

# PROS and CONS of the Cashless Economy

<sup>[1]</sup> Vipindas Cheruvathamkandy, <sup>[2]</sup> Dr. R. K. Patil

<sup>[1]</sup> Department of Commerce, Mansarovar Global University, Sehore, Madhya Pradesh, India

<sup>[2]</sup> Professor, Faculty of Management Science, Department of Commerce, Mansarovar Global University, Sehore, Madhya Pradesh, India

---

**Abstract**— *Cash may no longer be king. A cashless economy is an economic system in which there is no or very little cash flow in a society and products and services are acquired and paid for using electronic media. Cashless economies have been proposed as a potential solution to the problems associated with traditional economies. There has been discussion over the viability of cashless economies as a potential response to the ongoing global financial crisis. Debit and credit cards, card-swiping devices at retail outlets or point-of-sale terminals, and digital wallets are all included in this definition. E-banking, often known as mobile banking or banking done using a computer, is another name for this type of banking. The use of digital transactions or cashless transactions is one way to attain improved levels of transparency, scalability, and accountability. The idea of a cashless economy, as well as its benefits and drawbacks, as well as a number of alternative cashless payment methods, are the key foci of this research. The initiative known as Digital India is a flagship project of the Indian government, and its main objective is to turn India into a society that is digitally enabled as well as an economy that is based on knowledge. "Faceless, Paperless, and Cashless" is one of the rules that digital India has stated it will adhere to as one of its guiding principles. The term "cashless economy" refers to civilizations that rely significantly on alternate forms of payment, such as digital currency or plastic money, rather than cash.*

**Keywords:** *Cashless economy; transparency and digital transaction.*

---

## I. INTRODUCTION

It is a common saying that "Cash is King," but money that is just sitting around won't ever earn any interest, so the only way to make money off of it is to convert it into digital form and use that. A cashless economy is a form of economic system in which the vast majority of transactions are carried out through means other than currency. These methods of payment could be in the form of credit cards, debit cards, wallets, or digital ways in which there is either no flow of currency at all or the barest minimum. Wallets are a common example of this type of payment. A cashless economy might prove to be a helpful instrument in the fight against the so-called "shadow economy," as well as the financing of terrorism and other types of corruption, and other problems of this nature. It is essential to recognise that the cashless economy is a phenomena that has the ability to bring about a significant change in the economic climate of any nation. This is why it is necessary to recognise that the cashless economy has this potential. This may be accomplished by moving away from an economy centred on cash and towards one that does not require currency and instead relies on digital means of transaction. Cashless transactions have not only sped up the process of completing a transaction, which has resulted in time savings, but they have also resulted in considerable money savings by eliminating the costs associated with managing and accounting for cash. This has led to large time savings. Cashless transactions have also resulted in major time savings. The concept of a "cashless economy" refers to a situation in which there is no flow of cash within an economy and all transactions are expected to be handled through electronic channels. In this type of

economy, all transactions are needed to be completed online. These electronic channels include direct debit, credit and debit cards, electronic clearing, and payment systems such as the Immediate Payment Service (IMPS) and National Electronic Funds Transfer. Direct debit is a method through which money is taken out of a person's bank account without their knowledge.

### The Economic System Devoid of Cash

A cashless economy is an economic system in which all types of transactions are handled by electronic methods rather than utilising cash. This eliminates the need for physical currency in economic transactions. Debit and credit cards, card-swiping or point-of-sale (POS) machines, and digital wallets are all components of this system. Electronic banking refers to the process of conducting financial transactions using a computer or a mobile device. The Reserve Bank of India (RBI) and the government of India are working together on a number of measures targeted at reducing the proportion of monetary transactions that are conducted in cash. These activities include the promotion of digital or electronic payment devices such as prepaid instruments and payment cards. For example, a prepaid instrument may be an electronic payment device.

The Reserve Bank of India (RBI) is working towards the objective of developing a society with a culture of using 'less cash' by supporting innovative types of payment and settlement services. This target was set in 2015. The ability to maintain consumer confidence by assuring them that their money is safe within financial institutions is an essential component in the effective running of such an economy. Eliminating the use of cash is not only a more cautious practise because it is the first technique of management, but it

also results in a great deal of openness inside the economic system. This is because eliminating the use of cash is the first method of management. A cashless economy serves to restrict "black money," which in turn reduces tax evasion and, in the long term, contributes to a reduction in funding for illicit trades and activities, including terrorism. In addition, an economy that does not use cash helps to eliminate the need for thieves to hide their money. As a result of this, an increasing number of emerging economies are beginning to accept the cashless method and are converting to digital currency. This is a growing consequence of the benefits. As a solution to the problem of meeting one's currency usage duty, an increasingly widespread option being considered is the establishment of a cashless society. It is important not to get the idea of a "cashless transaction economy" mixed up with the idea of a shortage of cash; rather, the term "cashless transaction economy" refers to a culture in which individuals pay transactions digitally. In today's modern economy, the movement of money is accomplished through the use of electronic transactions. Therefore, in order to achieve the desired result, the culture of digital payments needs to be disseminated further, and infrastructure facilities need to be expanded. As a consequence of the revisions, the market is now primed and ready for the introduction of new forms of digital payment, in addition to the already established e-wallets and credit or debit cards. These new forms of digital payment can be used in place of the existing ones.

The websites and mobile applications in question are not your typical examples of those associated with financial institutions. The Reserve Bank of India (RBI) and the National Payments Corporation of India (NPCI) have collaborated to launch a brand new payment system that is being referred to as UPI (which is an abbreviation for "UNITED PAYMENT INTERFACE").

This system allows users to consolidate a variety of banking services into a single mobile application, and it is able to support numerous accounts that are held at different collaborating banks. Unquestionably a step in the right direction, but not one that is entirely devoid of challenges or complications in the process. In spite of the fact that India had more than 220 million smartphone users as of February 2016, there is still a considerable way to travel until the entire population in India has access to the internet through a mobile device.

**Shri Narendra Modi stated, "We want to have one mission and target: take the nation forward digitally and economically."**

The current Prime Minister of India, Narendra Modi, was the driving force behind the development of a project called "Digital India," which has the overarching objective of transforming India into a digitally empowered nation and establishing a cashless, paperless economy. Mr. Modi is responsible for the creation of the "Digital India" initiative. Just 7% or 8% of all payments are reportedly being processed electronically at this time in India, according to the most

recent data that is available regarding the country. By demonetizing currency notes with denominations of 500 and 1000 Indian Rupees (INR), the administration of Narendra Modi took an unprecedented measure, which was a huge step towards reducing instances of corruption and the circulation of counterfeit currency. Even India's central bank, the Reserve Bank of India (RBI), has only recently made public a paper with the title "Payments and Settlement Schemes in India: Vision 2018." This paper outlines a plan to encourage electronic payments and to make it possible for India to transition to a cashless society or economy in the medium and long term. The paper was only recently made public. Because there is significantly less cash available as a result of demonetisation, there has been an increase in the use of digital and electronic methods of transaction, such as e-banking, e-wallets, and other transaction apps. This has led to an increase in the use of digital and electronic methods of transaction. A cashless economy has a number of benefits, including safety and cleanliness. You are in a position to take on a leadership role in guiding India's economy into a direction that is more digitally focused and you have the opportunity to do so. The process of digitalization is one that could make the shift from a cash-based economy to a cashless society easier to accomplish.

**Government aims include building a cashless transaction economy.**

The Reserve Bank of India (RBI) and the government of India have both begun the process of implementing a variety of policies and procedures that will facilitate the growth of electronic and other cultures that do not rely on cash. The presentation of the Reserve Bank of India's (RBI) Vision-2020 for Payment and Settlement Systems in India took place in June of 2016. In this paper, the Reserve Bank of India (RBI) underlined its commitment to support a more widespread adoption of electronic payment systems across all strata of Indian society in order to accomplish its aim of building a cashless society. This goal is to eventually replace cash with electronic payment methods. Coverage, convenience, confidence, convergence, and cost are the five pillars upon which Vision 2018 is founded, and they constitute the broad contours of the effort as a whole. Coverage is the most important pillar, followed by convenience, then convergence, and finally cost. To ensure that these objectives are met, the Vision-2020 programme has made the execution of four essential initiatives a top priority: customer-centricity, responsive regulation, effective supervision, and sturdy infrastructure.

The Reserve Bank of India (RBI) and the government are making several attempts to reduce the quantity of cash that is used in the economy. One of the ways that these efforts are being carried out is through the promotion of digital and payment devices such as prepaid instruments and cards. The Reserve Bank of India (RBI) is working towards its objective of building a paperless society by assisting with alternate methods of payment and settlement services. This is one of

the steps that the RBI is taking to get there. In this context, the ideas of a cashless society and a cashless transaction economy relate to the same phenomenon: the transition away from utilising cash for transactions and payment in favour of conducting business online. A cashless society and a cashless transaction economy refer to the same phenomenon as a cashless transaction economy.

It is important to note that the phrase "cashless transaction economy" does not mean that there is no longer an availability of cash; rather, it describes a culture in which individuals settle transactions through digital means. In today's modern economy, the movement of money is accomplished through the use of electronic transactions. As a consequence of this, increasing the culture of using digital payment methods along with the increase of infrastructure facilities is required in order to achieve the result that is wanted. On November 8, the government of India made the decision to terminate the printing of the Rs 500 and Rs 1000 notes. These were the two largest denominations of currency that were still in use. The primary purpose of the operation was to combat the circulation of counterfeit currency as well as unlawful money. Because of this action, cashless transactions have received a significant boost, as card-based and digital payments have not been hindered, whereas high-denomination cash transactions have been hampered because there is a shortage of high-denomination currencies.

- The expansion of the digital payments business is one of its primary goals.
- It aims to ensure that Aadhaar is rapidly implemented in payment systems as soon as possible.
- The regulatory agency has expressed interest in reducing the proportion of paper-based clearing instruments.

## II. CASHLESS ECONOMY BENEFITS

• **Transparency in transaction:** Electronic transactions or the usage of plastic money will always leave a digital impassable valuable behind. This value will always be held by both the tax payer (the customer) and the tax collector (the government). It will put an end to the production of money by illicit means.

• **Financial inclusion:** The aspiration to progress towards a cashless economy will lead individuals to develop a stronger emotional and financial attachment to the assets they own. In order for this to be possible, the government will have to ensure that each and every family is connected to a bank and the plastic economy.

• **Reduced maintenance costs:** It is anticipated that the processes involved in the logistics and supply chain of cash would contribute to the riches of the exchequer. The creation of currency, as well as its storage, transportation, and distribution, as well as the identification of fake money, all need a large investment of financial resources. Because the economy is built on the foundation of financial institutions, there is a concentration of instances of tax evasion. Imprints

have been left.

• **Higher revenue:** One of the advantages that may emerge as a consequence of transparent transactions is an increase in the total amount of tax revenue that will be collected; this advantage does not constitute an original gain. Because of this, the government will have a bigger income, which will result in changes to the policies and programmes that are intended to improve public welfare. As a result of this, the general populace will reap the benefits.

• **Lower transaction costs:** The rise of digital commerce has been a boon in terms of both the cost of processing and the amount of time that is spent waiting. This is due to the fact that digital commerce reduces the amount of time spent waiting. If it is carried out correctly, it will lead to an increase in the rates of fasting and output, which will, in turn, cultivate the economy. If it is carried out right, it will lead to an increase in the rates of fasting and output.

• **Taxation:** When people have less cash on hand in their houses and more of it in banks, there is less potential for people to conceal their income and avoid paying taxes. This is because banks are safer places to store cash than people's residences. There is a direct correlation between the number of people who pay taxes and the overall tax burden on the nation, which in turn leads to a reduction in the general tax rate.

• **Less availability for illegal activities:** When people are encouraged to use cashless payment methods, there will be less cash accessible with the people, and there will be no way to invest in other activities to make better use of the cash that is available. When people are encouraged to use cashless payment methods, there will be less cash available with the people. As a consequence of this, the amount of cash that is currently available will be reduced. Illicit channels for the transfer of funds, such as HAVALA, would ultimately be the ones to take the biggest hit from the adverse effects that a cashless economy would bring about.

• **Convenience:** It's possible that the move towards digital systems is being driven by how much more convenient it is to do financial transactions with them. It will no longer be necessary for you to carry about large amounts of cash, use plastic cards or even stand in queue in order to withdraw money from a cash machine. This way of payment is not only easier to use when you are travelling, but it is also safer to use in that context.

• **Tracking spends:** When each and every transaction is documented, consumers will find it very simple to keep track of the money that they have spent because it will be easy to access the information. It will also be helpful when filing income tax returns, and in the event of a security check, individuals will find it simple to justify their purchasing habits. Additionally, it will be handy in the event that there is an audit.

• **Reduced red tapism and bureaucracy:** Transactions that are carried out without the use of currency and instead through electronic methods allow for the tracking of wire



transfers and make persons accountable for their activities, which, in turn, helps to reduce instances of corruption and enhances reaction times.

• **Hygiene:** It is not unusual to find filthy, tobacco-stained notes that are full of germs in India. This is standard practise. There are a lot of instances in our life similar to this one, in which we give and take germs in the form of rupee notes, and these instances might be dangerous or they might not be dangerous at all. If we move towards a cashless economy, we may be able to circumvent the issue at hand.

**Delinquent of soiled /fake currency:** Because there will be no shortage of soiled notes or counterfeit currency in an economy that does not use cash, the costs of maintaining ATMs that are in good working order will be reduced. It is required that customers be able to complete their transactions quickly and easily, that there be no delays or lines, and that there be no connections with bank workers.

#### Modes of cashless transactions

**Credit Card Or Debit Card:** The use of a credit card, a debit card, or both as a payment alternative is yet another form of cashless exchange. In India, the usage of credit cards, debit cards, and automated teller machines (ATMs) was subject to a number of limitations. On the other hand, as a direct result of the demonetization, an increasing number of people are choosing to use their credit cards and debit cards instead of carrying cash. One of the requirements for using this method of payment is that the merchant location must be equipped with a swipe card facility. This is one of the requirements.

**Cheque:** Cheques, which were one of the earliest forms of cashless payment, remain one of the most prevalent methods of payment used in modern times. It is a procedure that has been tried out, and the results of those tests have demonstrated that it is effective. You will send a cheque to a third party in the amount that was previously decided to be appropriate in order to put this plan into action. The size of the cheque will be determined by what was determined to be appropriate. Following this step, the cheque is deposited with the financial institution that is appropriate. When a payment needs to be processed, the bank will initially submit it to a clearing house for review before continuing with the processing. A record of the payment is kept at the conclusion of the process whenever a cheque is used as the payment method. This is due to the fact that each phase of the transaction that is finished with a cheque is documented. However, there are times when payments made by cheque are returned for one of two reasons: the signature does not match, or there is not enough money in the account to cover the amount of the cheque. Both of these reasons can cause a payment to be returned. We are able to develop alternate methods of payment that do not include the use of cash as a medium of exchange so that we can get around the problems that have been brought up here.

**Demand Draft:** The term "demand draught" refers to yet another outmoded manner of conducting commerce that does not include the usage of currency. Using this method, it is possible to ensure the highest level of security when it comes to collecting payments from private parties. Due to the fact that the banker signs the demand draught (DD), it is impossible for the transaction to ever go into default. The necessity of physically going to a financial institution in order to make a deposit of the instrument in question is one of the drawbacks associated with using a demand draught or a cheque as a means of payment. This is also one of the advantages of using cash as a mode of payment. In order for a cheque or a money order to be processed and cleared through the banking system, some more time is required.

**Online Transfers- Neft Or Rtgs:** The most straightforward approach of handling monetary exchanges in a cashless manner is to use either the National Electronic Funds Transfer System (NEFT) or the Real Time Gross Settlement System (RTGS). To be able to carry out transactions involving online money transfers, it is essential to have access to internet banking. It takes a lot less time to make an online transfer using NEFT or RTGS than it does to send a check or a demand letter in the mail. The online transfer can be finished from any location as long as there is connection to the internet.

**Mobile Wallets:** The adoption of mobile wallets is the next step towards the elimination of cash as a payment method altogether. It is not necessary for you to have a debit card, credit card, or internet banking password in order to make a payment using a mobile wallet. Simply use IMPS to load money into your wallet, and then you can use that money while you are moving around using your IMPS-enabled mobile device. Going to the play store and searching for an app for mobile wallet will both get you the app. Mobile wallets include a wide variety of services, including Paytm, PayUmoney, Mobikwik, and Phonepay, among many more.

**E-Wallets:** The usage of an electronic wallet is the next step towards the elimination of cash payments entirely. To pay for a wide variety of items, from groceries to plane tickets, consumers can utilise electronic wallets as a payment method of choice. To make use of the E-Wallet service, both the customer and the business owner must have a mobile device that is always capable of maintaining an internet connection, specifically a smart phone. One example of an electronic wallet is the website PayPal, which is perhaps the most well-known one.

**Upi Apps:** The Unified Payments Interface (UPI) is a mobile technology that enables you to use your smartphone to carry out a range of different financial transactions. Users of the UPI can transfer and receive money without having to provide their banking information as long as they use a virtual payment address when sending and receiving funds. The Unified Payments Interface, sometimes known as UPI, enables businesses to enrol with their banks in order to receive payments. The merchant is required to have a current

account with a bank in order to take payments over the UPI, just as they would be required to have with point-of-sale technology. UPI apps include the likes of SBI Pay, the Union Bank UPI App, Phoneepee, and a few additional programmes now available.

**Unstructured Supplementary Service Data:** Even if you do not own a smartphone or have access to the internet, you are still able to make use of the cashless option that is made available through USSD. This is because the cashless option is made accessible through USSD. This is due to the fact that USSD transactions do not need a smartphone to be completed. The Unstructured Supplementary Service Data abbreviation, which is frequently shortened to USSD, is the extended form of the acronym that is commonly used to refer to the mobile banking service. Simply dialling the number "\*99#" from any mobile phone will grant you access to this service. There are no other requirements. This can be done whenever it is convenient for you. You are able to take part in all of these activities, which are open to people of any age and background so long as they have access to mobile devices and the internet. You are able to participate in any of these activities that you like. Support for alternative payment methods that are executed using USSD is provided by virtually every bank, including SBI, ICICI, BOB, and AXIS BANK, amongst others.

**Aadhaar Enabled Payment System:** The Aadhaar Enabled Payment System (AEPS) is now one of the most trustworthy alternatives to the more conventional use of cash transactions. The AEPS operates in a manner that is analogous to that of a Micro ATM in that a smartphone and a fingerprint scanner are required in order to execute a transaction. It is a prerequisite that you link your bank

account to your Aadhaar card in order to use this service. You can do this by following the instructions on the back of your card. You can accomplish a variety of tasks with the use of AEPS, like transferring funds from one Aadhaar card to another, withdrawing cash, or depositing cash, amongst other things. A GIFT CARD Comes in Tenth: Gift cards are the next alternative that can be used in place of conventional monetary transactions. A gift card is a pre-made card that can be purchased from a merchant or a bank. You can give the card to someone as a present. You have the option of obtaining one of these cards. The amount of money that is loaded onto the gift card is predefined, and it can be used as payment for any item that is offered by the shop from whom the card was originally purchased.

### III. OBJECTIVES

1. To study the concept of cashless economy, the modes of cashless transactions.
2. To know the benefit and challenges of cashless economy.

### IV. RESEARCH METHODOLOGY

The report compiles data regarding India's cashless society. The study is in Delhi. From a convenience sample of 100, 87 usable copies were obtained. Survey reliability is determined by responses from both literate and illiterate respondents who discuss their views on the cashless economy and digital payment options. Data is gathered through questionnaire surveys. Respondents' replies were examined using the fundamental percentage approach.

### V. DATA ANALYSIS

**Table 1:** Users' Cashless Policy Awareness

		Frequency	Percent
India's cashless economy?	Totally agree	36	41.4
	Agree	41	47.4
	Undecided	3	3.4
	Disagree	6	6.9
	Disagree strongly	1	1.1
	Total	87	100.0
India needs cashless economy.	Strongly agree	25	28.7
	Agree	23	26.4
	Undecided	16	18.4
	Disagree	11	12.6
	Disagree strongly	9	10.3
	Missing	3	3.4
Total	87	100.0	

The information that is shown in the table that is located above reveals that there is a great degree of knowledge among the population; around 88% of the respondents are

aware of India's cashless economy. The research took into account members of the academic community, which indicates that, according to all standards, it is thought that

these individuals have a reasonable awareness of what is going on in society. On the other hand, only a minority of respondents had a strong objection to cashless economies. On the other hand, the majority of respondents think that India should progress towards a cashless economy (55.1% to be exact). The lack of preparedness for the system, the nation

having other problems to solve now, the flexibility to utilise cash to any amount, inadequate technology, and the fact that the flow of money will be impeded are all possible explanations for the lack of enthusiasm for its early deployment.

**Table 2:** Cashless economy benefits are below.

		Frequency	Percent
It would reduce counterfeiting.	Strongly agree	35	40.2
	Agree	35	40.2
	Undecided	9	10.3
	Disagree	5	5.7
	Disagree strongly	3	3.4
	Total	87	100
Stopping money laundering	Strongly agree	20	23.0
	Agree	28	32.2
	Undecided	17	19.5
	Disagree	10	11.5
	Disagree strongly	11	12.6
	missing	1	1.1
	Total	87	100
Reduces corruption.	Strongly Agree	13	14.9
	Agree	23	26.4
	Undecided	19	21.8
	Disagree	19	21.8
	Strongly Disagree	12	13.8
	Missing	1	1.1
	Total	87	100
The economy benefits.	Strongly Agree	18	20.7
	Agree	31	35.6
	Undecided	25	28.7
	Disagree	8	9.2
	Strongly Disagree	3	3.4
	Missing	2	2.3
	Total	87	100

According to the facts that are shown in the table that is positioned just above this one, eighty-four percent of respondents believe that one of the most major advantages of a cashless economy is the reduced risk of counterfeit currency. This is one of the most significant advantages of a cashless economy. In a related vein, 55.2% of those polled feel that a cashless economy will help in the struggle against money laundering because it will be easier to track the money that is flowing through the system. This belief is based on the fact that a cashless economy will eliminate the need for physical currency. In the context of this discussion, "cashless economies" refer to economies in which actual currency is not used. According to the responses of a total of 41.3% of

people, they believe that it helps to reduce instances of corrupt behaviour in the workplace. Another advantage is that it will stimulate economic growth by freeing up money that was previously stashed away in illegal activities so that it can be used again. This is an additional advantage. One way to think of this is as the opposite direction of the process of washing money. 66.3% of people are under the impression that an effective and cutting-edge payment system has a favourable association with the economic development and economic growth of a country. This is an assumption that has gained traction in recent years. This is a widespread misunderstanding that many people have.

**Table 3,** Below are cashless economy challenges.

		Frequency	Percent
Cyber Crime	Strongly agree	17	19.5
	Agree	38	43.7
	Undecided	18	20.7
	Disagree	11	12.6
	Strongly Disagree	2	2.3
	Missing	1	1.1
	Total	87	100
Literacy needed	Strongly Agree	17	19.5
	Agree	33	37.9
	Undecided	23	26.4
	Disagree	9	10.3
	Strongly Disagree	3	3.4
	Missing	2	2.3
	Total	87	100
E-payment transparency and efficiency	Strongly Agree	27	27
	Agree	26	26
	Undecided	15	15
	Disagree	14	14
	Strongly Disagree	5	5
	Total	87	100
Internet fraud rises	Strongly Agree	22	25.3
	Agree	30	30
	Undecided	21	21
	Disagree	10	10
	Strongly Disagree	4	4
	Total	87	100

The challenges that respondents face in relation to a cashless economy are outlined in the table above. The majority of respondents (63.2%), believe that cybercriminals will make it more difficult to transition to a cashless economy. Literacy rates for the population are at 57.4%, making it simple for people to operate mobile phones and digital payment systems. This will lead to an increase in the use of digital payment methods. Sixty-nine percent of people who took the survey have the opinion that the payment system does not provide sufficient transparency or efficiency. In a cashless economy, internet fraud was cited as the most significant challenge by 59.8 percent of respondents. Because of this, online fraud is the most significant issue.

**VI. CONCLUSION**

The optimistic response of the people of India to the action taken by their government, as well as their support for the effort, is a significant piece of evidence suggesting that the action taken by the government is highly likely to be effective. As a consequence of this, it would appear that a cashless India has a very promising future. A rise in economic

openness, which, in turn, will lead to an increase in GDP for the economy, will be brought about by transactions conducted through e-commerce and digital payment gateways. As a consequence of this, the legitimacy of the country as a whole will improve, which will result in a rise in the total amount of money invested. The transition away from cash-based transactions is going to result in a tidal wave of huge success, and it will contribute to the realisation of Prime Minister Modi's goal of a digital India for India.

**REFERENCES**

- [1]. A. Beck and M. Hopkins, "Scan and rob! Convenience shopping, crime opportunity and corporate social responsibility in a mobile world oa," *Secur. J.*, vol. 30, no. 4, pp. 1080–1096, 2017, doi: 10.1057/sj.2016.6.
- [2]. Atzei, N., Bartoletti, M., Lande, S., & Zunino, R. A formal model of Bitcoin transactions. In *International Conference on Financial Cryptography and Data Security*. Springer, Berlin, Heidelberg, pp. 541-560, 2018, February.
- [3]. P. Kumar, "" an Analysis of Growth Pattern of Cashless Transaction System "," *Int. J. Res. Bus. Manag.*, vol. 3, no. 9, pp. 2321– 886, 2015.



- [4]. M. Humbani and M. Wiese, "A Cashless Society for All: Determining Consumers' Readiness to Adopt Mobile Payment Services," *J. African Bus.*, vol. 19, no. 3, pp. 409–429, 2018, doi: 10.1080/15228916.2017.1396792.
- [5]. Duarte, A., Frost, J., Gambacorta, L., Wilkens, P. K., & Shin, H. S. (2022). Central banks, the monetary system and public payment infrastructures: lessons from Brazil's Pix-online appendix.
- [6]. Governor. BANK OF TANZANIA: ANNUAL REPORT 2020/21. ISSN 0067-3757, Online, available at [www/http/bot.co.tz](http://www.bot.co.tz)
- [7]. K. Vipin and M. Sumathy, "Digital payment systems: Perception and concerns among urban consumers," vol. 3, no. 6, pp. 1118 – 1122, 2017, [Online]. Available: [www.allresearchjournal.com](http://www.allresearchjournal.com)
- [8]. D. Rajesh, M. Arpana Sagar, and N. Roshitha, "Users Perceptions and Problems on Mobile Wallet Payments – A Study in Visakhapatnam City," *ComFin Res.*, vol. 10, no. 1, pp. 12–16, 2022.
- [9]. Rana, R., & Bhutani, A. (2022). Artificial Intelligence: The Need of the Hour. In N. Dewani, Z. Khan, A. Agarwal, M. Sharma, & S. Khan (Ed.), *Handbook of Research on Cyber Law, Data Protection, and Privacy* (pp. 332-344). IGI Global. <https://doi.org/10.4018/978-1-7998-8641-9.ch020>
- [10]. L. Hanyang, Z. Yongzhao, L. Shiqin, K. Xiao, C. Yuzhong (2022). A deep learning based bank card detection and recognition method in complex scenes. <https://doi.org/10.1007/s10489-021-03119-2>, DOI: 10.1007/s10489-021-03119-2.
- [11]. S. S. Rodrick, H. Islam, and S. A. Sarker, "Prospects and Challenges of using Credit Card Services: A Study on the users in Dhaka City," vol. 18, no. December, pp. 161–186, 2021.
- [12]. O. Dospinescu and B. Anastasiei, "SS symmetry Key Factors Determining the Expected Benefit of Customers When Using Bank Cards: An Analysis on," *J. symmetry*, 2019.
- [13]. Swartz, D. D. G., Hahn, R. W., & Layne-Farrar, A. (2004). The economics of a cashless society: an analysis of the costs and benefits of payment instruments (pp. 221-222). AEI-Brookings Joint Center for Regulatory Studies.
- [14]. A. Dabas and C. Dabas, "Implementation of Real Time Tracking using Unstructured Supplementary Service Data," *Eng. Technol.*, pp. 241–245, 2009.
- [15]. S. U. Otor, B. O. Akumba, J. S. Idikwu, and I. P. Achika, "An Improved Security Model for Nigerian Unstructured Supplementary Services Data Mobile Banking Platform," *Int. J. Sci. Res. Comput. Sci. Eng. Inf. Technol.*, pp. 974–987, 2020, doi: 10.32628/cseit2063213.