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## Cryptocurrencies And Banking System In India – A Conceptual Analysis

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### **Abstract:**

Cryptocurrencies have emerged as a disruptive force in the global financial landscape, challenging traditional banking systems. India, with its burgeoning tech-savvy population, has been an active participant in the crypto currency market. This research paper aims to provide a comprehensive analysis of the impact of Cryptocurrencies on the banking system in India. It explores the opportunities and challenges posed by Cryptocurrencies, their regulatory framework, and the potential transformation of the banking sector.

**Key Words:** Cryptocurrencies, Banking, Bit coin, financial, regulatory framework, Money.

### **1. INTRODUCTION**

There is no doubt that the era of information and communication technologies has created many golden opportunities in several aspects. One of the fields that benefited from these technologies and online connections is the financial and business sector. A growing number of online users has activated virtual world concepts and created new business phenomena. Thus, new types of trading, transactions and currencies have been arising. One of the remarkable financial forms that have been emerged in the past few years is Cryptocurrencies. Cryptocurrencies can be defined as any medium of exchange, apart from real world money, that can be used in many financial transactions whether they are virtual or real transactions. Cryptocurrencies represent valuable and intangible objects which can be used electronically or virtually in different applications and networks such as online social networks, online social games, virtual worlds and peer to peer networks. The paper explores many aspects of Cryptocurrencies platforms attempting to answer the main questions of this research which are “Will Cryptocurrencies be the next currency platform? Are virtual currency platforms safe enough to be used?” It investigates different Cryptocurrencies platforms in order to provide deep insight about mechanisms of implementing, controlling, issuing, spending and exchanging Cryptocurrencies which provides useful and an organized Cryptocurrencies classification. The paper also analyses current Cryptocurrencies systems and platforms in order to extract concerns, problems, issues and challenges that are exist. It analyses the correlation between the real world laws and the use of CC aiming to outline the strong impacts of Cryptocurrencies conception some of real world aspects such as real monetary systems, business industry, laws breaking rates and crime.

## 2. LITERATURE REVIEW:

### **Adam hayes (2016)**

a study titled as “Decentralized Banking : Monetary Technocracy in the Digital Age” in which he tried to provide an insight about the working system of blockchain may be used in currency system and how it can be used independently. At that time it was designed as a global currency system, but there is a very less past background about it. He advocates that It was the responsibility of the central Bank to monitor the digital currency as, it was overlooked on many occasions.

### **Kristoufek. J (2013)**

In this study he used time series Time series method where he tried to study the relationship between prices of the Bit coin and the frequency of term searched on Google Trends and Wikipedia. It was found that a strong positive correlation was exists there. The evolution of the ticks in an eight-hour trading day with zero returns was made. It was found that in the beginning days there was no liquidity in the bitcoin prices. The frequency of searches on Google related to the digital currencies was also be a good measure of the interest in the currency and its explanatory power. After an in-depth study it was found that a very high fluctuation has been occurred in the prices of bit coin.

### **Christian Brenig.et.al. (2015)**

In this study author analyses the factors which influence use of Crypto and money laundering process. This study mainly focused on how Cryptocurrencies can be used in money laundering to affects the economy of a country. Cryptocurrencies, which are convertible decentralized virtual currencies based on Crypto graphic operations. They also find it as a replacement for Standard currency issued by the Government of any country. It was also observed that the increase in popularity attracts the attention of the investors and scholars. As there is an increase in the money laundering activities. The study further reveals that there is a method of institutional and the money laundering system. Because Cryptocurrencies are declared beneficial from the point of view of the money laundering keeping that in view the criminals are making investments in it.

### **Ankit Goel (2015)**

In research work on “A Comparative Analysis of Investor’s perception towards mutual funds: with special reference to Mathura District” the researcher has made an attempt to investigate the Investors perception between mutual funds and the other non-risky investments like Banks saving account, Fixed deposit, Insurance, Post office, Gold/Silver, Bonds, PPF and. he also attempt to determine the preferred investment options and the various factors that should be keep in mind while making investments decisions.

### **Ethan Heilman (2015)**

In this study the author studied about the blockchain system in which a peer to peer network system is used and provides a safety guarantee from potential hackers. This study further has the technical aspects of the IP addresses and the connection of the nodes too. They have developed a mathematical model that attacks and validates them with the method of Monte Carlo simulations, and measurements and its experiments. They proposed a countermeasure that makes eclipse attacks are more difficult where there is still a preserve bitcoin’s openness and decentralization of the investment method.

## 3. OBJECTIVE OF THE STUDY:

The main objective of this study is to know the possible impact of crypto currency on the Indian banking system and developments of its regulation in India.

## 4. PROMINENT CRYPTOCURRENCIES:

### 4.1 BITCOIN:-

Bitcoin is a decentralized digital currency and the first-ever crypto currency to gain widespread recognition and adoption. It was created by an anonymous entity known as Satoshi Nakamoto and was introduced through a whitepaper titled "Bitcoin: A Peer-to-Peer Electronic Cash System" in 2008.

#### KEY FEATURES OF BITCOIN INCLUDE:

**DECENTRALIZATION:** Bitcoin operates on a decentralized ledger called the blockchain. It is maintained by a network of nodes (computers) spread across the globe, rather than a central authority like a government or a central bank.

**DIGITAL NATURE:** Bitcoin is purely digital and exists only in the form of digital tokens or coins. These tokens are stored in digital wallets, and transactions are recorded on the blockchain.

**SECURITY:** The blockchain uses cryptographic techniques to secure transactions and control the creation of new units. This makes it extremely difficult for unauthorized parties to alter the transaction history or create counterfeit bitcoins.

**LIMITED SUPPLY:** Bitcoin has a capped supply of 21 million coins, which makes it deflationary in nature. This scarcity is built into the system's protocol and is designed to mimic the scarcity of precious metals like gold.

**VOLATILITY:** Bitcoin's price can be highly volatile, with significant price fluctuations over short periods. This volatility is influenced by various factors, including market sentiment, adoption, regulatory developments, and macroeconomic conditions.

### 4.2 ETHEREUM:-

Ethereum is a decentralized, open-source blockchain platform that was proposed by Vitalik Buterin in late 2013 and development began in early 2014, with the network going live on July 30, 2015. It is known for introducing the concept of smart contracts, which are self-executing contracts with the terms of the agreement directly written into code. Ethereum's native Cryptocurrencies is called Ether (ETH).

#### Here are some key aspects and features of Ethereum:

**Smart Contracts:** Ethereum is primarily known for its smart contract functionality. Smart contracts are programs that run on the Ethereum blockchain, allowing for automated and trustless execution of agreements and transactions when certain conditions are met. This has applications in a wide range of fields, from finance and supply chain management to voting and gaming.

**Ether (ETH):** Ether is the Cryptocurrencies native to the Ethereum network. It is used to pay for transaction fees and computational services on the network. Additionally, Ether can be used as a digital asset for investments and trading.

**Interoperability:** Ethereum has become a hub for various blockchain projects and tokens through the creation of standards like ERC-20 (for fungible tokens) and ERC-721 (for non-fungible tokens). These standards enable interoperability between different blockchain projects and ecosystems.

**Upgrades and Scalability:** Ethereum has undergone several upgrades to improve scalability, security, and efficiency. The most notable upgrade is Ethereum 2.0, which aims to transition from a PoW to a PoS consensus mechanism and improve scalability through techniques like sharding.

**Community and Development:** Ethereum has a strong and active developer community, which continuously works on improving the platform and creating innovative applications. This community-driven approach has contributed to Ethereum's success and adaptability.

#### 4.3 RIPPLE:-

Ripple is a blockchain-based digital payment protocol and Cryptocurrencies that was designed to facilitate fast, low-cost international money transfers and cross-border payments. It was created in 2012 by Jed McCaleb, Chris Larsen, and Arthur Britto. Ripple is unique in the Cryptocurrencies space due to its focus on enabling the seamless transfer of various forms of value, including traditional fiat currencies, Cryptocurrencies, commodities, and more.

#### Some key aspects and features of Ripple:

**XRP:** Ripple's native Cryptocurrencies is called XRP. It is used within the Ripple network to facilitate transactions and acts as a bridge between different currencies. XRP is not mined like Bit coin; instead, a fixed supply of 100 billion XRP tokens was created when the network was launched.

**Ripple Net:** Ripple Net is a global network of financial institutions, banks, payment service providers, and corporations that use Ripple's technology to process cross-border payments and remittances efficiently. Ripple Net provides access to the Ripple ecosystem, enabling participants to send and receive money globally.

**XRP Ledger:** The XRP Ledger is the underlying technology that powers Ripple's network. It is a distributed ledger that uses a consensus algorithm called the Ripple Protocol Consensus Algorithm (RPCA) to validate and settle transactions. The XRP Ledger is known for its speed and scalability, allowing for quick and low-cost transactions.

**Bridge Currency:** XRP plays a pivotal role as a bridge currency in Ripple's ecosystem. When transferring value from one currency to another, XRP is used as an intermediary, making transactions faster and more cost-effective compared to traditional banking systems or other Cryptocurrencies.

#### 5. CRYPTOCURRENCIES ADOPTION IN INDIA:

Cryptocurrencies adoption in India has been a topic of significant interest and debate in recent years. India, with its vast population and growing digital economy, represents a significant potential market for Cryptocurrencies. However, the regulatory environment has been uncertain, which has influenced the pace and nature of adoption. Here's an overview of Cryptocurrencies adoption in India:

**Rapid Growth and Popularity:** Cryptocurrencies adoption in India has seen rapid growth, particularly among the tech-savvy younger population. Bit coin and other Cryptocurrencies have gained popularity as both investments and means of transferring value.

**Investment:** Many Indians view Cryptocurrencies, especially Bit coin, as an investment opportunity. They see it as a store of value and a hedge against traditional financial markets. The potential for high returns has attracted investors and speculators.

**Remittances:** Cryptocurrencies are increasingly being used for cross-border remittances. India receives a significant amount of remittances from the Indian Diasporas, and Cryptocurrencies can offer a faster and cost-effective way to transfer money internationally.

**E-commerce and Payments:** Some Indian e-commerce platforms and businesses have started accepting Cryptocurrencies as payment for goods and services. This has opened up new avenues for using digital currencies in day-to-day transactions.

**Blockchain and Technology Adoption:** Beyond Cryptocurrencies, there is growing interest in blockchain technology in India. Businesses are exploring blockchain solutions for supply chain management, healthcare, finance, and other sectors.

**Startups and Innovation:** India has seen the emergence of numerous blockchain and Cryptocurrencies startups. These companies are working on various applications, including Cryptocurrencies exchanges, wallet services, and blockchain-based solutions.

**Regulatory Challenges:** The Indian government and the Reserve Bank of India (RBI) have expressed concerns about Cryptocurrencies' potential for money laundering, fraud, and financial instability. The regulatory environment has been uncertain, with periodic bans on Cryptocurrencies-related activities.

**Legislative Developments:** There have been discussions and proposed bills related to Cryptocurrencies and blockchain technology. One significant proposal is the "Cryptocurrencies and Regulation of Official Digital Currency Bill," which aims to provide a regulatory framework for Cryptocurrencies.

**Legal Battles:** Cryptocurrencies exchanges in India have faced legal battles over the years. The Supreme Court of India, in March 2020, lifted a ban imposed by the RBI on banks providing services to crypto currency-related businesses, which was seen as a positive development for the industry.

**Educational Initiatives:** Crypto currency and blockchain education and awareness initiatives are on the rise. Universities and educational institutions are offering courses and workshops to educate students and professionals about these technologies.

Thus, Cryptocurrencies adoption in India is on the rise, driven by investment interest, remittances, e-commerce integration, and blockchain technology applications. However, regulatory uncertainty remains a significant challenge, affecting the pace and nature of adoption. The regulatory landscape in India will likely continue to evolve, influencing the future of Cryptocurrencies in the country.

## 6. AN OVERVIEW OF CRYPTOCURRENCIES TRADING VOLUMES AND EXCHANGES.

Cryptocurrencies trading volumes have experienced significant global growth over the years. Initially, the market was relatively small, but it has expanded rapidly, attracting traders and investors worldwide. Trading volumes are a key indicator of market liquidity. High trading volumes indicate active markets where assets can be easily bought or sold without causing significant price fluctuations. Bitcoin (BTC) traditionally has the highest trading volume and market capitalization among crypto currencies. It often sets the tone for the entire crypto currency market. While Bitcoin dominates in terms of trading volume, many other crypto currencies, often referred to as "altcoins," also have substantial trading volumes. Ethereum (ETH), Ripple (XRP), Litecoin (LTC), and Bitcoin Cash (BCH) are some of the prominent altcoins with active trading markets.

### **Crypto currency Exchanges:**

**Centralized and Decentralized Exchanges:** There are two main types of crypto currency exchanges: centralized and decentralized. Centralized exchanges (CEXs) are operated by companies and act as intermediaries between buyers and sellers. Decentralized exchanges (DEXs) operate without a central authority and allow users to trade directly from their wallets.

**Largest Exchanges:** Some of the largest centralized crypto currency exchanges in terms of trading volume include Binance, Coinbase, Kraken, Bitfinex, and Huobi. These exchanges offer a wide range of trading pairs, liquidity, and trading features.

**Altcoin Exchanges:** Some exchanges specialize in offering a wide variety of altcoins. These exchanges are popular among traders looking to access a diverse range of Cryptocurrencies. Examples include Bittrex and Poloniex.

**Trading Pairs:** Exchanges offer a variety of trading pairs, allowing users to trade one Cryptocurrencies for another. Major pairs typically include BTC/USD, ETH/USD, and XRP/USD, among others.

**Volume Rankings:** Websites like Coin Market Cap and Coin Gecko provide rankings of exchanges by trading volume, making it easy for users to identify the most active exchanges.

## **7. THE CHRONOLOGICAL DEVELOPMENT OF CRYPTO CURRENCY REGULATIONS IN INDIA.**

The regulatory landscape for Cryptocurrencies in India has evolved over the years, marked by various developments and policy changes. Here is a chronological overview of the key events and changes in Cryptocurrencies regulations in India:

### **PRE-2013 - EARLY RECOGNITION:**

Before 2013, there were no specific regulations governing Cryptocurrencies in India. Bit coin and other Cryptocurrencies gained recognition as digital assets.

### **2013 - RBI ADVISORY**

In December 2013, the Reserve Bank of India (RBI) issued its first advisory warning the public about the risks associated with Cryptocurrencies. However, this advisory did not impose any bans or restrictions on Cryptocurrencies activities.

### **2017 - DEMONETIZATION IMPACT:**

In November 2016, India's government initiated demonetization, which led to a surge in interest in digital payment solutions, including Cryptocurrencies.

In early 2017, the Indian government formed an inter-disciplinary committee to examine the legal framework for Cryptocurrencies.

### **2018 - RBI BANKING BAN:**

In April 2018, the RBI issued a circular directing all regulated financial institutions under its purview to stop providing services to Cryptocurrencies-related businesses, effectively imposing a banking ban on the Cryptocurrencies industry.

Cryptocurrencies exchanges challenged the RBI's circular in the Supreme Court of India.

### **2019 - SUPREME COURT LIFTS RBI BAN:**

In March 2020, the Supreme Court of India lifted the RBI's banking ban on Cryptocurrencies, stating that the ban was unconstitutional.

This landmark ruling opened the doors for Cryptocurrencies exchanges to resume operations and led to renewed interest in the industry.

### **2021 - PROPOSED CRYPTO CURRENCY BILL**

In January 2021, reports surfaced about a draft bill called the "Cryptocurrencies and Regulation of Official Digital Currency Bill." The bill proposed a comprehensive regulatory framework for Cryptocurrencies in India, including the creation of a central bank-backed digital currency

### **2021 - REGULATORY CAUTION**

Throughout 2021, regulatory authorities in India continued to express concerns about Cryptocurrencies. The government indicated that it was considering a balanced approach to Cryptocurrencies regulation that would protect investors while fostering innovation. The Reserve Bank of India's (RBI) concerns and measures.

**2023** - The central government via a notification dated 7 March, 2023 has brought digital assets and fiat currencies, virtual digital assets, more commonly, the crypto currencies and such other digital assets ,their trading, safe keeping and related financial services under the ambit of Prevention of money laundering act.

## **8. INFLUENCE OF CRYPTO CURRENCY ON THE BANKING SYSTEM:**

### **Competition and Innovation:**

Cryptocurrencies have introduced competition and innovation into the financial sector. Traditional banks are now under pressure to adapt and offer improved services to compete with the speed and efficiency of Cryptocurrencies transactions.

### **Remittances and Cross-Border Payments:**

Cryptocurrencies provide a faster and often more cost-effective way to conduct cross-border transactions and remittances. This challenges traditional banks' dominance in international money transfers.

### **Financial Inclusion:**

Cryptocurrencies have the potential to bring financial services to underserved and unbanked populations in India. People without access to traditional banking can use Cryptocurrencies for savings, payments, and investments.

### **Rise of Digital-Only Banks:**

The growth of Cryptocurrencies has coincided with the emergence of digital-only banks in India. These banks leverage technology to offer services that are more efficient and user-friendly, challenging traditional banks to digitize their operations.

### **Risk and Regulatory Concerns:**

The use of Cryptocurrencies has raised concerns about potential risks, including money laundering, fraud, and consumer protection. Regulatory authorities are exploring ways to address these concerns while promoting innovation.

## **9. CRYPTO CURRENCY BANKING SERVICES:**

A few traditional banks have begun to offer Cryptocurrencies-related services, such as facilitating Cryptocurrencies purchases or providing custody solutions for institutional clients. This is a sign of integration between the two financial systems.

### **An assessment of the risks associated with Cryptocurrencies adoption.**

The adoption of Cryptocurrencies in India, while promising, is not without its risks and challenges. These risks encompass financial, regulatory, security, and societal concerns. Here's an assessment of the risks associated with Cryptocurrencies adoption in India:

**Regulatory Uncertainty:**

One of the most significant risks is the lack of clear and comprehensive Cryptocurrencies regulations in India. The absence of a regulatory framework can lead to ambiguity, leaving investors and businesses uncertain about the legal status of Cryptocurrencies.

**Legal Compliance:**

The uncertain regulatory environment raises compliance challenges for individuals and businesses involved in Cryptocurrencies transactions. There is a risk of inadvertently violating existing laws or regulations.

**Fraud and Scams:**

The Cryptocurrencies space in India has witnessed fraudulent schemes and scams, including Ponzi schemes and fake initial coin offerings (ICOs). Unsuspecting investors are at risk of falling victim to these fraudulent activities.

**Money Laundering and Illicit Activities:**

The pseudonymous nature of Cryptocurrencies can facilitate money laundering, terrorist financing, and other illicit activities. Regulatory authorities are concerned about the potential misuse of digital assets.

**Lack of Investor Knowledge:**

Many individuals and businesses may enter the Cryptocurrencies market without a deep understanding of the technology, investment risks, or how to securely manage digital assets, leading to potential losses.

**Taxation Issues:**

The tax treatment of Cryptocurrencies is complex and subject to change. Misreporting or misunderstanding tax obligations related to crypto currency transactions can result in legal and financial consequences.

**10. POLICY RECOMMENDATIONS FOR A BALANCED APPROACH TO CRYPTO CURRENCY REGULATION:**

A balanced approach to Cryptocurrencies regulation in India is crucial to harness the potential benefits of digital assets while mitigating associated risks. Here are some policy recommendations for achieving such a balance:

**Comprehensive Regulatory Framework:**

Develop and implement a comprehensive regulatory framework for Cryptocurrencies in India. The framework should cover aspects like investor protection, anti-money laundering (AML) and know-your-customer (KYC) procedures, taxation, and cyber security.

**Collaboration with Industry Stakeholders:**

Collaborate with industry stakeholders; including Cryptocurrencies exchanges, wallet providers, and blockchain companies, to formulate regulations that take into account their expertise and insights.

**Registration and Licensing:**

Require Cryptocurrencies businesses to register and obtain licenses to operate in India. Implement a robust vetting process to ensure compliance with AML and KYC regulations.

**Investor Education:**

Launch nationwide campaigns to educate consumers about the risks and benefits of Cryptocurrencies. Promote responsible investment practices and awareness of potential scams and fraud.

**Market Surveillance and Oversight:**

Establish a regulatory body or authority responsible for overseeing the Cryptocurrencies market. This body should monitor exchanges, enforce regulations, and conduct regular audits.



**International Collaboration:**

Collaborate with international regulatory bodies and organizations to align India's Cryptocurrencies regulations with global best practices and standards.

**Government Backed Digital Currency:**

Explore the issuance of a central bank-backed digital currency (CBDC) to provide a government-regulated digital alternative while ensuring control over monetary policy.

**Regular Review and Adaptation:**

Periodically review and adopt Cryptocurrencies regulations to keep pace with technological advancements and changes in the Cryptocurrencies landscape.

**11. CONCLUSION:**

Cryptocurrencies hold the potential to revolutionize India's financial sector. However, their impact on the banking system is multifaceted, offering both opportunities and challenges. Striking a balance through a well-structured regulatory framework and proactive engagement by traditional banks will be instrumental in harnessing the benefits of Cryptocurrencies while mitigating potential risks. It should aim to create a regulatory environment that fosters innovation while protecting consumers and maintaining financial stability. Achieving this balance will be essential for realizing the full potential of Cryptocurrencies in India.

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