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## Cryptocurrency the Worldwide Head of Innovation in Investment

A. Pugazh Naavarasi<sup>1\*</sup> and C. Maria Rex Sugitha<sup>2</sup>

<sup>1</sup>PSG Institute of Management, PSG College of Technology, Coimbatore, Tamil Nadu 641004, India. E-mail: [pugazhnaavarasi@psgim.ac.in](mailto:pugazhnaavarasi@psgim.ac.in)

<sup>2</sup>Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Palayamkottai, Tirunelveli, Tamil Nadu 627002, India. E-mail: [sugidinesh812@gmail.com](mailto:sugidinesh812@gmail.com)

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### Abstract

Industry 4.0 is the current and developing environment which has led to the ever-growing use of disruptive technology in all areas of life, including finance and investment. Cryptocurrency appeared on the surface of capital markets in 2008, as one of the greatest innovations of our century. The study shows that cryptocurrencies have their own niche in payment systems; they are highly competitive and dependable financial instruments. The growth dynamics of cryptocurrency market capitalization in the world makes Bitcoin the most successful example of the use of virtual currency in the information economy. Our country's economy should follow the path of innovation in finding solutions to a number of technical, economic and legal issues concerning the development of the cryptocurrency market in India through involving the experience of the leading countries. The study also assesses how the financial industry uses Cryptocurrency to enhance the efficiency and wealth of investors as the alternative for the traditional investment avenues. Cryptocurrency has an enormous propensity to improve an investor's risk-yield profile. The paper substantiates opportunities and perspectives for the development of the future of Indian cryptocurrency market.

**Keywords:** Cryptocurrency, Blockchain Technology, Investment, Financial Innovation, Information Economy.

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### 1. Introduction

There is no cookie-cutter approach to investment. Nobody is able to tell you where you should put your money. Everyone has a risk profile, capital, level of commitment, profit targets, etc. Although some investments may suit somebody, the same investment may not serve others. Take the recent incident of Elon Musk and DOGE. The dogecoin wave was everywhere, with its movements controlled to a large extent by Elon Musk and the Doge community. Looking at who, a lot of people who didn't even know anything about the cryptocurrency being purchased. While some have been able to surf the wave and make millions, more people have gone bankrupt because they have not assessed the cryptocurrency correctly. This particular paper does not state where to invest, but rather how to invest in a cryptocurrency. Also gives a clear picture of crypto, whether is a real alternative for traditional investment avenues and how it leads to the major contribution of India's Information economy.

\* Corresponding author: A. Pugazh Naavarasi, PSG Institute of Management, PSG College of Technology, Coimbatore, Tamil Nadu 641004, India. E-mail: [pugazhnaavarasi@psgim.ac.in](mailto:pugazhnaavarasi@psgim.ac.in)

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## 2. History of Crypto

The history of these virtual coins begins with a developed cryptographic system known as e Cash. Twelve years later, it is a different system, Digi Cash, that uses cryptography to keep financial transactions confidential. Nonetheless, the first time the idea or the word "cryptocurrency" was invented was in 1998. That year, the development of a new payment method that uses a cryptographic system, the main feature of which is decentralization.

Blockchain is a system of information registration in a way that makes it difficult or impossible to modify, hack or cheat the system. A blockchain is essentially a big digital trading book that is duplicated and distributed over the entire network of computer systems on the blockchain. Each block of the chain holds multiple transactions, and whenever a new transaction occurs in the blockchain, a record of that transaction is added to each participant's ledger. The decentralized data base managed by several participants is known as Distributed Ledger Technology (DLT). Blockchain is a type of DLT in which transactions are registered with a fixed cryptographic signature called hash.

## 3. Value of Crypto

Crypto is real as rupee. Cryptocurrencies are digital assets and have no physical form as paper currency. The intangible nature of crypto has led many to believe that cryptos have no real worth and are only a set of codes. In reality, no currency has true value unless people believe it. For instance, the rupee in India matters because it is a sovereign currency, and people believe in its sovereignty. Many people have put their trust in cryptocurrencies as a medium of exchange. They have no intrinsic value.

- **Payments:** It can be used to carry out transactions such as buying goods or services without having to ask a trusted third party to complete it possible.
- **Value Storage:** Given that the total supply of most cryptocurrencies is limited, scarcity affects their value.
- **Stable Coins:** Cryptocurrency may be attached to raw materials such as gold or oil or currencies, such as USD.
- **Confidentiality:** Security-based technology which allows users and owners to remain anonymous during transactions.
- **Digital Access and Ownership:** Even people who do not have access to traditional banks can enter the financial system with the help of cryptocurrency.
- **Digital Gold:** Cryptocoins and gold share attributes comparable to silver. They can be used as a means of exchange, have a reserve of value and have a unit of account.

## 4. Most Popular Cryptocurrency Exchanges in India

Crypto exchanges and funds have seen a rise in investments up ₹1 cr by family offices and wealthy individuals, amid the growing global institutional acceptance of cryptocurrency. WazirX is India's largest volume crypto exchange, has recently created a dedicated over-the-counter team that executes high value bulk transactions to meet increased demand from high-net-worth individuals. WazirX and ZebPay, cryptocurrency exchanges in India create personalized services for individuals with high net worth from India to execute bulk transactions in Bitcoin. Cryptocurrency trading spreads the red carpet for India's super-rich. The other most reliable is CoinSwitch which was established in 2017 as a global cryptocurrency aggregator and in June 2020 it launched its Indian cryptocurrency exchange CoinSwitch Kuber.

Today, certain of the most popular cryptocurrencies are Bitcoin, Dogecoin, Ethereum, XRP, Tether, and Cardano. There are over 200 cryptocurrency exchanges that support active trade, and the combined 24-h exchange volume of the first ten is over \$6.5 bn. More than 8,000 cryptocurrencies are in circulation at the moment. The first and most successful cryptocurrency is Bitcoin.

## 5. The Top Five Crypto-Currencies to Invest

### 5.1. Bitcoin (BTC)

Being the first-ever cryptocurrency, Bitcoin is highly reliable. It has been promoted as the new form of money, replacing the paper money. However, as it has not yet progressed fully, it is currently treated as a value reserve

such as gold due to the similarities they share. Gold and Bitcoin grow in value over time (deflationary assets) and have a limited offer. Bitcoin is much better than gold in all aspects. There are only 21 million bitcoins that can be exploited as a whole. Once bitcoin miners unlock all the bitcoins, the supply of the planet will essentially be exploited. Once all Bitcoin has been exploited the miners will always be prompted to deal with transactions with fees. Bitcoin's price has shot up by an average of 173,000% from 2015 and 2023. The market for cryptocurrencies is anticipated to expand at a compound annual growth rate of 56.4% from 2019 to 2025, with Bitcoin spotting an annual growth rate of 60% in 2022.

#### *5.1.1. Logic for selecting Bitcoin*

- It is equipped with all the key factors. It has a strong focused target, significant market capitalization of >50%, and has a limited offer.
- Bitcoin is also one of the most popular cryptocurrencies with folks like Elon Musk, Richard Branson, and even Amazon plans to take payments using bitcoins.

### **5.2. Ethereum (ETH)**

Prior to Ethereum, all other cryptocurrencies that were launched were solely aimed at competing with Bitcoin. However, Ethereum began with the idea that blockchain could be used for much more than decentralization fiat and thus introduced smart contracts. With the help of smart contracts, Ethereum lets developers build decentralized apps on its blockchain. Anyone can build everything from crowdfunding apps to games to financial services and make them accessible worldwide. To date, it supports up to 3,000 applications.

Ethereum gave rise to the second generation blockchain which uses smart contracts.

#### *5.2.1. Logic for Selecting Ethereum*

- Ethereum is a pioneer of smart procurement; it is a platform that can decentralize anything and everything.
- This is the second largest crypto-currency by market capitalization.
- Has the potential to outperform Bitcoin.
- It recently hit an all-time high of \$4,000 with an annual gain of more than 1,600%. Furthermore, Ethereum's development company also participates as a partner in the development and testing of the CBDC prototype, the national digital currency.

### **5.3. Tron (TRX)**

Tron intends to build an infrastructure for content sharing and entertainment independent of Google, Apple, Facebook and Amazon with its evolution divided into six phases. Presently, it is in the third phase of its development, called Grand Voyage. It went from a simple P2P content distribution and storage platform to a platform that now allows content creators to express an interest in their personal brand through individual ICO's. It acquired BitTorrent in 2018 and has recently bought the largest decentralized blog and social media platform, Steemit. Steemit also maintains a video-sharing platform like YouTube called D Tube. If the Tron team successfully deploys all its six phases, experts have predicted a bright future for it.

#### *5.3.1. Logic for Selecting Tron*

- There is a limited supply of 100B tokens.
- To many developments in its network road map.

### **5.4. Chainlink (LINK)**

Chainlink is a decentralized oracle network. Blockchains work remotely and therefore cannot access data outside of their network, but for smart contracts to efficiently perform tasks, real world information is important. Chainlink being an oracle network effectively bridges this gap; it is responsible for powering reliable and inviolable inputs into intelligent contracts. The protocol links intelligent contracts across any blockchain with real-world data using oracles.

#### *5.4.1. Logic for Selecting Chainlink*

- Chainlink is the most widely utilized oracle solution among major challenge projects such as Aave, YFI etc., and even Google uses Chainlink.

- Has limited procurement of 1B tokens.

### 5.5. Polygon (MATIC)

Polygon, previously known as the Matic Network, is a Made in India cryptocurrency which is a scalability solution for Ethereum. Ethereum has thousands of applications working on its network and consequently it has low throughput and high costs. Matic enables Ethereum to interact with multiple blockchain and become a multi-channel system. It significantly lowers the network costs of the Ethereum network and also makes it more efficient.

#### 5.5.1. Logic for Selecting Chainlink

- It nourishes Ethereum, which by itself is very strong.
- It has a limited supply of 10 Mile pieces.

## 6. Cryptocurrency and Investment in India

Global adoption of cryptocurrencies is surging. Over 420 million people utilise cryptocurrencies worldwide as of 2023, with an average percentage of 4.2%.

7.1% of India's entire population, that is 97.5 million people, currently own cryptocurrency. India requires in the second spot globally in the Chainalysis 2021 Global Crypto Adoption Index. India had managed to capture a \$250 bn market in the IT industry through pro-crypto regulation. India has the potential to participate in another \$200 bn industry. Crypto as an asset class exceeded the \$1 tn mark in market capitalization.



**Figure 1: Global Adoption of Cryptocurrencies**

Source: Triple-A 2023

Cryptocurrencies like Bitcoin and Ethereum are becoming competitive day in and day out in terms of yields. The price of Bitcoin has grown by more than four times and Ethereum by more than ten times in the year 2020. Cryptocurrency returns have attracted many retail investors to dip their toes into this new and intriguing asset class. More young people or beginning investors seek to invest in cryptocurrencies in India. However, most investors do not have a complete understanding of crypto markets.

Investing in cryptocurrencies is straightforward. Investing in cryptocurrencies is often presented as something that suits technologically well-informed people and that others may not succeed in it. In 2018, the investment in cryptos was rather complicated, this scenario changed after the Supreme Court ruled out the prohibition of cryptos by the RBI. The RBI had attempted to outlaw cryptocurrencies in 2018, but the central bank's plans were upset by a Supreme Court decision. As a result, cryptocurrencies now exist in a legal limbo that is neither legal nor unlawful. Despite allegations that Crypto is forbidden in the nation, in February, 2022

the government intends to levy an additional 1% tax on all cryptocurrency transactions in addition to a 30% tax on any profits derived from cryptocurrency trading.

The country’s embrace rate of cryptocurrencies continues to keep expand rapidly despite regulatory uncertainty and confusion about regulations that govern them. India had a 14.7% cryptocurrency ownership rate as of November 2021. In April of 2023, the value boosted to 29.9%.

According to estimates, 59% of cryptocurrency users in India as of 2021 are men. However, the proportion of female users has climbed by 300% between 2020 to 2023, implying a significant rise in female users’ interest in and acceptance of cryptocurrencies.

One of the most prominent cryptocurrency exchanges in India, WazirX, reports that over 100% more women are joining up to utilize their platform, with 66% of its customers being under the age of 35 Crypto enthusiasts in India are curious to see how these current initiatives turn out. India, like other nations, has expressed interest in releasing a CBDC with a Rupee value as the underlying currency. More startup applications like CoinSwitch Kuber have sprung up in the cryptography space to make it easier for investors to buy and sell cryptos.

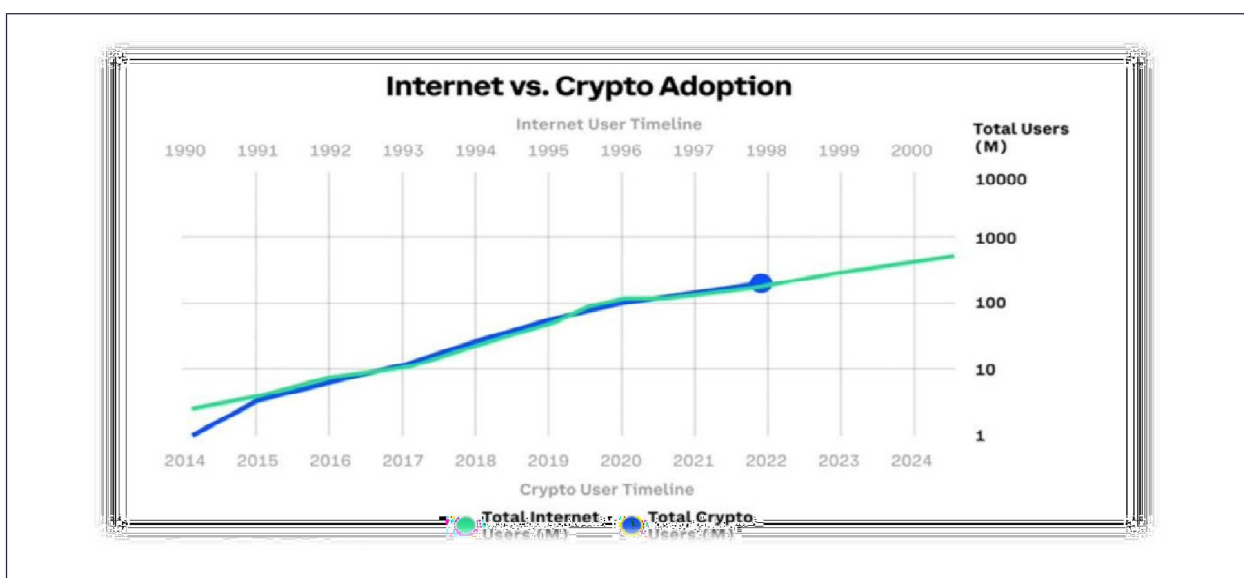


Figure 2: Internet Vs. Crypto Adoption

Source: World Bank

## 7. Risks of Investing in Crypto

### 7.1. Cryptocurrencies Have a View Underneath Utility

Each cryptocurrency is not the same; each cryptocurrency has its own separate purpose. They are committed to an underlying view. For instance, Bitcoin has a firm objective of replacing fiat; it realizes fiat traps and improves its shortcomings. Fiat loses value over time and is ineffective in cross-border transactions due to higher charges. On the other hand, Bitcoin grows in value over time and is cost-effective for cross-border transactions.

Similarly, Ethereum goes one step further and allows developers to construct decentralized applications on its network. In simpler terms, it makes it easier for developers to build apps on the blockchain by giving them access to the infrastructure of Ethereum. The more cryptocurrency solves a problem, the more people want to adopt it, and so it gains value.

### 7.2. Cryptocurrency is Nothing if People don't Believe in it

Market capitalization is the share held by a particular cryptocurrency in the overall market. This indicates that the cryptocurrency market dominates. Large market capitalization means that more people invest in a cryptocurrency, thereby boosting its market value. This is an excellent estimation of which crypto-people are investing in.

Bitcoin owns over 50% of the total crypto market capitalization. Moreover, the more market capitalization of a cryptocurrency, the more liquid it is since more people are inclined to invest in it. Liquidity is defined as the facility with which the asset can be converted into cash.

Greater market capitalization = Greater liquidity.

### **7.3. Scarcity Generates Value Limited Offer**

A cryptocurrency with limited provisioning would have a higher value than a cryptocurrency with unlimited provisioning. Bitcoin, for instance, has a limited supply of 21 million coins, which contributes to raising its prices. On the other hand, Dogecoin, which works practically on the same framework, but has an unlimited supply and therefore struggles to reach \$1. But rarity alone is not enough to determine the potential of a cryptocurrency. If so, then Ethereum would not be as successful as it is today.

## **8. Benefits of Cryptocurrency**

- Transferring funds between two parties will be easy without the need for third parties such as credit/debit cards or banks.
- It is a less costly alternative than other online transactions.
- Payments are secure and provide the highest level of anonymity.
- The private key is only known to the owner of the wallet. The private key is only known to the owner of the wallet.
- Remittances are carried out with a minimum processing fee.

## **9. Drawbacks to Cryptocurrency**

- The almost hidden nature of cryptocurrency transactions makes them readily at the center of illegal activities such as money laundering, tax evasion and perhaps even terrorist financing.
- Payments are not irrevocable.
- Cryptocurrencies are not widely accepted and have limited value in other jurisdictions.
- It is of concern that cryptocurrencies like Bitcoin are not rooted in material assets.
- It is identified that the cost of producing a Bitcoin, which requires a growing amount of energy, is directly linked to its market price.

## **10. The Legal Implications of Cryptocurrency in India**

Cryptocurrencies are not legal tender in India. While trade is legal in India due to the lack of a robust regulatory environment, a lengthy licensing process makes the operation of certain cryptocurrency services and innovative technologies very difficult. Although there currently exists a lack of clarity on the tax status of cryptocurrencies. Anyone who makes profits from Bitcoin will have to pay taxes on it and will be taxed as capital gains.

The rules for cryptocurrency exchange in India have become more and more strict. Although technically legal, in 2018 RBI banned banks and regulated financial institutions from processing or settling virtual currencies. However, the RBI confirmed that it did not issue licenses or authorizations to an entity or a company to operate a system or transaction, but had issued warnings on trading virtual currencies and introduced an obligation for companies to settle or leave their positions. It also confirmed that further prohibitive regulations were foreseen. The large-scale settlement prohibits cryptocurrency trading on domestic exchanges and gave existing exchanges until July 6, 2018, at liquidation.

In 2020, a landmark Supreme Court ruling declared the ban unconstitutional, reversing the ban and authorizing the reopening of trade. While there were indications in 2017 and 2018 that India was contemplating less prohibitive regulation of cryptocurrencies, indicate a willingness to explore the possibilities of blockchain technology to enhance its financial services industry.

## **11. The Dawning of Crypto in Finance**

Cryptocurrency is a growing ecosystem that has slowly been making advances in the world's traditional financial systems. The number of users of a variety of cryptocurrencies increased by 66 million between 2018

and 2020. The private and public sectors are warming up to adopting cryptocurrencies in their financial transactions such as making payments, storing value, and as an investment. The story of cryptocurrency goes back decades when cryptography began to make digital progress. It is the technology that has helped to develop and evolve the variety of encryption techniques that make cryptocurrency networks safe and reliable to take over different transactions. Now, with more than 5,000 cryptocurrencies and growing, cryptocurrency is considered the future of financial.

The need for transparent, secure and accessible financial systems is becoming increasingly apparent. It is believed that this is because the current centralized financial system still does not offer financial freedom and credibility to users. Many view decentralized finance as a system that provides greater transparency and transaction security that replaces certain conventional financial processes.

Cryptographic investment is gaining popularity in investing, trading, borrowing and lending which are catalyzing a revolution in financial services. Increasing demand and accessibility of cryptocurrency exchanges are increasing popularity around the world. Along with this, cryptocurrency exchanges have become well-known to investors.

The belief is that cryptocurrency is becoming more and more an acceptable financial system. The private and public sectors are showing great interest in this, and it is now openly acknowledged in many sectors. There are public and private sectors that have openly acknowledged cryptocurrency within the framework of their financial systems. Institutional investors, technology-based businesses, and even national central banks around the world have started to integrate cryptocurrency into their operations. The world’s most massive companies now accept cryptocurrency payments.

New policies and regulations are being implemented through cryptographic exchanges to create regularized practices moving forward. Policies are also used to put all players in control as more players keep coming into space. In a world where a large population continues to lack access to formal financial services, cryptocurrency offers a viable and tangible solution. Traditional banking services are restrictive because of lack of personal identification, account opening, operating funds, or proximity to an institution. Individuals who do not have a bank account worldwide can now take advantage of this financial model that offers instant access from anywhere, lower transaction costs and faster transaction processing.

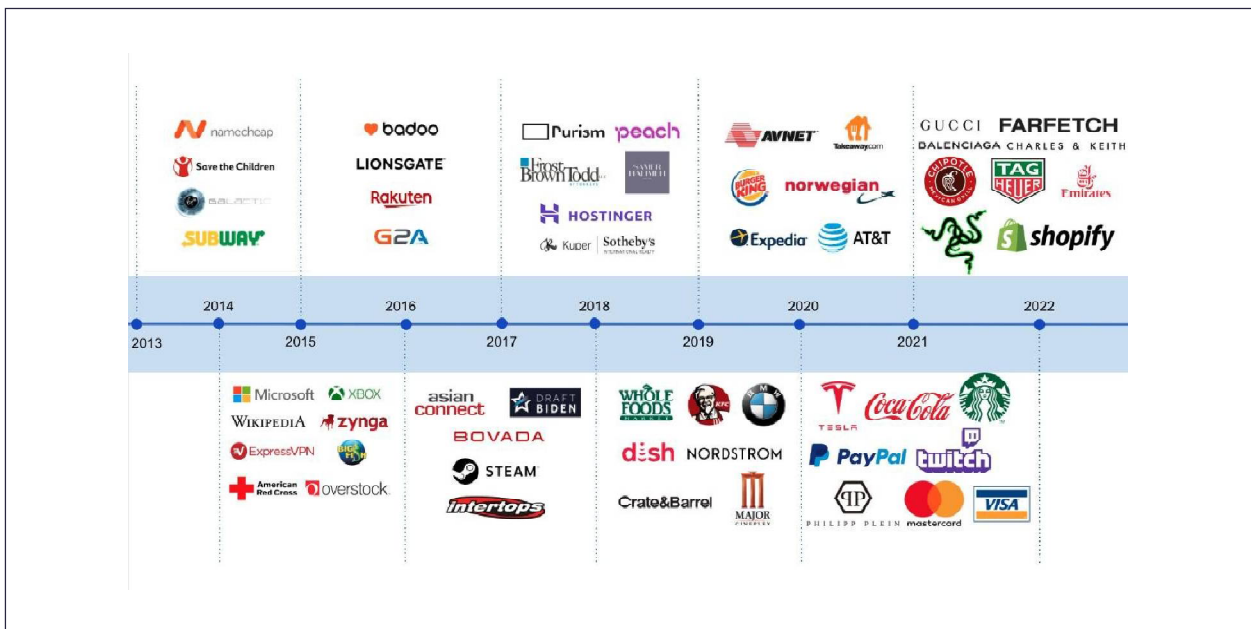


Figure 3: Companies Accepting Cryptocurrency Payments

Source: Triple-A 2023

## 12. Conclusion

Cryptocurrencies provide a significant advantage in overcoming lack of social trust and increasing access to financial services, they offer a significant advantage for overcoming social distrust and improving access to

financial services, the importance and value of information economics with cryptocurrency is enormous. It eliminates risk and uncertainty and allows for better choices with higher returns. The lower the risk and uncertainty, the greater the value of public services.

The paper examined the potential for cryptocurrency in terms of security of its technology, low transaction cost and high return on investment. For the challenges, the discussion focused on laws and regulations, high power consumption, the possibility of crash and bubble, and network cyberattacks. The future of the financial world depends on cryptocurrency which includes enhancing the security protocol, working on proof of activity, application of the knowledge management system. Looking at the positive perspectives of blockchain technology and the government's perspective in cryptocurrency regulation, further studies on several aspects of the cryptocurrency should be carried out. Seizing the opportunities of a piece of the pie in cryptocurrency and blockchain technology can be beneficial to investors.

The history of cryptocurrency is about what it holds in the future of finance. Blockchain technology has the potential to disrupt traditional financial systems that currently require a trusted third party to verify, verify and authorize transactions. As technology develops, a greater number of industries recognize and accept cryptocurrency as a viable financial system. Cryptocurrency could become the new conventional financial system in the future which fosters the development of India Information Economy.

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