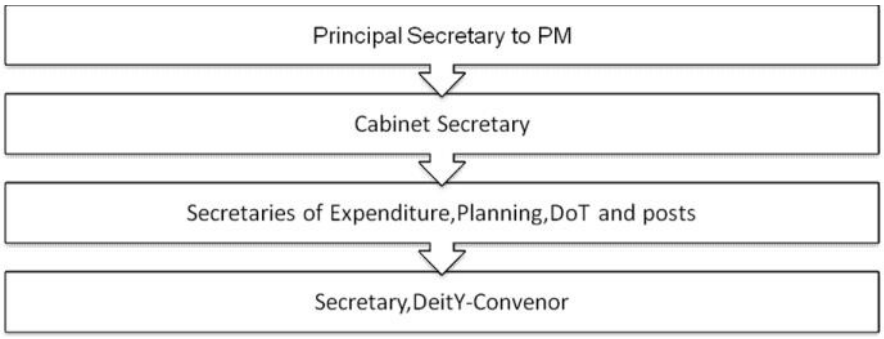
Compositions of Monitoring Committee on Digital India include:



Special Invitees include:



Objectives

- To understand the concept and vision of Digital India platform.
- To discuss the aim and pillars of Digital India.
- To identify the key projects of Digital India platform.
- To examine the impact of Digital India on the Indian people.

Research Methodology

This theoretical research paper has been prepared by using secondary data analysis that has been conducted in order to gain in-depth understanding of the "Digital India" initiative. For this purpose, secondary information produced by different authors and researchers has been analyzed and evaluated. Mostly the paper is based on the information retrieved from the internet via, journals, research papers and articles grounded on the same subject.

Digital India

Digital India is a reverie mission of the administration for the society and industries of India which might assist in linking a variety of past and present projects to carry India to a comprehensive stage. Through this plan government services are accessible for both urban as well as rural society digitally or automatically. It will assist to attain digital advancement and produce helpful impact in the lives of citizens in both rural and urban areas. The aim of the Digital India is to renovate our nation into a digital market with involvement from rural or urban society and this will make sure that all government services and information are accessible very where, anytime, on any device that is user-friendly, and secured. Digital India mission removes digital slit among the rural and urban India. Digital Technologies, which consist of Cloud Computing and Mobile Applications, emerge as catalysts for rapid fiscal expansion and citizen empowerment transversely the globe. These are being gradually more used by us on a daily basis from trade stores to government offices. They help us in linking with each one and also facilitate to distribute information on issues and concerns faced by us. In reality, Digital India is subsequently a huge passion to which India is witnessing. It aims at extremely moving the lives of each person with the alteration travelling the paths of both rural and urban India.

Visualization of Digital India

It includes the following:

- Digital infrastructure as a major utility of Digital India platform seeks to provide each and every citizen with high speed internet facility, a cradle to grave internet identity, mobile phone and bank account, basic access to common service center, sharable private space on a public cloud as well as safe and secure cyberspace.
- Availability of Governance and other services on demanding real time for online as well as mobile platforms seamlessly integrated across various departments and jurisdictions. Besides all citizen documents to be made accessible on cloud platform, by which as a result, citizens will not be asked to produce such documents for availing services. In addition to this, provision of cashless electronic transactions will also help generate business. Geographical information systems (GIS) will also be integrated with development schemes.
- To empower citizens, especially rural citizens by making them digitally literate. This can be done through collaborative digital platforms and also by making available digital resources in their native language with a view to make their participation a true reality. It will also help tap data that which will be freely available on cloud computing platform- independent of an intervention.

Vision of Digital India

Pillars of Digital India

Following are the nine pillars of Digital India:

- **Broadband Highways**

The Indian government by the idea of digital India has billed 5 billion to put together high speed broadband highways linking all the villages, government department, university etc. For faster execution and development of this scheme, participation of private players is very important to cover all the geographical area of this country.

❖ **E-governance**

The national e-governance plan has been formulated by the department of electronic and information technology, and department of administrative reforms and public grievances. This project works in both centralized and decentralized way. There are many different initiatives from central Government as well as state government under this project to ensure government services are available to citizen's electronics.

- **E-kranti**

The government has allocated 5 billion for the e-kranti project with an objective of providing electronic delivery of services to the citizens which include: e-health, e-education and technology for farmers, technology for planning, and technology for security, technology for financial inclusion and technology for justice.

- **Universal Mobile Access**

Government is specially preparing to connect unconnected areas and speedy use of technologies like network technologies like 3G, 4G and 5G etc. General public will access the online government services with the help of handheld devices so that nation will be well-connected, efficient and more productive.

- **Public Internet access**

Superior technologies that support cost containment, collaboration, and security, social connect and in-built intelligence that deliver remote access to any information or service available across the domain. This change will open new doors of e-services to every citizen.

- **Information for all**

Everything is connected through virtual networks for which fast work flow and no delays will be there due to wait in queues. Websites and mobile apps will convey data and practical participation and even through social media at large.

- **IT for jobs**

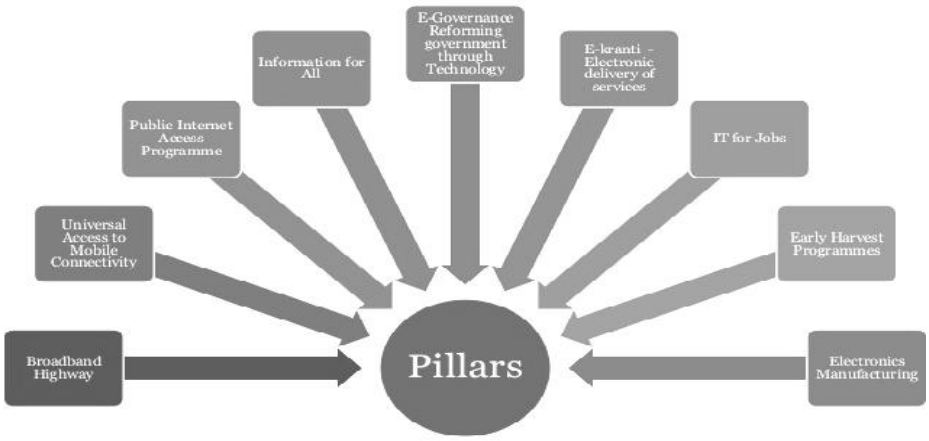
The government is preparing to provide training and teaching skills to the youth for employment opportunities in the IT sector. BPO industries will be established for the fastest growing segment of the IT enabled services industry which offers e-services 24/7 in every field and gives more jobs potentials.

- **Early Harvest**

This programme will generate short timeline projects where every manual service is altered by eservice. E-services like educational books to e-books,public Wi-Fi, sports to access online game.

- **Electronics manufacturing**

The empowerment of manufacturing through the internet of things will enable intelligent workshops that demonstrate data driven operational excellence and decentralized production control systems within and beyond the physical factory walls.

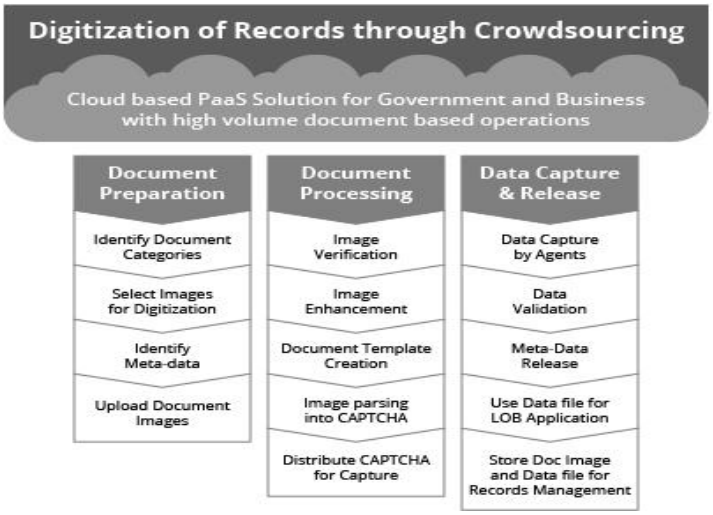


The Nine Pillars of Digital India

- **Specific Aim of Digital India**

Digitize India Platform (DIP) is an initiative of the Government of India under the Digital India Programme to provide digitization services for scanned document images or physical documents for any organization or association. Its aim is to digitize and create functional and purposefully the obtainable content in diverse languages, formats and medium, digitize and generate information for document supervision. It also provides a new way out by combining machine intelligence and a gainful mob source replica. It features a safe and programmed stage for dealing out and extracting pertinent information from text descriptions in an arrangement that is functional for meta-data

tagging, IT application dispensation and scrutiny. In terms of crowd sourcing, DIP is an innovative way of increasing citizen participation in nation building by involving citizens who are willing to help or work on a project. Citizens with available time and access to the internet will form a large and cost competitive resource pool. It also provides an opportunity for citizens to utilize their time for productive and remunerative work. Digitization of scanned document images into digital format will help unleashing the captive data and transforming it into active data for efficient and effective Governance services.



- **Digital Contributors**

Every Indian resident with an Aadhaar Number can be converted into a Digital Contributor (DC) and we can carry out uncomplicated information tasks on the DIP. On behalf of every confirmed and accurate task performed, the Contributor surely earns incentives. They can exchange the incentives into fiscal value or contribute them to the Digital India program.

- **User Organizations**

Government departments, civic segment society and independent bodies can even transform into a consumer association and make use of Digitization Service provided by DIP. A consumer association can further suggest their proceedings for digitization to platform operator. The proceedings must possibly be in a scanned representation. However, organizations who wish to submit physical records will have to pay for scanning individually.

- **Platform Operator (CSC SPV)**

The platform operators help in the on boarding of user association, pre-processing the scanned manuscript descriptions, create template for pages being digitized and delivering the digitized data to the user association. Platform operators remunerate the Digital Contributors for their earned incentives.

- **Benefits for Organizations And Other agencies**

  Digitized data extracts generated by DIP will help the organization to:

  - Index their manuscript by means of the information extract as meta-data tags.
  - Supervise, regain and right of entry their apprehensive manuscript descriptions more professionally through keyword-based search.
  - Utilize the statistics extract as computerized fact inputs in the IT application avoiding instruction manual.
  - Look after against corporal disaster by replicating the figures diagonally diverse media and location.
  - Digitally record the credentials saving space and expenditure of the organization.

- **Benefits of being a Digital Contributor**

  - Redeem our rewards to generate additional earnings.
  - Utilize our available time for a meaningful purpose.
  - Enhancing IT skills.
  - Increasing employability opportunities.
  - Get recognized as a Digital Contributor.
  - Receive credential as a Data Entry Operator.
  - Make a payment in the structure of Digital India.

- **Key Projects of Digital India programme**

The Government of India has embarked upon following projects under the program:

- **Digital Locker System** targets to minimalize the usage of paper work and enable sharing of e-documents across agencies. The sharing of the e-documents will be concluded through registered repositories thus warranting the authenticity of the online documents.
- **MyGov.in** is employed as a platform for citizen engagement in governance, through a “Discuss”, “Do” and “Disseminate” approach. The mobile App for MyGov would contain such features for convenience.
- **Swachh Bharat Mission (SBM) Mobile app** will be occupied by community and administration to achieve the objectives of Swachh Bharat Mission.
- **eSign framework** would facilitate people to digitally mark a paper online by using Aadhaar confirmation.
- **The Online Registration System (ORS)** have been implemented under the eHospital application. This application offers necessary services such as online registration, payment of fees and appointment, online diagnostic reports, enquiring availability of blood online etc.

- **National Scholarships Portal** is a single pace resolution for scholarship right from compliance of application, confirmation, approve and disbursal to end beneficiary for all one of the grant accessible by the GOI.
- DeitY has arranged to a proposal named **Digitize India Platform (DIP)** for huge scale digitization of proceedings to make possible and disciplined delivery of services to the society.
- The administration of India has assumed a proposal viz. **Bharat Net**, a high-speed digital highway to connect all 2.5 lakh Gram Panchayats of nation. It will moreover be world's prime rural broadband connectivity assignment with visual fiber.
- BSNL will lead **Next Generation Network (NGN)**, to supplant 30-year-old exchanges, which is an IP based machinery to convey regarding services like voice, information, varied media/video and sorts of package switched communication services. BSNL have commenced huge level operation of Wi-Fi hotspots in excess of the nation. The client can handle on the BSNL Wi-Fi set of connections by their portable strategy.
- In the direction of deliver smooth services automatically and progress the way people and authorities manage each other, it is imperative to have permeated connectivity. The '**broadband highways'** as one of the pillar of Digital India has been initiated by GOI. While availability is one rule, empowering citizens and encouraging smooth conveyance of services frames the other.

Impact of Digital India

- **Economic Impact**

According to analyst, the Digital India plan could advance GDP up to $1 trillion by 2025. It can assist a solution in macro-economic factor such as GDP expansion, employment creation, work efficiency, enlargement in quantity of business and income leakage for the Government. As per the World Bank report, a 10% increase in mobile and broadband penetration increases the per capita GDP by 0.81% and 1.38% correspondingly in the upwardnation. India is the 2nd largest telecom market in the world with 915 million wireless subscribers and world's 3rd largest Internet market with almost 259 million broadband users. There is still a huge economic opportunity in India as the tele-density in rural India is only 45% where more than 65% of the population lives. Future growth of telecommunication industry in terms of number of subscribers is expected to come from rural areas as urban areas are saturated with a tele-density of more than 160%.

- **Social impact**

Social sectors such as learning, healthcare and banking are incapable to accomplish to the needs of the people due to obstruction and restrictions such as middleman, lack of knowledge, illiteracy, scarcity and non availability of resources,

information and savings. These challenges have led to an unnecessary enlargement in both rural as well as urban areas with noticeable differences in the financial and communal condition of the citizens in these areas. Modern Information and Communications Technology (ICT) makes it easier for people to obtain access to services and resources. The penetration of mobile devices may be highly useful as a complementary channel to public service delivery apart from creation of entirely new services which may have an huge impact on the value of existence of the users and lead to social modernization. The deprived literacy rate in India is owing to unavailability of worldly communications in rural and far-flung areas. This is where m-Education services can play a significant function by attainment in distant masses. According to estimates, the digital literacy in India is just 6.5% and the internet access is 20.83 out of 100 populations. The digital India plan will be supportive in providing real-time teaching and partially tackle the dispute of lack of teachers in education arrangement throughout sophisticated and practical classrooms. Education to farmers, fisher men can be provided through portable plans. The high-speed set of connections can afford sufficient communications for online education platforms like Massive Open Online Courses (MOOCs).Mobile and internet banking can progress the economic addition in the nation and can generate win condition for all parties in the value-chain by creating an interoperable environment and income allocation business models. Telecom operators get supplementary income streams although the banks can attain new consumer groups incurring lowest achievable expenses. M-health can promote innovation and enhance the reach of healthcare services. Digital platforms can help farmers in know-how (crop choice, seed variety), context (weather, plant protection, cultivation best practices) and market information.

- **Environmental Impact**

The main changes in the machinery space will not merely bring changes to the monetary structure but will also add to the ecological change. The subsequently generation technology will facilitate in lowering the carbon track by dropping fuel utilization, waste running, greener workplaces and thus leading to a greener ecological unit. The ICT (Information and Communications Technology) sector helps in well-organized administration and practice of inadequate and non-renewable resources. Cloud computing technologies would minimize carbon emissions by humanizing mobility and flexibility. The energy utilization can be decreased from 201.8-terawatt hour (TWH) in 2010 to 139.8 TWH in 2020 by advanced acceptance of cloud data centers causing a 28% drop in carbon footstep since 2010 levels.

Conclusion

Digital India as we are aware is promoted by Government of India to use maximum things in a digital way. It also provides great contribution towards the growth and development of India. The main aim of digital India is not only to reduce

paperwork but also to connect every area of India with high-speed internet connectivity. Introducing the concept of Digital India is the step towards adrastic and far-reaching change in ways of making a new India where citizens are digitally empowered and economically well. Digital India project will help in the evolution of employments and also increase economic part of Indian economy. It is providing digital literacy and upgrading with knowledge of technology in rural as well as urban areas. If a continuous approach is made in this project with trustworthiness it will absolutely precede India to convert into the Digital India and the development achieved will help India to become a developed country in place of a developing one. However, it is essential to remember that ICT alone cannot directly lead to overall development of the nation. Instead the overall growth and development can only be realized through supporting and enhancing elements such as literacy, regulatory environment, basic infrastructure, overall business environment, etc.

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6

Cashless India: Present Scenario and Challenges

Prof. Hamdani Rizwana M.J.*

Introduction

To make India knowledge economy, Government of India rolled out a flagship programme named Digital India. Paperless, faceless and cashless is one of professed role of Digital India. A report by Google India and the Boston Consulting Group states that by the year 2020, $500 billion worth of transaction would happen online which means it would increase 10 fold in next two year. Online transactions have become 20 times in the last 6 years. And this data is prior to demonetization drive. Going by the recent trends, it can be concluded that India is doing well in this regards. After 1991 economic reforms, India observes serious policy paralysis during 2010 to 2014 due to certain internal, external and political reasons. After the changes in New Delhi's political power corridors in 2014, the new government tried to transform the Indian economy by numbers of policy measures like Make in India, Ease of Doing Business, Digitalization, Demonetization, Startup India, Skill India Mission, etc. All these measures, policies, missions are interconnected and have the same objective to make India a developed nation.

Demonetization and Digital India are the biggest reforms after 1991 New Economic Policy, announced by Dr. Manmohan Singh, the then Finance Minister at Center. Demonetization is first phase of the Digital India plan of the Indian Government. The vision is to transform India a digitally empowered society which will be "Faceless, Paperless and Cashless". This ambitious mission was driven by Demonetization on November 8, 2016. An independent research by HSBC reports that cash circulation in India has increased after demonetization. The use of cash to its GDP is 8.8 per cent in 2017 has jumped to 11.4 per cent in 2019, while developed economies like USA is 7.9 per cent. Developed economies like Switzerland, Hong Kong and Japan Cash to GDP ratio is much higher than Indian economy. Cash circulation in an economy around 10% of its GDP is not an alarming sign for the economy transforming to digitalization.

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India is 4th largest user of cash in the world which shows its backwardness. It is unscientific and uneconomic also. So the question arises why an ambitious mission like a cashless economy is driven. The answer is based on the following advantages.

Advantages

- **Cost Reduction**: RBI has spent Rs. 32.1 billion just for printing the currencies that are in circulation. Add to it the cost of setting up and maintaining ATMs. Security of ATMs and bank premises is also to be outsourced. Cashless transaction reduced printing, storing and transportation cost remarkably. A sufficient time and effort is spent for bringing them in the hands of final consumer. Also, paper currency has limited life after which it is replaced and renewed.
- **Convenient, time saving and safe on move**: With the advent of electronic modes of payment, one can transact 24X 7 without physical presence. One can save time which they may have to spend in bank queues and traffic. Carrying cash while travelling is not risk-free, while cashless is safe and secure.
- **Risk Reduction**: Even if Banking cards are stolen, it is easy to block it online without any interaction with the bank or issuing authorities. Blocked cards can be directed to seize in ATM machine if it is block and programmed by the banks.
- **Payment Tracking:** It is easy to evaluate total expenditure on various purposes easily at any time on your own device. Bank statements are available online to view and /or for printing at the time of audit.
- **Increase in tax Base**: All online transactions are transparent and cannot manipulate while recording in the books of account. Cell Companies and even informal sector players' transaction is visible and can be traced easily which increases tax base.
- **To Prevent Black Money**: It will be easy to monitor suspicious transaction to curb black money and illicit transaction. Monitoring is easy for tax authorities and government agencies to curb black money, laundering and suspicious fund transfer to enemy countries, anti-national and /or anti-social elements.
- **Financial Inclusion**: digitalization and cashless implementation will automatically increase the more free and easy participation of the businesses as well as common individuals in financial services as per their requirements and needs leading to financial inclusion.
- **Discounts:** E- tailors offer a lot of schemes like cash-back offer, instant and huge discount, free home delivery for e- payment. An ordinary and even once a life customer can take the advantage this discount offers.

Issues and Challenges

A Reserve Bank of India (RBI) Bulletin "Drivers of Digital Payments: A Cross Country Study" revealed that a panel data study of eight emerging markets suggested following major factors is crucial to grow Digital Payment in any country.

- Increase in per capita income
- Higher education level
- Wider availability of Digital infrastructure
- Greater internet penetration
- Financial deepening
- Price stability

Moving towards Cashless economy is not a cakewalk for the country like India. There were many challenges to transform cash loved economy to cashless economy.

India facing issues like cyber security, inefficient digital and financial infrastructure, sick and loss making banks, credit crunch Non Banking Financial Companies. Being the second largest populated country in the World Indian economy should be among the most developed economy in terms of business, technology, education, health, Human Development Index (HDI) , equality, standard of living, hunger index, etc.

Human Development Index

Country	Rank
Norway	1
Sweden	2
Australia	3
India	130

Source: HDI 2019, UN

Indian economy is second highest populated country with 69 percent literacy rate, slow pace of urbanization, and 60 percent of the people still live in rural areas, lack basic infrastructure. With this background India is talking about bullet train, space missions etc. One can find its livelihood by pulling Rickshaws. 90 percent of the workforce is in unorganized sector and amidst of all disparities. Large country, huge population, Rural Population, Literacy, informal sector, infrastructure, technological hindrance, labour organization, labour reforms, regional imbalance, income in equality, red tapisim, digital scams and fear among users of digital transaction, etc.

- **Too large to handle:** India is huge country spread over 3.287 million sq km where areas like north east is hilly while some areas are flood prone and some are dried and deserted. One the other hand number of local languages at state level and even on district level makes communication difficult on national level. Some areas of India still observe social unrest and anti-social and anti-national activities throughout the year.

- **Too big to implement:** Norway, Finland and other cashless economies are small country with population about 50 lakh each. Similarly Australia occupied 2.5 crore people in year 2019. Population of Australia, Finland and Norway together is less than population of Mumbai and Kolkota. Implementing any new policy in a country with such a large population is not an easy task for states. It requires a proper strategy and home work prior to implement new programme and make uniform code.

Population 2019

Country	Rank
Norway	5.4 million
Sweden	10.03 million
Australia	25 million
India	1366 million
China	1433 million
USA	322 million

Source: Worldometer

- **Inadequate Infrastructure:** A populated country like India have only 2.3 lakh ATMs, whereas developed countries like UK, USA, Australia, France have 3-4 times that of India. Also, ATMs are concentrated in urban and metropolitan cities. It is my personal observation that 5 visits out of 10 to nationalized as well as cooperative banks have either server break-down or connectivity issues with service providers. Moreover, the data speed is very slow to complete the transaction at adequate speed. It is also observed that senior staffs are not computer savvy and takes more than normal time for transaction and other services like NEFT and RTGS.
- **"Cash" - First Love:** But Indian economy is cash loved economy. People have full faith on cash for small as well as big transactions. Cash transaction is preferred not only for transaction motive but precautionary, speculative and business motives. So much that MNCs like Amazon had to incorporate "Cash on Delivery" to enhance its grip on Indian Economy.
- **Formally informal and Per Capita Income:** 90% of India's workforce are engaged and earn their two meals from informal sectors. Where job is seasonal and /or temporary and wages are paid in cash. The following table shows that the huge gap between India and other digitally developed nations' per capita income.

Per Capita Income

Country	US $
Norway	81,695
Sweden	53,352
Australia	35,6352
Brazil	8,968
India	2,036

- **Unproductive Data Usage:** Holding mobile and using of internet; for calling or data, is mainly for playing game, watching their favorite videos and socializing with social and unsocial people. Most of the people do not even know the basic operation of payment through mobile applications. The mobile apps are not easy to use for the making payments, transferring funds from one account to another. It is observed that mobile apps developed by the banker and other financial institutes or by the software companies does not have in mind rural population as their target user.
- **Raw education:** It is observed that near the bank and /or within the bank premises there were few people who are filling forms like; account opening, withdrawal and payment slips, change of mobile number, starting SMS, Phone banking, Internet banking, etc. against the payments. Although there are people who are educated can read the forms but cannot understand and fill it properly because they have raw education. Their education is not based on practical life. This raw education needs to be changed.

Literacy Rate

Country	Per cent %
Norway	100%
Sweden	100%
Australia	100%
India	69%
Brazil	92.60%
South Africa	94.30%

Norway, Sweden, Brazil, Germany, etc. are countries where college education is free. While in India quality education is very expensive. India to need to improve its education system to make Indian society well educated to compete with the global peers and use the updated technology in all walk of life.

More than 65% of the people are still living in the rural India and are not very expert in using The other developed nations' urban /rural ratio is very high as detailed in the table below. Banking apps. It is also recognized that mobile apps developed and are used by banks are normally not very easy to use for common customer.

Rural / Urban Ratio

Country	Ratio
Norway	98.3%
Sweden	87.7%
Australia	85.7%
India	34%

Source : World Bank

- **Red-Tapism:** Forms in nationalized banks are not simple and are require irrelevant information to be filled. Incomplete forms are rejected by bank officials. To avoid rejection and complete the formalities of the bank as soon as possible people use to get the form filled by agents who has friendly relations with the bank officials. It is also strange to know that most of the time forms, slips are not in stock in the bank while it is available with agents where one can buy it at any time.
- **Labour reform:** The sectors like Agriculture, Construction, Textile, etc are cash payment sectors. Government need to do implement several labour reforms where labours are encouraged to prefer to take monthly or at least bi-weekly payment from the employer through cheques. Regional Imbalance:
- **Income inequality:** Recent data released by Oxfam India, revealed that income inequality has been increasing among the various groups of people in India. Due to this income inequality, low level income people can not afford to use online services. Although the money or salary in bank account is very less but is somewhat not liquid for them and does not provide them proper utility.
- **Shaking laymen belief:** The stories in the news paper, Facebook and Whatsapp universities reveals that innocent Indian have cheated and quite vulnerable to digital scams like OTP, Password, Pin Codes, fake email requesting bank details, debit/credit card password, etc can be traced easily from internet, mobile data while users are online. Similarly on the larger front scams like PNB bank, IL &FS, PMC bank, shaken the trust of the common people from banks. This kind of issues get viral on the social media very easily at the speed of light which increases the cash transaction remarkably shattering cashless economy dream in fraction of seconds.

Conclusion

As India having biggest pool of young people where education and awareness about government functioning and policies is minimum. The voices are rising from the government corner about the improper and untimely implementation of Demonetization and GST causing unexpected results aftermath of these two biggest economic reforms in modern Indian History. Government has to do homework properly prior to implementation of any policy where common people are directly involved. Policy maker should keep in mind true situation of end users while drafting policy and Government should take a dummy rehearsal prior to implementation of new policies.

Considering the regional imbalance and income inequality government should implement policies regarding online transactions should be in several phases from higher income group to lower income group, developed region to under developed region to make people comfortable with the new system. Implementation in phases

will give enough time to bank employees to have adequate time to understand real time problems and can be sort out in next phase with the help of policy markers and think tanks of the policy.

Government should take immediate steps towards the labour and employment reforms to transform cash loved employees and employer to convert them in digital world. At the same time its government's responsibility to create uniform standard, forms and slips for the users with minimum information to be filled while using banking services. Government watch-dogs and whistle blowers should make possible the banks and others institution campus client/customer friendly and agent free to gain the faith of the common man.

Rumors like dis-continuation of Rs 2000 and Rs 500 currency notes, delayed notifications and actions from Reserve Bank of India, Ministries, etc. create fear and confusion among common people regarding safety of their hard earn money. Reserve Bank of India and Central Government should take immediate and strict action against any such event which create dissatisfaction, fear among the bank customers.

Educational institutions should provide real life, practical education and should not concentrate on educating people but to develop their mind to combat real life issues efficiently. And finally but not final, the issues of data usage should be controlled to avoid unproductive data and time spending by the people. Government, data service provider, TARI, etc should implement certain policy to restrict use of data for watching movies, playing online games, etc. by charging extra amount for their use. It is responsibility of parents and society to keep eye on activities of young generations while they are online.

With the measures like these, India can get closer to cashless economy efficiently and smoothly to garner the fruit of economic reform.

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7

Digital Payments: Growth Outlines

Dr. Dilip Panwar*

Introduction

NDA government's demonetisation move had many stated objectives, however unconditionally it successfully pushed forward the agenda of cashless economy in India. Major Progress was witnessed in this area and it was marked by high awareness among the public regarding the benefits of cashless economy. Indeed, a very strong foundation was provided for the future take-off of the cashless agenda of our country's economy. Diverse players from private sectors and the regulatory system of RBI geared towards the needs of promoting cashless economy. The advances in economy and the imperatives of globalisation call for high convenience and fluidity in the payment structure. The cash laden system of payment is far more bulky and has greater scope of enhancing the size of black currency in the economy. In developed nations the penetration of cashless component of economy is very high where as in developing countries the traditional habit of saving cash for emergency needs is always a roadblock in the inclusion of new payment technologies in the economy. Successfully switching to cashless mode of economy would certainly need changing age old habit patterns of savings thereby the component of behavioural dimension becomes crucial here. The availability of cashless options is one thing but metal acceptance of such measures especially in developing countries is quite a big challenge.

Today we see a race towards cashless economy throughout the world and this very term has started to dominate the minds of the policy makers, the business entities and the economically aware citizens. The buzzword in polity is *democracy* which is deemed as the most appropriate and desirable form of government in the world. In same way when it comes to ambitions in economy the new buzz word is *cashless economy.* Sweden has received the distinction of becoming the most cashless country where

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monetary currencies of various forms just account for below 2 % of its Gross Domestic Product. Even offerings to Gods are accepted in online mode via mobile apps[1]. The prospects of a cashless economy are very alluring and promising.

In the light of the above issues narrated, this chapter would try to cover multifarious aspects of cashless economy. From providing background to such attempts for novel ways of running payment economy, the study will further move towards exploring the nuances of the cashless economy. The issue shall be dealt with in detail by providing current context and the challenges there in in the path towards digital payments. A spate of government measures shall be analysed alongside the examination of regulatory aspects in order to cover the topic of cashless economy in holistic manner.

Our economy has witnessed a boom in digital payments in the recent years. Over the years the frequency and the quantity of digital payments has increased. The alliance of banks and Fin-Tech companies who have provided cutting edge technology, is leading to a huge spurt in technology based financial settlements. On the banks front, ease of convenience has been achieved by ensuring a swift system of debits and credits enabling quick money transfers. The case in point is that banks have provided debit/credit cards to all the account holders enabling them to have the facility of online transactions with ease. At the same time the common strategy is to widen the reach of especially credit cards to bank's customers. For this banks are devising aggressive ways for the promotion of credit cards. A credit card holder is always more tempted to shop online for the sake of various promotional benefits given by the banks. The end result is not only high volumes of online transactions but also a spurt in the culture of consumerism which enhances the longevity of good industrial growth.

The government is also chiefly responsible for the high growth in digital payments. Gone are the days when the government geared the entire machinery towards the delivery of subsidised goods and services to the targeted segments of the society. Now the acceptable norm is to apply direct benefit transfers wherever possible to reduce the scope of corruption and associated leakages. Even MNREGA workers are given money in their bank accounts doing away with the need of distributing physical cash. Various state governments have also opted for IT based solutions for disbursement of salaries and other benefits to its employees via tools like SSO Ids, Pay Manager etc. In nutshell the government is an equal partner and stakeholder in promoting this new mode of online transactions. It also shortens the scope and the extent of black money in the economy.

The benefits of digital payments are enormous and have a bigger appeal to all the segments of population. Firstly, even persons of old generation are attracted to such mode of payments due its time saving benefit, swiftness and ease of doing aspect. A little bit of informal training or workshops are enough to prepare this

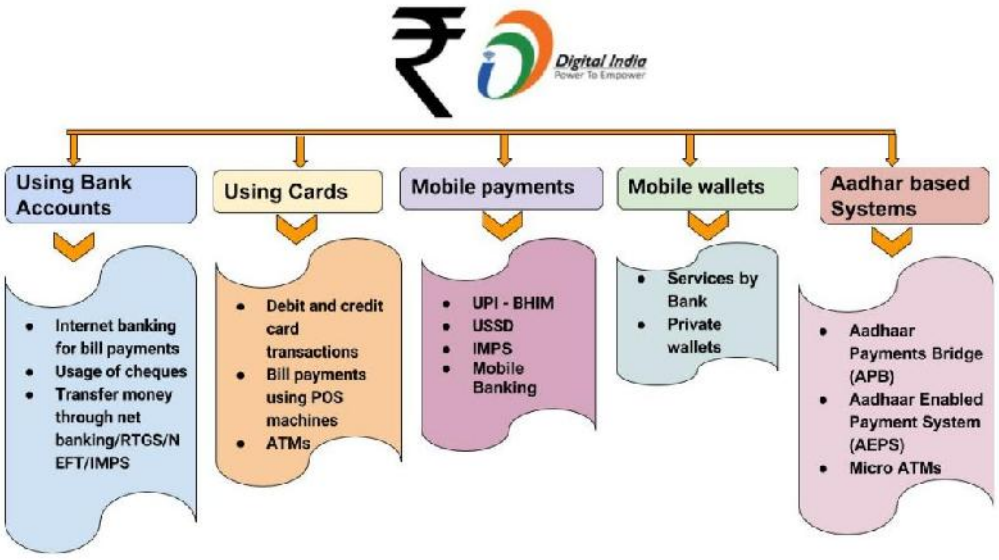
untouched population for using the latest innovations in payment systems. Now the old pattern of cash laden transactions is shrinking drastically because of its associated risks, cumbersome nature and the fact that the new generation is already well versed with IT based platforms for payments. Secondly, digitalisation of economy at a larger level is promoting financial inclusion which is a must for any growing economy like India. Now the necessity of physical presence of customer at certain spots for carrying out transactions has been done away with and this acts as a big influencing factor in bringing more people in the banking net. Thirdly, the whole banking system is that providing incentives, cash back offers and promotional schemes have become the norms which has inflated the quantum of digital payments. E-shopping companies like amazon, flip kart have simply reaped the benefits of the digital infrastructure in our nation. Added ability to offer deep discounts in face of losses has been the key to the success of e-commerce apps in India. Fourthly, the need to carry cash involves certain risks like the fear of losing cash in some unfortunate criminal acts or chances of getting fake currency in return. Carrying huge amount of cash to another place is always hazardous and a stressful activity[2]. Fifthly, cash laden economy provides greater scope for tax evasion and black economy. On the other hand use of online tools for transactions keeps evidence in form of trails. Therefore, such transactions can be traced easily and the tax authority of the nation keeps a close vigil on high volume transactions.

Such benefits of digital payments are slowly bringing cultural shifts among the people whereby high degree of consumerism fed by the forces of globalisation is getting wider acceptance. High prospects of Indian markets are enticing foreign investments here and this positive factor in economic field is chiefly responsible for India's growing diplomatic capital at international level. Once it was remarked by Pervez Musharraf in a TV interview that India today is seen as "apple of an eye" kind of nation and especially the West is looking at India and aim to reap the profits of infinite possibilities of her economy. Such diplomatic prowess certainly has roots in Indian economy which is chiefly fed by plethora of digital payment structures.

The benefits of *cashless economy* or rather to be more realistic *less cash economy* are enormous. However many daunting challenges are there confronting the policy makers. Firstly, Indian economy is heavily dominated by cash at present equalling GDP's 13%. To make matters even complicated cash transactions done in our nation equals 95%. The prime reason is the prevalence of huge unorganised sector which is fuelling cash transactions at rapid pace. Secondly, the introduction of ATM cards was aimed at enhancing cashless aspect of transactions and it was a tool for formalising payment system. But over 90% of the ATM cards are exclusively used for cash withdrawals whereby this hard currency enters the markets and increases the cash circulation in the economy. Thirdly, e-infrastructure like high speed internet connections, numbers of POS machines and even its usage limited by high cash

culture, lack of power in rural India etc. are major constrains. Fifthly, a very frightening factor is the possibility of e-frauds like data hacking, identity-theft, phishing, friendly frauds etc. Frauds on platforms like Olx, Paytm, net banking, ATM cloning etc. are widespread and find a place in newspapers almost on daily basis. This is going to be a huge challenge to enhance the components of cash less in our economy. Many experts are fearful that identity theft related to Aadhar cards is a very real possibility endangering the personal data of billions of Indians. Sixthly, at a very fundamental level family members are more prone to overspend with access to various online payment facilities. Many newspaper reports have cited cases of children placing unwanted online orders on various shopping apps. It not only enhances unwanted consumerism but also negatively impacts the propensity to savings leading to financial mismanagement of the families. Last but not the least, informal workers like daily wage earners, hawkers, peddlers, BPL families etc. have opened up bank accounts under Jan DhanYojana but they are mainly non-operational accounts which foretells that cashless economy is still a far-fetched dream[3].

After going through pros and cons of the topic it is pertinent for us to gain knowledge about different types of digital payments which have emerged in India enabling customers to have multiple options to carry out payments. The below chart is containing the types and basic information about various digital payment systems.

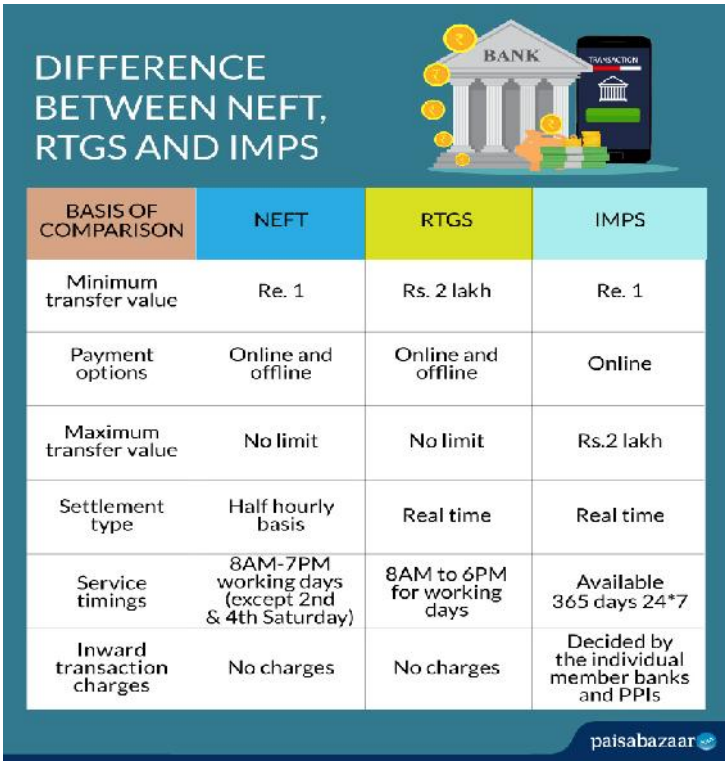


Published by IES GS on 1 Oct 2017 (iesgeneralstudies.com)

To understand the possibilities and scope of digital payment infrastructure in India, a glance at the evolution of this mode of transactions is a must. The first step in this direction was taken by RBI when in 1998; it published a document titled “Payment Systems in India” which examined the future possibilities of speeding up the

transaction network in India. Thereafter, in 2004 RBI took a landmark step in introducing Real Time Gross Settlement System (RTGS) which enabled swiftness in carrying out large amount of transactions like stock trading related payments, bond trading of government and other customer related financial settlements[4]. This new IT based solution drastically exhausted the possibilities of stock market scams which had rocked the very fabric of Indian economy in early 1990's. Such financial scams had thrived well due to the loopholes in the payment structure. Our Banking system under the direction of RBI quickly adapted to e-solutions for targeting financial frauds of various kinds.

Soon, RBI brought forward National Electronic Fund Transfer (NEFT) to speed up retail transactions. With passage of time NEFT has been made available on 24X7 basis and as per RBI's latest direction RTGS will also follow suit soon. It's a commendable achievement for such a giant economy like India which has enhanced the comfort level of a wide range of customers of banking segment. A glance at the latest basics of NEFT, IMPS and RTGS is worth taking in the following table.



BASIS OF COMPARISON	NEFT	RTGS	IMPS
Minimum transfer value	Re. 1	Rs. 2 lakh	Re. 1
Payment options	Online and offline	Online and offline	Online
Maximum transfer value	No limit	No limit	Rs.2 lakh
Settlement type	Half hourly basis	Real time	Real time
Service timings	8AM-7PM working days (except 2nd & 4th Saturday)	8AM to 6PM for working days	Available 365 days 24*7
Inward transaction charges	No charges	No charges	Decided by the individual member banks and PPIs

Published by Paisabazar.com on 21/09/2020

Such IT based payment reforms brought by RBI in the banking system had positive offshoots for stock market management as well. SEBI quickly took a leaf out of RBI's technological innovations and adopted new transaction systems in the stock market making corporate and capital market major beneficiaries in the process. T+2

settlement system was put in place for quickening the transactions related to shares in the stock market. T+2 signify the duration of two days for effecting settlement where as "T" means the date of transaction[5].Stock market may soon witness even speedier settlement system in the form of T+1 wherein the requirement of duration will get reduced to only one day. Such reforms carried out on continuous basis auger well for the capital investment scenario of Indian economy promoting ease of doing business in financial market[6].

To dwell further into the background of Indian digital payment system, the case of emergence of National Payment Corporations of India (NPCI) is interesting one. In 2004 a team of experts was sent to Sweden for learning banking system. The team examined working of a non-for-profit organisation named Bangirocentralen (BGC AB) which was owned by a consortium of some banks in Sweden. The idea behind this was to ensure a speedy platform for retail payment and associated services which struck the chord among the Indian experts. Taking a cue from this Swedish organisation, the idea of a similar organisation India for retail payment systems gained currency in India. In 2005-2008 RBI released a document which mooted the idea of an umbrella organisation for providing a technological platform to retail payments in India. Thus, in 2008 RBI set up NPCI led by ten lead Banks for ensuring ease of doing in retail transactions[7]. Now the shareholder banks in NPCI have increased to 56. The basic concept which was well understood in India was that the efficiency of payment system is a public good and continuous technological reforms here will enhance the quality of lives of Indian citizens.

NPCI could not be based on a profit oriented business model because the basic aim was clearly public good where speeding up the transactional network was focussed. Therefore it was created as a non-for-profit organisation on the lines of BGC AB of Sweden to keep it away from the dubious motives of private corporations. It was fully protected and supported by RBI and the government both. Such tight and semi-sovereign character with necessary autonomy was a must so that the public interests would be secured in all the scenarios. This is the precise reason why payment technologies like RTGS and related platforms have been provided to the public without any charges. Thus, the onus of promoting digital payments especially in hitherto partially covered areas like rural belts still lies with NPCI. Indeed, semi-urban areas have also not witnessed considerable reach of digital payments. Such enormous task will require resources therefore recently a demand emerged for turning NPCI into a for-profit-company enabling its partners to reap profits too[8]. However such step at this juncture is not required as the task of taking the facility of digital payments with multiple choices among all the households in India is still incomplete. So far this model has worked successfully and we should show patience by letting this institution do its work earnestly.

As it's not a profit oriented enterprise it may be assisted financially by government to promote payment transactions especially in retail segment at reduced prices. During the last decade, NPCI has been a major success story in India and many international economic institutions have praised and shown keen interest in this type of technological model. Even BIS i.e. the Bank of International Settlement has approved and showcased NPCI as a stellar example of economic integration in the field of digital payment network[9]. During the course of its journey NCPI has given many path breaking technological innovations like Unified Payment System (UPI) and IMPS (Immediate Payment Service).

Another important issue regarding digital payment system is MDR (Merchant Discount Rate). On every debit card or credit card payments done via POS (Point of sale) machine a fee is levied on the retailer in return for providing facility of point of sale earnings. It is not imposed on the buyer but rather merchants or dealers have to pay this fee for availing quick transfer of money into their accounts via card transactions. The standard rate of MDR is 1% for debit cards and around 2% for credit cards. Interestingly, this fee is not given to any one party instead it gets divided among three stakeholders who are responsible for facilitating card based POS transactions. The first is debit/credit card issuing bank, the second entities are those providing payment networks like Visa, MasterCard, Rupay and the third players are banks that provide the POS machines. These are the mediators involved in the process of carrying out POS based card transactions who are given returns in form of MDR[10].

Recently this issue has been in news because of the pattern in which MDR levies have been introduced in India. The idea was to promote NPCI based instruments in POS based transactions, a move that is likely to strengthen the efforts for universalising digital payments alongside certain benefits to NPCI. The current government introduced a budget provision of nil MDR for UPI and Rupay mediators. As these both were allied with NPCI it gave some sort of primacy to these two instruments over other players in the transactional markets like MasterCard, Visa etc[11]. The government could be right as it was done to ensure extensive reach of digital payments. However, it impedes the creation of level playing field in the arena of digital payment network therefore it does not cater to the needs of healthy and competitive growth of our economy. In most countries, their central banks adopt standard practise of applying uniform ceiling for all the stakeholders.

If we try to examine the actual operationalisation of this budget scheme, many banks have found loopholes to bypass this provision. At a very basic level, it is the banks' prerogatives to select its allied partners for the promotion of card based transactions. Therefore seeing loss of MDR fee for themselves and other stakeholders they adopt a smart strategy to ally with partners other than Rupay and UPI. As a result

international brands like MasterCard and Visa are favoured more by banks for partners so that the banks can easily get a share from 1 to 2 % MDR. The logic is simple, why Scheduled Commercial Banks will bear losses due to zero MDR? It is creating a strange anomaly in the payment network leading to a cartel like formation in the favour of certain payment mediators. It doesn't auger well for the natural and healthy growth of competitiveness in the payment segment of economy. The idea is to provide level playing field among all the stakeholders alongside concerted efforts for promotion of digital payment in rural and semi-urban areas[12].

To conclude, this article has tried to capture the whole journey of digital payment structure in India right from the outset to its present status and its fair share of controversies. A lot of commendable work has been done by various sovereign and regulatory bodies in India to popularise the use of digital payment methods. Slowly along with new generation, alert members of old generation are also learning online payment methods to bring ease and convenience in the process of buying and selling. As a phenomenon it will rise further and its reach will be even wider cutting across all the strata's in Indian society. However, this can be realised only if meticulous planning and execution of the strategies for reducing digital divide in India is first carried out. The IT superpower of the world must provide basic IT skills and tools to all its citizens to bring the cash laden transactions to possible minimal level.

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Digital Currency and its Related Computer Technology Involvement

Dr. Varsha Jotwani*

Introduction

The cashless economy refers to the flow of currency through electronic channels such as debit/credit cards, internet banking, mobile banking, Point of Sales (POS) and e-wallets.

The digital economy activity usually happens in three variant forms, namely:

- Cellular or E-wallet
- Plastic money
- Net Banking

While Cellular Wallet is the usage of cellular wallets or apps which is used for payment of digital currency, the usage of Plastic Money which involves debit/credit cards across swiping machines and POS terminals. The other variant is Net Banking, wherein the user sign in to the banking account and make the transactions through National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS) or Immediate Payment Service (IMPS) (in case of India). The most common reason driving the demand for the cashless economy is an ease in transactions and maintenance.

The increased digitization makes the transactions simplified and easier than ever, along with improved connectivity among users. It's evident in transactions that involve big money transfers happening in no time at a matter of finger touch [1].

Moreover, a digital economy is also observed as an efficient way to handle black money. It stops the circulation of fake currency, but in online mechanism the transaction can be strictly monitored under regulatory guidelines. For tackling tax evasions it helps governments in which everything is recorded digitally and can be easily traced [2].

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A digital process will be beneficial given the risks associated with holding huge amount of cash, which leads to lot of damage or theft. To maintain more transparency and accountability a digital economy regulate an edge over cash-related one. There are many different ways in which digital currency is promoted and their mode of transaction is also different, there are various types of digital payment they are as follows:

Digital Technology

- **Plastic Cards**

Plastic money like Debit and credit cards is one of the most used digital payment procedure across the world. There are numerous features of plastic cards they always come along with secure payments, convenience, and lot of many more[3].

One of the great advantages of plastic cards is that it can also be used for making other types of digital transactions. For example, to make a cashless transaction a user can accumulate the card information in the mobile wallets or digital payment apps make our work cashless mode. Moreover, banking cards can be also applied in online purchases, PoS machines, online transactions, etc.

- **Dominance of Cellular Apps**

Cellular apps are quickly helps us to in gaining lot of popularity because its fast, secure, and convenient payment methods. With these mobile applications helps the user to send, receive, and store money [4].

By linking to the bank account a user can add money in his wallet. In this manner a transfer of money can be done in a easy manner to the friends, relatives, or any other person by entering phone number, email ID, unique ID, or scanning QR code. Moreover, payments to merchants got also easier and a user can also pay various utility bills like water bill, electricity bill, mobile recharge, and lot of more directly from the mobile wallet app.

- **Quick Response Codes (QR code)**

Quick Response code is a two-dimensional code that comprises of pattern of black squares which is in the form of square grid. With the Image sense techniques can read the QR codes such as Smartphone cameras[5].To complete the transaction QR codes are extremely useful for making payments in which a user just has to scan the QR code for the merchant service.

- **Contact Free Transaction**

In a Contact free transaction which is based on RFID or NFC (near field communication) technology which is an easiest and safe technique which makes the users to buy products by simply scanning a card closer a point of sale terminal[6]. These kinds of cards can be simply a debit, credit, or smart card which is also known as the chip based card that is based on above technology[7].

Contact frees payments is very easiest as it doesn't require any signature or PIN as password. Moreover, you can also make contactless payments via NFC enabled feature smart phones that is linked with mobile money wallet. In this, the user has to simply keep his NFC (near field transaction)-enabled feature phone near the card reader to make the payment.

- **Electronic Clearance Service**

Electronic clearance service is that service which is huge applied for making bulk amount of payments, or paying instalments, paying off for utility services, and to distribute payments like dividend interests, pensions, and salaries. Electronic Clearance Service can be applied for both credit and debit services[8].

To initiate the Electronic Clearance Service , for making periodic credits and debits an authorisation has to be provided by the bank. Electronic Clearance Service is a safe and secure procedure as it can provide instructions for maximum sum of debit, validity period, and their purpose of transaction.

- **Vouchers**

For cashless Gift vouchers is one of the great gift idea to go cashless. It helps the receiver to purchase anything with the help of a voucher within the particular time frame. There are also lots of stores that give discounts on gift vouchers.

- **PoS Terminals**

Traditionally, PoS terminals are nothing but a handheld device present at the stores. These devices are used to read banking cards of the customers. However, the scope of PoS is expanding as these services are now available on various mobile platforms via the internet[9].

- **Unstructured Supplementary Service Data (USSD)**

Unstructured Supplementary Service Data (USSD) is a also payment option which is cashless for those who don't have a smartphone. In this procedure the user can make payments without a mobile phone or wifi facility[10].

In this techniques, the user must dial *99# to interact with an interactive voice menu via a mobile screen. However, to use this service, the customer must fixed that his mobile number is the same as that of the one associated with the bank account. This service is very much similar to the IMPS and it utilizes the MMID and MPIN with cellular number or account number with IFSC code for a successful transaction.

- **Crypto Currency**

A digital private currency is also one of the latest scenarios of today's currency which become a reality. This is unregulated running globally and there is a lot of dilemmas nothing is fixed, Unlike with fiat money, the price of producing many crypto currencies is quite high, reflecting the large amount of energy required to power the computers that resolve the cryptographic puzzles.

Pros & Cons

- **Pros of Plastic Money**

Purchasing Power: It is easier with the help of Credit or Debit cards it is easily to purchase things. So it is not as such important to carry hard cash in a large amount. Plastic money can be taken and it will be accepted everywhere, anytime[12]. Time Saving: With the help of credit card or debit card it is possible to purchase anything from anywhere without spending any money on fare or cash transition. By giving just a card details to seller store or companies and it is possible to finalize the order. In whole procedure lot of time would be saved. With the help of internet we could minimize the time.

- **Cons OF Plastic Money**

There are various merchants which only credit cards is accepted of a specific company only. In this situation the cash is the only medium of payment for those who utilize a credit card of another company. Less International Acclaim: There are various cases where numerous companies do not allow their cards to be utilized in areas where they have a regional crises with. Worn out Magnetic Strip: Due to massive usage the magnetic strip of a credit card can get tear off. While travelling if such a condition happens, and this is the only way of cash that the consumer has, then they have to wait till the time they get a new card, which can take a minimum of 48 hour[13]. Increased Debt and High Interest Rates: Credit Card provider financial institutions and industries pay the greater interest rates (may be greater then 10% to 25%) on extra money in that case if someone fail to pay off up to the fixed date of the month. That interest is their earning, for which they provide extra buying limits then your money. This is not a nice idea that owing a loan on higher interest rates and spends unnecessary things. This is complete wastages of finances, Fraud: Credit cards can be stolen. A thief may be directly or to get their information (which is required in money exchange). In today's technical intelligence it is easier to get a replica of any credit card or debit card, which acts like original and they can be give you a major loss of finances. So be aware from fraud as they do it by sending fake messages in which money from your pocket without your information would be stolen.

Conclusion

The rise in merchandising produced by economic reforms began in 1990's has also provoke sturdy demand for plastic cards. Maximum number of plastic card is introduced more in the the malls, multiplexes, online shopping stores and shopping complexes to encourage the customers to utilize. In the modern day, Indian customers make it easier to make physical payment (credit card or debit card payments) rather than holding too much cash involvement to the growth of plastic money in the country. The uniqueness of this kind of competition has further fuelled the usage of plastic cards in the country like never-before. The consumer advantage is to offer a greater product at a

lower cost and that too with profitable deals enthralled with rewards scheme, loyalty bonus points, promotional campaigns etc. But few customers are not able to use cards efficiently due to its complex nature and they don't actually know how to function it for specific purpose. Some kind of training regarding its usage, the banks should also give them. While using their own cards the banks can also provide them facility to use plastic cards on trial basis so that they can become more confident. Cost has also remained an issue in case of credit cards. The interest levied on outstanding amount is greater which sometimes takes the customers in debt trap ultimately by not encouraging the potential customers to make utilize of it. However, all these difficulties will decline over time and positively effect trends are expected to continue in the near and far-future. With the increase of plastic cards in future would wholly depend upon the capacity building of the banks to meet the challenges and make usage of the opportunities in a profitable way. However, the kind of technology implemented and the efficiency of functions would provide the much required competitive edge for success in plastic cards business.

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9

Online Education in Geography: An Appraisal

Dr. Anita*

Introduction

Education is the process of teaching, learning, training skills to human beings to prepare them for successful individual and social life. There have been different types of traditional and modern ways of teaching in India and in other countries of the world but the objective is to prepare better citizens or human beings.

ICT (Information and Communication Technology) - ICT stands for Information and Communication Technology. It is an umbrella term that includes all the technologies for communication of information.

It is a kind of technology that uses hardware and software and internet facilities to prepare teaching and learning material, storing it, exchanging, modifying, retrieving. It processes the data in desired format and produce information in desired way.

It can be used in the classroom for teaching from one student to a group of large number of students in the formal teaching sector from pre-nursery, nursery, middle, secondary, Senior Secondary, college to university level in any language. It can be used teaching for Literacy level also. Recently, medical practitioners, Architects, general education teachers' legal practitioners and teacher's management are using this technology to understand the subject matter effectively and teaching students effectively in a large group. It is time saving paper saving. Teachers are using it for their work management such as attendance, preparing results etc. through apps.

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Online Education: Online education is medium of conveying instructions and knowledge with the help of internet from teachers to students and then taking feedback and solving their queries online.

Geography: Broadly, it is a study of What, Where, Why, When and How.

ICT has become popular support system in teaching and learning tool in the last two decades. A decade ago, Education through satellite and in smart class room started with the help of digital tools. Now suddenly, with the entry of COVID 19 in India and then subsequently with notifications of lock down, curfew etc. a sudden development in the education sector ;i.e., education though internet/ online education has taken come up all over India from School level Education to University level Education in all the streams of Education.

The recent rapid growth of Technology calls for a change in system of teaching and learning delivery. Though technology is not a replacement for existing conventional method, yet availability can fortify the education process. Keengwe and Georgina 2012. Parallel to the advancement of information and communication, the approach and methods of teaching languages have also been further developed El-Ghalayini and El khalili 2012

Earlier researches reveal the advantages of use of ICT for teaching and learning of Geography subject. Geographical Information Systems (GIS) makes many geographical concepts easy to understand and present large amounts of unsorted, non-sequentially related data in sorted and readily accessible formats, so that students concentrate on interpretation and analysis of data. ICT enables higher level thinking skills, especially for pupils using GIS (West, 1999) Using GIS software enhances spatial awareness and decision-making skills (Audet and Paris, 1997; Taylor, 2003; West, 1999) Using simulations and modelling tools can lead to enhanced understanding of geographical topics such as erosion and agriculture (Cox and Abbott, 2003) Using digital photography in a classroom mapping activity helps develop recall, reflection and self-assessment skills (Storey, 2002) Interactive ICT such as email enables the exploration of a sense of place, through communicating with people as well as through pictorial features (Storey, 2002)

Studies support benefit of ICT for teachers also. Using GIS can significantly enhance geography teaching and learning environments (Audet and Paris, 1997) Digital photography allows teachers to record pupils' work undertaken on field trips and other learning outcomes not readily recorded in traditional ways (Storey, 2002). ICT increases capability of teachers to engage and motivate the students about geographical concepts in a better way (Halocha, 2002; Taylor, 2003)

With the help of GIS software, production and manipulation of maps has become easier. Large number of maps with wide range of scales can be prepared in less time, saving time for other learning and give better quality results. The internet

facility improves access and availability to reliable geographical data and its sources (Taylor, 2003).GIS software can enable teachers to focus more closely on teaching geographical skills, in addition to developing a sense of location and place (Keiper, 1999) In a case study in Albania positive role of ICT was found in Albania. Difference in teaching and learning was told by teachers in Rural and Urban areas where difference in use of ICT was seen in rural and urban areas. (Zenelaj, Engiellushe 2013) Self taste learning.

Need of the Study

Recently, in a decade or so this technology has become very popular among the students and teachers for saving time. With the onset of lock down circumstances and notification to stay at home and at the same time save education, government is promoting online education. Now it is time to measure the proportion of teachers and students using this technology.

Study Area

Present study includes though data from various colleges of Haryana but data includes mainly from Gurgaon and Faridabad district. Gurgaon and Faridabad are Urban district in Haryana state.But students come from rural as well as urban background. According to 2011 census, total area of Gurgaon is 333 km² including 201.39 km² urban area and 131.83 km² rural area. Gurgaon has a population of 9,77,337 peoples. Area-wise it is biggest urban district in the state. Population density of the district is 3704 persons per km^2. There are 5 sub districts in the district. Amongst them Gurgaon Urban is the most populous sub district with urban population of about 9.1 lakh and Farrukhnagar Urban has lowest population amongst subdistricts with urban population of nearly 14 thousand.

This district has six cities that comes under the district administration; i.e., Gurgaon (M Corp. + OG) Municipal Corporation and Out Growth; Gurgaon (M Corp.) Municipal Corporation; Sohna (MC), Hailey Mandi (MC), Pataudi (MC) and Farrukhnagar (MC) Municipal Committees.

Faridabad District has a geographical area of 742.90 square kilometers. Faridabad District and Division is located on South-Eastern part of the State. Both the districts are located in the south of Delhi. Faridabad is in the NCR west border of Gururgram district and eastern areas of Uttar Pradesh state. The District Palwal is located in the south.

Objective of Study

- To understand the role of ICT and online education in Geography subject in teaching and learning for students.
- To understand the advantages and disadvantages of ICT and online education in teaching and learning of Geography subject for teachers and students.

Methodology

Data of regular students of Geography has been collected through observation and Googleform before, during and after lockdown. Out of them nearly, 50 percent were from rural background. Out of them nearly 20 were observed in 2018-19 session and now questioned with the help of Questionnaire and 30 were observed in 2019-20 session before lock down and during lockdown period. They were questioned in a group after explaining meaning of ICT. Thereafter, the data was compiled in the form of table for analysis. In the second stage study has been extended to whole Haryana, data of 96 students was collected through online Questionnaire from the first week of June, 2020 to January,21 from college students mainly from Faridabad and Gurgaon district.

Questionnaire for Students till begging of the (Ist week April,2020) Lockdown

- Do you use ICT and Online education?
- Do you find it useful for Geography study course?
- Do you find it has some disadvantages?
- Do you create learning material on Microsoft excel, Word and PowerPoint for examination or otherwise?

Results and Discussion

Question	Reply
• Do you use ICT and online education?	84 students were using ICT and online education.
• Do you find it useful for Geography course work?	Some found it useful for understanding Geography Course work. But 50% of them are using it like online learning side by side at home like classroom learning from videos. According to them it was useful as they could start and stop the video whenever they had time. They could repeat that if they could not understand in single run. They can share their material, locations and conversations. 90 percent use for atlas purpose where ever they need. 10 percent use GPS services for finding direction. Students coming from rural area and low economic background a have less access to internet facility at their home.
• Do you say it is costly affair?	20 percent said it is costly. 17 percent responded for both sides i.e., may be. 64 percent responded as not costly.
• Do you create learning material on Microsoft excel, Word and PowerPoint for examination or otherwise?	38 percent were creating learning material for themselves. They were using published material from internet as supplementary material. All were using text book as base material for course work and examination.

Source: Questionnaire based January-2020 to Ist. week April-2020 to January,21

Online Questionnaire based Pie Charts of 96 Geography Students during lockdown in 2020 and Post Lockdown Period till II week of January, 2021

Figure 1

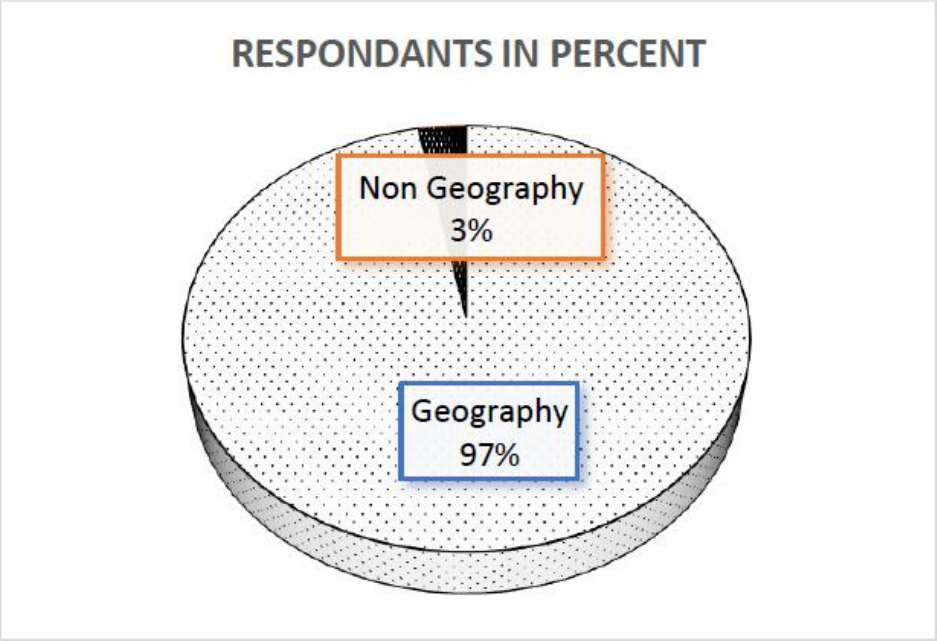


Figure 2

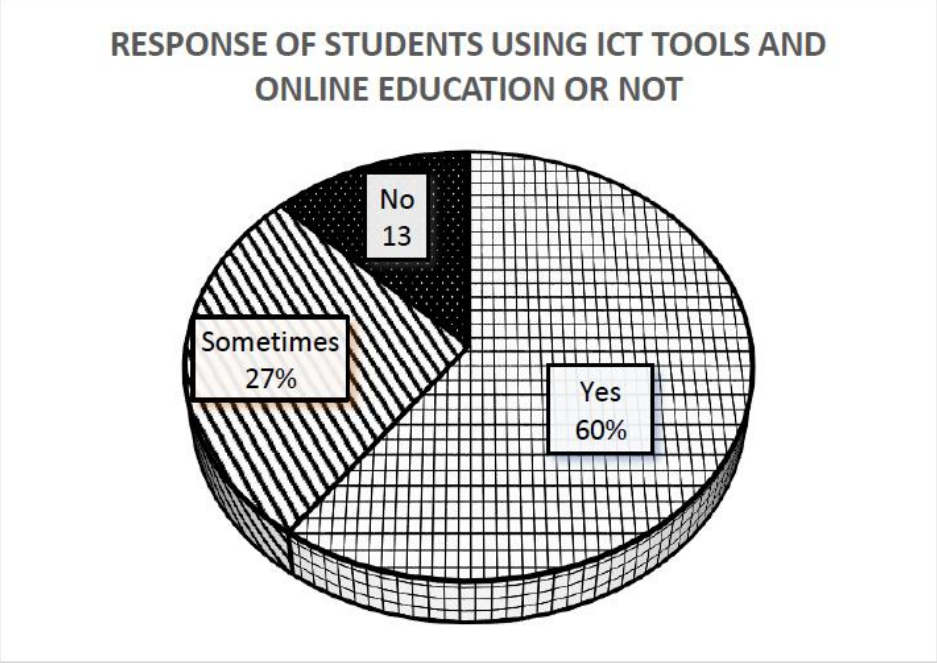


Figure 3

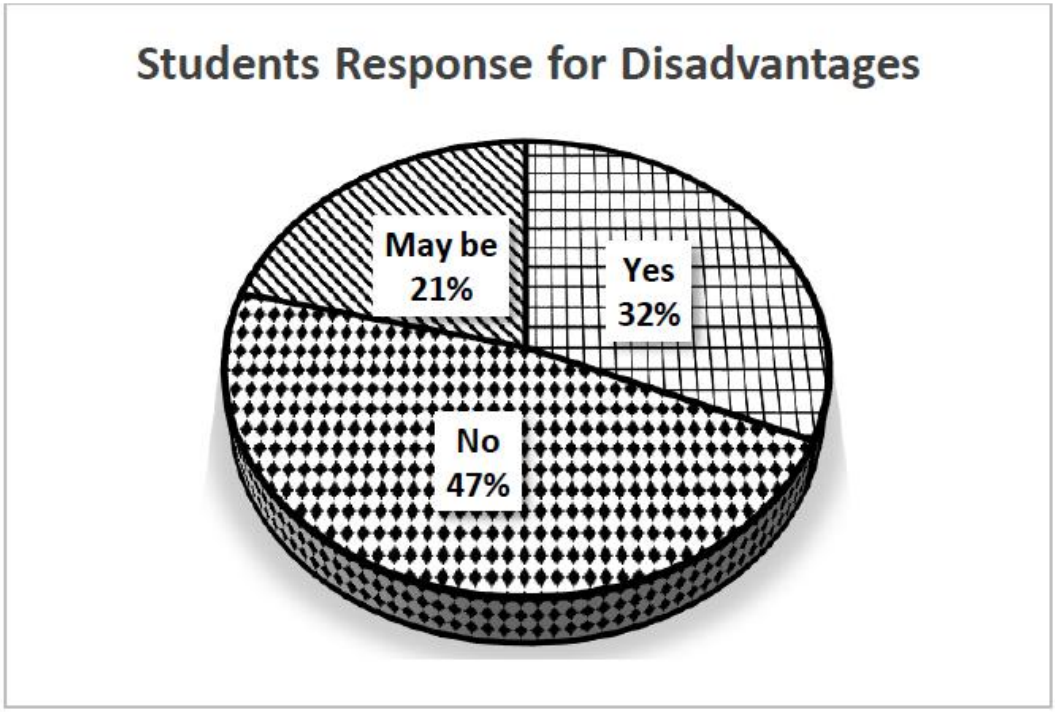
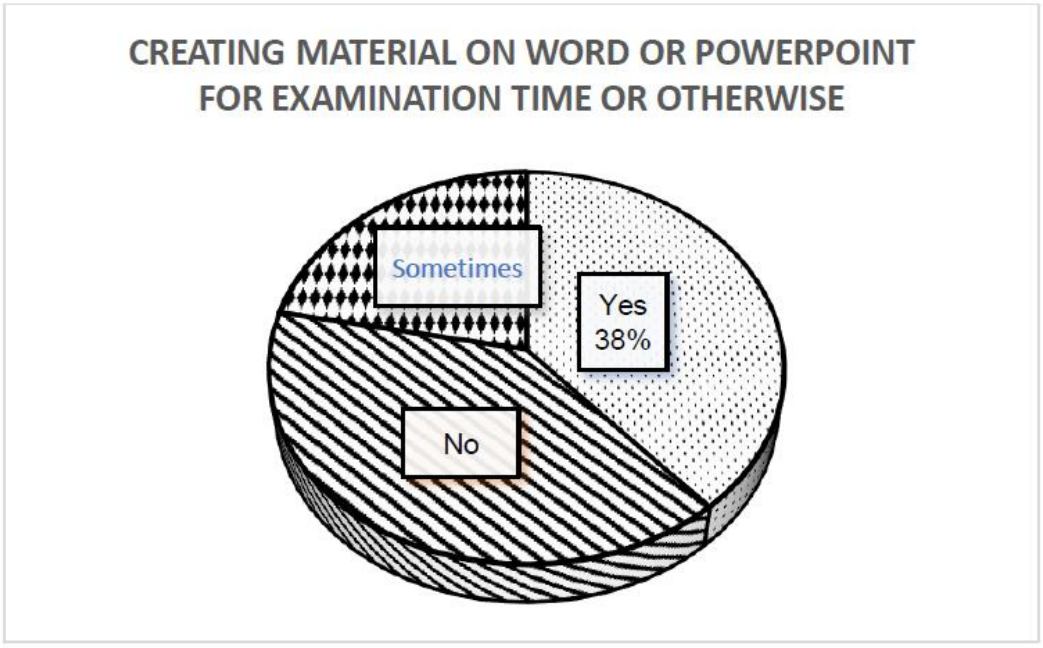


Figure 4



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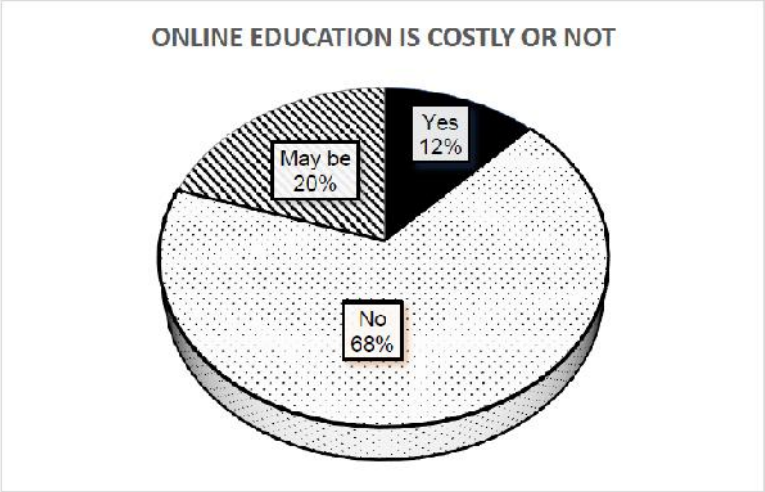

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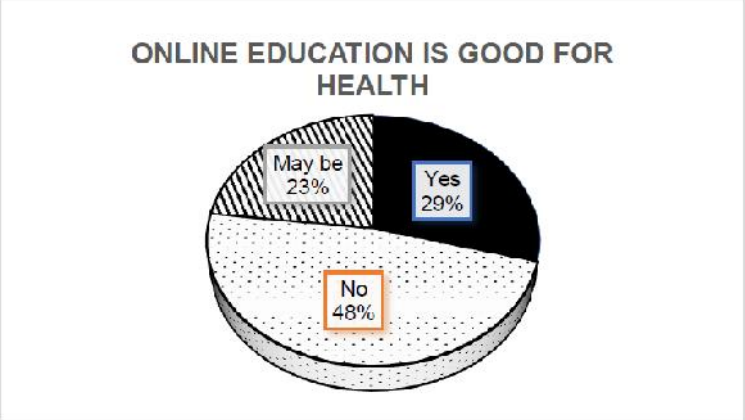

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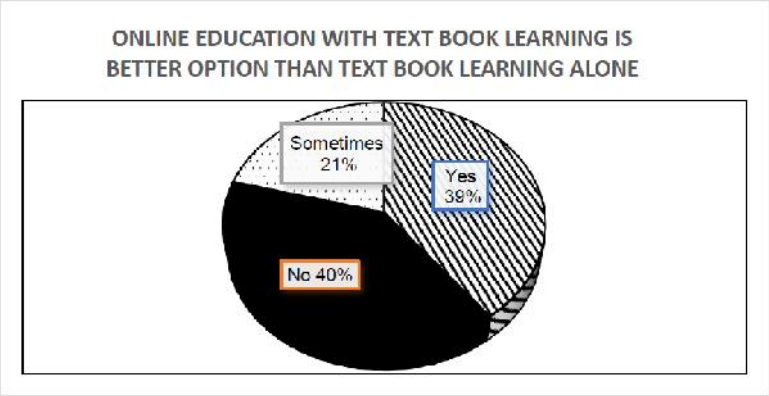

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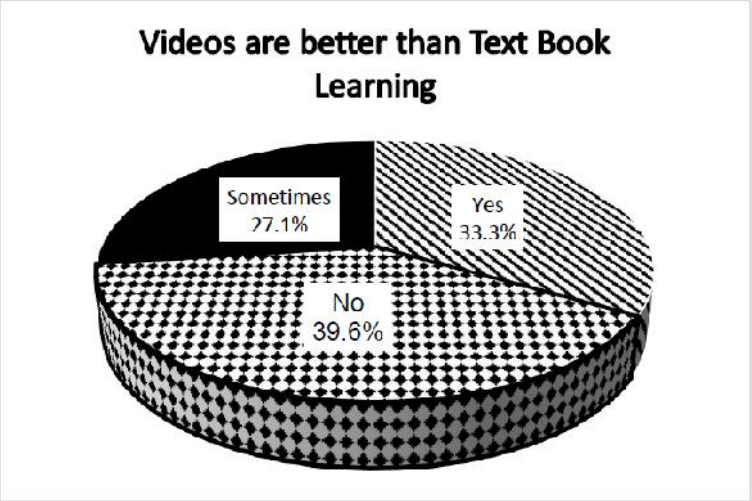
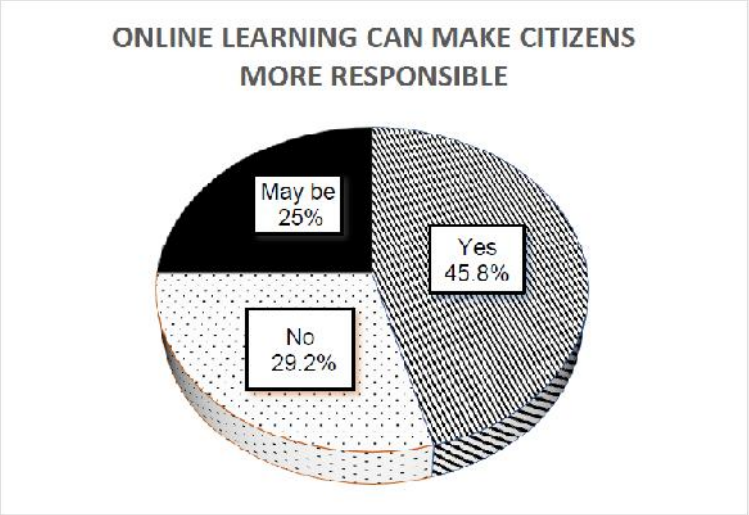


Figure 9



Summary and Conclusion

ICT can make geography more authentic and relevant. It gives to students more opportunity and exposure to supplement the material worldwide available anytime anywhere. Students from rural background and low economic background have lesser access to internet facility then urban. Though it will certainly improve quality education of Geography yet it is a costly affair. It is very early to reach to conclusion if online teaching is really beneficial or not.

Limitation

Small Size sample is limitation of this study.

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10

An Analytical Study of Use of Mobile Banking Services: With Special Reference to Mysore City

Dr. R.H. Pavithra*

Introduction

With the globalisation trends worldwide, it is difficult for a nation, whether big or small, developed or developing, to remain isolated from what is happening around. Information technology has shrunken the world, as a result of which, time and distance have become non-entities. It has enveloped every aspect of life. Today, most of the people adopt new generation technologies. In this changing scenario, the banking sector is not an exception. Recent innovations in telecommunications have enabled the launch of new access methods for banking services through various e-channels like, ATMs, credit/debit cards, internet banking, mobile banking, tele banking, EFT etc. One of these is mobile banking; whereby a customer interacts with a bank via mobile phone. Mobile Banking refers to provision of banking and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank transactions, to administer accounts and to access customized information. After the launch of mobile banking, transactions have seen some growth. Still mobile banking has a long way to go as, majority of customers prefer banking in traditional ways. Most of the customer's problem is that they are not well educated and not aware of the technological innovations.

Objectives

- To explain the attitude of respondents towards use of mobile banking between urban and rural area in case study area.
- To identify the problems faced by the respondents between urban and rural area in case study area through mobile banking.

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- To study about the benefits and limitations of mobile banking in urban and rural area in case study area
- To give suggestions to overcome from the problems of mobile banking in case study area

Hypotheses

- There is difference of attitude of respondents towards use of mobile phones in rural and urban areas of case study area.
- Problems faced by rural respondents are more than the urban respondents

Review of Literature

In one academic model, mobile banking is defined as:

Mobile Banking refers to provision and availment of banking- and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customized information."

According to this model mobile banking can be said to consist of three inter-related concepts:

- Mobile accounting
- Mobile brokerage
- Mobile financial information services

Methodology

The Statistical data for the study has been collected both from the primary and secondary sources. Primary data have been collected from Mysore city questionnaire from respondents. Secondary data have been collected from the various publications of economic survey reports, journals and periodicals. The data thus collected, have been analyzed by using the tables and charts. 50 respondents of different aged, qualified and engaged in various activites such as college students, various professionals (doctors, lecturers, employees of banking sector, bus drivers, administrators etc), business class, home makers are chosen for case study.

Result and Discussion

Table 1

Age Composition

Age	Rural	urban	Total
18-30	14	10	24
31-50	06	08	14
Above 50	00	2	02
Total	**20**	**20**	**40**

Source: Field Survey

Table 1 explains the age composition of the respondents, out of 50 respondents belong to the age group of 18-30 years, 17 of them belong to the age group of 31 - 50 years, only 3 of them comes under the age group of above 50 years.

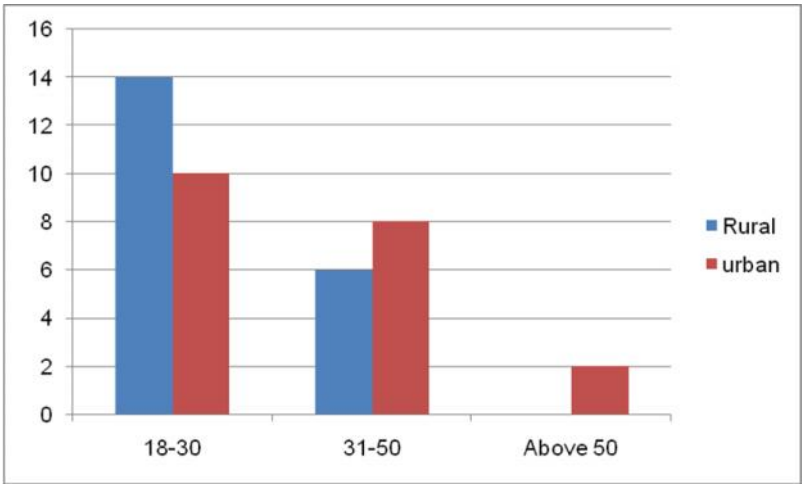

Table 2

Types of payment App using by Respondents

Types	Rural	Urban	Total
Bhim App	07	14	
Paytm	12	24	
Google pay	03	06	
Phone pay	03	06	
Yono SBI	05	10	
Paybal	20	40	
Total	**50**	**100**	

Source: Field Survey

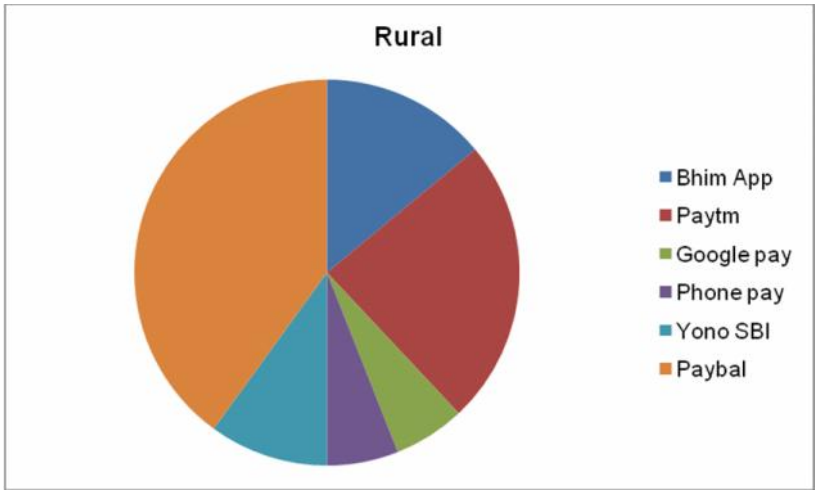

Table 3 explains the mobile app using by the respondents. Out of 50 respondents, 07 are using Bhim app, 12 respondents are using Paytm, 03 are using Google Pay, 03 using Phone pay, 05 are making use of Yono SBI and 20 are using Paybal.

Table 4

Transaction Amount made by Respondents

Transaction	Respondents	Percentage
1,000 to 5,000	10	20
5,001 to 50,000	30	60
50,001 to 2 lakhs	05	10
Above 2 lakhs	05	10
Total	**50**	**100**

Source: Field Survey

Table 4 shows the amount transacted by the respondents per day, out of 50 respondents 10 of them have velocity of money to the tune of 1000 to 5000, 30 respondents transacts between 5001 - 50,000, 05 respondents to the extend of 50,001 to 2 lakhs and 05 respondents have transactions above 2 lakhs.

Table 5

Respondents Spending More than 5 Hours a Day

Spending more than 5 hours	Respondents	Percentage
5 hours	20	40
4-5 hours	8	16
3-4 hours	9	18
2-3 hours	8	16
1-2 hours	5	10
Total	**50**	**100**

Source: Field Survey

Table 5 depicts the respondents spending more than 5 hours a day, Out of 50 respondents, 20 spend more than 5 hours a day for making use of banking services, which shows that they are making use of mobile banking services for domestic purposes, bill payment and check balance and statement. 08 respondents spend between 4-5 hours, 9 of them spend 3 -4 hours, again 8 of them spend 2 - 3 hours and 5 respondents spend 1-2 hours a day.

Table 6: How many mobile devices owned by individuals

Number of mobile phones	Respondents	Percentage
Own neither	2	4
Both tablet and smartphone	18	36
Own tablet	3	6
Own smartphone	27	54
Total	**50**	**100**

Source: Field Survey

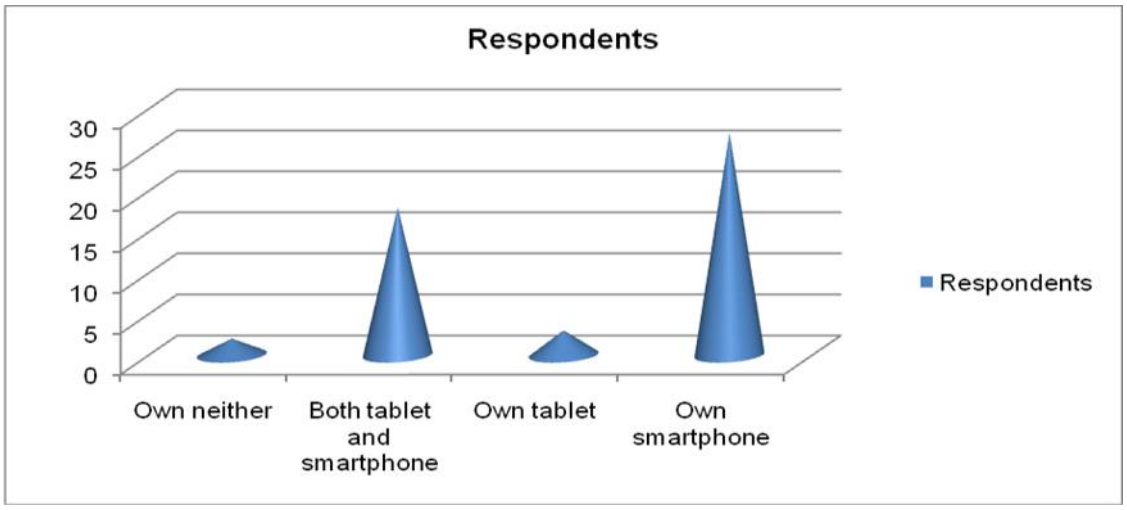

Table 6 explains the number of mobile devices owned by individuals for making use of banking services. Out of 50 respondens 2 of them own neither tablet or smart phone, 18 of them own both tablet and smart phones, 3 respondents own only tablet, 27 are owning only smart phones.

Table 7: Devices commonly used by respondents for banking

Devices used	Respondents	Percentage
Phone only	23	46
Do not use mobile banking services	16	32
Phone and tablet	7	14
Tablet only	4	08
Total	**50**	**100**

Source: Field Survey

Table 7 explains the devices commonly used by respondents for making use of banking services. Out of 50 respondents, 23 of them use only phone, 16 responded that they do not use mobile phones, 7 of them use both phone and tablet and 4 of them use only tablet.

Table 8: Mobile banking for variety of services used by respondents

Services	Respondents	Percentage
View balance and statements	5	10
Apply for credit and loans	2	4
Domestic transfer	13	26
International transfer	1	2
Paying bills	20	40
Others	1	2
Do not use	8	16
Total	**50**	**100**

Source: Field Survey

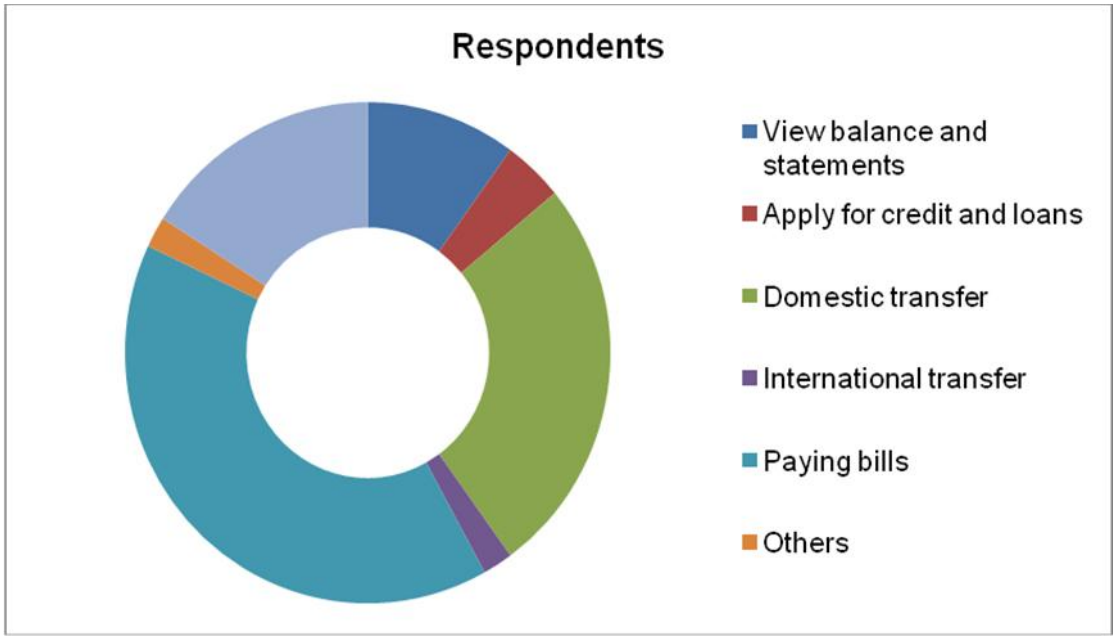

Table 8 depicts the variety of mobile banking services used by respondents. Out of 50 respondents 5 of them use for viewing balance and statement, 2 of them use for applying credit and loans, 13 respondents use for domestic transfer, 20 use for paying bills, 1 for international transfer, 1 for other services and 8 respondents said that they do not use mobile banking services.

Result

Chi Square	Value	Level of Significance
	7.0986	0.05

The Chi Square or P value is 7.0986. It is significant at 5 percent level. 95 percent shows that there is an association between use of mobile banking services and less preference towards use of cash for their transaction purposes.. Therefore reject null hypotheses and accept alternative hypotheses.

Hypotheses

H_0: There is no decrease in the preference towards cash as they involve in mobile banking services in the study area

H_1: There is decrease in the preference towards cash as they involve in mobile banking services in the study area

Findings

- Majority of the respondents belong to the age group of 18-30 years.
- Out of 50 respondents, most of them are degree holders in their qualification.
- Large number of respondents use Paybal and followed by paytm.

- Most transactions per day takes between 5001 - 50,000 by the respondents.
- Large number of respondents use mobile devices for making use of banking services more than 5 hours a day.
- Majority of them own only smart phones
- Large number of respondents use only smart phones for banking transactions.
- Most of the respondents use mobile banking services for paying bills and followed by for domestic purposes.

Suggestions

- The banks must improve its service quality in terms of internet access,
- To provide various effective financial security and transparency in transactions.
- Banks should provide 24*7 services to the customers.
- Banks should provide awareness and information about mobile banking services to its customers.
- Bank set standards for industry agreements between banks and MNOs (Mobile Network Operations)for handling customer grievances.

Conclusion

The process of liberalization, privatization, globalization and deregulation has opened new way for banks to increase their revenues by diversifying in to universal banking, investment banking, bank assurance, mortgage financing, depository services, securitization, personal banking etc. Technology is the key to move towards providing integrated banking services to customers. Indian banks have been late starter in the adoption of technology for automation of processes and the integrated banking services. Further the banking sector reforms and introduction of e-banking has made very structural changes in service quality, managerial decisions, operational performance, profitability and productivity of the banks. There are various factors which have played vital role in the Indian banking sector for adoption of technology.

Further, new technology has rapidly altered the traditional ways of doing banking business. Customers can view the accounts, get account statements, transfer funds, purchase drafts by just making a few key punches. Availability of ATMs and plastic cards, EFT, electronic clearing services, internet banking, mobile banking and phone banking; to a large extent avoid customers going to branch premises and has provided a wider range of services to the customers.

Mobile banking is a system that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or personal digital assistant.

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11

Digital Payments-Combating Economic Crimes in the Digital Age

Dr. Maryam Ishrat Beg*
Mr. Arpit Totuka**

Introduction

India is primarily a traditional economy. People in India believe in investing their money in traditional assets such as gold, land etc. also if we observe the spending pattern the Indians tend to spend money in festive and cultural ceremonies. However lately the trends have shift towards travel, fashion, and electronic gadgets. The same is the case with the mode of spending. Majority of the people in India prefer to have cash currency in hand and pay for majority of the consumables and payments through cash only.

The major shift came after De-monetization. Back in the year 2016 when Indian Government declared De-Monetization by banning further use of RS 500 and Rs 1000 currency notes, for the first-time people were drowned into liquidity crunch. Most of the people who were unwilling in the past to transact through banks and other payment methods were thrown on a new track, the track of future digital money. As per the data provided by the NCPI there have been as many as 3076.1 transactions amounting to RS 2558304.2(in Lakhs) transactions both outward and inward through NEFT[1] in the month of December 2020. Also, in the month of December,2020 the stats of Credit Card and Debit Card transactions are as below[2]:

Card Type	No. of transactions		Value of Transactions(in Rs Lakhs)	
	POS	ATM	POS	ATM
Debit Card	378977263	609657876	6735663	31374933
Credit Card	166257081	464824	6234972	23133

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1 https://www.rbi.org.in/scripts/NEFTUserView.aspx?Id=152
2 https://www.rbi.org.in/scripts/ATMView.aspx?atmid=117

Considering the above statistics, India is rapidly moving towards digital economy. It has been facilitated due to a progressive and aggressive push by the government towards digital or online payment system. Along with that the initiatives taken up by Reserve Bank of India in the previous 3-4 decades focusing on technology-based payment and settlement infrastructure has started bearing fruits. There are various alternative systems developed for the digitization of the economy and e-payments in India. Some of the popular ones are:

- ECS (Electronic Clearing Service)
- EFT (Electronic Fund Transfer)
- NEFT (National Electronic Fund Transfer)
- RTGS (Real Time Gross Settlement)

Mobile Banking

Mobile phones since their very inception in human life have transformed the way the people commute their business and other essentialities of life. Mobile phones are now no more a luxury but a necessity. This reliance and dependence on mobile phones also instigated the need for mobile banking. In 2008 RBI brough the set of Operating Guidelines on mobile banking for banks. Although the mobile banking is only available with banks who have physical presence in the country but looking at the trends the day is not far when mobile banking would become globally accessible. The primary objective through this was development of inter-operatable standards to facilitate transfer of funds in real time with efficiency and quick response to the customers.

Payment and Settlements Systems Act, 2007 is the primary law governing online payments in India. Apart from this Payment and Settlement Systems Regulations 2008 also governs the payment system in India. RBI is governing authority which governs the banking system in India. RBI has issued:

- Security issues and risk mitigation measures related to CNP (card not present) transactions.
- Limiting liability of customers in unauthorized e-banking transactions.
- Interoperability and issuance and operation of pre-paid instruments in India policy guidelines.
- Operative guidelines for banks on mobile banking
- Direction on opening, operating and settlement of e-payments involving intermediaries.
- Guidelines on access criterion on payment systems
- Introduction of PPI (pre-paid Instrument) for retail payments for household expenses.
- Guidelines with regards to e-KYC verification allowing regulated entities such as PPI issuers and payment system providers along with banks for KYC verification.

- Implementation of monetary penalties on operators.
- Ensuring and enhancing security on online transactions.
- On-tap authorization for certain payment systems

The biggest push for the online or e-payments came through the introduction UPI i.e., **Universal Payment Interface.** The Government has been proactive in establishing a secure and efficient infrastructure for UPI. The government has launched several e-payment handles such as BHIM, RuPAY to promote and encourage deviation from the traditional payment methods to easy, quick, and efficient e-payments. Digital Wallets are another introduction in e-payments that is gaining popularity by each day.

As per data UPI transaction have crossed 2 Billion transactions valuing 4 Lakh Crores up to October, 2020[1]. The transaction value from the UPI has taken a leap of 101% as compared to previous year i.e., October 2019. And the projection as per the future transactions on UPI are even staggering at 999.57 million UPI transactions amounting to Rs 1,51,140.66 Crores[2]. These figures reflect on the growing importance, need and popularity of the e-payments or digital economy. The need for time efficient, quick, and easy banking is somewhat fulfilled through e-payments. The reason for its popularity is reflected through the figures and the data. People are becoming reliant more and more on the digital economy and hence there is increased need for better infrastructure and rules and regulations with regards to the e-banking, e-payments, and e-business. There are numerous benefits of e-banking both from the individuals perspective and the perspective of the economy. Cash driven economy has been the traditional economy of India. As discussed above people are or were (concluding from the above data) not so confident about the electronic way of financial transactions. There are various reasons for the same. Some of them are:

- **Illiteracy:** majority of the Indian population is still illiterate which means that they are not in position to understand and operate on electronic banking modes. Leave apart illiterate even the literate people find it difficult to understand the complex procedure of registering and securely commuting the financial transactions electronically. The illiterate people are more susceptible towards frauds and cheat. And this makes even more reluctant in using the electronic payment and banking.
- **Poverty:** poverty is another factor that effects the use e-banking indirectly. If we analyze the percentage of people using e-payments with respect to the population of the country, the score would be low. Majority of the population in India is near or below poverty line. People do not have enough money and

[1] Sandeep Soni; UPI Crosses 2 Billion transactions Milestone in October, Up 80% from year ago; value nears Rs 4 Lakh Crore. Retrieved from: https://www.financialexpress.com/industry/banking-finance/upi-crosses-2-billion-transactions-milestone-in-october-up-80-from-year-ago-value-nears-rs-4-lakh-cr/2118690/

[2] NPCI

hence do not have bank accounts. For using any e-payment method the basic requirement is bank account. Also, there are lot of people who live "earn daily and eat daily" basis. That is, they earn so little money that it is sufficient only to buy food only. Hence them using e-payments is totally out of question.

- **Infrastructure:** for any new system or new methods to become popular among masses the foremost requirement is of a strong and reliable infrastructure. Although a lot in this field has been achieved by the Government yet there is great scope of improvement. Right from the internet connectivity to the development of applications and banking infrastructure a lot must be done.
- **Awareness:** "Do not disclose your OTP or CVV to anyone" this tag line is repeatedly being communicated to public. The cyber criminals are always on the lookout for lame ducks. People who are not aware of the security protocol and fall easy prey to the financial predators. People fear of being duped or loosing their money on the electronic portal. People are reluctant to use internet banking, UPI's for security reasons. Somehow, they are not confident enough in using technology when it comes to their hard-earned money and savings.
- **Banking charges:** there are different rules with regards to charges that are applicable on the use of e-payments in different banks. Some banks inflict service charge on the customers who use e-payments gateway for different transactions. When the transaction amount is of low value the variable of expense takes a toll on the variable of ease. As per the latest updates all large private banks have inflicted a charge of Rs 5 to Rs 20 on personal UPI transactions[1]. People are not so willing to pay charges and hence for small transactions believe in cash.
- **Taxation:** the e-transactions come with GST. There are variety of goods and services which do not fall in the ambit of GST. E-transactions attract GST @18%. While paying cash no GST is chargeable and using e-payment GST is applicable. This is also a factor which restricts the use of e-payments, e-banking, and eventually digital economy.

Well in spiteof these roadblocks the digital economy is grooming and probably in very near future India will transform from a traditional economy to a well-developed digital economy. "***if people are going to study one country right now, other than China, I'd say they should look at India'***[2]these are the words of Bill Gates the

[1] Mayur Shetty: Private Banks Slaps Fees on Use of UPI Over 20x a month. Retrieved from:https://timesofindia.indiatimes.com/business/india-business/pvt-banks-slap-fees-on-use-of-upi-over-20x-a-month/articleshow/77730232.cms

[2] Retrieved from: https://www.businesstoday.in/latest/trends/india-is-a-great-example-bill-gates-lauds-upi-payment-other-digital-innovations/story/424248.html

founder of Microsoft Inc. The digital economy drive of India is gaining the attention of the world and is attracting investors and big business houses to enter, participate, and grow with the INDIAN DIGITAL ECONOMY.

Digital Economy and its effect on Crimes: Legal Analyses of White-Collar Crimes

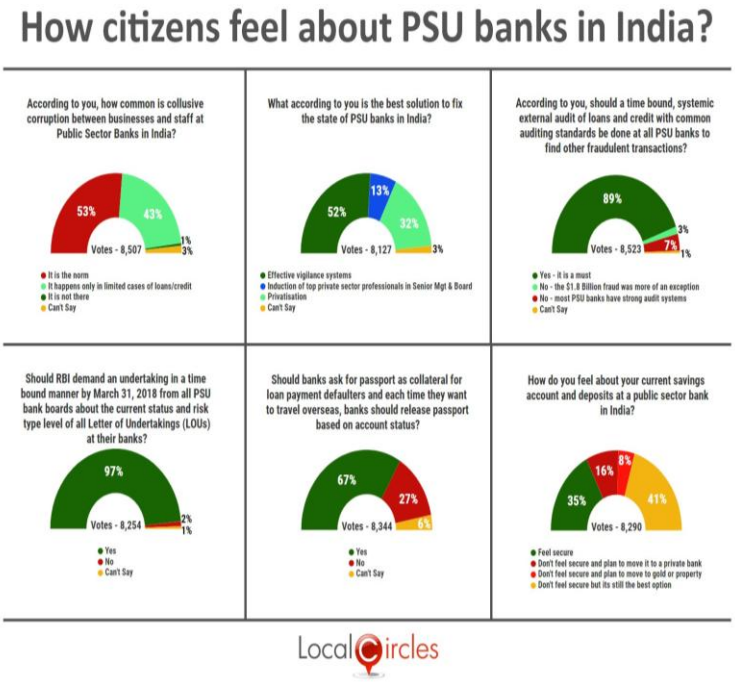
Technology has its merits and demerits. Where the technology makes the life of the people easy and convenient and has its own precautions. These precautions if not adhered to may cause great damage to the user and eventually the society.

India is placed very low in the corruption index. We all are aware that the corruption level in India is very high where it not only impacts the socio-economic development of the society but also the common people directly. As per the latest ranking in Corruption index India has slipped down 6 positions as compared to previous ranking to number 86[1]. Looking at the latest corruption statistics

Retrieved from: https://blog.supplysideliberal.com/post/132648313939/mehul-gaur-india-should-follow-guatemalas-lead

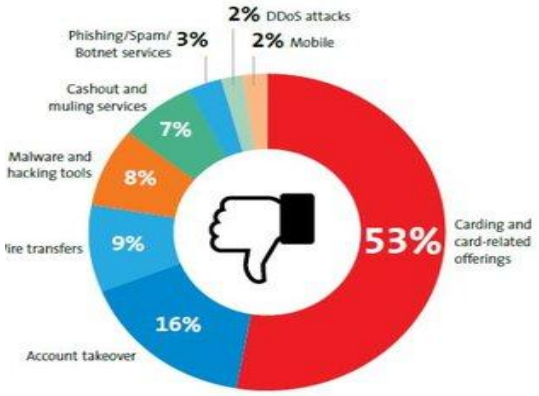
The figure above we can see that the police department is the most corrupt department of all. Although it can be said that the police department includes both traffic as well as general department. Talking about banking sector, is another major concern. Although the corruption level in banking sector is not ashigh as other departments or sectors, but still, it amounts to a significant percentage. The data below from the survey conducted by Local Circles reflects the corruption in banking:

[1] Retrieved from: https://timesofindia.indiatimes.com/india/india-slips-6-spots-to-86th-rank-on-corruption-index/articleshow/80533471.cms



Hence, we can conclude that corruption does exist in banking sector. The worrying factor is that the people accept that the corruption in banks exist and most of them hardly care about it. What people do fear the most is the loss of their own money. people in general do not accept technology open handedly due to various anomalies which whether we accept or not are one of the major threats that hinder the efficient banking system.

There have been numerous cases of frauds and people being duped of their money by cyber cons through various means. Below is the figure that reflects modes through which cyber criminals dupe people of their money and savings.



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Retrieved from: https://www.researchgate.netpublication322245372_Cybercrime_in_India_Trends_and_Challenges

[1]https://www.researchgate.netpublication322245372_Cybercrime_in_India_Trends_and_Challenges

The figure above justifies the fear that people have in using e-banking, e-payment. The roadblocks in digital economy are basically due to the dynamics of the technology. One must constantly evolve and upgrade with regards to the use of technology. Also, there are always constant improvements in technology and new software, which removing the defects of the previous versions try to make performance more and more reliable and efficient. Cyber cons are evolving as well. They find new ways to cheat and fraud. It is just the matter who remains ahead. The leader in constant and never-ending race between the agencies and cons shall decide the fate of the consumers and people and eventually the society. All that every individual needs to do is update and stay cautious while making use of the technology.

Benefits of Digital Economy in Combating White-Collar Crimes

"crime committed by a person of respectability and high social status in the course of his occupation."[1] White-collar crimes are the financial crimes that are committed by professionals in course of their occupation. The important point that these are just the financial crimes that are committed by the people using the power or position they possess. The major motive behind these crimes is the financial gain. Blue-collar or traditional crimes do not constitute whit-collar crimes however they are committed using the power and position the person possess.

The more involvement of the people in any process the more chances of crimes or corruption being committed. It is a fact that it is the human that divert and not the machines. Machines will do the task they are assigned to. Human mind may show deviant behavior and involve in malpractices of corruption, fraud, and cheat. With the advent of technology in our day-to-day life, many things have improved. Drastic improvements have been experienced in communication, transport with facilities like online cab bookings, household with online grocery to online food and various other daily needs can be fulfilled simply using systems over internet. Banking is yet another sphere where the digitization is gradually making an impact and to a great extent on the positive side. Digitization has great potential of freeing us from various social ad economic evils. Corruption and White-collar crimes can for sure be cured to a great extent by initiating more and more use of technology in the departments and processes.

Let us take a case study of installation of speed guns and cameras for trapping speed law violators. We know that there are prescribed speed limits for different type of vehicles and on different type of roads i.e., highways, urban area etc. In jaipur the speed limit was fixed not to exceed for 60km/h for four wheelers, 40km/h for two wheelers. On one of the most well-developed roads Jawahar Lal Nehru Marg (JLN) speeding was very common. Initially interceptors were posted to track and trap speed violators. It was very common that the violators who were caught got away with

[1] Sutherland, E. Hardin. (1949). *White collar crime.* New York: Dryden Press.

paying fines by bribing the traffic constables. As data shows that most bribes are made to traffic police. Even in other violations most of the violators got away by bribing the officials and getting away with greater fines. This practice hurts the economy as the money which was supposed to be collected as a fine and be collected in the government treasury goes in the pockets of the corrupt officials. Also, this creates a negative thought that one can get away by committing any offence simply by paying a small fine. So, although there was great number of violations but the fine received did not reflect the actual picture. This also did not have any impact on the rate of violations. As we know the basic purpose of fine or punishment is not only to punish the offender but also restrain people from committing the offence.

There was a policy decision and cameras, and speed guns were installed. The speed guns recorded the speeds, and the offender was captured in camera. A digital or e-challan was issued to the violator which was delivered to him on his registered address derived from the RTO details. The violator was supposed to submit the challan and fine in the designated office of traffic control. There was drastic increase in the challans and treasury recorded record collections in the way of challans. It may be argued that the technology can work 24x7 and without getting tired while every human can make mistake and gets tired too. But again, the lapses in the duty are attributed to deviance and when the deviance is with the motive of earning money then it is White-collar crime. This one experiment proved fruitful and it was a perfect example how digitization can help curb white-collar crimes.

Digitization by eliminating the human content ensures efficiency and most importantly reduces the risk of corruption and other deviations. Although the human element cannot be fully eliminated but the Government's initiative towards introducing technology in departments is surely taking the right step in the most desired direction. Right from applying for passport, driving license, has turned in the favor of the citizens as along with providing with ease of doing things it has also helped in curbing corruption. The figure above based on a survey shows that police verification for passport attracted highest paid bribes and next to it is traffic law violations. Digitization also helps in automatic maintenance and updating of data. Take for example digitization of Land Records, land banks and various revenue related departments where the bribes were rampant, the digitization has reaped the sweetest fruits. The money can now when deposited online goes directly in the government treasury and by eliminating the human element the evil of corruption is somewhat controlled.

Income tax is another example where the digitization has made drastic improvements. The were endless cases of corruption when the system was manual. But with digitization it has been controlled to a great extent. Now taxes can be calculated and paid through various digital channels directly in the banks, and this in turn is transferred into the treasury with complete transparency and efficiency.

Digital economy is a blessing for a country like India. A country which is the second most populous country. A country where majority of the population is poor or middle class. The need of the hour to put India on the fast track of development is introducing e-governance and digital economy. The more we connect with digitization the more ease of doing things. The more positive sentiments would mean that a sense of contentment with system which will eventually result in higher moral and ethical values. And this one day if not completely but to a great extent relieve the nation from the evil clutches of corruption and white-collar crimes.

Digital economy is making its mark in the country and India with its Digital Economy Drive is making its mark in the world.

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12

Cashless Economy in Rural India: Prospects, Issues and its Effects

Ramesh K.V.*

Introduction

In India, the economy is moving towards cashless after passing different stages like barter system, exchange of cash and plastic money. Traditional Indian rural people choose to save and spend in cash. But now, there is a shift from conventional cash economy to cashless economy. Since May 2014, the Government focused on making every person to have bank account and introduced Jandhan Yodjana, issued Rupay debit card under financial inclusion scheme. This become the first step towards digitizing every field and we are seeing shifting of liquid cash into digital cash

After demonetization, country's digital platforms boosted. This speeds up the cashless economy. Many regions of rural India have not been comfortable in using digital portals.

Google-BCG report says that the addiction to currency notes and coins in India will reduce because of transformation in the ways of expenditure and due to majority of population are in touch with financial services. At present, several countries in Europe viz., Sweden, Germany, Belgium, and UK implemented cashless economy. The reason behind this is that maximum people accustomed to digital currency for carrying on business transactions. This leads to make effective and transparent transactions by the business establishments.

Meaning of Cashless Economy

Cashless economy means that the economy is applying digital payment mode in making transactions rather than cash.

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A cashless economy is an arrangement under which any kind of cash transactions are done by using digital means such as debit cards, credit cards, card-swipe or point of sales (POS) machines, electronic fund transfer, mobile payments, internet banking, mobile/ digital wallets, and other newly evolved payment channels,

A cashless economy refers to an economy where all the transactions are done by electronic means like credit cards or debit cards, immediate payment service, National Electronic Funds Transfer etc. In the cashless economy, the flow of physical currency is less.

Definition of Cashless Economy

Woodford(2003) defined cashless economy as "one in which there are assumed to be no transaction frictions that can be diminish through the use of money balances, and that accordingly provide a reason for holding such balances even when they earn a rate of return".

Cashless Economy can be defined as "a situation in which the flow of cash within an economy is non-existent and all transactions must be through electronic channels such as direct credit cards, debit cards, electronic clearing, and payment systems such as Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT) and Real-Time Gross Settlement (RTGS) in India.

Cashless economy is an economy where maximum transactions are done without using the physical cash or the means of hard cash.

According to a 2015 report by Price Water House Coopers, India's unbanked population was at 233 million. Even for people with access to banking, the ability to use their debit or credit card is limited because there are only about 1.46 million points of sale which accept payments through cards. A study by Boston Consulting Group and Google in July noted that wallet users have already surpassed the number of mobile banking users and are three times the number of credit card users.

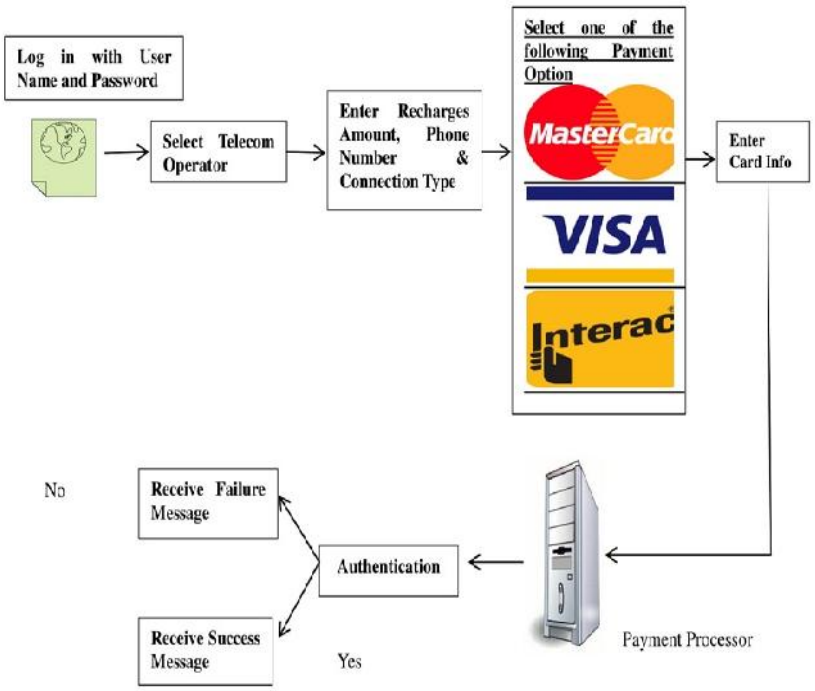
Cashless Transaction Systems

Cashless transaction is a process of purchasing products and services against money without physical currency involvement. The physical currency is substituted by a number of methods that are introduced by digital information technology (IT) and are able to shift cash from one person's bank account to another person's. All the cash transfer method have their own, features, qualities, and mechanisms that work together with other devices or equipment's; therefore they are termed as "systems".

Process of Cashless Transaction

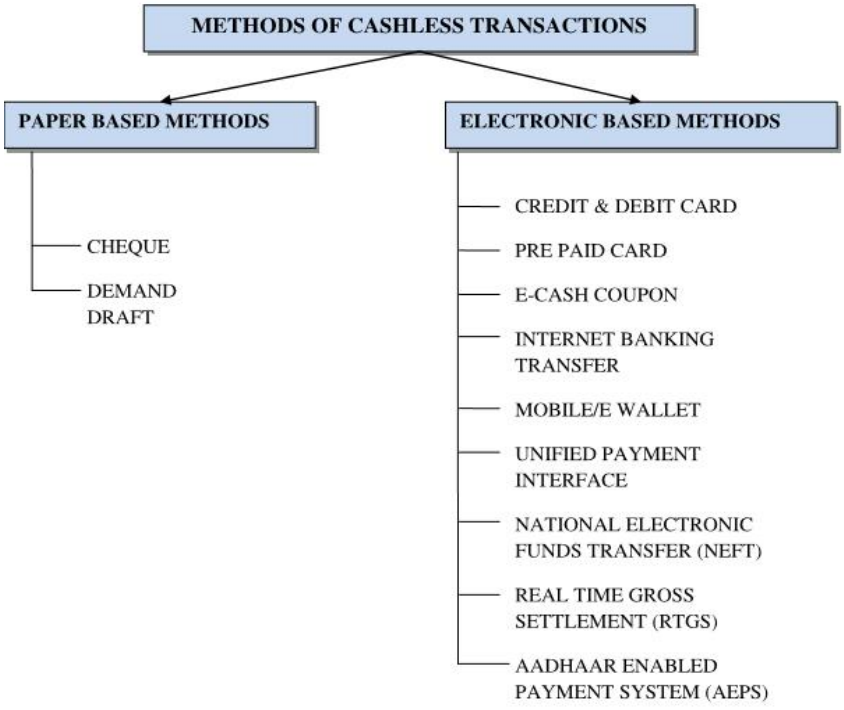
In this increasingly digital world, it's not surprising that money will follow suit as well. Recent trends show that digital money kept in mobile wallets will soon replace physical cash and even credit cards.

Following is the example of cashless transaction Process



Cashless Economy - Methods of Cashless Modes and Payments

There are various cashless payment modes and these are mentioned below:



Review of Literature

Aslam Hasan et.al. (2020) Doing cashless transactions became comfortable because of arrival of several digital payment modes. However, merely 17% of the population is doing cashless transactions frequently. Majority of population is worried about problems such as security and privacy, Lack of infrastructure, lack of education and knowledge regarding the cashless economy.

Benjamin Graham (2003) in his work "Evolution of Electronic Payment" stated that firstly, during 1918, Federal Reserve Bank send currency through telegraph and in 1972, it established Automated Clearing House (ACH) and given the US treasury and Commercial Banks an alternative to the cheque. It became the revolution of the e-payment.

Snorkel and Kwast examined the Federal Reserve Bank's 1995 survey of consumer finance and found that the demographic features influence the chance of e-payment instrument usage by households.

Carrow and Stanten (1999) studied the choices of customers among debit cards, credit cards, and cash.

Wondwossen & Tsegai and G. Kidan (2005) investigated in "e-payment challenges and opportunities in Ethiopia" that there are Poor telecommunication infrastructure, Frequent power disruption, People are resistant to new payment mechanisms, Lack of skilled manpower, Unavailability of payment laws, and regulations particularly for e-payment.

Balachandheret. al.(2000) studied "electronic banking in Malaysia" and found that ATM was the most widely accepted and highly utilized channel.

Joshua Abor (2004) says that there is positive relationship between technological innovation and banking systems in Ghana.

Studies by; Hunter, W. C., & Timme S.G. (1991) examined that information technology has an appreciable positive influence on banking productivity, cashier's work, banking transactions, bank patronage, bank services delivery and customer services.

Researches regarding the issues of the cashless system are also done as Wondwosson T &Tsegai G. Kidan (2005) found out that e-payment is surrounded by widespread challenges in Africa. Poor telecommunications infrastructure, limited readiness by banks, behavioral constraints, inadequate legal and regulated framework, and credit card access at low level are among the constraints that have hindered the progress of e-payments.

Baraghani (2007) examined factors influencing the adaption of Internet banking.

Bassey (2008), in his work "Digital Money in a Digitally Divided World," categorized the issues in Africa into three groups such as the infrastructure, regulatory and cultural-cum human dimensions. He emphasises on the infrastructural issue which comprises of accessibility, affordability, networks, connectivity, and usage.

According to Worku (2010), e-payment and e-banking applications carry a security challenge due to high dependency on critical ICT systems that may create vulnerabilities and can harm customers. "It is imperative for banks to understand and address security concerns to leverage the potentials of ICT's in delivering e-banking applications."

Akhalumeh and Ohioka (2011) studied that 34.0% of the respondents faced the problem of internet based fraud, 15.5% of respondents argued the problem of limited POS/ATM, 19.6% cited the problem of illiteracy, and 30.9% stayed neutral - the respondent not been sure of problem been expected or experienced.

Okey. Ovat (2012) traces the fraud, indiscriminate deductions from accounts, high rate of illiteracy, inefficiency, epileptic public power supply as issues in Nigeria.

Ajayi, L.B. (2014) says that lack of unique national identity system, inadequate infrastructure, high rate of illiteracy and poor sensitization, poor timing, and sequencing for both the policy as challenges for cashless policy.

Statement of the Problem

The Government of India initiated the Cashless economy and introduced several measures with this intention. After the demonetisation, India found a speedy development of Cashless transactions. But this Cashless economy leads to different benefits, issues, prospects and its effects on rural India. Here the author is attempted to address the same in this chapter.

Objectives of the Study

- to understand the concept of cashless economy
- to study the benefits, issues and prospects of cashless economy in rural India.
- to analyse the effects of cashless economy in rural India
- to study the roadmap to promote cashless transactions among farmers in rural India
- to give suggestions to overcome the issues of cashless economy in rural India especially among farmers/ agricultural sector.

Methodology

The methodology followed for the study is descriptive study.

Scope of the Study

The scope of the study is to study the Cashless Economy and its benefits, issues, prospects and effects on rural India.

Problems with Current Indian Economy

- The current Indian economy is quite delicate and unstable
- Huge amount of black money is prevailing in India. The chief intention of cashless economy is to eliminate all the varieties of black money and to get improved strength and status to economy of India.
- Due to introduction of GST, there is only one tax in Indian economy.
- Poor infrastructure and power failure is common in rural India and even in metropolitan cities of India.
- Illiteracy prevailed in several States i.e., still India's literacy rate is 74.4%.

Government's initiatives to encourage Cashless Economy

- **Providing BHIM-UPI QR codes** in all Government cash counters for receiving digital payments. It will enhance the digital transactions and reduce the cash dealings.
- **Introducing National common mobility card in metros** to cover common transport and schemes to entertain the customers, continual digital evolution is the key to success for cashless economy.
- **Discount on fuel purchase:** There is 0.75% of discount on buying petrol and diesel through debit cards, credit cards and E-wallets.
- **POS machines in village:** Beyond one lakh villages with less than 10,000 population were financed by NABARD to have at least 2 POS i.e., applied in cooperative and milk societies. Thus, 75 crore and above people will be benefitted in rural areas.
- **Ceiling on monthly charge on POS machines:** to encourage the small merchants to involve in digital payment eco-system, the monthly rental for POS terminals/micro ATMs/mobile POS given by banks will be limited to Rs.100.
- **Discount on sub-urban railway tickets:** Offered discount of 0.50% for purchase of Sub-urban railway monthly and seasonal tickets from 1 January 2017.
- **Insurance coverage to railway Passengers:** Passengers those who booked online railway tickets were offered Rs.10 Lakh free accident insurance coverage by Indian Railway. Presently, 58% passengers purchase online tickets.
- **Discount on rail utilities:** Railways will also offer 5% discount on digital payments for accommodation, catering and retiring room bookings at railway stations.
- **Service tax Exemption:** No service tax will be charged on credit and debit card payments on transaction of up to Rs.2000 in a single transaction.

- **Discount on Highway toll:** 10% discount will be offered by toll on National highways for RFID card/ FAST tags online payments.
- **Discount on insurance Premiums:** 10% discount offered by Public sector General Insurance companies for paying premiums by online platforms.
- **Rupay cards to Farmers:** Government, through NABARD helped RRBs and Cooperative banks to provide "RupayKisan Cards" to five crore and above farmers and allow them to do cashless transactions at POS machines or Micro ATMs.
- **No transaction fee and MDR charges:** for the people who transact with Government departments and PSUs

Benefits of Cashless Economy

- **Reduction of Income Tax Rate:** Keeping more cash in Bank accounts and less cash in hand / homes leads to transparency in income and increases the number of tax payers. This will result in reduced rate of Income Tax.
- **Avoids illegal activities:** Concentration of cash in hand and home causes illegal activities. Cashless economy avoids illegal activities like HAVALA business.
- **Tracking Outlays**: Track records of every transactions are available due to online dealings and it makes customers to trace their outlays.
- **Economy in Cost of Printing Money:** Due to cashless dealings the need for currency notes will be reduced. This will reduce the cost of printing notes.
- **Economy in Maintenance Cost:** The maintenance cost viz., storage cost of notes, transportation cost of notes, security cost of notes, and device for detection counterfeit notes, ATM machines etc. will be decreased as a result of Cashless dealings.
- **Fast Transactions:** The speed of cashless dealings is 3 times faster than physical cash dealings.
- **Economy of Money and Time:** Cash less economy will reduce the costs as there is no need to maintain the manual accounting. It also saves time.
- **Collection of Higher Revenue:** This enhances the tax revenue and enable the Government to launch more public welfare programmes.
- **Convenience and Lower Risk:** Mutual risk between the banker and customer becomes less. If something happens, there is a facility to lock the debit / credit cards and mobile wallets.
- **Transparency and Accountability:** Cashless transactions are generally electronic transactions which leaves the digital proof. Digital proofs are beneficial not only for government but also for the tax payer (Consumer). It makes the overall system transparent and compliant.

- **Eradication of the Corruption:** All the transactions are crystal clear between sender and receiver which eliminates the corruption.
- **Check on Organized Crime:** Large size of cash is necessary to do organized crime viz., theft, burglary, terrorism and illegal money remittance. But cashless dealings put a check on this.
- **Eliminates Black Money from the Indian Market:** Petty businessmen to Big industrialists creates black money by non- billing transactions and which causes tax evasion. Cashless economy does not provide room for black money and excess tax collection is possible.
- **Blocking the Leakages:** Government of India's Direct Benefit Transfer programme becomes successful due to cashless economy. It uses biometric identity like AADHAR or UID number to recognise beneficiaries and reaches their financial benefits directly to their accounts in the banks. Hence, the leakages while dispensing the money to the beneficiaries by the existing system will be stopped.

Issues in Making India the Cashless Economy

- **Lack of Digital Literacy:** Above 60% of Indian population have lack of knowledge about using the computer and people in rural India can not operate the smart phone. In numerous rural and urban parts of India still internet connectivity is a toughest task. Inconsistent accessibility and non-availability of high speed internet connection and high cost of internet facilities are the serious problems.
- **Lack of Infrastructure in India**: Basic infrastructure is lagging behind in rural India.
- **Lack of Education:** Due to lack of education, rural customer cannot utilise the bank's services efficiently. Even he does not know how to maintain the secrecy of PIN number.
- **Financial Inclusion**: 228 million and more bank accounts were opened as a result of Pradhan Mantri Jan DhanYojana. Majority of them opened with zero balance. At present, in rural India, many of them are inactive. Non availability of money, illiteracy, insufficient income and information are the reasons.
- **Uncovered population:** Still about 40 percent population of our nation not covered by banking facilities. Bringing them under banking facilities is a biggest issue.
- **Unwillingness of Indians to make Cashless Transactions:** Several Indians do not want to do cashless transactions. In addition to that, most of the shopkeepers are not ready to accept the debit cards and credit cards. Many shopkeepers ask additional cost per cashless transaction. So, many Indians do not prefer cashless dealings.

- **Barrier of English Language:** All the digital platforms are using English language. All the information in internet or mobile wallets are in English. English knowhow is necessary.
- **Lack of Customer Awareness:** The awareness is less on several features of cashless transactions like service tax, transaction fees, security of accounts etc.
- **Costly Swipe Machine**: Swipe card machine is very costly and hence, it is introduced by rich businessmen. Several businessmen have lack of knowledge about using swipe machines.
- **Security**: Customers witnessed a number of cyber crimes in India. The Government has to take suitable measures for applying security for banks' cashless dealings.
- **Resilience:** Cashless payment is an alternative to cash payment. But if whole India switched over to cashless dealings, meanwhile, if cashless transaction connectivity flops, then entire system is blocked out. There may not be appropriate backup options.

Prospects of Cashless Economy

- There are 40 Crore and above PMJDY Pradhan Mantri Jan Dhan Yojana accounts, 127 crore Aadhar identity cards, 502.2 million mobile phone users are in India. This made the JAM infrastructure to reach all the people of India and benefitting them to carry on online/ cashless transactions.
- 829.4 Million Debit Card holders and 57.4 Number of credit card holders prevailing in India in March 2020 and this makes these card holders to understand online dealings.
- Increase in number of people who uses RuPay debit cards and Aadhar for cashless dealings.
- Introduction of Aadhar based payment system by NPCI and Government Unified Payment Interface(UPI) boosted the cashless dealings.
- Increased mobile apps, digital payment wallets / platforms, Bank apps reduced the cash usages.
- Government transfers by using JAM mode make cashless transactions familiar.

Measures taken to Focus Cashless Economy in Rural Areas

- The Jan Dhan Aadhaar Mobile (JAM) can encourage digital transaction culture. A large number of government transfers are made through JAM mode.
- A tax rebate (of say 1% to 2%) on every cashless payments made by households as salary to unorganized sector can boost cashless payments.
- The 5 A's of promoting financial inclusion through cashless payment instruments.

- Financial literacy is a must for bringing more and more people to the digital platform.
- Linkage of all welfare activities with bank accounts is a very strategic step.
- Targeted financial education programs can improve financial skills and Credit Management, and increase account ownership in rural India.

Roadmap to Promote Cashless Transactions Among Farmers in Rural India

- The Indian Farmers Fertilizer Cooperative Limited (IFFCO), the world's largest fertilizer cooperative, has initiated a pan India outreach programme to educate farmers through live demonstrations and interactive sessions.
- Separate stalls will be set up in each of the Rural locations to conduct live demonstrations and also answer the queries posed by farmers regarding the same.
- To expand digital payment infrastructure in rural areas, the Central Government through NABARD will extend financial support to eligible banks for development of 2 POS devices each in 1 lakh villages with population of less than 10,000.
- This will benefit farmers of one lakh village covering a total population of nearly 75 crore who will have facility to transact cashless in their villages for their agriculture needs.

Effects of Cashless Rural Economy

- **Effect of Cashless Economy on Economic Growth:** In Cashless economy, people are not using cash or they use less cash while doing their dealings, rather their dealings are made by different online modes. Cashless economy has been strengthened since demonetisation or prohibiting highly denominated currency notes of Rs.500 and Rs.1,000.

Possible Impacts of Full Cash Abandon

- Banks supported cashless economy because of decreased printing cost of currency notes, storage costs, security cost of paper money.
- Decreases black money and its effects will be on corruption and bribe takers.
- Its effects will be on criminal and terrorist activities.

Following are the possible impacts of cashless economy on various sectors:

Effect of Cashless Economy on Banking Sector

The impacts of cashless economy on banking sector are:

- Demand for digital banking platforms increases.
- Easy to track past transactions, banks can improve its upcoming products and services.
- E-payment causes transfer of cash at faster rate and help the bank sector in positive way.

Effect of Cashless Economy on Business

The impacts of cashless economy on business sector are as follows:

- **Businesses are Legally Strong:** Online dealings help both businessmen and customers. even small shopkeepers like peddlers, hawkers uses Google Pay, PayTM or other digital platforms. Thus, business becomes strengthened legally.
- **Auditing becomes Simple:** Due to transparency of transactions, auditing of business organisation becomes very easy.
- **Increase use of e-Payment Wallets:** Enhance the use of e-payment platforms and Wallets in rural part boosts cashless economy in India.

So, basically business sector is going to have a positive impact of cashless economy as a whole and they are ready to adopt cashless economy as it will be beneficial for them in long run for both small and big enterprises even in Rural India.

Effect of Cashless Economy on Education

The impact of Cashless Transaction on the education sector are as follows:

- Education establishments which take heavy donations or capitations were hit hard.
- The private education segments viz., Nursery to Professional education including medical and engineering were affected.
- Thus the Education become hand reachable even to rural people of India.

Effect of Cashless Economy on Common Man

- The Government's initiative about cashless economy is received by common man both in urban and rural India as it decreases the crime rates, corruption, terror funding and they can get track record of money easily.
- People from Below Poverty Line and disadvantaged section faced severe problem in their online dealings as they use hard cash for their dealings.
- Inadequate infrastructure like power supply, internet facility in rural areas makes rural mass to face difficulty in doing cashless dealings.

Effect of Cashless Economy on Agriculture

Agricultural activity is said to be the most encouraging activity in India, many people is involved in agricultural activity and lot of them are professionals in these activities , agriculture or farming is the source of livelihood in those areas. Agri-business is broad term used for agriculture which involves all agricultural production, distribution and processing. It includes food, forest and also fibre production or thereby- product utilization and agricultural chemicals. Impacts of cashless economy on agricultural are not so positive.

Rural & deprived ample are big one is that poorer people are less likely to have access to financial services, and are more likely to use cash in their daily lives. Unless they were contracted free or cheap entrance to financial services, they'd be at a disadvantage in being able to purchase things in a cashless economy.

- Rich agriculturists and businessmen with unaccounted cash, artisans, commission agents in mandis who are doing cash dealings were suffered.
- cashless transaction made the farmers to clear their loans easily. It benefitted both bankers and farmers.

Effect of Information Technology on Cashless Economy

The impact of Information Technology on cashless economy in India is as following:

- Lesser service charges for customers.
- IT makes Transactions very easy.
- Latest Information Technology like biometric help to do secured and transparent transactions.

Suggestions

- The Government and apex monetary authority should continue the encouragement of cashless transactions in India and particularly in rural India.
- The Government should take proper steps to extend the consistent free internet facility in all the rural places to encourage the cashless transactions.

In order to promote Agricultural Cashless Economy in Rural India, following steps are recommended:

- Expand the rural banking system with digital modes of payment system like swiping machine and with proper infrastructure so that farmers and agri-businessmen can comfortably to access to this system.
- Promote and educate the farmers and agri-businessmen about Cashless transactions by taking the help of people representatives, government authorities, NGOs, teaching fraternity, college students, volunteers viz., NCC, NSS, Rovers & Rangers etc.,
- Media should give Awareness about Cashless transactions and care taking actions to rural economy.
- Government should take suitable measures to eliminate the cybercrime worries from rural farmers' minds and provide and upgrade the security aspects in this regard. Immediate action should be taken against such grievances by suitable government agency.

- High speed and cheapest internet facility with enhanced bandwidth, upgraded cyber security, ease of doing transactions, data protection and strong cyber laws make the cashless economy familiar among rural farmers.

Conclusion

Cashless Economy is quite essential to rural India to hold less cash in hand and to do cashless transactions. To speed up this process, the Government and concerned authorities has to take serious steps to promote and practice cashless transaction by rural Indians. The issues can be overcome with suitable measures. Over a period of time, the Cashless economy will widely spread even in rural areas of India.

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13

Comparative Analysis of Various Leading Digital Payment Options in India

Dr. Tulsi Raval*

Introduction

The "Digital India" is the Indian Governments flagship programme with a vision to convert India into a digitally empowered country. "Faceless, Paperless, Cashless" is one of supposed function of Digital India. Governments other initiatives like BHIM and UPI are supporting in transition and faster adoption of digital payments. Electronics Consumer transaction made at point of sale (POS) for services and products either through internet banking or mobile banking using smart phone or card payment are called as digital payment. Post demonetization is effecting the e-commerce sector that Cash on Delivery is gradually getting stopped and other modes of payment is replace like Card on Delivery, Net Banking, Debit Card, Credit Card etc. The digital payment system has the following phases, viz. Registration, Invoicing, Payment selection and Payment confirmation. As part of encouraging cashless transactions and transforming India into less cash society, various modes of digital payments are available. In India, where most of the population does not have credit and debit cards, the mobile phone is fast becoming a tool that act as a catalyst for digital payment solution. The "cashless society" is becoming and increasingly Popular Matter of discussion in the Media. In fact, it has been a topic of frequent database in society for several decades. Many empirical studies have been conducted on the subject of Plastic Money in India and abroad. The major emphasis of research has been on various issues like frauds, security, usage pattern, new method of e-payment, etc.

Types of e-wallets Permitted in India

As per the Reserve Bank of India, there are three kinds of wallets In India: closed, semi-closed and open.

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- **Closed e-Wallets**

These are wallets issued by an entity for facilitating the purchase of goods and services from it. These instruments do not permit cash withdrawal or redemption. These instruments do not facilitate payments and settlement for third party services. Hence, RBI approval is not required for issuing them. For example; Cab services, e-commerce and mobile companies create e-wallets for making payments towards purchase of products from them /for usage of their services. They provide cash backs for payments made through this channel. This is one way of ensuring loyalty of their customers.

- **Semi-Closed e-wallets**

These are wallets which can be used for purchase of goods and services, including financial services at a group of clearly identified merchant locations/ establishments which have a specific contract with the issuer to accept them. These wallets do not permit cash withdrawal or redemption by the holder. Wallets for amounts up to Rs.10,000/- can be created under this category by accepting minimum details of the customer, provided the amount outstanding at any point of time does not exceed Rs. 10,000/- and the total value of reloads during any given month also does not exceed Rs10,000/-. Amount up to Rs.50, 000/- can be created in wallets by accepting any 'officially valid document' which is compliant with anti-money laundering rules. Such wallets are non-reloadable in nature. Amount up to Rs.1, 00,000/- can be created by with full Know Your Client norms (KYC) and can be reloaded.Eg.AirTel Money, which is used for making payments for range of services like money transfer from Airtel Money to another bank account or any other Airtel Money Wallet or paying select utility bills.

- **Open e-Wallets**

These are wallets which can be used for purchase of goods and services, including financial services like funds transfer at any card accepting merchant locations [point of sale (POS) terminals] and also permit cash withdrawal at ATMs / Banking Correspondents (BCs). However, cash withdrawal at POS is permitted only up to a limit of Rs.1000/- per day subject to the same conditions as applicable hitherto to debit cards (for cash withdrawal at POS). Eg. M-Pesa is an open wallet run by Vodafone in partnership with ICICI Bank. Axis Bank's e-Wallet Card', can used for making payments on sites that accept Visa cards, with a minimum limit of Rs 10, and maximum limit of Rs 50,000, and a validity of 48 hours.

- **E-Payment**

E-Payment is all about payment by the mode of E- Payment like payment by the cards Debit card and Credit card, online payment by the using online apps, E-banking (Net Banking and Mobile Banking). Another definition is E-Payment is way of

payment by using the Internet or Electronic form. E –Payment basically use for electronic fund transfer or money transfer by the Internet. Today E-Payment is very useful and helpful to achieve the target of cashless India. In current scenario E-Payment is very helpful for online payment by internet but people are not fully aware about the E-Payment. A lot of mode of E-Payment likes Banking Cards, Internet banking National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS) ,Electronic Clearing System (ECS) ,Immediate Payment Service (IMPS) ,Mobile banking ,Unstructured Supplementary Service Data (USSD), Aadhaar enabled payment system (AEPS),Unified Payments Interface (UPI),Mobile Wallets, POS (Point Of Sale),Micro ATMs etc. are available.

Research Methodology

Research Objectives

- Analyzing the brand preference for e-payment among the respondents
- Identifying the critical success factors for e-payment
- Identifying the obstacles faced by respondents while using cashless based transaction like e-payment

Methodological Framework

Research Design	:	Descriptive
Source of Data	:	Primary Data
Data collection Technique	:	Survey
Data collection Instrument	:	A structured questionnaire
Sample Region	:	Rajkot City
Population	:	All individuals of Rajkot City
Sampling Method	:	Convenience sampling
Sample Size	:	148 individuals of Rajkot City

Table 1: Response regarding Perception for Digital Payment

Perception	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Do you find it useful	25	79	37	4	3	148
Do you find it secured	42	51	46	8	1	148
Do the offers attract you to use e-wallets	44	49	31	18	6	148
Using e-wallets promotes cashless transactions	45	53	32	9	9	148
India should go cashless	47	50	40	10	1	148

Table 2: Responses for the Obstacles Faced While Making E- Payment

Type of obstacles	No. of Respondents
Server goes down	24
Fear of cyber attacks	40
Not accepted everywhere	36
Compliance and security	15
All of the above	33
Total	**148**

Table 3: Reponses for the Various Aspects for Leading Mobile Wallet Apps

Aspects	Paytm	Googlepay	Freecharge	PhonePe	Amazonpay	Total
Authenticity	69	62	3	11	3	148
Fast transfer	24	100	6	13	5	148
Easy to use	30	69	14	26	9	148
Reliability	32	65	28	20	3	148
Availability	33	66	13	24	12	148
Confidentiality	35	70	11	26	6	148
Integrity	33	69	20	17	9	148

Research Hypothesis

H_0: There is no significant difference among the response for selected parameters of five mobile wallet apps.

H_1: There is significant difference among the response for selected parameters of five mobile wallet apps.

Calculated value after applying chi square = 1152.20

Degree of freedom: (r-1)(c-1) = (5-1)(7-1) = 24

Level of Significance =5%

Therefore, table value @ 5% significant level is 36.42

Calculated value > tabulated value

1152.20>36.42

Thus, H0 is rejected

As a result we can say there is significant difference among the response for selected parameters of five mobile wallet apps.

Key Findings

- As compared to Freecharge, PhonePe and Amazonpay,Paytmand Googlepay is getting higher responses for the parameters like authenticity, fast transfer, easy to use, reliability, availability, confidentiality, integrity etc.
- Awareness regarding e-payment has increased, as compared to initial stage now people are more aware.

- One of the main challenges of digital payment is lack of specialized equipment and infrastructure.
- Most of the people perceived that the cashless payment is not secure as there is high danger of hacking.
- In India cashless payment options are widely used by youngsters as compared to elders.
- Most respondents are using digital payment because of good cash back offers & convenience as they don't need to carry hard cash.
- Most respondents are using digital payment to transfer money, mobile recharge and bill payment.
- People use digital payment because they find it useful, secured, they get attracted to offers and discount as well.
- Still many people are not using because of security issue, transfer issue, trust issue, hidden charges etc.

Limitations of the Study

- The main shortcoming of study is that the generalizations have been made based on a restricted sample of 148 respondents.
- Area of the study is limited to Rajkot city only so the conclusion may be biased.
- The collection of primary data is comparatively difficult and sometimes the question of non-response arises because the people may not like to disclose the information.
- Respondents who were questioned about the product would have answered the questions just for the sake of answering without being sincere for the survey.

Conclusion

One of the key points that the proponents of a society where there is no cash in circulation like to maintain is that anonymity would decrease and along with it a decline in illegal economic activities would follow. Other major factors which contribute to the ever more extensive use of electronic transfers include the increased security of storing money in a bank account and of transferring these funds to other accounts electronically and even the superior convenience of paying. Talking about the position of various mobile wallet apps, there are many strong competitors in the market like Paytm, Freecharge, Amazon pay and PhonePe. So to reduce the competition Google pay must use aggressive selling techniques. People are mostly satisfied with the service but they must give quality services to those customers who are not satisfied and also do the sales promotion schemes. Googlepay is growing in the digital

payment market tremendously. The services provided by Googlepay are convenient and easy to understand in language. Moreover the increasing card use can be by making all utility payments through cards by installing more electronic draft capture. The government should waive the tax on credit cards which is a big disincentive for card users. In order to bring down the default rate, banks must set up credit bureau. This will enable banks to detect the first sign of default in advance and sound a red alert so that prospective defaulters can be found out easily.

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Robotic Process Automation: Looking into Future of Digital Workforce

Dr. Mayur Parmar*

Introduction

One of the most emerging Technologies for modern businesses is Robotic Process Automation (RPA). It is a type of automation technology which utilizes software "robots" for the purpose of carrying out various business process, which otherwise are supposed to be carried out by humans. Robotic Process Automation (RPA) is not to be confused with deploying actual physical robots to carry out tangible tasks, but these are rather software robots that mimics human activities and will perform the assigned task without human intervention. By using RPA, an organization can configure and deploy software "robot," which will capture and interpret various computer applications so that such data can be used for carrying out various transactions, dealing with data, analyzing messages and providing suitable reply to them and communicating with other similar systems. RPA tools can range from something as that is as simple as filling details in web forms automatically to processing credit card transactions along with AI integrated capabilities to identify suspicious and fraudulent transactions.[1]

According to Gartner, Inc revenue generated by robotic process automation (RPA) software globally is estimated to reach $1.90 billion in 2021 which will be an increase of about 19% from 2020.The RPA market is expected to grow at double digit rates till 2024 despite economic pressures caused by the COVID-19 pandemic. By 2024, large organizations will increase their investment in RPA by as much as three times. The large portion of new investment of these large organizations will be focused on purchasing new add-on capacity from their original vendor or partners within the ecosystem. "As organizations grow, they will need to add licenses to run

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RPA software on additional servers and add additional cores to handle the load. This trend is a natural reflection of the increasing demands being placed on an organization's 'everywhere' infrastructure." said Fabrizio Biscotti, research vice president at Gartner[2]

Why do organizations are adopting RPA?

- Deployment of RPA tools provides organizations with the ability to reduce costs.
- It can help in increasing the efficiency of workforce.
- Work is carried out by software "Bots" so it reduces human errors also
- Large number of business process can be automated.
- It's a tireless workforce with 24/7 availability.
- RPA tools available have become more user friendly, with more emphasis on just drag-n-drop type GUI with minimal to no-code type architecture.
- As these are "Bots", they are high scalable within very minimal time.
- Developments have given rise to new generation of self-learning bots with advanced functionalities such as Machine Learning, Natural Language Processing, speech recognition, image recognition and automating higher-order tasks that predominantly used to require the ongoing human judgment and involvement.
- Investment in RPA has a lower payback period because of reduced human workforce of as much as 10 to 25%
- Time required for deployment and transition is also very less compared to legacy IT Systems

Major Processes in Industries that can benefit from RPA

- **Finance and Accounting:** General Ledger, Accounts receivable and Payables
- **Human Resource:** Candidate management, Recruitment Payroll
- **Information Technology:** File and folder Management, Monitor infrastructure and/or applications
- **Web-Based:** Data scrapping, fill forms, website testing
- And many more

Major Industries which have Benefited and Adopted RPA

- Banking and financial services
- Insurance
- Manufacturing

- Telecom
- Healthcare
- Business Process Outsourcing
- Retail and E-Commerce websites[3], [4]

Top Three Players in RPA Industry

- Blue Prism
- UiPath
- Automation Anywhere

Impact of RPA on Employment

Whenever word automation comes, there is natural fear among workers and employees are that of Layoffs. However, According to Harvard Business Review, most organizations that are adopting RPA have assured their employees that even if automation is adopted it would not result in employee's job terminations. On the other hand, employees have been assigned to do more interesting work. In one study it was identified that highly skilled workers did not feel threatened by automation but they happily embraced it and viewed the bots as colleague. The same study emphasized that, rather than resulting in layoffs the technology was deployed in such a way that it achieved more meaningful work and higher productivity with the same number of people.

Contrary views are also expressed by many analysts who have claimed that RPA represents a threat to many businesses and among such is Business Process Outsourcing (BPO) industry. The main stand behind this ideology is that RPA will enable organizations to shift processes which were until now carried out from offshore locations to near-by data processing units with the benefit of this new technology. The overall effect, if perceived to be correct, will likely result in creating more meaningful jobs for skilled employees in onshore locations and with the data center management services and right supply chain of Information Technology systems will result in decrease in the available opportunity to skilled workers offshore. On the other hand, this appears to be quite positive for developed economies whose much work gets out sourced to other developing economies.

Impact of RPA on Society

According to one estimate by Oxford University up to 35% of all jobs might be automated by 2035 although this may not be not directly attributable to RPA alone.[5] Many academic studies have projected that RPA, along with other technological trends, will be able to attain new levels of productivity and efficiency gains in the global labour market.

There are many geopolitical implications to the trend in RPA also. As cited above where RPA will enable organizations to shift processes which were until now carried out from offshore locations to near-by data processing units with the benefit of this new technology, at cost of decrease in the available opportunity to skilled workers offshore. Developed nations with higher skills and technological infrastructure to develop and support a robotic automation capability are expected to achieve an overall net benefit from the trend.

The future does not end here. RPA along with other emerging technologies such as Artificial Intelligence, machine learning etc. will be able to create much more powerful systems than any system present today and will take automations to new heights. Which is regarded as Hyper automation.

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15

Crypto Currency: An Introduction

Kopal Saxena*

Introduction

What is Crypto Currency?

Crypto currency which is also termed as Digital Currency, presents in electronic form. It means crypto currency is intangible in nature. It is network based digital currency which has eliminated third party intervention in order to be decentralized and works with the help of peer-to-peer system.

Examples

Some crypto currencies are as follows:

- Bitcoin launched in 2009
- Litecoin launched in 2011
- Ripple launched in 2012
- Ethereum launched in 2015

Origin of Crypto Currency

Bitcoin is considered as the first crypto currency of this modern era which was firstly described by SantoshiNakamoto in his paper in the year 2008. He released bitcoin publicly in early 2009 for exchange.

Its Current Status

Many territories and countries such as; European Union, Nigeria and Southern American countries have accepted crypto currency as their official legal currency. On the other hand some countries like- Bolivia, Egypt, Iraq, Morocco, Nepal, Pakistan, Algeria and United Arab Emirates have applied absolute ban on crypto currency. Reserve Bank of India is also continuously advocating to ban crypto currency in India.

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Salient Features of Crypto Currency

Some important features of Crypto Currency can be defined as follows;

- **Virtual Currency**

Crypto currency is a kind of currency which is virtual in nature. Virtual nature of something can be understood as something which does not exist physically.

- **Cryptographic Algorithm Based**

To initiate and complete transactions it is mandatory to encrypt and decrypt data. Encryption and decryption processes are done with the help of some mathematical instructions. Set of these mathematical instructions are known as cryptographic algorithm which are usually defined in a proper manner but still have complex nature.

- **Block Chain**

Crypto currency transactions rely on block chain technology. Block is nothing but the recorded information and when it forms a chain, is referred as block chain. In simpler words Block chain is a series of records.

- **Free from Intermediaries**

No third party is needed to process the transaction. Only users involve in the transaction.

- **Verification is Must**

Only verified transactions are processed.

Advantages of Crypto Currency

Crypto currency has various advantages. Some of advantages are as follows;

- Crypto currency is useful in reducing complications and time consuming procedures in context of cross border transactions.
- These currencies are used universally. Hence another significance is its fast adaptability.
- Straight forward transactions take place which eliminate various costs like; brokerage, commission and fee charges.
- Fabrication is not possible in crypto currency. In simpler words Crypto currency is free from the problem of counterfeiting.
- Techniques which are used for its encryption, reduces the risk of fraud.
- Its increasing popularity can be witnessed.
- Exclusion of third party in case of crypto currency transactions reduces the complexity of dealing.
- Involvement of two specific parties in a specific transaction makes makes everything clear or free of any doubt.

- Unlike paper currency it is free from printing cost. Therefore cost effectiveness is its another benefit.
- Many unwanted taxes can be saved.

Disadvantages of Crypto Currency

Some of its disadvantages are as follows;

- Crypto currency is completely unregulated and uncontrolled which is the biggest drawback of it.
- There is no universal law or standard for its exchange process.
- Lack of tracing and tracking possibilities of crypto currency transactions encourages illegal activities.
- Cybercrime concerns make it risky for its users.
- There is lack of price stability which increases the risk factor.
- There is no facility of refund after completion of transaction.
- Grey and black money transactions can be easily carried through crypto currency.
- High consumption of power occurs in crypto currency mining which increases environmental threat.

Conclusion

Every coin has too side. Similarly despite having various advantages, crypto currency has some serious drawbacks. It can be a serious threat for socioeconomic condition of a nation. Its non-traceability can crash whole financial mechanism. Financial crimes such as; Money laundering. Hawala, Terror Funding, Tax evasion.

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16

Technology and Current Education Scenario

Dr. Maneesha Kaushik*
Dr. Ravish Pandey**

Introduction

The present day world is definitely in a huge flux and it increasingly counts on enormous drift in the way technology will be used by the mankind now and in times to come. Covid-19 has brought about the biggest ever structural and qualitative change in the perusal of knowledge and its dissemination. This will definitely prove to be one of the biggest game changer ever especially for the large and bright Indian youth population. Other countries are also pursuing the ICT for effective e-learning in the current time and making learning more cost effective and efficient than ever before. Renowned Indian scientist Dr. Kastusiranjan marked that the recent technological developments and their applications across the globe has revolutionized all social, economic and cultural undertakings in a big way. The use of technology supports blooms taxonomy so it proves to be highly useful. The paper attempts to discuss the role of ICT to meet the challenges of knowledge economy and to explain the development of new methodology of learning and teaching aptitude in the changing context. There may be multiple reasons why we are incorporating ICT. It may be as a compulsion, or need of the hour. Its use shows you are up and steady; sharing of documents becomes way easier, conducting various quizzes becomes time effective, promotes digital education which is much supported by our government too. Also some courses are designed in such a way for example as basics of accounting, laws of physics etc where the content remains the same, but not in courses like cyber security or digital marketing where it's so difficult to find an updated book on it as its contents are constantly evolving so with the use of ICT only the latest information can be effectively disseminated. ICT also come to us as an aid for instance a projector, digital library, online databases etc not only enhances the education sector but also

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supplements the teaching learning process in a big way. It goes without saying that technology enabling tools are disrupting the present education system. For instance Coursera is like a new university reaching out to the learners globally in a very cost effective manner, where the learners can also keep a track of the progress of the course. Khan academy too, is a revolution which is mostly free of cost and an extremely wonderful way of imparting knowledge from skilled resources. Even in NIT's there is a shortage of 35% staff, so these sites are filling up for this gap. Naptel by the Government of India is also an initiative which acts as a bridge between people skills and the requirements of the industry. If we look at the statistics we come to know that not more than 10% people enroll for these free courses due to lack of knowledge and motivation. They do not go beyond one week and drop out post that. ICT can be used as a platform for teachers to give their own courses. Some modules in the syllabus can be outsourced to be completed with the help of such tools in order to update the students with the latest updates in the respective field.

ICT: A Study of Change

The study of ICT is the study of change. The paper brings the overview of ICT and the way it has transformed education. The incorporation of ICT has helped grow and innovate the education sector to another level and has emerged as a major factor to gain a competitive advantage over others, else it would become very difficult to keep pace with the times. We are living in revolutionary times, a revolution in the education sector brought on by dramatic advances in ICT. ICT enabled organizations are moving towards automation and electronic information handling to minimize the use of paper and rely extensively on optical data storage. ICT provides access to vast amount of reference material; facilitate collaborative projects independent of time zones and distance. It also aids small firms with international presence and facilitate commerce very easily. ICT has made organizations flexible, which helps them adapt to change and respond quickly to the demands of the current day market and uncertainty in the environment. The pace of learning has also fastened significantly now.

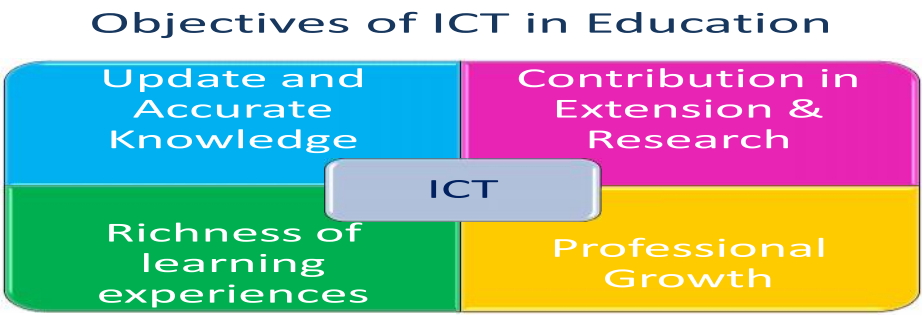

Figure 1: Objectives of ICT in Education

Competitive Advantage of using ICT

The Competitive landscape of education is more intense than ever which impacts our personal lives as well. Many of us are taking help of ICT to revolutionize education so that students may get better education, to better compete in the job market. But at the same time many knowledge workers are finding out that an undergraduate degree is just not enough to compete better in the corporate world outside and so they wish to acquire more education online and enhance their skills. The market for the best corporate positions is very competitive, with hiring firms looking out for individuals who can speak multiple languages, have adequate work experience, and have polished their educational endeavors much beyond just getting a degree. Throught this year of too, with the changed circumstances, we have explored the concept of round the clock connectivity through information technology for the betterment of education and in order to take education to all in a simpler and more effective manner. Using ICT, organizations today are sending out their content of the faculties and new teaching practices are being established. Online education which by various names such as, e-learning, e-education, distributed learning enables us to get education without going to that institute. Quite literally one can enroll in a course from IIT or Harward and live in Jaipur, ensuring their good health safety in these turbulent times. Using various online platforms like video conferencing, e-mails, Google class, Google meeting, Microsft teams, Webex, meet, Moodle, one can take courses from around the world so easily. Some educational institutes even offer complete degree programmes via online platforms. These institutes include graduate programmes in business. For example, the Massachusetts Institute of Technology and Duke University has programmes that combine the traditional classroom instruction courses and computer delivered courses.

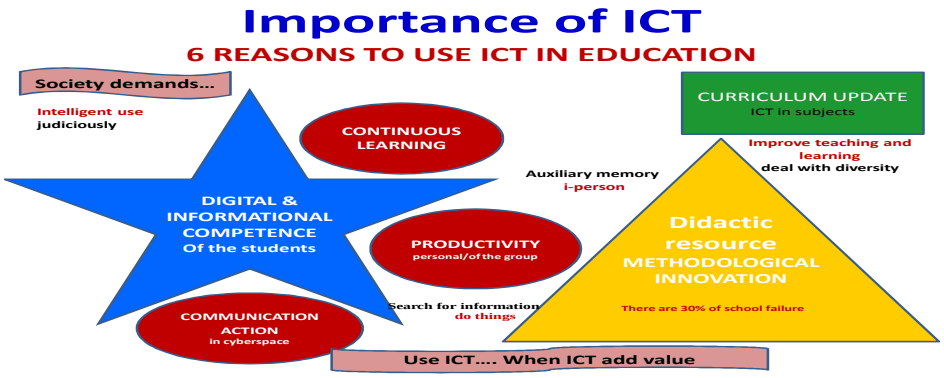

Figure 2: Importance of ICT in Education

The knowledge workers well versed in the use of ICT knows how and when to apply which tool. A technology literate knowledge worker also knows when to apply technology. Unfortunately, in various cases, people and organizations have blindly

decided to use technology to help solve some sort of business problem. So, we need to understand that technology is not a panacea. We can't simply apply any technology to any given process and then just expect to process instantly to become more efficient and more effective. If we apply technology to a process that doesn't work correctly, then we will only be doing absolutely wrong things million times faster. There are umpteen cases when technology is not the right solution. Being a technology literate worker will help us determine when and when not to apply any technology. So, the key to success is its people or knowledge workers. The knowledge workers must be both information literate and technology literate.

Advantages of using ICT

Technology helps us quickly create a high quality data and process it in no time. ICT can help us to be more efficient and can aid us dissect and better understand problems and opportunities prevalent in the education sector. Cost involved is very less as compared to doing it physically.

Disadvantages of using ICT

Education is not solely about technology, it is about using technology to improve learning and outcomes. Many knowledge workers simply do not understand this. They often look down upon simple solutions and thus engage in complicated processes that towards the end do not deliver anything of value. There are other related issues too, that bring about certain complications like the lack of adequate training to effectively use ICT to the advantage of learners.

Emerging Trends in ICT

We have seen the rapid adoption of many innovations in ICT in 2020. It has allowed the use of new organizational structures. The use of ICT as a part of corporate strategy where many educational organizations are implementing ICT. Firms that prosper in the coming years will be the ones that are generously using ICT and making the organization more creative and innovative. It enables tremendous efficiencies in delivering through electronic media and facilitates the learners as per the need of the hour. It makes it possible for the organization to capture the knowledge of its employees and provide its access throught the organization.ICT definitely contributes to increasing the productivity and flexibility of the knowledge workers. It has provided all the knowledge workers with an electronic alternative to face to face communication and supervision in the pandemic times.

Role of ICT in e-learning has emerged as a refined human experience for the learners. Technology has been affecting every part of human endeavor. ICT helps facilitate the transaction between producers and users by keeping the students updated and enhancing teacher's capacity and ability fostering a live contact between the teacher and the student through e-mail, chat session etc. This promotes active learning, sharing of ideas, discussion and also provides immediate feedback. India

can benefit for demographic dividends. This requires high quality meaningful digital content to be made available to teacher and student. Teachers particularly should possess updated knowledge and skills to use the new digital tools and resources to help students achieve high academic standards. We definitely need a vision to equip our students to meet the emerging trends. The present high tech and competitive society will sustain only through the knowledge of ICT. According to UNESCO: ICT is a scientific technological and engineering discipline and management technique used in handling information in application and association with social, economic and cultural aspects. Appropriate use of ICT can transform the whole teaching-learning processes leading to paradigm shift in both content and teaching methodology. Increasing role of ICT will make education more democratic that is improving the quality education services available to even students sitting in far- flung remotest corners of the country.

The new environment of interactive learner-centered approach of ICT has completely meta-morphosised the process of education i.e. delivery and dissemination. We must not allow the ICT related opportunities to slip out of our hands. We must empower our youth with the latest technology to tap the latest skills and hidden potential of our youth population. There is considerable hope that technology can expand and improve education in all levels with special reference to design and content of instructional materials, delivery, and assessment and feedback. In technology enhanced learning (TEL) teacher's role will be more challenging and definitely different from what is presently the traditional class room teaching. In the new role he will be more a director/coach or a facilitator, because the ET enhances the quality of teaching and learning by arousing inquiry, curiosity and exploration. ICT will afford opportunity to the individual for self-paced learning, which caters to learner's abilities and aptitude. One of the major advantages of using ICT's in the class room has been to prepare. The present and next generation of students for a workplace where ICT's particularly computers internet and others related technologies are becoming more and more important. These computer savvy and technologically literate students possess the desired competencies to use ICT's effectively. These knowledgeable persons possess the competitive edge in an increasingly uncertain globalizing job market. Along with the technology literacy development of specificity skills are also required. For well paying jobs specifically of skill is of the primary importance. ICT which includes radio and television as well as other high technology newer digital devices such as computers and Internet have been treated as generally powerful enabling tools for educational change and reform. The modern concepts of ICT have helped professionals to cope the challenges for digital information and technology through the development of digital literacy resources. This can be built by: (a) Acquiring Digital Media (b) Buying Access etc.

The role of computers in education is generally helpful for educational activity which requires significant interaction for that instructional software should be highly interactive. Interactive learning environments are called intelligent testing system. Because of their interactive capability computers provide individualized and self-paced learning. Electronic journals, Webzine, newsletters are also available over the internet and can be assessed using different technologies. Use of Emerging Learning Technologies (ELT) we may have heard the names of following terms without understanding. Few ELT which are in use such as blogs usually maintained by an individual with, descriptions of events, graphics or video. Most blogs are primarily textual, although some focus on art photographs, videos, music and audio.

- **Integrated Learning Modules:** Availability of open source software has enabled development of content management system and learning management system such as a Module. Integrated Learning Module (ILM) is thematically focused classes, delivered primarily over the internet. The course content is integrated and comprehensive creating a unique perspective on course themes without the potentially repetitive requirements of separate stand-alone courses. Content and language integrated learning is an approach for learning content through an additional language
- **A Podcast:** A podcast (or non-streamed web cast) is a series of media files (either audio or video) that are released episodically and often downloaded through web syndication. The mode of delivery differentiates, such as direct download, or streamed web casting.

Cashless Economy and Education Sector

"Digital India" will soon become a way of life. India's youth will be at the forefront of adopting a digital economy. With a primary audience of 18-25-year-olds, they are four times more likely to carry a smartphone than cash. The educational institutions across the country are transforming themselves for this revolution by leveraging the numerous cashless modes of financial payments available today, like Mobile Wallets, Unified Payment Interface (UPI), Aadhaar Enabled Payment System (AEPS), and Banking Cards. The digital and cashless educational institutions will be the breeding ground for promoting the culture of "Digital India" and creating a truly cashless society. Here's a look at how it will positively impact an educational institution as well as its students:

- **Cash Management:** Online payments provide a frictionless process for both parties. It will enable students to pay fees at the click of a button and the educational institution to collect their payments directly into their bank account through a digital interface. There is reduced administrative co-ordination required in managing payments, issuing receipts, and collecting funds, thus eliminating any potential human error.

- **Seamless Administration:** "Digital campuses" will provide students with digital interfaces for payments throughout the campus. Touch points like the library, canteen, and gymnasium would be completely digital, allowing the institutions to focus only on academics, training, etc., further augmenting its brand equity.
- **Avenue for "Financial Prudence":** A digital and cashless college will empower its students with avenues to practice smart money management and financial prudence by leveraging their smartphones and tablets. As this essential life skill is not taught as part of the academic curriculum, such an avenue is extremely critical for colleges to ensure the overall development of students and create smart money managers of tomorrow.
- **Seamless Communication:** In a digitally transformed and connected college, the administration can seamlessly communicate with a batch of students or the entire college using a digital administration module. The students can receive important information through notifications on their mobile phone. Colleges can thus free themselves of the time, effort and manpower required to send notices to each class, upload information on bulletin boards or communicate with a specific student through letters or emails.
- **Build a Great Brand:** By creating a digital, cashless and connected ecosystem, institutions can provide a cutting-edge environment and a complete learning experience for its students. This leads to recognition, enhancement, and establishment of a college's brand. (Wadhwa, 2018)

The whole country is witnessing the effects of demonetization and with our Prime Minister hinting at a cashless economy, many people are left in confusion. How would a cashless economy be beneficial is the question of many. The cashless transfer is soon becoming the most preferred option and there are a number of benefits of going cashless. The digital or electronic transaction of the capital by using net banking, credit cards etc. is called cashless transfer. People can easily pay their bills online, shop and schedule transactions and manage all the finances using their laptops or smartphones. Going cashless not only eases one's life but also helps authenticate and formalize the transactions that are done. This helps to curb corruption and the flow of black money which results in an increase of economic growth. The expenditure incurred in printing and transportation of currency notes is reduced. In a nation like India, cashless transactions are not widespread, and this is due to the technology gap and the lack of proper education. Though these are the matters of concern, the government or the financial institutes need to address them to create a strong cashless economy.

Benefits of the Cashless Economy

- Saves Money and Time
- Less Cash Decreased Crimes

- Production Costs of Coins and Paper Currency are reduced
- Less Cash Means More Data
- More Spending Helps Improved Economic Growth

The massive effort of the present government of India for bringing a cashless economy has made restless to a large number of the people and various sections of the country. A section of people is doubtful, while other groups are hopeful for the cashless economy. This situation has led the debate and discussion on the utility of the cashless economy. The higher education of India is the third largest in the world after USA and China. With more than 900 universities and more than 35000 colleges, the financial management of the institutions of higher education in India is important and needs special attention. The financing of higher education should be smooth for qualitative and quantitative advancement. The financing of higher education in a cash king economy is complex and in a vastly populated country very challengeable as a quasi-product the higher education cost has to be borne by the government while the rate of return of higher education uses to go into the account of individuals. With only 3.8% of taxpayers, the management of the expenditure is an uphill task. The people are not coming forward to bear the cost of higher education. In a cash king economy due to lack of transparency, the government also cannot find the people and force them to pay the cost of education. The demand for the economy for better and high-quality human resources is not possible without high expenditure. There is a doubt that India cannot be a fully cashless economy in short time due to lack of digital infrastructure, people will and demand of economy but once it would it will bring a drastic change in the financing of higher education. These changes would be transparency, shifting of burden from Government to Individual, new sources of financing and more control on black money hoarded in educational institutions. No doubt the financing of higher education would be challenging but fruitful. (Mohammad Allam, May, 2019)

Educational institutions serve as the breeding ground for young minds to train and adopt a digital mindset for creating a truly cashless society. Digital is becoming the norm of life. Government is investing heavily to transform the country into a digitally empowered society and knowledge economy. Educational institutions across the country are realizing the benefits that cashless campuses bring not only to the teaching and non-teaching staff but students, parents and society at large. (Rajan Wadhwa, 2019)

How digital and cashless campuses simplify the lives of its students:

- **Integrated Payment System**

Digital campuses provide its students with digital interfaces for payments throughout the campus. Touch points like library, canteen, and gymnasium will be completely digital allowing the students to focus only on academics.

- **A Blended Solution**

Cutting edge digital campuses provide blended solution that combines the advantages of mobile app based solution and physical prepaid card. This provides immense flexibility to students as they can make payments even when they are in bad network range through their prepaid cards.

Educational institution campuses are mostly situated at the outskirts of cities. If students are not staying at the campus, they have to undertake significant amount of travelling to and from campus. A blended digital solution can be used even when their mobile phones run out of battery.

- **Convenience of Making Payments**

Online payments provide a frictionless process for both parties. Students can pay fees at the click of a button on their smart phones, which gives them the freedom to pay fees from anywhere and anytime. This results in saving students' time and efforts as they don't have to stand in long queues for making payments at various touch points within a campus.

- **Lowers Risk**

One of the biggest advantages of having digital campuses is that students no longer need to carry wads of cash for several fee payments. This makes their travelling experience pleasant and safe. In addition, in case of theft or loss, it is easy to block a card immediately, but it's impossible to get the lost cash.

- **Value for Money**

Digital solutions providers offer exciting discounts and cash-back to students at their favorite merchant outlets or online stores. This enables the students to maximize the value of their money.

Provides Avenues to Develop Good Money Habits

A digital campus provides avenues to its students to practice money management. Students can categorize their expenses such as food, books, movies, etc., put a cap on expenses under each category and monitor their expenses on monthly basis. This habit will teach them budgeting. Further, they can view their expenses in a neat graphical representation which helps them understand their spending behavior. Equipped with these insights, they can make smart decisions and become prudent with money.

Conclusions

ICT is important for us to learn how to use the technology available as an effective tool set. And it's equally important to understand where and why we wish to apply these tools. Education must drive the right use of ICT and not the reverse. ICT is a set of tools that can be an important and integral enabler of delivering knowledge

efficiently, with effectiveness and with superb outcomes. But this can be successful only if your choices and its uses are driven by right intensions and great outcomes. Our role as a knowledge worker extends far and beyond using technology to gain competitive advantage in the marketplace for our organization. We should use ICT ethically too. Being socially and ethically responsible in this information age involves not only the actions initiated by ourselves but also what we do to protect ourselves and our organizations against the action of others like protecting ourselves against cyber crimes like identity theft etc. Like it or not, ICT is a necessity today. It's hard to imagine a world without it post 2020 now. Of course, this does not mean we must adopt it just for the sake of keeping with the pace and the trends of the current times. Rather, we need to carefully evaluate each option and determine if it will make us more productive, enhance and enrich learning and improve the outcomes. ICT if used wisely will literally help us and our organization become more efficient, effective and innovative.ICT has and will continue to revolutionize the education industry in the coming times.

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