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REVIEW ARTICLE

A REVIEW ON THE CRYPTOCURRENCY PAYMENT

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ABSTRACT

Cryptocurrency improves the current ecology of digital currencies. It is a recent and important advancement in the financial sector. Offering money that is not affiliated with, issued by, or supported by a government is the aim. The market for cryptocurrencies has expanded significantly as acceptance has also surged. This paper focuses on the cryptocurrency review exploring the concepts of cryptocurrency, as well as how payments operate, wallets, and the benefits of using cryptocurrency for transactions.

KEYWORDS

Cryptocurrency; Wallet; Cryptocurrency payment.

1. INTRODUCTION

The advent of Industry 4.0 has increased innovative technological tools and applications widely accepted by humanity. With increased efficiency and convenience, advanced tools and applications have become the engine of life, emphasizing all aspects. One of the most innovative developments is the emergence of the financial technology service (fintech) in electronic commerce, which has grown steadily over the years. For example, countries such as China, India, Hong Kong, Singapore, South Korea, and Australia have experienced swift uptake of fintech services than any other country (Pearson, 2020). The world is rapidly moving away from cash-based economies. Electronic payment services such as e-wallet (i.e., ShopeePay, Grabpay, WeChat Pay, and Ali Pay) is a classic example of such fintech. WeChat Pay (16.6 percent) and Ali Pay (39.5 percent) are China's two most popular payment methods (Korella and Wen, 2018). Electronic commerce is all about convenience, with customers being able to find any product they want and have it delivered to their door promptly. JP Morgan (2019) reported that mobile device and in-app e-commerce spending totaled MYR 13.3 billion in Malaysia. Yeap (Jan 28, 2020) reported that the Malaysian government is aiming for 15 million e-wallet users, and experts predict that in the next years, e-wallet will overtake cash as the fastest growing payment option. The government of Malaysia has also adopted several measures to encourage Malaysia's people to transition to a cashless society. For example, the 2020 and 2021 government budgets intensified e-wallet users to promote its diffusion. In Malaysia, there are almost 50 e-wallet service providers, including MAE, Boost, Touch 'n Go, and Grab Pay, which is among the leading competitors in this industry (Oh, 2019). Ismail (2021) highlighted the MasterCard Impact Study 2020 which suggested 90 million e-money users worldwide (Ismail, 2021). The MasterCard study also cited 16 million e-wallet users in Malaysia, which represent 40 percent of e-wallet users in Southeast Asia. Credit and debit cards, digital wallet, mobile wallet, and e-wallet played a significant role in this shift, but new technology has emerged, and the e-commerce industry is now being ushered into the next-generation means of processing online transactions - the crypto wallet.

2. AN OVERVIEW OF THE CRYPTOCURRENCY

Cryptocurrency is defined as "*a medium of exchange, just like any other currency, but these are only digitally available*" (Deepak et al., 2020) and possess several unique features that strengthen its credibility (Mirza, 2019). Cryptocurrency is a digital payment mechanism that does not involve the banking system and is underpinned within the peer-to-peer transaction mode. In essence, all transactions exist in digital ledger entries and are stored in a digital wallet. Security-wise, cryptocurrency uses advanced encryption technology for verification and transmission. To date, there are around 10,000 different types of cryptocurrencies in 2022, with the most popular cryptocurrency on the market is shown in Figure 1 below.

There is a continuous level of uptake of cryptocurrency in the market. The crypto market capitalization is at USD 1.007 trillion, while Bitcoin reached USD41,973 in 2021 (Kenanga News, 2021). Such growth in its value is accentuated via the support of institutional players such as Microsoft, Shopify, Amazon, McDonald's, Expedia, and Dell. These entities have begun to accept Bitcoin payments. The growth of cryptocurrency is also supported through Paypal's decision to make digital asset services widely available to suppliers and retail consumers. In another significant move, Visa Incorporation announced using cryptocurrency to settle transactions on its payment system (Reuters, 2021). These developments fostered the way forward for cryptocurrency's use in the commercial arena.

Data from Statista (2021) suggest a phenomenal growth pattern of cryptocurrency usage all over the world. What started as zero users in November 2011, the year 2013 saw a slight uptake of cryptocurrency with a spike seen in September 2017 (18 million users). The momentum continued and reached close to 80 million users in January 2021. There has been a saturation since then. In Malaysia, cryptocurrency is now considered a product of digital assets (Security Commission Malaysia, 2019). Although still in its infancy, the crypto phenomenon is gaining shape (Zainul, 2021) in terms of the volume of transactions. In Malaysia, Luno (a cryptocurrency exchange) has registered over MYR 4.2 billion in total transactions for 2021. More users are adopting cryptocurrency as an asset class, a payment method, a store of wealth, and a hedge against inflation. While the growth momentum is there, the Malaysian Central Bank is not favoring cryptocurrency's mass use for commercial purposes. In the meanwhile, it is clear from previous studies on the adoption of cryptocurrencies in the academic setting that interest in the field has grown over time.

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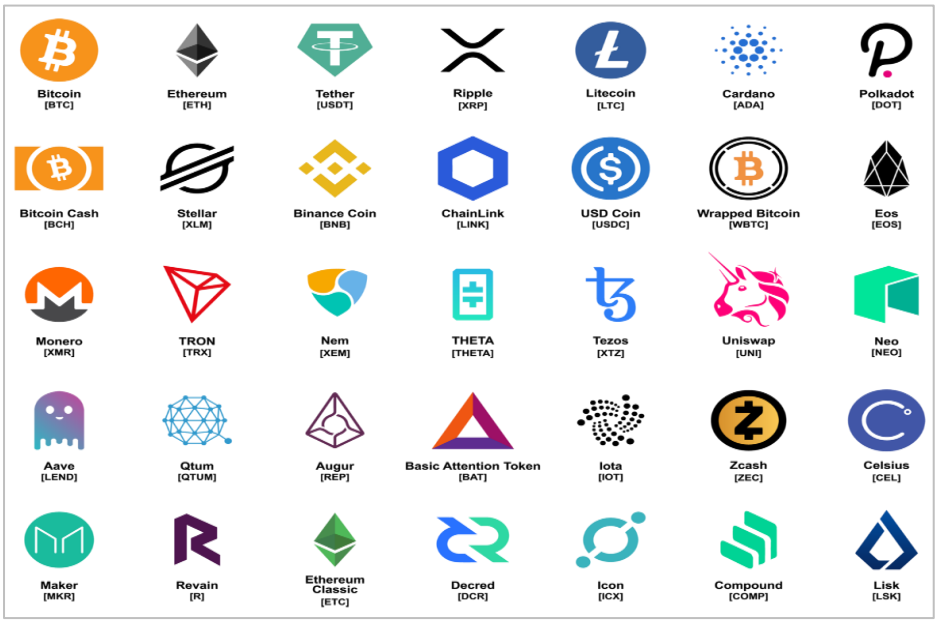

Figure 1: Types of cryptocurrency

Source: Adopted from AltcoinBuzz (2018)

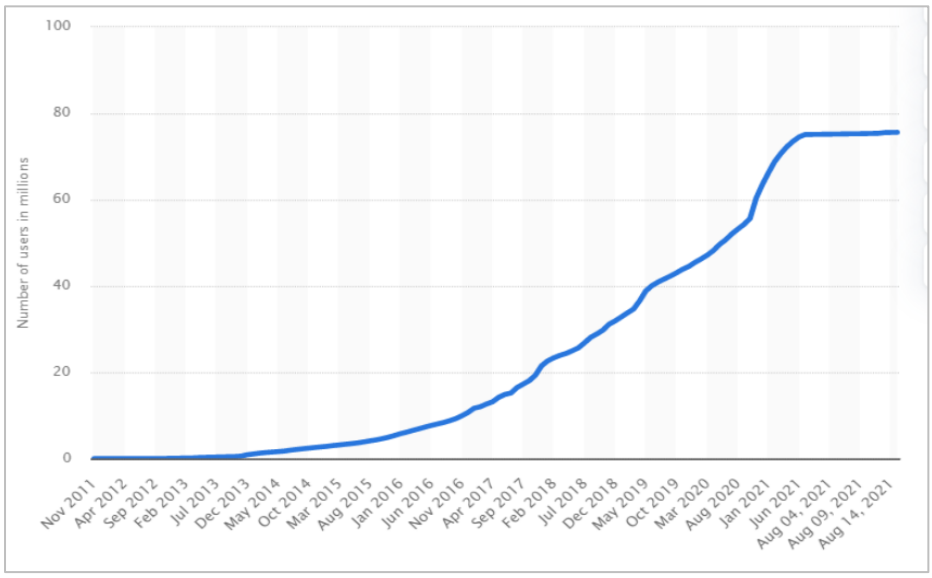

Figure 2: Cryptocurrency users in worldwide

Source: Statista (2021)

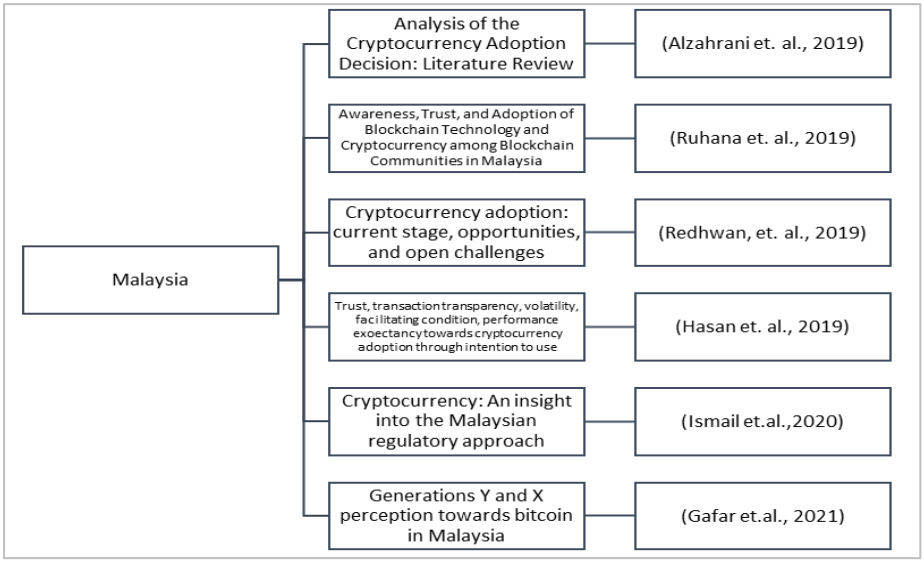

Figure 3: Summary of cryptocurrency research in Malaysia

3. Cryptocurrency As An Alternative of Electronic Payment

Majority of sales are using the common traditional means, such as credit and debit cards. Even though this has been a respectable means of trade for a while, new technologies are introducing new possibilities from other payment systems. Since the blockchain cannot be changed, it allows for the secure movement of funds. The likelihood of fraud is decreased while transparency is increased (Koksal, 2019).

It is not surprising to discover that both consumers and businesses are using cryptocurrency payments as a more affordable and effective payment method. Major internet retailers have already started accepting cryptocurrency payments. Development of ways of payment have attracted a lot of attention from scholars and information system trends in the past five years due to their crucial role in contemporary electronic commerce. Table 1 lists many definitions of electronic payment from the past researchers producing a range of viewpoints on the definitions of digital payments among other things. It is obvious that throughout the past five years, the evolution of the many definitions has changed.

Taking into consideration the many interpretations and technical developments throughout time, this paper employed the compressed definition of electronic payment based on recent study definition (Sivathanu, 2019; Bisma et al., 2020). The same statement was made by all two authors: "Digital payment is a method of payment that happens when a digital medium is used to pay for goods and services acquired without cash or a check, with the benefits of being simple, convenient, pay from anywhere, exempt from taxes, and less dangerous."

Cryptocurrencies' additional value is derived from both their usability as a form of payment and the trust they inspire in consumers. Financial and payment independence is made possible by the usage of cryptocurrencies; a user can transact with any other user, wherever in the world, without any limitations. Users who do not wish to pay expensive international rates for remittance services can benefit from the lack of limits and the removal of a third party intermediary, which results in effective and profitable savings for the user in each transaction. For the objective of swiftly and cheaply completing financial transactions, cryptocurrency offers an alternative payment option. Figure 2 provides a summary of the concepts of cryptocurrency for the application in the payment transcation.

Table 1: Definitions of Electronic Payment

Author (s)	Notion	Methodology
Singh et al., (2018)	E-payment	"The transfer of an electronic value of payment from a payee to a payer via an electronic payment channel is known as a "e-payment."
Sivathanu (2019)	Digital payment	"The phrase digital payment refers to any sort of payment made electronically."
Chen et al.(2019)	Digital payment	"Non-cash transactions completed through digital channels are referred to as "digital payments," with mobile payments serving as the primary format."
Bisma et al. (2020)	Digital payment	"Digital payment is a form of payment created using digital techniques. For sending and receiving money in digital payments, the payer and payee both employ digital techniques. Therefore, it is also known as an electronic payment."
Alkhowaiter (2020)	Digital payment	"Digital payment refers to all forms of payments made with digital tools, such as electronic payments, digital wallets, and mobile payments."

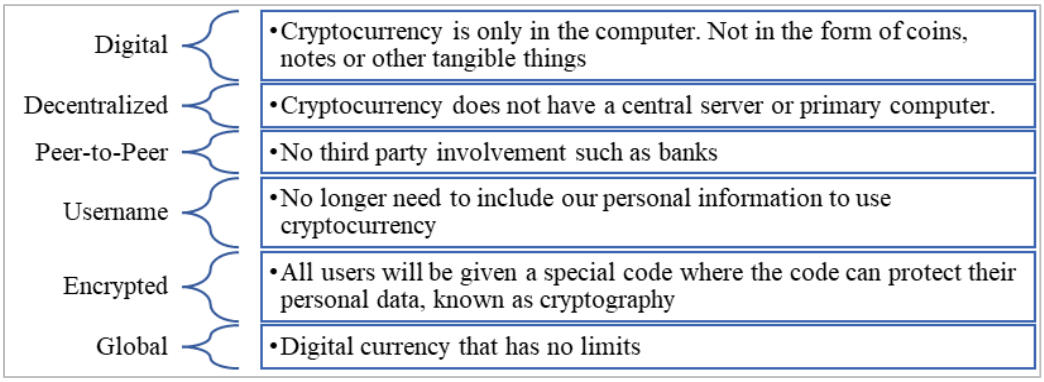

Figure 4: Basic concepts of cryptocurrency

Source: Adopted from Amsyar, et al (2020)

Few people were familiar with the technology behind cryptocurrencies when they initially came onto the market, and even fewer recognised what they were. When it comes to the legitimacy of such currencies, however, initially people thought that since the user's origin could not be determined, cryptocurrency was used for all kinds of illegal purposes and on websites like the dark web, to transact illicitly in black markets, to fund terrorist activities, drugs, and many more such activities. A recognised Initial Exchange Offering (IEO) platform that has been registered with the Securities Commission (SC) is required for cryptocurrency transactions to be made in Malaysia since it is governed by the SC via the implementation of the capital markets and services.

4. How Does Cryptocurrency Payment Work?

It only takes a few clicks to finish the entire procedure. Below are the summary of accepting cryptocurrency payments for transactions:

- Payments through a personal wallet: Accepting payments straight into the seller's own digital wallet. For further protection, this digital wallet may be downloaded and kept on a computer, smartphone, or hard wallet. A hardware wallet is a physical safe that stores the cryptocurrency in the device on a special hard drive. You can truly only store a user's private key on this piece of protected hardware.
- Payments through third-party services: The transaction is comparable to how a bank processes credit card payment. BitPay and Coinbase are two of the most well-known third-party services. Similar to how credit card payment processors operate, these third-party payment processors will manage the whole payment process. In contrast to utilizing a personal wallet, third-party payment services may rapidly convert cryptocurrencies into money, protecting you from price volatility. Being shielded against this

implies that, even if the coin's value changes in the middle of the transaction, you will still be paid the amount you charge.

How to store cryptocurrency?

Cryptocurrencies are handled using different type of crypto-wallets as listed below.

Desktop wallet: From a single computer where it is installed, it is simple to utilise. One of the highest levels of security are provided by desktop wallets. However, there is a chance of losing keys and therefore money if a computer is hacked or infected.

Online wallet: It is a piece of software that functions on the cloud and should be simple to use from anywhere. Such wallets are controlled by a third party and store your private and public keys online, despite being convenient to access. It exposes third parties to online danger of hacking or compromise.

Mobile wallet: It is software that functions on your phone as a mobile application. For transactions and payments, it is more user-friendly and convenient to use in retail stores. Unlike desktop wallets, mobile wallet software provides a straightforward user interface.

Hardware wallet: As keys are maintained on a device like a USB, these wallets differ from software wallets in terms of key storage and maintenance. Public and private keys are maintained offline even if hardware wallets conduct transactions online. As a result, it provides excessive security.

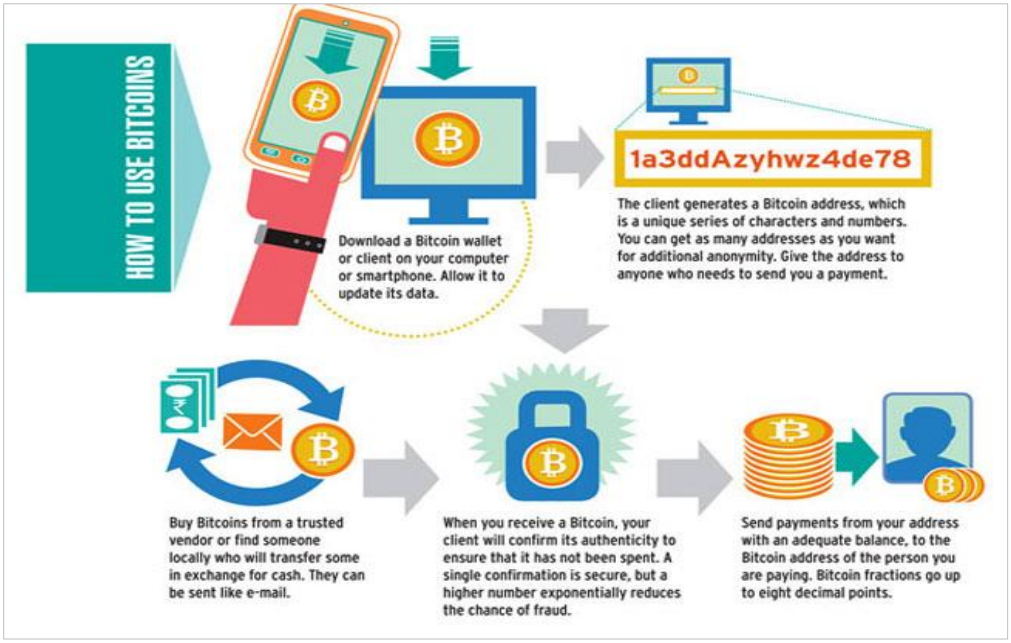

Figure 5: The steps of cryptocurrency payment

Source: Business Today (Bt), 2013

In essence, to make a cryptocurrency payment, the digital currency is moved from a digital wallet, which is gained when you purchase it from a crypto exchange to someone else's via an app or website. Some merchants and individuals may benefit from the use of cryptocurrency over traditional forms of payment. Among the advantages are:

Table 2: Advantages of Cryptocurrency Payment

No	Advantages of using cryptocurrency
1	Low fees
2	More security
3	Instant payments
4	No barriers

Source: Author's own

Low Fees

The low transaction fees associated with cryptocurrency make it an attractive payment method. The fees may vary depending on whether the merchant accepts cryptocurrency to their personal wallet or through a third-party service, but they will almost certainly be significantly less than the fees charged by services such as PayPal or credit card services.

More Security

After a customer completes a bitcoin transaction, it becomes impossible to reverse unless the consumer has the merchant's approval. This provides shops with more protection against e-commerce fraud since there is no middleman, such as a bank, who may remove cash from your account without your permission.

Instant Payments

Cryptocurrency is processed instantly, in contrast to credit card systems, which take a few days to batch out and process, providing the online merchant far faster access to payments. Fast transactions might aid in streamlining the financial flow of the company.

No Barriers

Online merchant will get access to a whole new market of tech-savvy customers that have formed a community inside the cryptocurrency industry if they accept cryptocurrency as a form of payment. Giving customers the choice to pay with an electronic wallet enables them to get into larger markets and draw in customers from across the globe.

5. Conclusion

Cryptocurrency is a relatively new concept and rapidly evolving technology hence no conclusion can be made with any degree of certainty on the future of payments systems and the part cryptocurrencies will play in their evolution. However, the online payments are poised to undergo a fundamental upheaval we have not seen before. Some incumbents could be adaptable enough to change and live. Payments will consequently appear noticeably different. Overall, it is worthwhile to research and study cryptocurrency's legal policy because the payments made using cryptocurrencies can increase economic globalization and border lessness while also combating financial inequality by providing quick and safe financial services to those who do not have access to traditional banking institutions. Everyone involved in online and physical payments may rejoice about this.

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