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TRADITIONAL E-WALLETS VS. CRYPTO WALLETS: A COMPARATIVE STUDY OF FUNCTIONALITY AND USE CASES

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TRADITIONAL E-WALLETS VS. CRYPTO WALLETS: A COMPARATIVE STUDY OF FUNCTIONALITY AND USE CASES

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Abstract

The purpose of this study is to make a comparison between cryptocurrency wallets and regular digital E-wallets. The system based on internet payments as alternatives to traditional safekeeping mechanisms and cash disposal will be investigated in this study. Digital wallets are the electronic accounts created using some software's which store funds, allows users to make transactions and track the transaction histories using mobile or computer. These software's may be included in bank's app or as a private payment platform like Paytm or PhonePe etc. Mobile phones have revolutionised the way we conduct transactions, offering convenience and popularity due to their remarkable speed and ease of use. Cryptocurrencies completely rely on the electronic wallet to transact, process, and maintain balances, like Bitcoin, Ethereum, USDT etc. But the crypto wallets do not provide all the facilities that are offered through traditional digital wallets. This paper discusses the working of traditional digital wallets and the crypto wallets and aims to evaluate the differences between the two from the point of view of ease of functionality and its use cases in different domains.

KEYWORDS: Fintech, Digital currency, Cryptocurrency, E-wallets.

INTRODUCTION

Digital technologies have an influence on every aspect of our life, and as a result, today's era is referred to as the "digital age." With the introduction of computing technology and increasing use of electronics, the process of digitalisation began. Today, digitalisation is viewed as an instrument for change that reaches beyond our daily lives to the way we transact, engage, and

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do business. Digital technology is progressively being used across various industries, including communication, media, shopping, healthcare, retail, and manufacturing. Innovations in e-commerce, e-communications, and the ever-expanding reliance on the internet to fuel economies driven by high technology, extensive communication, knowledge production, and creativity are progressively shaping the landscape of this digital era.(Baiju & Challa, 2016)

With the increasing digitisation of the financial world, electronic wallets, or e-wallets, have become ubiquitous in our lives. The contemporary generation, particularly millennials, exhibits a preference for payment options that prioritise speed, flexibility, and convenience. The adoption of electronic wallets, also referred to as e-wallets, has surged in recent years as more individuals turn to them for seamless online transactions. E-wallets have made it more convenient and efficient to conduct financial transactions. The most advantageous feature of digital wallets is their ability to facilitate swift payments, purchases, and the transfer and receipt of funds with remarkable speed. In past years, Bitcoin and Ethereum crypto coins have gained in popularity, and with it, the rise of crypto wallets has emerged. Cryptocurrency is a new form of currency that can be stored and exchanged through digital wallets and Crypto wallets offer a new way to manage and store cryptocurrencies, making it easier for users to conduct transactions and manage their funds.(Fareed, 2023)

As a result, there has been a growing interest in comparing these two types of wallets to determine their similarities and differences. Both e-wallets and crypto wallets offer users a way to manage and store their funds, but they operate differently and offer different features. This paper aims to provide a comparative study between e-wallets and crypto wallets, evaluating their differences from the perspective of ease of functionality and use cases in different domains. In this paper, we will discuss the working of e-wallets and crypto wallets, their features, and their use cases in various domains. This chapter will provide a brief overview of the current mechanisms used for fund disposal in both traditional financial systems and cryptocurrency transactions. The system based on internet payments as alternatives to traditional safekeeping mechanisms and cash disposal will also be investigated in this study.(Malladi et al., 2021)

LITERATURE REVIEW:

The paper entitled “Comparative Analysis of Cryptocurrency Wallets Vs Traditional Wallets” covers a wide range of topics related to digital wallets, including the convenience and efficiency they offer in executing transactions, the current state of digital wallets in the market,

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making choices for better solutions, and the security of digital wallets. The conclusion explores the growing adoption of digital wallets for cryptocurrencies and the possible decline in the use of physical wallets. It also emphasizes the enhanced security and cost-effectiveness of digital wallets compared to traditional payment methods. It would be beneficial to include a more balanced perspective of both the types of wallets by addressing their uses, limitations or potential drawbacks. Future research could consider updating the information to provide a more current and comprehensive analysis. Additionally, the paper's reliance on data from 2018 may limit its relevance in the current context, as the cryptocurrency landscape and digital wallet technologies have rapidly evolved since then.(Jokić et al., 2019)

The paper titled "Comparative Study on Cryptocurrency Transactions and Banking Transaction" provides a brief overview of cryptocurrency and its transformative impact on the global financial system. The abstract highlights the potential benefits of cryptocurrency, such as improved speed, efficiency, and financial inclusion. It also mentions the intention of the paper to summarise the differences between traditional banking transactions and cryptocurrency transactions, as well as the growing interest in cryptocurrency methods. The paper acknowledges the benefits of cryptocurrency transactions compared to traditional bank transactions, particularly in terms of speed and efficiency. However, it also highlights the current instability of the crypto market and the lack of maturity and experience compared to traditional banking systems. The conclusion raises the point that while cryptocurrency transactions may have advantages, they are not yet as reliable or stable as traditional banking transactions. The paper effectively introduces the topic of cryptocurrency transactions and addresses the growing interest in cryptocurrency methods and briefly explores the current situation in India.(Gowda & Chakravorty, 2021)

The paper titled "Comparison of Hardware and Digital Crypto Wallets" provides an analysis of two methods for storing cryptocurrencies, namely hardware wallets and digital wallets. The abstract outlines the focus of the paper, which is to compare the security and integrity of both types of wallets and examine the factors contributing to social acceptability. It also mentions the ease of use and efficiency associated with digital wallets. It reaffirms that both hardware and digital wallets have advantages and drawbacks. It acknowledges the higher security of hardware wallets but also notes their limited capabilities. On the other hand, it highlights the convenience of software wallets, which can be connected at any time. The conclusion emphasizes the overall security and appropriateness of both types of wallets and mentions the

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minimal additional costs of hardware wallets compared to traditional cash transactions.(Barakat et al., 2022)

OBJECTIVES OF THE STUDY:

1. To understand the traditional digital wallets, their working, and their use cases in different domains.
2. To understand the crypto wallets, their working, and their use cases in different domains.
3. To Compare the differences between traditional digital wallets and crypto wallets.

OVERVIEW OF E-WALLETS:

E-wallets are conventional digital payment tools that enable users to store funds and conduct electronic transactions securely. They are software-based accounts that are created by linking them to a bank account or credit card. E-wallets have witnessed a significant rise in popularity in recent years, particularly in emerging markets, due to their ease of use and convenience. E-wallets operate by securely storing user's financial credentials, including banking information and card details, within a protected digital environment. Users can then utilize their e-wallets to complete transactions at both online and physical retail stores, pay bills, or send money to other users. E-wallets offer many benefits, including speed, convenience, and security.

Working of E-Wallets:

E-wallets are electronic accounts that store user's funds and allow them to make transactions and track transaction histories. They are created using software and are accessible on both mobile devices and computers. To utilize an e-wallet, a user must set up an account and link it to their financial institution or debit/credit card. Once the wallet is funded, the individual can initiate transactions by providing the details of recipients and specifying the transfer amount. E-wallets operate by transmitting payment data securely over the internet, utilizing encryption and advanced security protocols to ensure the protection of user information.

E-wallets come-out with several features, including bill payments, mobile recharges, and cashback offers. Some e-wallets also allow users to store loyalty points and reward programs, making it easier to manage multiple accounts and rewards.

The working of e-wallets can be broken down into the following steps:

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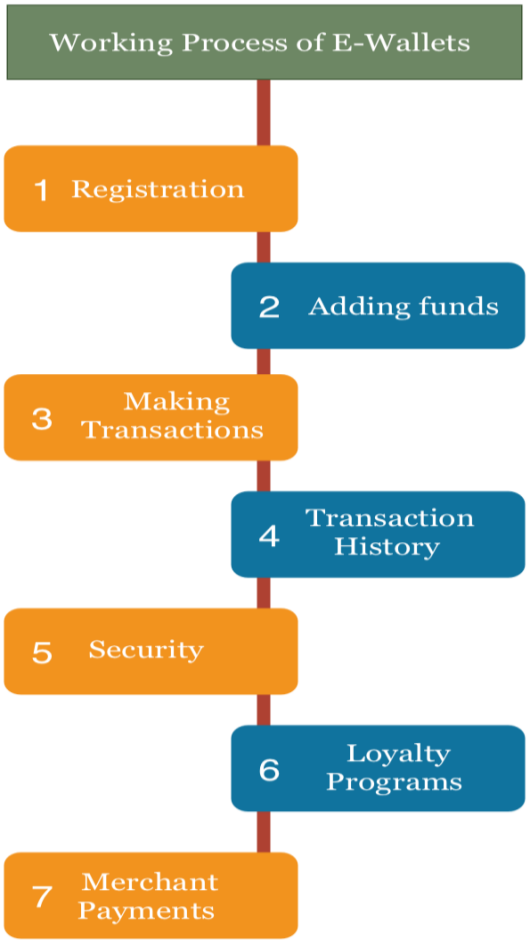
1. Registration: The first step in using an e-wallet is to setup an user profile or account. Users need to enter their personal details, including their name, address, and contact number, to create an account. They must also connect their e-wallet to a preferred payment source, such as a bank account, credit or debit card, or other digital payment alternatives.

2. Adding Funds: Once the account is created, users can add funds to their e-wallet. This can be done by transferring money from their linked payment method to the e-wallet or by receiving funds from another e-wallet user.



3. Making Transactions: E-wallets allow users to make transactions with ease and convenience. To complete a transaction, individuals must input the desired transfer amount along with the recipient's information. The transaction is then processed, and the funds are deducted from the user's e-wallet balance.

4. Transaction History: E-wallets allow users to track their transaction history. This feature enables users to keep track of their spending and monitor their account activity.

5. Security: E-wallets provide secure transactions by encrypting user data and using advanced security protocols. Certain e-wallets provide two-factor authentication along with additional security features to safeguard user accounts against unauthorised access.

6. Loyalty Programs: Many e-wallets come with built-in loyalty programs that reward users for using their wallet. These programs offer cashback, discounts, and other rewards for every transaction made with the e-wallet.

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7. Merchant Payments: E-wallets can be used for in-store payments at merchant locations, replacing cash and credit/debit cards. E-wallets like Google Pay, Samsung Pay or Apple Pay utilize NFC technology (Near Field Communication) to facilitate seamless contactless payments at compatible terminals.

Use cases of E-wallets:

Traditional digital wallets, also known as e-wallets have grown in popularity over recent times. These electronic accounts created using software store funds, allow users to make transactions, and track transaction histories. They are widely used in traditional retail, e-commerce, and banking sectors. Some of the common use cases for traditional digital wallets are:

1. Online Purchases: E-wallets are widely used for online purchases, allowing customers to

make transactions with ease and convenience. Many e-commerce platforms, such as Amazon, Flipkart, and eBay, allow customers to store their payment details in e-wallets to make purchases quicker and more efficient.

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2. Mobile Recharge and Bill Payments: E-wallets are commonly used for mobile recharges and bill payments, providing users with a convenient way to settle their expenses. Popular platforms like PhonePe, Google Pay and Paytm enable payments for utility bills, insurance premiums, and other financial obligations.

3. Money Transfers: E-wallets enable users to transfer money to other bank accounts or e-wallets, whether within the country or across borders. This functionality is especially beneficial for those who require a fast and efficient way to send or receive money.

4. In-store Payments: E-wallets can be used for in-store payments at merchant locations, replacing cash and credit/debit cards. E-wallets like Google Pay, Samsung Pay or Apple Pay utilize NFC technology (Near Field Communication) to facilitate seamless contactless payments at compatible terminals.

5. Loyalty Programs: Many e-wallets come with built-in loyalty programs that reward users for using their wallet. These programs offer cashback, discounts, and other rewards for every transaction made with the e-wallet.

6. Foreign Currency Transactions: E-wallets are widely used for foreign currency transactions. They provide more competitive exchange rates and lower transaction fees than conventional banks and currency exchange services.

OVERVIEW OF CRYPTO WALLETS:

Crypto wallets, also known as digital wallets, are similar to e-wallets in that they allow users to store and manage funds electronically. However, crypto wallets are designed to store and manage cryptocurrencies like Bitcoin, Ethereum, USDT, etc. Crypto wallets utilize blockchain technology to verify and record transactions on a decentralized ledger, ensuring enhanced protection and transparency.

Cryptocurrency wallets are primarily categorised into two types: cold wallets and hot wallets. The key difference between them is that hot wallets operate with an internet connection, whereas cold wallets function offline. Hot wallet users typically use them to make online purchases and hold a limited amount of money for that purpose, but cold wallets function

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similarly to bank vaults in that they store many types of digital valuables. The best approach is to use both types of wallets, mainly to enhance security.

Cryptocurrency wallets are divided into hot and cold wallets, each with different types such as online wallets, hardware wallets, mobile wallets, multi-signature wallets, paper wallets, and desktop wallets. Hot wallets include online, mobile, desktop, and multi-signature wallets, whereas cold wallets consist of paper and hardware wallets. The level of security and functionality differs depending on the type of digital wallet. For instance, mobile wallets offer ease of use and accessibility but may not be as secure as hardware wallets.(Barakat et al., 2022)

It's crucial to understand that while some governments forbid or restrict the usage of digital currency, others permit trading in it before selecting a wallet. Choosing an unsuitable wallet for a specific digital currency can result in financial loss. It is advised that consumers take some time to investigate how various cryptocurrency wallets operate. Some well-known cryptocurrency wallets include Ledger Nano S and Ledger Blue (hardware wallets), MetaMask, Coinbase, CoinPayments, and Exodus (online wallets), BitGo (multi-signature wallet), and Jaxx (mobile wallet).

In 2021, the global crypto wallet market was valued at USD 6.97 billion and is projected to grow at a CAGR of 24.31% during the forecast period. The rising adoption of cryptocurrencies has directly contributed to the increased usage of crypto wallets. According to the “Crypto Wallet Market Share, Size, Trends, Industry Analysis Report, 2022 – 2030” by Polaris Market Research, the number of crypto wallet users worldwide rose from 76.32 million in 2021 to 84.02 million in 2022. The demand for cryptocurrencies continues to surge, with more people investing in digital assets than ever before. Currently, cryptocurrency wallets facilitate approximately 25% of all Bitcoin transactions. A key advantage of these wallets is their ability to securely store users' private keys or passwords, ensuring both the safety and accessibility of their digital assets while enabling seamless transactions with cryptocurrencies like Bitcoin and Ethereum.

Working of Crypto Wallets:

Crypto-wallets or cryptocurrency wallets are digital wallets that store user’s crypto assets, like as Bitcoin, Ethereum, and other cryptocurrencies. They are designed to enable secure and convenient storage, transfer, and management of cryptocurrencies. Crypto wallets work

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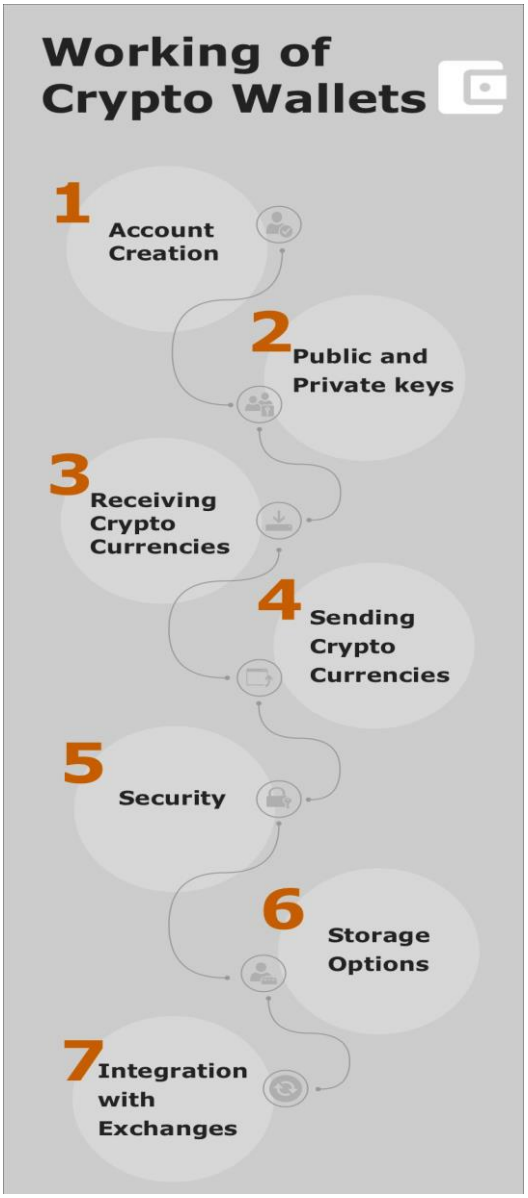
differently from e-wallets, primarily due to the use of blockchain technology. To use a crypto wallet, a user needs to download the wallet software and create a unique public and private key set. The public key serves as an address for receiving funds, whereas the private key is required to authenticate and approve transactions.

Crypto wallets use blockchain technology to verify and record transactions on a decentralized ledger. This process involves several steps, including validation of the transaction, adding it to the blockchain, and updating the balances of the wallets involved. The blockchain ensures that all transactions are secure, transparent, and tamper-proof.(Nowroozi et al., 2022)

The working of crypto wallets can be broken down into the following steps:

1. Account Creation: To use a crypto-wallet, users need to create an account by downloading the wallet software or accessing a web-based wallet. They need to provide some basic information, such as name, email, and password, to create an account.
2. Public and Private Keys: Crypto-wallets are built around public-key cryptography, where each wallet has a unique public address and a corresponding private key. The public address is a long string of alphanumeric characters that is used to receive cryptocurrencies, while the private key is a secret code used to access the wallet and send cryptocurrencies.



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3. Receiving Cryptocurrencies: Once the account is created, users can receive cryptocurrencies by sharing their public address with the sender. The sender needs to send the cryptocurrencies to the user's public address, which will be credited to their wallet balance.

4. Sending Cryptocurrencies: To transfer cryptocurrencies, users must input the recipient's public address along with the desired transaction amount. They also need to enter their private key to authorise the transaction. Once the transaction is authorised, it is broadcast to the cryptocurrency network, and the recipient receives the cryptocurrencies.

5. Security: Crypto wallets provide high levels of security to protect users' assets from theft and fraud. They employ encryption and various security protocols to safeguard users' private keys and transactions. Some wallets also incorporate features like two-factor authentication, multi-signature verification, and enhanced security mechanisms for added protection.

6. Storage Options: Crypto wallets provide different storage options, such as hot and cold wallets. Hot wallets remain connected to the internet, enabling fast and convenient access to cryptocurrencies, while cold wallets are offline and provide higher security by storing cryptocurrencies offline.

7. Integration with Exchanges: Crypto wallets can be connected to cryptocurrency exchanges, allowing users to purchase, sell, and trade digital assets straight from their wallets. This functionality allows for seamless management of crypto holdings and investments in a single platform.

Use cases of Crypto wallets:

Crypto wallets have been gaining popularity among investors and traders in recent years due to the growing acceptance of cryptocurrencies as a legitimate asset class. Some of the use cases of crypto wallets are as:

1. Storage of cryptocurrencies: The primary use case of a crypto wallet is to securely store cryptocurrencies. A crypto wallet provides users with a secure way to store digital assets like Bitcoin, Litecoin, Ethereum and other cryptocurrencies. These wallets generates a public and private key pair that is used to authenticate transactions and ensures that only the owner of the wallet can access the assets.

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2. Sending and receiving cryptocurrencies: Crypto wallets enable users to transfer and receive cryptocurrencies between different wallets. The user must enter the recipient's wallet address and specify the amount for the cryptocurrency transaction. Similarly, to receive a cryptocurrency, the user must provide their wallet address to the sender. The transaction is recorded on the blockchain, which ensures that it is secure and transparent.

3. Trading cryptocurrencies: Some crypto wallets also allow users to trade cryptocurrencies. These wallets offer built-in exchanges, enabling users to purchase and trade cryptocurrencies, without leaving the wallet interface. This feature is particularly useful for traders who want to make quick trades without the need to transfer cryptocurrencies to an exchange.

4. Staking and lending cryptocurrencies: Some crypto wallets also allow users to stake their cryptocurrencies and earn rewards for helping to secure the network. Staking refers to maintaining a specific amount of cryptocurrency in a wallet to help sustain the network's

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operations. Lending, on the other hand, involves lending cryptocurrencies to other users for a specified period and earning interest on the loan.

5. Access to decentralized applications: Some crypto wallets also grant access to decentralized applications (DApps). These applications operate on blockchain networks and provide a range of services, including decentralized finance (DeFi) and gaming. Crypto wallets allow users to access these DApps directly from their wallets, making it easy to use these services.

DIFFERENCES BETWEEN E-WALLETS AND CRYPTO WALLETS:

Digital wallets have become increasingly popular with the growth of e-commerce and mobile payments. Digital wallets allow users to store and manage funds, make transactions, and track transaction histories using mobile or computer-based software. Two types of digital wallets are traditional e-wallets and cryptocurrency wallets.

E-wallets are electronic accounts created using software that stores funds, allows users to make transactions, and tracks transaction histories. E-wallets can be included in a bank's app or as a private payment platform like Paytm or PhonePe. The ability to complete mobile transactions within seconds makes e-wallets highly convenient and widely popular.(Jokić et al., 2019)

Cryptocurrencies, on the other hand, completely rely on electronic wallets to transact, process, and maintain balances. Popular examples of cryptocurrencies are Bitcoin, Ethereum, and USDT. Crypto wallets allow users to store, receive and transfer cryptocurrencies. Unlike traditional e-wallets, cryptocurrency wallets do not hold physical cash, but rather hold digital currencies.

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There are several differences between traditional digital wallets and crypto wallets that can be evaluated based on their working and use cases in different domains. Here are some of the key differences between the two:

Table 1: Comparative aspects

Aspects	E-wallets	Crypto wallets
Currencies supported	Fiat currencies (INR, USD, GBP etc.)	Cryptocurrencies (BTC, ETH, XRP etc.)
Transaction speed	High (few seconds)	Comparatively less (few seconds to minutes)
Transaction fees	Expensive charge fees	Low or free transactions fees
Security	Traditional security measures (Username & Password, two factor authentication etc.)	Advanced security measures (Public & Private keys, multi factor authentication and hardware wallets etc.)
Regulatory framework	Subject to strict regulations (RBI in India etc.)	Less regulations due to decentralised nature
Disposing of funds	Using Fiat currencies (through banks & payment gateways)	Using cryptocurrencies (through blockchain)
Ease of use	More user friendly	Bit complex for new users
Use cases	Widely used (Retail, banking, e-commerce, bill payments, money transfer etc.)	Limited use but expanding (Storing, sending & receiving cryptocurrencies and trading, staking, lending etc.)

Table 1 provides an overview of the comparative advantages and disadvantages of traditional digital wallets and cryptocurrency wallets. The comparative aspects are presented in the table's columns.

1. Currencies supported: One of the main differences between e-wallets and crypto wallets is the currency they support. E-wallets facilitate transactions in various fiat currencies including the US Dollar, Euro, Indian Rupee etc. while cryptocurrency wallets support only digital currencies such as Bitcoin, Ethereum and others. While e-wallets allow users to transfer money to other bank accounts or make payments at merchant locations, crypto wallets allow users to transfer cryptocurrencies between wallets and buy or sell them on cryptocurrency exchanges. Crypto wallets may also support some fiat currencies, but their primary purpose is to store, send, and receive cryptocurrencies.

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2. Security: Another difference is the security of transactions. Both traditional digital wallets and crypto wallets prioritise security. However, the methods used to secure these wallets differ significantly. Electronic wallets employ conventional security protocols, such as username-password combinations and two-factor authentication, to guarantee secure transactions. In contrast, cryptocurrency wallets utilize more sophisticated security measures, including public and private key pairs for transaction authentication, and provide enhanced security measures like multi-factor authentication and biometric authentication. Additionally, Hardware wallets, which store private keys offline, are less susceptible to hacking compared to software wallets.

3. Transaction speed: The speed of transactions is also a difference between the two types of wallets. E-wallet transactions usually take a few seconds to complete the transactions, while crypto wallet transactions can take several minutes or even hours, depending on the network traffic.

4. Transaction fees: Transactions in traditional digital wallets usually involve banks or financial institutions, which can result in higher transaction fees. Crypto wallets offer transactions at a lower cost due to the decentralized nature of cryptocurrencies and the absence of intermediaries.

5. Regulatory framework: Traditional digital wallets are subject to strict regulations and guidelines enforced by government bodies namely the FCA (Financial Conduct Authority) in the UK and the RBI (Reserve Bank of India) in the India. Crypto wallets, on the other hand, are subject to less regulatory oversight because of its decentralized nature, although governments are increasingly introducing regulations to control the use of cryptocurrencies.

6. Ease of use: The ease of use is another factor that differentiates e-wallets and crypto wallets. Traditional digital wallets are generally more user-friendly, with intuitive interfaces and simple features for managing fiat currencies and require less technical knowledge to operate. Crypto wallets, on the other hand, can be complex for new users, as they involve managing public and private keys, and require some technical knowledge, such as understanding blockchain technology, setting up addresses, and navigating various cryptocurrency networks.

7. Disposing of funds: Funds are disposed of under traditional e-wallet, through bank-based mechanisms, using fiat currencies (e.g., USD, INR). Transactions are processed through

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intermediaries like banks or payment gateways (e.g., Paytm, PayPal). In Crypto wallets funds are disposed of using cryptocurrencies (e.g., Bitcoin, Ethereum) through blockchain networks. Transactions are decentralized, peer-to-peer, and typically do not require intermediaries like banks.

8. Use cases: The use cases for e-wallets and crypto wallets differ depending on the domains. E-wallets are widely used in traditional retail, banking sectors, e-commerce transactions, bill payments, and money transfers, among other things. Crypto wallets are primarily used for storing, sending, and receiving cryptocurrencies, more commonly used in the cryptocurrency market and blockchain-based services, although their use cases are expanding to include trading, staking, and access to decentralized applications.

DISCUSSION:

While both e-wallets and crypto wallets serve the purpose of storing and transferring funds, they differ significantly in terms of currency support, security measures, transaction speed, ease of use, and use cases in different domains.

Also, traditional digital wallets and crypto wallets have different features and functionalities. While traditional digital wallets are better suited for managing fiat currencies and everyday transactions, crypto wallets are specialised tools for managing cryptocurrencies and accessing the broader crypto ecosystem. Both types of wallets prioritise security, but they use different methods to achieve it. Ultimately, the choice between a traditional digital wallet and a crypto wallet is based on the user's individual needs and preferences, as well as their level of experience with cryptocurrencies.

E-wallets have enhanced the accessibility and convenience of financial transactions for users. They offer a safer and efficient method for making payments, conducting transactions, and managing funds. E-wallets are widely used for online purchases, mobile recharge and bill payments, money transfers, loyalty programs, in-store payments etc. They have become an integral part of the digital economy, simplifying financial transactions and enhancing user convenience.

Here, the graph shows the Market size of mobile wallet transactions in various regions worldwide from 2020 to 2024, taken from Statista.com.

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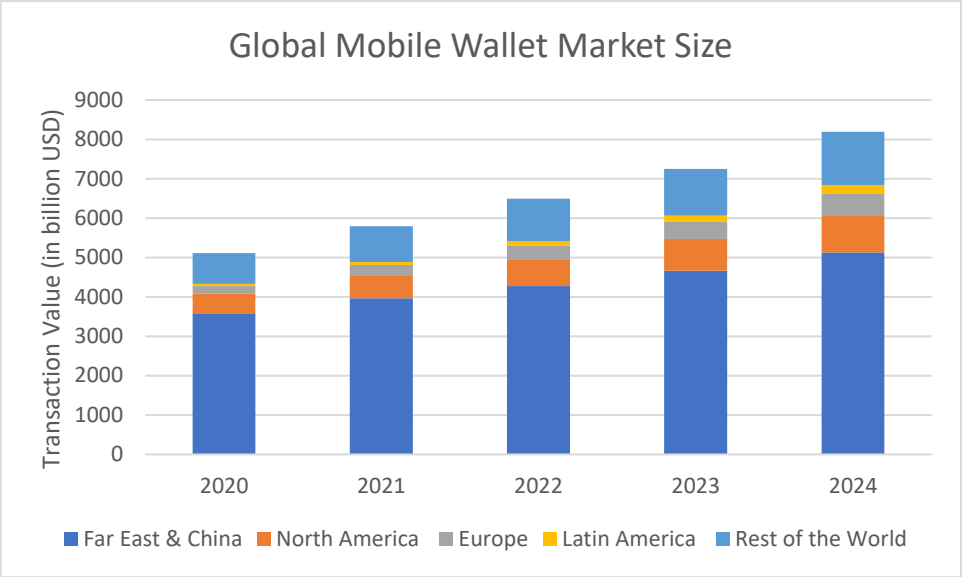

The mobile wallet market is experiencing steady growth across all regions from 2020 to 2024. The Far East and the Rest of the World are the largest contributors to this growth, consistently leading in terms of adoption and usage.

Key observations from this graph include the steady and consistent adoption of mobile wallets across regions, driven by increasing smartphone usage, internet access, and integration with digital payment systems. Growth rates vary, with emerging markets such as Latin America and the Rest of the World exhibiting faster growth compared to developed regions.

Crypto wallets have revolutionised the way people store, manage, and transfer cryptocurrencies. They provide high levels of security, easy accessibility, and a range of storage options to suit different needs. Crypto wallets offer a range of use cases beyond just storing cryptocurrencies. They offer a safe and convenient solution for users to send and receive cryptocurrencies, trade them, earn rewards through staking and lending, and access decentralized applications. With the continued rise in cryptocurrency popularity, it is expected that the use cases for crypto wallets will continue to expand.(Prakash, 2022)

In below graph, the data taken from Statista.com shows the “estimate of the number of downloads of the 21 largest apps that allow for cryptocurrency storage worldwide from 2020 to 2024”.

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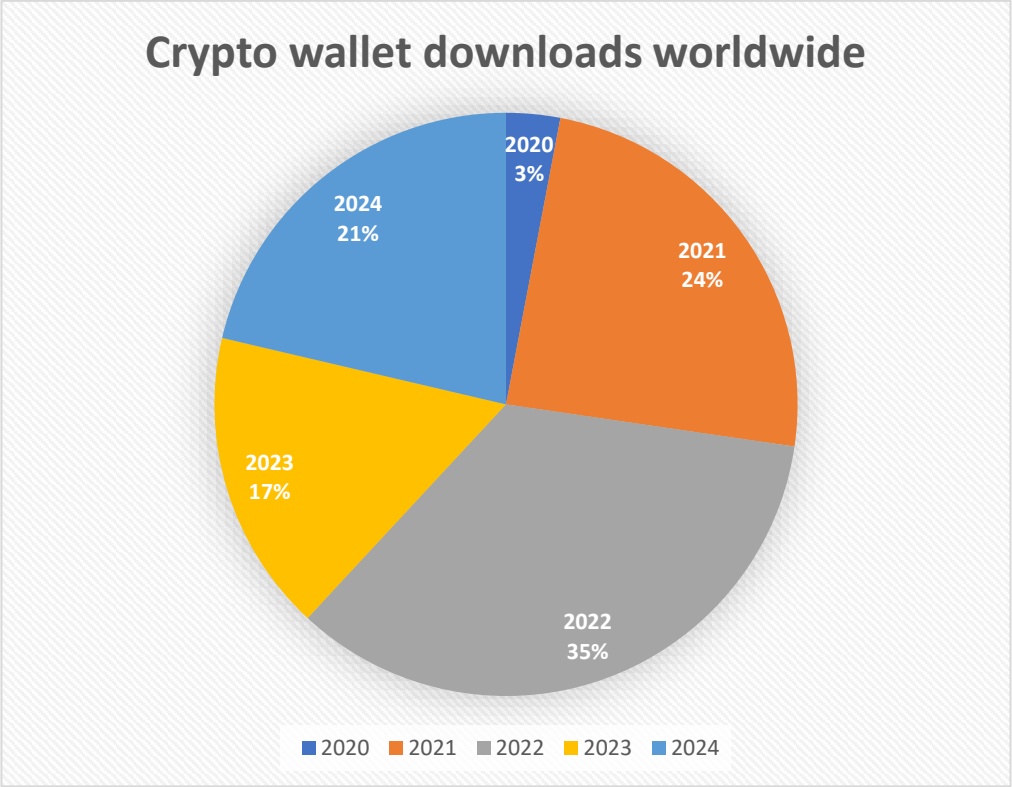

Crypto wallets have seen significant volatility in downloads compared to mobile wallets. In 2022, downloads peaked at 24,803,612 but plummeted sharply in 2023 to 12,008,350 before recovering slightly in 2024 to 15,297,361.

Key observations from the graph are that unlike mobile wallets, crypto wallet adoption is highly volatile and influenced by external factors such as market conditions, regulations, and global events. This growth is not linear, indicating the nascent and speculative nature of cryptocurrency usage.

Mobile wallets exhibit consistent and predictable growth across all regions, propelled by the ongoing digitalisation, e-commerce expansion, and government support for cashless payments. In contrast, cryptocurrency wallets exhibit substantial volatility, reflecting their sensitivity to cryptocurrency market trends and external events such as regulatory changes. Mobile wallets represent a mature market with widespread adoption in both developed and developing regions. Conversely, cryptocurrency wallets are still in the growth phase, driven by speculative investments and niche use cases like decentralized finance (DeFi) and non-fungible tokens (NFTs). Mobile wallets are primarily adopted for practical purposes, including online shopping, utility bill payments, and merchant integration. On the other hand, cryptocurrency wallets are primarily adopted for speculative and investment-related reasons rather than daily utility.

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The study indicates that e-wallets are more widely used and provide a broader range of features in comparison to crypto wallets. Despite that, crypto wallets provide a higher level of security due to the use of private keys for accessing the wallet and associated cryptocurrencies. Trust and security are crucial factors influencing adoption, with users preferring wallets from reputable providers with a proven track record of security and reliability.

CONCLUSION:

The study's findings suggest that e-wallets and crypto wallets have distinct strengths and weaknesses. User adoption is influenced by various factors, including user experience, trust, and security. Wallet providers must strike a balance between functionality and security to enhance user experience and adoption. Additionally, building trust with users requires transparent and reliable security measures.

Traditional digital wallets facilitate transactions involving fiat currencies, offering convenience, and supporting various use cases. Cryptocurrency wallets, on the other hand, manage cryptocurrencies, providing enhanced security and functions like sending, receiving, trading, staking, and accessing decentralized applications.

Each type of wallet has unique advantages. Traditional digital wallets are user-friendly, widely accepted, and compliant with regulations, making them suitable for routine transactions. Cryptocurrency wallets offer enhanced security, faster transactions due to decentralized networks, and access to cryptocurrencies and blockchain-based applications.

In conclusion, Mobile wallets are more stable and widely adopted for everyday usage, while cryptocurrency wallets remain niche and speculative, driven by market dynamics and emerging technologies. Both serve distinct purposes, with mobile wallets catering to a broad audience and cryptocurrency wallets appealing to technologically savvy and investment-oriented individuals.

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