



# Overview & Comparison of Various Blockchain Wallets

Sakshi V. Moon, Pranali B. Gajbhiye, Renuka M. Deshmukh, Purva R. Aware, Prof. Y. R. Shelokar

U.G. Student, Department of Computer Science, P. R. Pote College of Engg. & Management, Amravati, India

U.G. Student, Department of Computer Science, P. R. Pote College of Engg. & Management, Amravati, India

U.G. Student, Department of Computer Science, P. R. Pote College of Engg. & Management, Amravati, India

U.G. Student, Department of Computer Science, P. R. Pote College of Engg. & Management, Amravati, India

Assistant Professor, Department of Computer Science, P. R. Pote College of Engg. & Management, Amravati, India

**ABSTRACT:** A bank is a type of financial institution that lends money to its investors and takes deposits. The banking stream known as finance manages deposits and withdrawals and includes settlement. The financing procedure takes care of money deposited in the form of cash into a bank. Since we've reached the era of digital banking, e-wallets have become a standard form of banking. Because of this, there are several security flaws in payment gateways that allow hackers to steal money from credit or debit cards by sending the OTP to themselves. Everything begins with a minimum amount, but as each attempt is made to raise the pertransaction amount, the impact grows. Another issue that needs to be resolved these days is the SIM clone. Whether or whether you utilize internet banking, anyone can steal money from a user's account using SIM clone. This study discusses how the adoption of a blockchain-powered system can guarantee authenticity and help the banking industry combat transaction-related fraud.

**KEY WORDS:** Banking, Finance, UPI, Crypto, Blockchain, Crypto wallets, E-wallets

## I. INTRODUCTION

Within the business and academic communities, one of the most talked-about subjects is the block chain. Information is kept digitally in a shared distributed database on a "blockchain," a distributed and network-based technology [8–9]. Blockchain technology has become more popular as a result of Bitcoin. Bitcoin employs Blockchain Technology to provide data security and control [10–11]. Blockchain refers to the process of storing data in digital blocks that link together to form a chain, with each new record added to a block becoming a part of the chain as it already exists. Blockchain uses a ledger-based system to maintain records; all transactions are recorded on this ledger, which is publicly available and accessible to all users. The single foundational element used in the creation and design of cryptocurrencies was blockchain. One of the main factors that have made this technology so well-known is cryptocurrency. [12,13] Virtual and digital currencies are also included in cryptocurrencies. The first blockchain technology to use cryptocurrency is Bitcoin [14]. Virtual currencies like Bitcoin allow transactions to be processed without the need for a central authority to exist. There are a lots of misconceptions when we talk about bitcoin and blockchain . To make the difference clear, the bitcoin is a currency, a digital currency that uses blockchain to facilitate the transaction management and processing.[19]. The Blockchain technology can be used in other industries and in has several applications to offer. The highest potential of Blockchain exists in the finance and banking sectors. Virtual currencies like Bitcoin allow transactions to be processed without the need for a central authority to exist. The first Bitcoin was created in 2008, immediately following the world financial crisis that crashed markets around the world [15, 16]. The primary motivation for the creation of bitcoin was to combat financial crises, which made the shortcomings of the established banking institutions evident all over the world! The purpose of the creation of bitcoin was to enable international money transfers at the lowest possible cost per transaction. However, the path of bitcoin was never precisely as expected. To put it briefly, a lot of money laundering and black market purchases involved the use of bitcoin. There is now just one option left for governments worldwide, and that is to outlaw its usage [17–18].

## II. LITERATURE SURVEY

The author explains how some of the unsolved issues and those shortcomings are bridged by Bitcoin-beyond blockchain technology. The assurances and specifications of cryptocurrency blockchains do not meet the security and privacy needs of FinTech, which ranges from transaction throughput to primitives [1]. It examines how distributed databases are protected and offers a Blockchain-based solution to the problems associated with maintaining the confidentiality of



information stored in them. According to the authors, blockchain would drastically simplify the process for preserving the legitimacy and secrecy of information about bank transactions without the need for mining or tokens [2].

Blockchain technology is used in this work to solve the consensus issue in cryptography. Additionally, whether there is a way to guarantee that transaction activities and financial activity are recorded in a specific database without the involvement of the central authority. It examines the key technological and architectural aspects of blockchain technology and provides scenarios in which blockchain applications can be implemented [3].

The study paper focuses on using blockchain as the fundamental prototype technology for the Central Bank Digital Currency, or CBDC for short. Blockchain technology will be used to supervise, pay for, and use the Central Bank Digital Currency prototype. In order to deploy the blockchain as CBDC's core technology, issues including protecting user transactions' confidentiality, transparency, and speed need to be fixed [4].

This study introduces blockchain technology to examine the benefits and issues associated with banking. By adopting more efficient processes than they currently use, blockchain technology will transform the global financial system to achieve sustainable development [5]. launching a prototype of an end-to-end (E2E) interbank payment system (IBPS) built on the blockchain network of the Hyperledger Fabric firm. The model demonstrates the Hyperledger Fabric-defined business blockchain philosophy, which can facilitate more efficient and reliable payment systems [6]. To investigate and monitor avenues for innovation, the study puts forth a model of systemic innovation. This model can be used in any business to understand the innovation growth cycle and the strategy for gaining market share in the banking sector.

The empirical findings show that many banks still have neither developed or migrated to Blockchain technology from their traditional banking systems. The study highlights the poor structural characteristic of Blockchain banking at the moment and is based on the unique structural prototype [7].

### **III. DIFFERENT TYPES OF BLOCKCHAIN WALLETS**

#### **UPI (UNIFIED PAYMENT INTERFACE)**

The National Payments Corporation of India established the Unified Payment Interface, or UPI, a real-time payment system that attempts to settle all transactions among "banks." [22] The RBI maintains track of Interface regulations because all financial transactions are instantaneous and conducted through mobile platforms. To put it another way, it's an integrated version of banks on a single mobile device that powers up all the banking functions by combining them into a cluster [20]. The user receives a single mobile application that they can use to manage several bank accounts. Like any other financial system, it does provide two-factor authentication. When UPI and e-wallets are combined, users can make payments by scanning a QR code at the perfect moment. Unlike previous banking systems, this one doesn't require the user to wait in line to make a deposit because the money is debited and credited instantly. The processing mechanism is more effective because the money is taken directly out of the user's bank account.

#### **CRYPTO WALLET**

Software with a private and public key that uses blockchain technology to transmit and receive money makes up a cryptocurrency wallet. [21] These wallets accept the addition of coins, like Litecoin, Bitcoin, and others. It is necessary to setup a cryptocurrency wallet in order to trade, transmit, or receive cryptocurrency. Instead of being kept in one place, the currency is all kept on the blockchain as transaction logs. A user can perform a number of tasks using these wallets, including sending and receiving coins, keeping track of their balance, and trading coins on a portfolio. The wallet's hexadecimal address is also used to protect the user's anonymity. Nevertheless, each service provider has a different address for exchanging cash.

#### **TRADITIONAL E WALLETS**

Following every transaction, the chosen payment method is updated in the database, and this modification also appears in the customer's bank account or wallet. Paytm is an example of a company that has implemented both prepaid and post-paid wallets. They recently launched a post-paid system that guarantees that customers can spend money from their wallets up to a specific amount. But the purpose of e-wallets is to make transactions easier with the aid of portable devices like cellphones, which necessitates internet access. Users can facilitate their chosen transactions by using these wallets on browsers.

**IV. COMPARISON OF HARDWARE AND SOFTWARE WALLETS**

<b>Parameter</b>	<b>Software wallet</b>	<b>Hardware wallet</b>
<b>Cost of purchasing</b>	These wallets are free to use any user can download their app or can go to their website to create their crypto wallet.	These wallets costs up to 25 to 200 usd as they require an external tool.
<b>Suitability</b>	These wallets are frequently used for trading as they are convenient to use and they are go to wallets.	These wallets are suitable when you need to store your funds for long term in safe place
<b>Max no. of assets they can store</b>	These wallets can store many funds as one to ten thousands as of user requirements.	These wallets can store as many from thousand to ten thousands crypto coins.
<b>Security</b>	These are secure but not more than hardware wallets as they are live on internet so are vulnerable to some extent	They are highly secure but they need to be safely kept so they didn't get damaged or stolen
<b>Data Recovery</b>	These wallets are good in data recovery and most of them can be accessed through multiple devices.	These are not so great in data recovery if you have lost your wallet.
<b>Ease of Transferring crypto currency</b>	These wallets are already connected to internet so transferring crypto currencies and receiving them is easy and continent in these wallets.	These wallets need an extra step to connect them through Wi-Fi or USB internet to transfer funds.

**V. PROBLEM STATEMENT**

Customers using the Tradition online wallets are not assured of security with the wallet type they select. It has been established over time that there is no technology that can strengthen the banking system, defend consumers' rights, and shield them from financial scams. Building trust takes years and is one of the costs associated with goodwill. The wallets' issue is that their passwords are only so long, making it easy for hackers to guess them. Similar to this, in emergency situations like credit card fraud, the system can circumvent OTP verification in order to facilitate and steal money.

**VI. CHALLENGES**

The poor transaction speeds of bitcoin wallets are another well-known fact. At this point, the network is almost oversaturated, which drastically lowers the transaction rate. Since there aren't any blocks bigger than 1MB at the moment, transaction confirmation is highly erratic. The creation of a sidechain, lightning-fast network, and batch processing crypto wallet has significantly hindered Oodles' transaction execution speed. Attacks and security holes on cryptocurrency wallets and exchanges are common. If you create a white label cryptocurrency wallet, you can utilize the appropriate encryption and decryption methods. This could significantly reduce the likelihood of hacking. To access their wallets, users also need to know their private keys, which are 12-word mnemonic phrases.

The price of cryptocurrencies is affected by supply and demand as well as perceived value, just like traditional financial items. Furthermore, the competition and price disparities are exacerbated by the unregulated nature of cryptocurrency marketplaces and their ever-expanding number when compared to conventional financial markets such as stock exchanges. It is impossible to maintain an account open without running the risk of future losses. Furthermore, it ensures that in the event that the private key is lost, the wallet is totally compromised.

**VII. CONCLUSION**

The needs of the business—in this example, the banking system—determine whether technology is adopted. The use of technology determines the profit margin. Since most banks prioritize their customers' privacy above everything else, the majority of them have implemented blockchain technology. Every technology always has advantages and disadvantages, and blockchain is no exception. The price of technology is its only drawback. The daily operations of businesses are driven by costs, so banks must carefully consider this before implementing new technologies. When blockchain power is used, the blockchain-based banking system becomes more resilient to changes in the market.

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