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IMPACT OF INFORMATION TECHNOLOGY IN CASHLESS ECONOMY IN INDIA

Dr. Amit Kumar*

ABSTRACT

Cashless economy describes economic states whereby financial transactions are not conducted with money in form of physical banknote or coins but rather throughout the transfers of digital information (usually an electric representation of money) between transacting parties. Information technology refers to study or use of computer to store retrieve, transmit and manipulate data or information. Cashless transactions cannot be conducted without electronic gadgets and internet. Information technology plays a significant role in cashless economy. Before November 2016 cashless transaction was present in economy but it was not much popular among public but after demonetisation when people were out of cash they opted for cashless transaction and government promoted cashless economy. All the methods of cashless transaction like debit card, credit card, e-wallet, e-banking etc can only be done through using technology of sending digital information. Information technology has a great impact on cashless economy and it has both negative and positive impact on economy and general public. IT has made transactions efficient but due to loopholes in technology security is at risk. A survey was conducted to know that without IT cashless economy was possible or not and what are its impacts according to general public.

Keywords: *Cashless Economy, Information Technology, Digital, Transaction, Money.*

Introduction

- **Information Technology**

Information technology (IT) is the use of computers to store, retrieve, transmit, and manipulate/edit data or information. Information Technology is considered to be a subset of information and communications technology (ICT). Through information technology money can be transferred in form of digital information from one place to another without physical cash i.e. Digital Money. Digital money is exchanged using technologies such as smartphones, credit and debit cards. Digital money has been conceived of since very early in the age of the internet. Several digital cash companies were founded in the early 1990s, the earliest and best-known of these being DigiCash.

- **Cashless Economy**

Cashless economy is an economy where transaction can be done without necessarily carrying physical cash as a means of exchange of transaction but rather with the use of credit or debits card, e-wallet like Paytm, Google pay etc for payment for goods and services. The use of information technology facilitates fund transfer, thereby reducing time wasted in Bank(s).Cashless economy is not the complete absence of cash, it is an economic setting in which goods and services are bought and paid for through electronic media. In cashless economy every monetary transaction is done through electronic channels like Electronic Fund Transfer, mobile fund transfers, ATMs, E-banking etc so the financial system will be totally dependent on information technology because payments are done electronically.

- **Difficulties Faced in Cashless Economy**

There is high level of cash-based transactions in India. Cash in circulation amounts to around 13% of India's GDP.

Nearly 95% of transactions take place in cash. Large number of people in India belongs to informal sector and workers prefer cash-based transactions as they get cash easily and fewer chances are there for fraud while using physical cash.

* Assistant Professor, Marwari College, Ranchi, Jharkhand, India.

66.4% of Indian population belongs to rural region. Almost a quarter of the rural population doesn't have mobile phones and a large number of them are computer and fin-tech illiterate. They are not familiar with computers or mobile phones and they are dependent on other people for transactions. This sometimes leads to misuse of the accounts, piracy of personal information and frauds related to fund transfer, so majority of rural population prefer cash over digital money. About 90% of the Indian labour market is informal. Daily wage workers work for whole day and then earn cash so there is no utilization of online transaction for them. India is a country where 90% of transactions are paid in cash because cash facilitates making transactions anonymously, which helps agents to avoid laws, regulations and taxes from government. People do cash transaction so they can do tax evasion.

Security is another big concern regarding cashless transactions. The Indian Computer Emergency Response Team (CERT-In) reported increase in the number of incidents in October 2016 with approximately 39,730 security incidents. Indians are not satisfied by digital modes due to cyber security incidents such as phishing, scanning, website intrusions, defacements and virus code. Digital India has faced major constrain from the thefts and hacking of digital money instruments. The ATM cards, Debit/Credit cards, Net Banking solutions and the transaction websites of the financial institutions and banks like SBI are hacked by the mischievous people who withdraw money by making clones and changing the passwords of many accounts.

Review of Literature

Garg Preeti and Panchal Manvi in the paper "Study on Introduction of Cashless Economy in India 2016: Benefits & Challenge's" discussed the views of people on introduction of cashless economy in India. The study was conducted in Delhi region. After analysis it was concluded that many people agree with the government on the usefulness of cashless economy as it helps to fight against terrorism, corruption, money laundering but one biggest problem in the working of cashless economy in India is cybercrime and illegal access to primary data**.**

Salihu Shakirat.A, Mustapha Kassim, Ajayi Ireti. H and Binitie Amaka (2013) in the paper "The Impacts of Information Technology in a Cashless Economy in Nigeria" analyzed and clarified that how Nigerian bank have used information technology. They used three variables and also included nature and degree of adoption of innovative technologies and the impact of the adoption of Information Technology devices on the cashless economy in the banking sector.

Annamalai S., and Muthu R. Iiakkuvan (2008) in their paper "Retail transaction: Future bright for plastic money" forecasted the growth of debit and credit cards for transactions in retail business. They also mentioned the factor of growth and increasing popularity of plastic money in public, they discussed some major difficulties faced by banks regarding debit and credit card i.e. Plastic money and it concluded that scope of plastic money is very bright in future.

Das Ashish and Agarwal Rakhi, (2010) in their article "Cashless Payment System in India- A Roadmap" Cash as a mode of payment is an expensive proposition for the Government. The survey included representative sample of different categories of retail businesses but it was limited to Mumbai region. The country needs to move away from cash-based towards a cashless (electronic) payment system. This will help reduce currency management cost, track transactions, check tax avoidance or fraud etc., it enhances financial inclusion and integrates the parallel economy with main stream.

Jain, P.M (2006) in the article "E-payments and e-banking" discussed that e-payments will be able to check black money in economy. He also did an analysis of Growth Pattern of Cashless Transaction System. He also pointed out the need for e-payments and various modes of e-payments and communication networks. He concluded that by taking full advantage of information technology, quick payments and remittances will ensure optimal use of available funds for banks, financial institutions, business houses and common citizen of India.

Jain Bindu and Bansal Rashmi in the article "E- payment: necessity of cashless economy" discussed different method of e-payment system its advantages, disadvantages and its importance for making cashless economy. She concluded that cashless system is need of today's society as it is base of online market, fast, secure and safe. Nevertheless, e payment system will lead Indian economy to cashless economy.

Problems of Information Technology in Cashless Economy

- Digital illiteracy
- Connectivity
- Technological loopholes
- Usage of electronic gadgets

Objectives of Study

- To know the impact of Information Technology in the Cashless Economy
- To know the opinion of selected people regarding impact of Information Technology in Cashless Economy
- To identify major difficulties from government and public point of view
- To suggest measures to improve or overcome difficulties that is identified through this research

Hypothesis of Study

The following alternative hypothesis has been set for the study

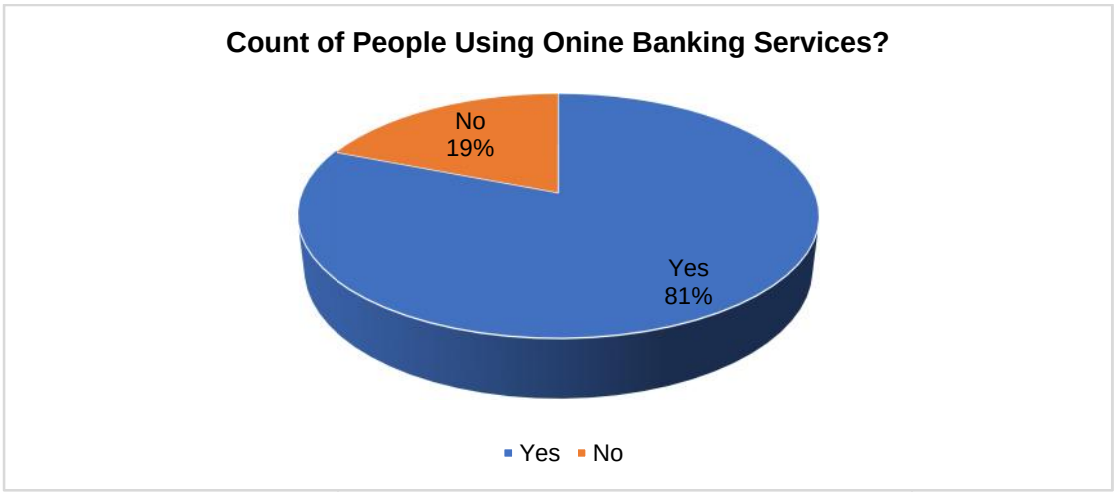
H1: There found a significant difference in the opinion of people regarding the impact of IT in cashless economy

Research Design

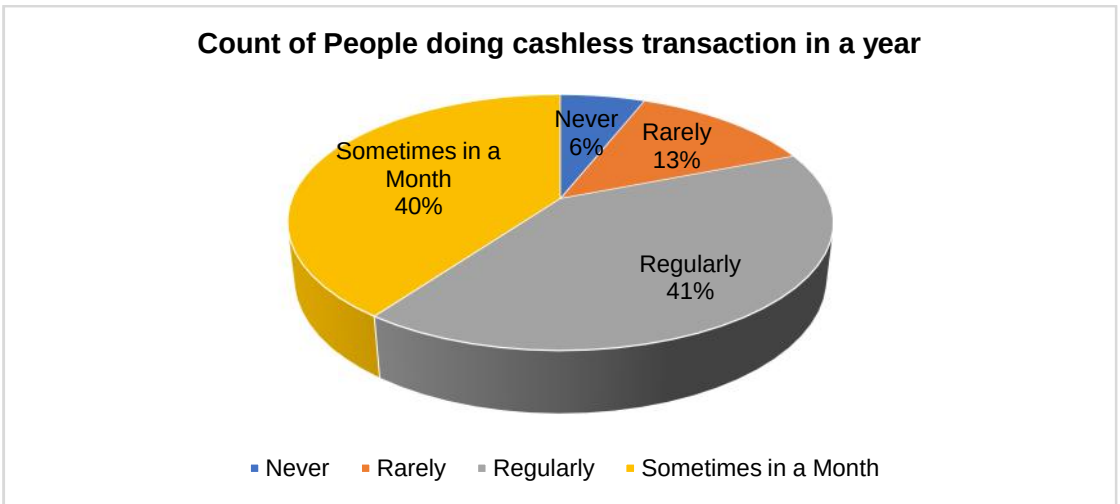
Methodology

Both primary and secondary data are used for the research. Survey based on list-based sampling frame has been used to collect the information. This random sampling method has helped the researchers to know opinion of public regarding impact of information technology on cashless economy and secondary data was collected from internet and e-journals.

Data Representation and Interpretation

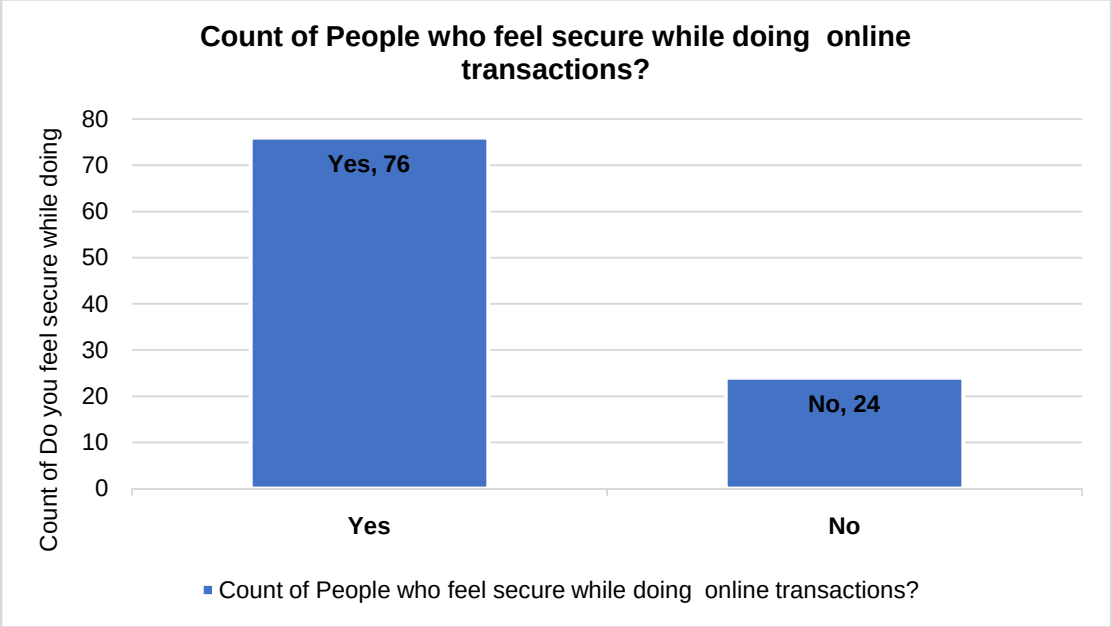


81% of people use online banking services as they responded with yes and rest 19% responded with no.



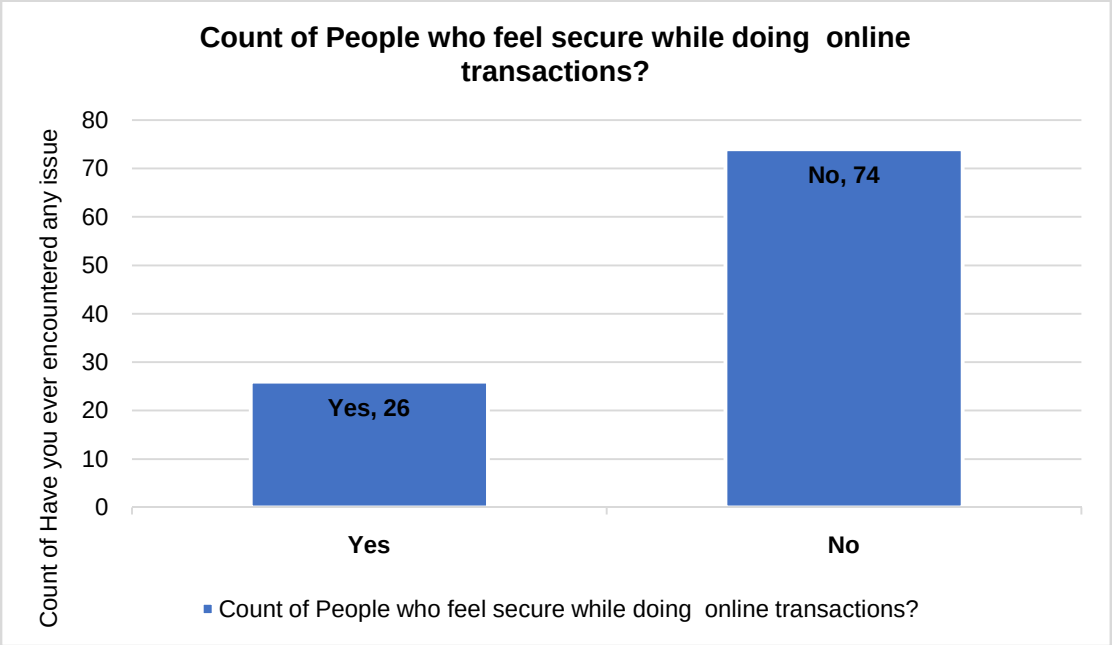
People are doing cashless transaction more often as 41% opted for regularly and 40% said sometimes in a month so majority people are doing cashless transaction. 13% opted for rarely and 6% people responded with never who are basically doing transaction in physical cash.

Out of 100 people more than 75 people feel safe while doing online transactions.



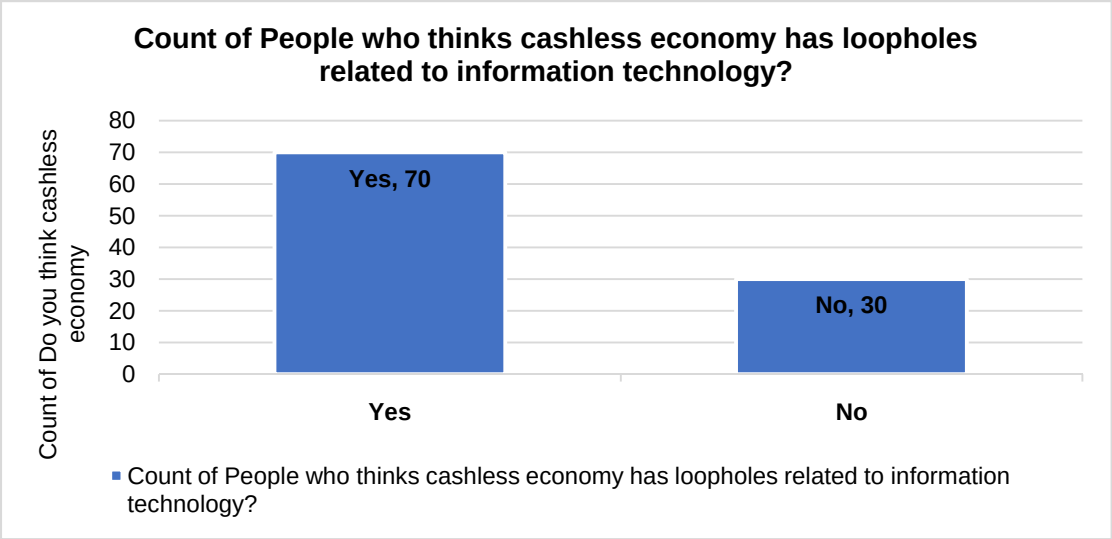
Do You feel Secure while doing online transactions?

More than 20 people have faced issue like hacking, double payment etc while doing cashless transaction which shows a major loophole of information technology.



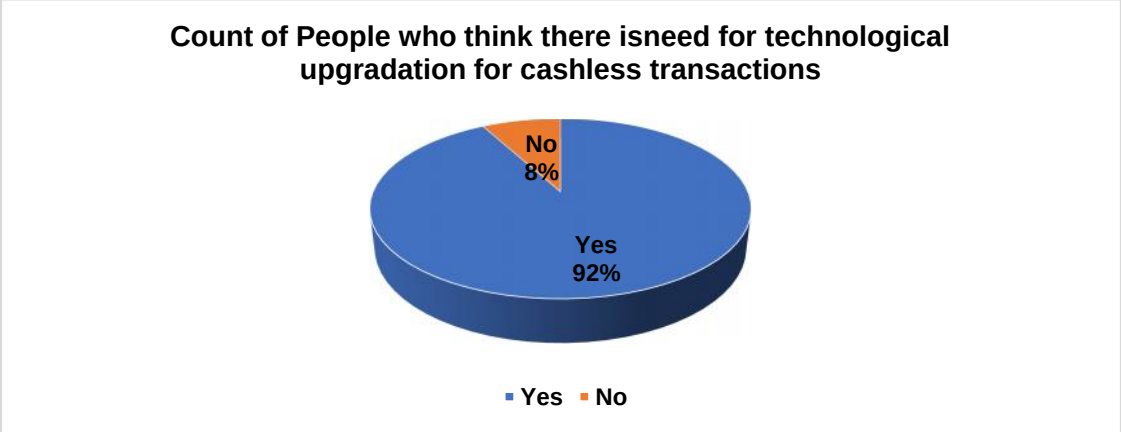
Have you ever encountered any problem like double payment or hacking of personal details?

70% of people think that there are loopholes and there is need for working on those loopholes.

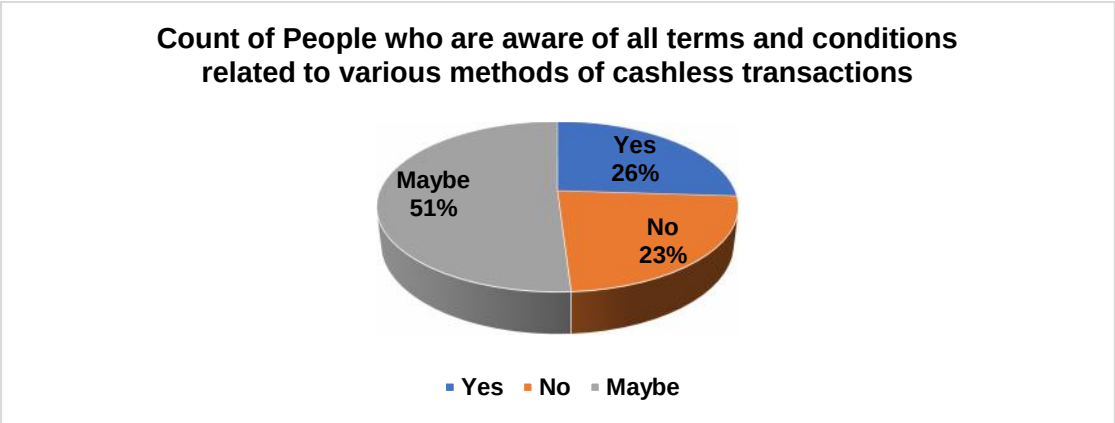


Do you think cashless economy has any loopholes related to information technology?

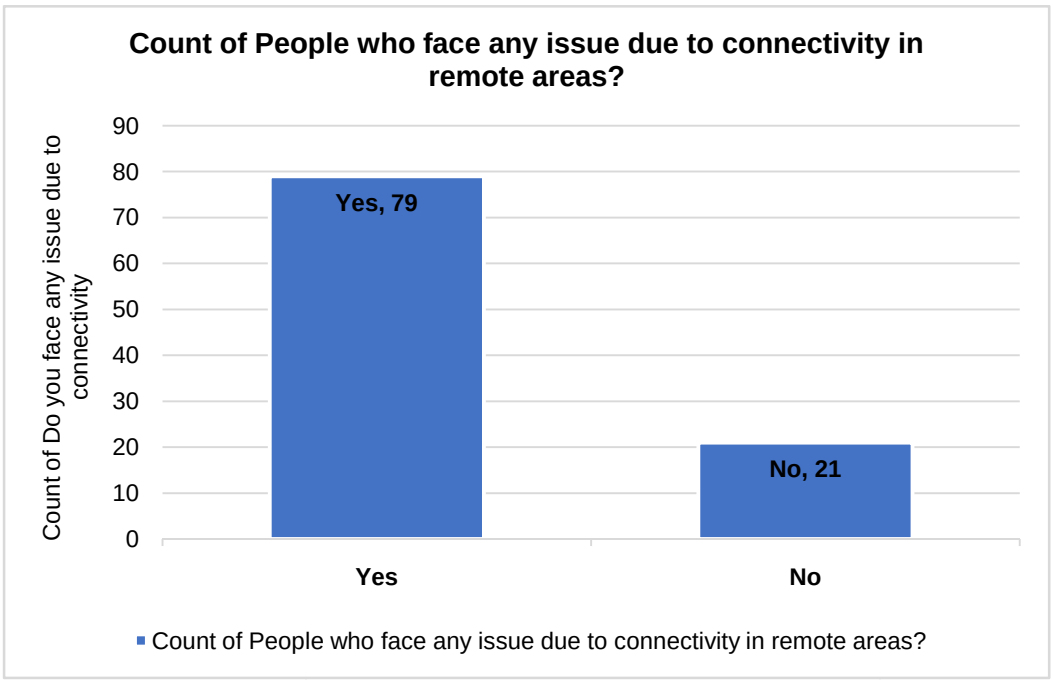
92% among all respondents want that there is need for upgradation of technology for better security and connectivity to do cashless transaction at more ease and at any time.



When people were questioned about terms and condition of various methods of cashless transaction 51% responded maybe and

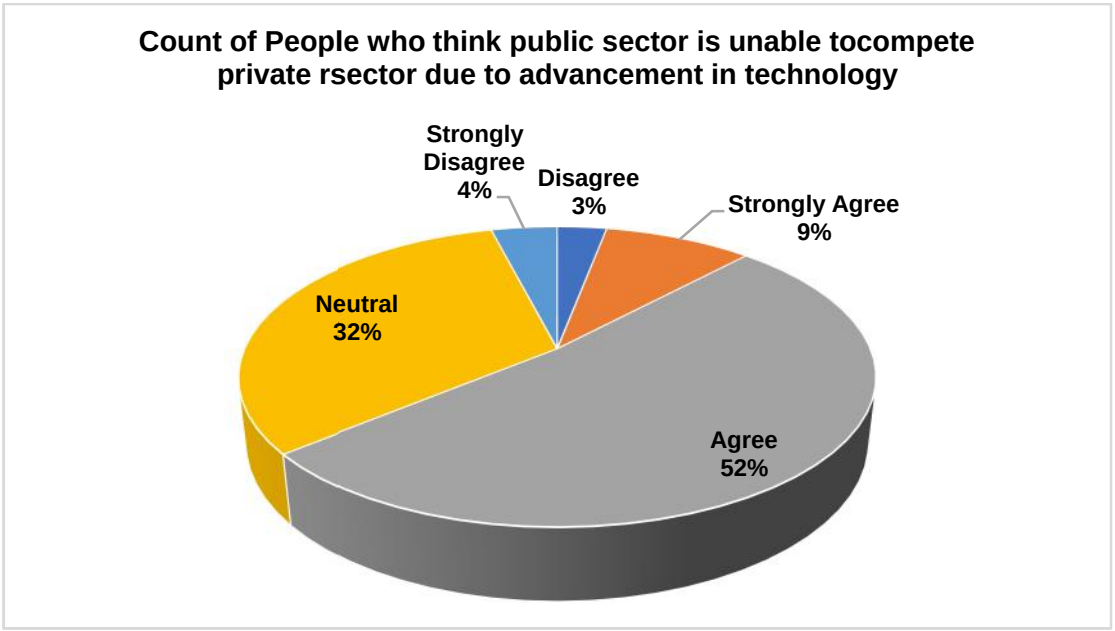


79% people opted for yes for facing connectivity problem in remote areas which is a problem for cashless transaction because without internet digital money cannot be transferred.

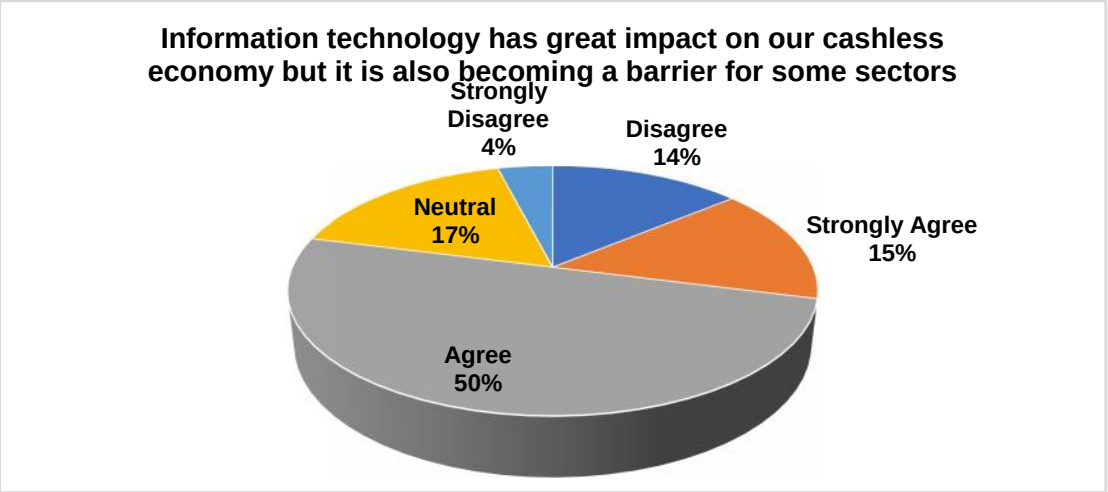


Do you face any issue due to connectivity in remote areas?

9 % strongly agreed and 52% agreed that public sector is unable to compete with private sector due to limited resources available .32% people were neutral about it and 4% strongly disagreed, 3% disagree with the statement



Out of 100 respondent 65 among them agreed that information technology is becoming barrier for some small business as they are unable to use facilities of POS and e-wallet. 18 among them disagreed and rest responded in neutral for the statement



Hypothesis Testing

The age wise scores obtained for the statement "Information technology has great impact on our cashless economy" are as follows;

Report

Total Age	Mean	Std. Deviation	Variance	Range
15-25	22.84	2.390	5.714	12
25-40	23.43	2.070	4.286	6
40 and above	22.71	2.984	8.905	9
Total	22.87	2.394	5.730	12

From the above table its very clear that the age group 25-40 has the maximum mean(23.43) with less deviation (standard deviation 2.07).

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig
Total *	Between (Combined) Groups	2.446	2	1.223	.210	0.811
Age	Within Groups	564.864	97	5.823		
	Total	567.310	99			

The ANOVA results explain that there is no significant difference exists within comparisons of scores among the three different age groups. Thus, the alternative hypothesis that there found a significant difference in the opinion of respondents regarding the impact of IT in cashless economy is rejected.

Measures of Association

	Eta	Eta Squared
total * age	.066	.004

The eta squared shows that only 0.4% of the variance in the total scores is due to age.

Findings

It is found that there is no significant difference in the opinion of selected group on the impact of IT in cashless economy**.**

- **Automatic Teller Machine is mainly used cash withdrawals:** There are large numbers of ATM cards but it is only used for withdrawal purpose it is not utilized for online transaction. 92% of ATM cards are used for cash withdrawals. Very less no. of people uses ATM card for activities like shopping etc. Cardholders in urban and semi-urban areas are users whereas there are very less users in rural region.
- **Limited availability of Point-of-Sale terminals:** According to RBI, there are 1.44 million POS terminals installed by various banks across locations at the end of July 2016. But most of them are installed in urban/ semi-urban region. Rural region is suffering because of less POS terminals available.

- **Mobile internet penetration remains weak in rural India:** For settling transactions digitally, internet connection is needed. But in India, there is poor connectivity in remote and rural areas.
- Lower literacy level in poor people and rural parts of the country; make it problematic to do online transaction or to motivate people to use plastic money on a wider scale.
- **Connectivity problem:** Due to poor network in remote areas cashless transaction is not possible everywhere.
- **Security:** While doing cashless transactions money is transferred through sending information in digital form so the information is at risk due to technological loopholes and it can be hacked by any anonymous hacker and can be misused later.
- **Technological loopholes**: Electronic gadgets are many times are out of service or it is unable to retrieve data which becomes a barrier for cashless transaction.
- **Mobile phones:** Smartphones are still not affordable to all citizens especially to those who are below poverty line. Though several companies have introduced inexpensive smartphones but they are not affordable for many people in the country as poverty is prevailing in many region. Indian government can take necessary steps like providing subsidy or affordable alternatives for cashless transaction.

Conclusion

Information technology is having a great impact on cashless economy. After conducting survey through questionnaire, it was observed that people are using digital modes and many among them are frequent user of digital money, satisfaction level and sense of security is also there when they do cashless transactions as 75% responded that they feel secure. 92% among all the respondents think that there is need for technological advancement in cashless economy and 75% among them agreed that there are loopholes whereas 25% of them have already experienced it in form of hacking of data, double payment etc. Major difficulties faced by government is limited monetary resources and dynamic technological environment as government is not having sufficient budget to promote cashless transaction as it requires many instruments like internet, smartphones etc. Even now rural regions are facing connectivity problem and rural population is not comfortable with use of digital money. Digital illiteracy is prevailing in many parts of India. Unorganised sector in both rural and urban region are unable to use facilities like POS, e-wallet etc which is an obstacle for public.

Suggestions

- More point of sales is to be installed in semi-urban and rural area
- Campaigns for teaching people about usage of digital money
- Improving connectivity and providing smartphones at affordable price to low-income group.
- Upgrading the technology to increase security of cashless transactions.

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