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## **A Study of Digital Payments Tools and Methods in India**

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### **ABSTRACT:**

India is going to become cashless. Indian government launched digital India Campaign to reduce dependency of Indian economy on cash and prevent from money laundering. To making cashless India and increasing trends in using digital payment system various Payment methods are emerging and developing. Digital India has increased use of mobile and internet are means to exponential growth in use of digital payment. This transformation towards digital payments benefits in more transparency in transactions which empowers the country's economy. In recent days many changes took place in the payment system like digital wallets, UPI and BHIM apps for smooth shift to digital payments. The objective of this research paper is to study the positive impact that Digitization of payment system. The research is paper also trying to explain the future scope of the Digital payment system.

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### **Introduction:**

The 'Digital India' is the Indian Government's flagship programme with a vision to convert India into a digitally empowered country. "Faceless, Paperless, Cashless" is one of supposed function of digital India.

Cashless society describes an economic state where financial transactions are not conducted with money in the form of physical bank notes or coins, but rather than digital currency, crypto currency is used. The Digital payment system is now became the essential part of banking transaction. The Digitalization is need of country because it is important to develop the financial sector as per the modern age requirement and to face the competitions with developing countries. The PM Narendra Modi started a mission Digital India in 2017 for removing hidden money and black money from the country. The digital payment system is a part of the mission from this cashless transaction will made all over the India and the progress black money or money laundering can be reduce. It is also important that development of techniques influences the traditional system and there also have to face some problems while newly adaption. In India ICICI bank stated the online banking services and Digi bank is also ahead in digitalization of transaction digital services provides to customer. SBI is a public sector bank which is enriched of digitalization. In 2011 SBI launched green Channel to promote digital system and save environment.

The traditional system is replacing by the digital system. The traditional payment systems are Cheques, withdrawals, drafts, money orders, letters of credits, travel cheques etc. why Payment systems also turning into electronic payment system using computer and internet there are several reasons of adaption. The most common reason is that the traditional system has some leakages and inefficiency and that's overcome by the digital payment system. But in India digital system is in emerging trend and not so popular and generalized. Today India is using most common electronic payment systems include Debit Cards, Credit Cards, but the use of Electronic Fund Transfer, Internet Banking, Unified Payment System (UPI), e-commerce payment system, internet banking, and \*99# USSD based payment system etc are not in popular use. Therefore it is important to know the problems of digital payment system and its progress in India

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### **Objectives:**

1. To study the concept of Digital payment system and cashless transactions.
2. To know the Impact of Digital payment system
3. To know the advantages of cashless transactions
4. To know the opportunities and challenges of e- payment system in India
5. To know the problems of digital payment system

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### **Research Methodology:**

The methodology is used for the paper is secondary data based research paper and it is conceptual research paper of Digital Payment system.

## Digital payment method

### 1. Unified Payments Interface (UPI):

Unified Payments Interface (UPI) is a system that powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the "Peer to Peer" (P2P) collect request which can be scheduled and paid as per requirement and convenience.

### 2. Bharat Interface for Money (BHIM):

Bharat Interface for Money (BHIM) is a mobile app for easy and quick payment transactions using Unified Payments Interface (UPI). User can make instant bank-to-bank payments and pay and collect money using Mobile number, Bank a/c and IFSC code, Aadhaar number or Virtual Payment Address (VPA).

BHIM has the facility to scan & pay through QR code. User can check transaction history and can also raise complaint for the declined transactions by clicking on Report issue in transactions.

### 3. UPI 123PAY:

UPI 123PAY is an instant payment system for feature phone users who can use Unified Payments Interface (UPI) payment service in a safe and secure manner. Feature phone users will now be able to undertake a host of transactions based on four technology alternatives. They include calling an IVR (interactive voice response) number, app functionality in feature phones, missed call-based approach and proximity sound-based payments.

### 4. UPI Lite:

"UPI LITE" offers a wallet in BHIM-UPI app for an amount of up to ₹2,000 on a smart phone, eliminating the need for the user to first obtain electronic authorization from his/her bank while making the payment, offering the user better experience in terms of improved speed and transaction success rate.

### 5. Banking card:

Banking sector provides various cards to avoid the time spend over the banking transaction. It offers consumers more security, convenience, and control than any other payment method. There are many types of cards Rupay, mastercard, visa etc. they provides more security to the customer while using it. Payment cards give people the power to purchase items in stores, on the Internet, through mail-order catalogues and over the telephone. They save both customers and merchants' time and money, and thus enable them for ease of transaction.

### 6. USSD:

The innovative payment service \*99# works on Unstructured Supplementary Service Data (USSD) channel. This service allow to users mobile banking without internet. \*99# facility available to make money transfer from one person to another without using internet and smart phones. \*99# service has been launched to take the banking services to every common man across the country. The Common number across all Telecom Service Providers on their mobile phone and can make transaction using an interactive menu on the mobile screen. Using this customer can check balance, transfer money, can get mini statement etc.

### 7. Aadhar enabled Payment system:

AEPS is a bank led model which allows online interoperable financial transaction at PoS (Point of Sale or Micro ATM) through the Business Correspondent or Bank Mitra of any bank using the Aadhar authentication.

**8. Mobile Wallets:** there are several mobile wallets are available and each bank have their own application. The customer can carry digital cash trough mobile wallet. By use of wallet customer can link credit card or debit card in mobile device to make transaction. An individual's account is required to be linked to the digital wallet tosdd the money. **The** Paytm, Freecharge, Mobikwik, Airtel Money, Jio Money, SBI Buddy, itz Cash, Vodafone M-Pesa, Axis Bank Lime, ICICI Pockets, Speed Pay etc. are the mobile wallets use in India.

### 9. Point of sales:

A point of sale (PoS) is where sales are made. It allow to PoS holder to collect money from their customer by the way of swap Also and no need to go bank for making transaction of purchase and selling. On a micro level, retailers consider a PoS to be the area where a customer completes a transaction, such as a checkout counter. But its require GPS system internet and bank account of merchant.

### 10. Internet banking:

Internet banking, also known as online banking, e-banking or virtual banking, is electronic payment systems that allow customers of a bank to make transaction using website of the bank using ID and password.

### 11. National Electronic Fund Transfer: (NEFT)

National Electronic Funds Transfer is a nation- wide payment system which provides funds transfer from any bank any branch to any bank. Using the system individual firms and corporate can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with

any other bank branch in the country. Not only account holders but also without having account people can send money to others account by depositing money from anywhere. However, such cash transaction have limit of Rs. 50000/- using this service individual can deposit money on 50000/- and this facility can use in working days only.

### 12. Real Time Gross Settlement (RTGS):

RTGS is settlement of funds transfers individually on an order by order basis. 'Real Time' means the processing of instructions at the time they are received rather than at some later time. Considering that the funds settlement takes place in the books of the Reserve Bank of India, the payments are final and irrevocable. Transferring large amount RTGS is used. Customers can send minimum 2 lakh and maximum have no limit. RTGS can use in banking hours.

### 13. Electronic Clearing System (ECS):

ECS is an alternative method for the payment transactions like utility-bill-payments such as telephone bills, electricity bills, insurance premium, card payments and loan repayments, etc.,

### 14. Immediate Payment Service (IMPS):

IMPS offers an instant, 24x7x365, interbank electronic fund transfer service through mobile phones. IMPS are a tool to transfer money instantly across India using mobile, internet and ATM it is safe and cost-effective.

### 15. Mobile banking:

Mobile banking is a portable system provided by banks to customer on their mobile phones, smart phones with a special application using software. It provided by the banks or financial institution for the purpose. Each Bank provides its own mobile banking App for Android, Windows.

### 16. Micro ATM:

Micro ATM meant to be a device that is used by the million Business Correspondents to deliver basic banking services. The micro ATM enables Business Correspondents to make instant transactions. It helps to withdrawals, transfers transaction instantly.

## Progress of Digital Payment services in India:

money the digital system get mentionable progress after 2019.

- **Payment System Indicator- transactions**

(All Value in lakh)

Method	2019-20	2020-21	2021-22
RTGS	1,507	1,592	2,078
IMPS	25792	32,683	46,625
NEFT	27,445	30,928	40,407
UPI	1,25,186	2,23,307	4,59,561
CARD PAYMENT	72,384	57,787	61,786
<b>Total</b>	<b>2,52,314</b>	<b>3,46,297</b>	<b>6,10,457</b>

### Source RBI reports

As table shown above it s indicates that the number of electronic transaction are in increase trends, as compare to the 2019-20 to 2021-22 RTGS, IMPS, Card payments and NEFT and UPI are increased by near about 75%.

RBI allowed in may 2014 to access the mobile banking above age 10 minor. They can open and use the mobile banking services. They can open fixed and saving accounts using mobile banking, SBI and ICICI are the banks who providing these services to minor.

According to Wikipedia - National Financial Switch (NFS) is the largest network of shared [automated teller machines](#) (ATMs) in India.[1] It was designed, developed and deployed by the [Institute for Development and Research in Banking Technology](#) (IDRBT) in 2004, with the goal of inter-connecting the ATMs in the country and facilitating convenience banking. It is run by the [National Payments Corporation of India](#) (NPCI). As on 31st January' 22, there were 1,203 members that includes 111 Direct, 1,045 Sub members, 43 RRBs and 4 WLAOs using NFS network connected to more than **2.55 Lac ATM** (including cash deposit machines/recycle).

### Development of ATM, POS and Transaction

Year	ATMs	POS	
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	On-site	Off-site	Total	On-line	Off-line	Total
	1	2		3	4	5
2022	120727	96365	<b>217092</b>	7550065	0	<b>7550065</b>
2021	116001	97036	<b>213037</b>	5498311	0	<b>5498311</b>
2020	114045	94435	<b>208480</b>	5784631	0	<b>5784631</b>
2019	112458	97181	<b>209639</b>	4248777	0	<b>4248777</b>

Source RBI

The ATM And Numbers of POS machine are increases from the emerged and now in 2022 there are **2,17,092 ATM** are working and numbers of POS machines are also increases from the 2019 it was 4248777 and now it increases near to 7550065. The changes show that the India moving to Paperless banking and presently Indian adapted the paperless banking tools to make the transaction. 92% of them are using ATM cards and 8% of them are not using ATM cards.

#### Use of Credit Cards

Year	Credit Cards				
	No. of outstanding cards as at the End of the month	No. of Transactions (Actual)		Amount of transactions (Rs. Millions)	
		ATM	POS	ATM	POS
	1	2	3	4	5
2022	81186874	812830	140578775	3920545	486110772
2021	68948699	590456	211258456	29523	9390721
2020	60397171	502048	174207947	24669	6360057
2019	55332847	892582	204968027	42264	6618640

Source RBI

The numbers of transaction in compare to 2019, 46.72% are increases in 2022.

#### Debit card Use and Transaction

Year	Debit Cards				
	No. of outstanding cards as at the end of the month	No. of Transactions (Actual)		Amount of transactions (Rs. Millions)	
		ATM	POS	ATM	POS
2022	939465892	585003806	185932815	2789233526	395737643
2021	937741694	589655460	349550742	27967659	6594856
2020	885659754	580060844	382247547	27050570	6509267
2019	805324206	646212550	451159082	29042372	6199781

Source RBI

The numbers of transaction in compare to 2019, 16% are increases in 2022 while use of Pos machines is increases by 316%. It shows that the people are using the paperless tool to shopping as well as for cash withdrawal. Use of Credit card is also in progressive trend as compare to 2019.

Digital technology is helps to make paperless transaction. For the development paperless banking system there should be strong network of banking and India a hug banking network is available and it is rapidly increasing also.

It is observed that mobile banking is appreciated by the customer due to easy use anytime anywhere.

#### Advantages of Digital Payment system:

1. **Time Sever:** using digital payment system customer can pay to merchant transfer money quickly and no need to make payment by cheque and waiting for clearing. Because Digital Payment system take less time than traditional payment system.
2. **Availabilities:** Digital payment system can use by customer from anywhere and anytime there is no need to go banks for every transaction.
3. **Easy Purchasing:** The Digital payment system provides facility to user for purchasing by using ATM card Credit card and POS therefore it is easy for making transaction and no hard cash required to travel with us.

4. **Use of Wallet:** The Digital Payment system includes digital wallets which make payment easy and with that wallet customer can get discount as well as cash back.
5. **Written record:** You often forget to note down your cash spending. Or even if you note, it takes a lot of time. But you do not need to note your spending every time with digital payments. These are automatically recorded in your passbook or inside your E-Wallet app. This helps to maintain your record, track your spending and budget planning.
6. **Less Risk:** In digital Payment system it provides us securities for every transaction it require MPIN or OTP which can be avoid frauds in the system.

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### Barriers to Used Digital Payment:

1. **People use of currency note money:** In India people are using currency in High level. People in Rural area in India nearly made transaction 80% in cash. Because it is became traditional and habitual to the people.
2. **Computer Illiteracy:** There is only 6% people in India are computer literate and near about 90% Indian people don't understand the computer and internet that's why they cannot use the digital payment system.
3. **Use of ATM Card:** There are many digital payment systems but Indian People still using ATM cards for withdrawal and give money to other. They didn't use M. wallet and digital payment for money transfer.
4. **Limited availability of POS:** According to the reports of RBI there are 1.44 Million POS terminals installed by banks across locations at the end of July 2016 and it increased by 24% in 2018. There should be involving every trader.
5. **Mobile Internet Penetrations Rate:** The use of mobile remains weak in rural India. For setting transaction digitally internet connection is requires but the connectivity are not available in the rural area.
6. **Risk and Security:** The Indian people still don't believe in online transaction. And they feel that the traditional system is good and faithful. And also not believe in Security of the transaction.
7. **Training:** There is a communication gap between bank and their customer. It requires giving training about use of online and payment system but banks do not provides any training program to increase the digitalization.
8. **Public sector banks:** There are 80% share of finance sector is occupied by public sector banks and the public sector banks started the digitalization from 1996. That's why it is in progressive trend. Private sector banks are ahead in digitalization to public sector banks.

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### Prospect:

1. The India banking sector is one of the best sector in India and it changes as per the requirement of the India country
2. There are large scope of digital payment system in India because of it is increasing trend. The growth in volume and value of transactions using payment issued banks entities has been significant.
3. There are several banks and near about all banks are in adaption of Digital banking and NPCI also promoted Aadhar enabled payment system to involve all Indian in digital transaction.
4. UPI system the best system to make digital transaction and it is expected to give a progress in digital payment transactions
5. Debit and credit card are shows as usual to make transaction but it is increasing trend from Demonetization of money IN 2019.
6. With increasing mobile banking services, growth in e-commerce and use of mobile payment applications, the use of cash will decrease.
7. RTGS and NEFT volumes increase almost threefold between 2019 and 2022 reflecting greater adoption of the system.
8. The government of India is focus on digital infrastructure and it can encourage digital transactions culture in India there are almost every persons have Jan dhan yojana account and Adhar card.
9. 92% of them are using ATM cards and 8% of them are not using ATM cards.
10. 46% of them are aware and using digital payment, 46% of them are aware about digital payment system but not using the same and 08% of them are not aware about digital payment.system.

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### Conclusion:

Digital Payment system is easy to use to the customer as well as bank officers and there are several option are available in the financial system in India, but there are large amount of people in

India don't know how to use the system.

But after a lockdown many of the people and student are using a digital gateways and upi apps to transfer money and shopping , The Digital literacy of Indian people is low level, Therefore digital payment system is not pure developed and spread all over the India. The social and infrastructure barriers are there influences to use of digital payment system. But Now a day's mobile banking are becoming famous in the India because it is easy to use and anytime can use. It is also required to improve the digital literacy among the people. There are also issues relating to the risk and security.

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