

Effects of Cryptocurrency Vulnerabilities on the International Trading Arena

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Abstract. Cryptocurrency is a digital asset designed to work as a medium of exchange. It uses cryptography to secure and verify transactions as well as control the creation of new units of a particular cryptocurrency. Cryptocurrency has become increasingly popular in recent years, with many people investing in it as an alternative to traditional forms of currency. Despite being a secured form of digital currency, it is not perfect and can be subject to illegal activities by cyber criminals.

This research adapted a descriptive design under quantitative using survey as its method. The data from the survey were analyzed to generate an in-depth understanding on the impact of cryptocurrency's vulnerabilities on international trading.

The researchers collected data to analyze the effects of cryptocurrency on international trading and its vulnerabilities' impact on the use of the digital currency. This research paper will benefit users of cryptocurrency, the government agencies and policy makers in creating a safer interface for digital currency platforms and lastly, for researchers who will use this paper as basis for further study on the topic of cryptocurrency and international trade.

Keywords: Effects, Cryptocurrency, Vulnerabilities, International Trading, Arena

Introduction

One of the many wonders of the digital age is the development and innovation in payments. In highly advanced and urbanized metropolises like Beijing, China, and Seoul, South Korea, digital payments are becoming ubiquitous. This trend can also be seen in the metropolitan areas of the Philippines, such as Metro Manila, Metro Cebu, and Metro Davao. Along with these installations, it encourages cyber criminals to conduct a variety of illegal activities that can be immediately viewed as cryptocurrency vulnerabilities. A cryptocurrency is a cryptographically secured digital or virtual currency that makes it nearly impossible to counterfeit or double-spend. It is faster and cheaper to do transactions compared to traditional bank-to-bank transactions.

Cryptocurrency is a digital asset designed to work as a medium of exchange. It uses cryptography to secure and verify transactions as well as control the creation of new units of a particular cryptocurrency. Cryptocurrency has become increasingly popular in recent years, with many people investing in it as an alternative to traditional forms of currency.

The traditional banks and government agencies are always on the lookout and monitor any international trade activities to prevent multi-million-dollar money laundering cases and illegal money transfers. This ensures that government agencies enforce strict rules and laws to combat illegal activities. With the growing popularity of cryptocurrencies and their benefits, many organizations are adopting and using this technology. From Bitcoin to Ethereum and more, it seems cryptocurrencies really are the future of money.

According to the Organization for Economic Co-operation and Development (OECD), the G20 reported a slowdown in international trade in the second quarter (Q2) of 2021, with exports rising just 4.1%. Banks are firmly committed to processing payments in international

trade, with a variety of payment methods to choose from. But of course, the different payment methods come with fees for the merchant side. Various fees may apply, e.g. B. Fees related to the preparation of basic documents, such as B. Stamp duty and consular fees. (Tandra, Suroso, 2022) and adding the verification process to each international payment usually takes a few days.

Cryptocurrency has the potential to revolutionize international trade, as it has the potential to reduce the costs associated with traditional payment methods. Cryptocurrency can provide a secure, low-cost, and fast way to transfer funds across borders, reducing the need for costly intermediaries. Additionally, cryptocurrency can provide a more transparent and secure way to track payments and transactions, reducing the risk of fraud and money laundering. As the use of cryptocurrency continues to grow, it is likely to become an increasingly important part of international trade. Many experts and cryptocurrency enthusiasts are optimistic that it will continue to shape the global economy.

International trade is an important component of the global economy, allowing countries to specialize in the production of goods and services in which they have a comparative advantage, while importing those goods and services in which they have a comparative disadvantage. This specialization leads to increased efficiency and lower production costs, allowing countries to benefit from lower prices for goods and services. In addition, international trade allows countries to diversify their economies and access new markets, leading to increased economic growth and prosperity.

International trade is the exchange of goods and services between countries. It is an important part of the global economy, as it allows countries to expand their markets and access goods and services that may not be available domestically. International trade also helps to increase competition, which can lead to lower prices and improved quality of goods and services. Furthermore, it can help to create jobs and stimulate economic growth.

This financial trend has its own share of weaknesses, like; inflation risk. These cryptocurrencies are subject to inflation risk due to their limited supply. For example, Bitcoin has a fixed supply of 21 million coins, which means that the value of each coin will decrease as demand for currencies increases. Since this still counts as money, it is volatile. Cryptocurrencies are highly volatile, which means their value can fluctuate dramatically over short periods of time. Understanding that the price of bitcoin can fluctuate wildly in a day. So there are security issues, more cybersecurity. Cryptocurrencies are vulnerable to hacking and theft due to their decentralized nature. For example, in 2019, hackers stole over \$40 million worth of bitcoin from the Binance exchange. Next, regulatory risk. Cryptocurrencies are subject to regulatory risks due to their decentralized nature. For example, some countries have banned the use of cryptocurrencies or imposed strict rules on their use. Finally, there are the fraud issues. Cryptocurrencies are prone to fraud due to their decentralized nature. For example, some cryptocurrency scam schemes have been used to cheat investors out of their money.

International trade can be defined as the exchange of goods and services between two or more countries. It is an essential part of the global economy as it allows countries to specialize in specific goods and services and benefit from economies of scale. International trade also helps to reduce poverty and promote economic growth. Its association with cryptocurrencies is not widely accepted and it is rarely used as a medium of exchange in international trade, but it has great potential to become an important part of the global economy. Cryptocurrencies can be used to facilitate international payments, reduce transaction costs, and provide a secure and transparent method of transferring funds. Additionally, cryptocurrency could be used to create a global currency, which could help reduce the cost of international trade and facilitate trade between countries.

This research is an attempt to explore impact on perception of common cryptocurrency platforms and its vulnerabilities towards international trade. This study will also support the rationale that cryptocurrency platforms can be reliable alternative against the traditional approach.

Statement of the Problem

1. What are the threats of cryptocurrency in terms of:
 1. cyber-security
 2. consumer protection risks; and
2. What are the effects of cryptocurrency in terms of:
 1. Export and Import
 2. Employment and
 3. Currency exchange rate
3. What is the perception of the users towards the capabilities of cryptocurrency companies in terms of;
 1. Technology
 2. Legal
4. What is the significant impact of cryptocurrency vulnerabilities on international trading?
5. What are the best practices that can be developed to regulate cryptocurrencies and their vulnerabilities?

Scope and Limitation of the Study

While conducting this study, the researchers came across three main limitations. Random participants were very particular in giving-out instructions not to publish their personal data or any information that they considered confidential will be collected and to be published, this is in adherence to the data privacy law. Main limitation of the study is that data collected within Metro Manila only. Gathering of data such as distribution of online surveys, surveys were conducted last February 27 to March 31, 2023. Time constraints that might be encountered, if the study will increase the number of participants.

The willingness of the participants to answer the questionnaires is another limitation of this study. This help established in presenting a concrete evidence and positive presentation in relating cryptocurrencies and its vulnerabilities.

Significance of the Study

Multiple users of cryptocurrency platforms within Metro Manila are aware and cautious in utilizing the technology. This research is committed to cement the concept of cryptocurrency and its vulnerabilities to help consumers and users. The following are the significance of the study;

Traders may use this study as a source of information to be more careful and guide them in coming-up with sound trading decisions. The study will help them itemized the fundamental gains in using the cryptocurrency technology.

Government may be provided with sensible and practical ways that could help them formulate policies that can regulate the technology and prevent large fraud.

Cryptocurrency users may use this study as a source of information to be more careful and guide them in coming-up with sound business decisions. The study will help them itemized the fundamental gains in using the cryptocurrency technology.

Cybercrime personnel/authorities may use this study as a source of information to create and implement policies and laws to counter any illegal activities involving cryptocurrency.

Future Researchers mostly in the discipline of business, MBA or DBA candidate/s pursuing similar to this study as part of the requirement for the degree becomes more knowledgeable about this interesting strategy.

Review of Related Literature

Related Foreign Studies

Advent of Cryptocurrency

The innovation development, industry revolution, and digital transformation provoke the development of a new currency type—cryptocurrency. The main feature of cryptocurrency is it's a political and decentralized nature. Cryptocurrency is the most significant innovation of this century. Bitcoins appeared in 2008 and changed the landscape of the financial market. Reports have mentioned that the bitcoin price has increased by 540% in the period from 2012 to 2021. According to forecast by experts, the cryptocurrency market will continue to grow with a compound annual growth rate of 56.4% from 2019 to 2025. Researchers analyzed the perspectives of bio-economy development as the way for the EU countries to achieve the indicated goals of green growth based on smart and innovative technologies. Cryptocurrency is an important source of bio economy which requires high volume of electrical energy consumption which may contribute to environmental degradation. Cryptocurrency has revolutionized the economic system of the world. It provides a new and innovative means of exchange that has speedily invaded the financial market trends and changed the traditional cash world. However, consumers have low acceptability for blockchain-based cryptocurrency due to increasing online scams and the absence of a regulatory framework in an international trade. (Sagheer et al., 2022).

The Australian government has just recognized digital currency as a legal payment method. Since July 1, 2017 purchases done using digital currencies such as bitcoin are exempt from the country's Goods and Services Tax to avoid double taxation. As such, traders and investors will not be levied taxes for buying and selling them through legal exchange platforms. Japan, which legitimized bitcoin as a form of payment last 2016, already expects more than 20,000 merchants to accept bitcoin payments. Other countries are joining the bandwagon, albeit partially: businesses and some of the public organizations in Switzerland, Norway, and the Netherlands. In a recent study, unique, active users of cryptocurrency wallets are pegged between 2.9 and 5.8 million, most of which are in North America and Europe (Huang, 2017).

With the potential for significant profits and the relatively low entrance barrier, cryptocurrency has gained popularity as an investment choice in recent years, attracting investors from all spheres of society. Yet, it can be difficult to know where to begin investing in cryptocurrencies due to the abundance of digital assets and the continuously altering nature of the market. As a substitute for conventional currencies like the US dollar, euro, or pound sterling, bitcoin is a digital cryptocurrency that has grown in popularity recently. Although many investors presently refer to bitcoin as “digital gold,” it may potentially be utilized as a digital form of money. Since the quantity of bitcoin is set, as opposed to the supply of fiat currencies like the US dollar or Japanese yen, investors believe that investing in Bitcoin over other cryptocurrencies will increase in value over time. Bitcoin and other cryptocurrencies have undoubtedly seemed to influence since they enable the most flawless peer-to-peer money transfers by doing away with the need for intermediaries. In a fast-changing digital environment, banks are embracing cryptocurrency and blockchain technology to increase their productivity, lower expenses, offer better security and transparency, and cater to the changing needs of their clients (Kashettar, 2023).

The cryptocurrency market is up 7.5% over the past months, hitting the overall cap of \$1.05 trillion after a tough 2022. The market value fell to \$966 billion on February 2023

following news of the Silicon Valley Bank collapse. Similar bankruptcies of signatories (not to mention Silvergate Bank) may make it harder for cryptocurrency companies to bank now, but intervention by US regulators has helped stabilize the market and was able to recover from the loss. (Goyal, 2023) On the other hand, copycat websites for instant messaging apps like Telegram and WhatsApp are also being used to distribute trojanized versions and infect Android and Windows users with cryptocurrency clipper malware (Lakshmanan, 2023).

Moreover, thousands of people are believed to have lost their savings after investing in a cryptocurrency trading app called iEarn Bot. Experts who have investigated the company say it could be one of the largest crypto scandals to date. Trading in cryptocurrencies has become popular, with people often promised large rewards over short periods. But law enforcement agencies warn of a growing number of scams and recommend investors conduct "due diligence" (Monetta, 2023).

Interestingly, Microsoft is working on a non-custodial built-in Ethereum crypto wallet for Microsoft Edge to allow users to send and receive cryptocurrency and NFTs. Public keys can be shared with others to receive payments, while private keys should be kept secret and can be used to authorize transactions when you want to spend your cryptocurrency. (Gatlan, 2023) While the cryptocurrency market has seen significant gains recently, with Bitcoin rising over 30%. Alt-coins and the DeFi space have also experienced substantial gains, with Conflux (\$CFX), Mask Network (\$MASK), Stacks (\$STX), MAGIC (\$MAGIC), and Fantom (\$FTM) leading the way (Batycka, 2023).

Some experts believe that RenQ Finance (RENQ) and Ethereum (ETH) will give more profits in the long run. Here are some reasons why:

1. Strong Community Support: RenQ Finance (RENQ) has gained significant attention from the crypto community, with its presale selling out in just a few weeks. Community support has been instrumental in the success of the token, and many experts believe that the community will continue to grow, leading to an increase in the token's price.

2. Certik Audit: RenQ Finance (RENQ) recently passed a robust Certik audit, which has boosted investors' confidence in the token. The audit evaluated the token's smart contract code for security vulnerabilities and passing it shows that the token is secure and trustworthy, which could attract more investors.

3. Interoperability: Ethereum (ETH) has been at the forefront of blockchain interoperability, allowing for seamless communication between different blockchains. This feature has made Ethereum a popular choice for developers, and many experts believe that its interoperability will continue to attract more developers and investors in the future. (Market Trends, 2023)

Cryptocurrency companies need to be aware of the federal securities laws in the international trading arena especially in the United States to ensure compliance with them. Here are some key things to keep in mind:

- Securities laws apply to cryptocurrencies: Several cryptocurrencies are seen as securities by the Securities and Exchange Commission. This implies that cryptocurrency businesses must abide by federal securities laws, including the requirements for registration and disclosure.

- Token offerings may be subject to securities laws: It can count as a securities offering if a cryptocurrency company sells tokens to the general public in return for cash or other assets. As a result, the business would have to adhere to securities rules, which would include registering the offering with the SEC.

- The use of funds must be disclosed: A cryptocurrency company must state its financial goals when raising money through a securities offering. The business must also keep investors informed about how the money is being used.

- Trading platforms may be subject to securities laws: Exchanges for securities may include cryptocurrency trading platforms that let users purchase and sell tokens. If so, the platform would have to file an SEC registration form and adhere to other securities regulations.

- Penalties for non-compliance can be severe: Significant penalties may be imposed for non-compliance: A cryptocurrency corporation might incur severe consequences, such as fines and legal action if it violates federal securities regulations.

Therefore, cryptocurrency companies need to be aware of and comply with federal securities laws not just in the United States but in the international trading arena as well. This includes understanding whether their tokens are considered securities, disclosing the use of funds, and complying with registration and disclosure requirements. (Kaur, 2023).

Economic Growth and Cryptocurrency

According to Miskiewics et al. (2022), the industry revolution provoked the development of block chain technologies and transformation of the economy, education and financial market, which leveled up economic growth. Thus, it led to the development of cryptocurrency. The digital currency allowed the contractual costs to decline and transformed the institutional framework of economic growth justified the positive role of cryptocurrency in economic development. Though there is a necessity of relevant government regulation in the financial market. The study confirmed that bitcoin influenced economic growth positively. At the same time, the shocks in the bitcoin market destroyed the stable traditional market, impacted on investors' decisions, and reduced the macroeconomic indicators. The opposite conclusion was obtained in the paper which confirmed that the exchange rate had a positive, statistically significant- cant impact on bitcoin prices, while influencing the economic openness negatively. The study concluded that bitcoin complicated the monetary policy and could restrict stable economic development.

Today, money is widely exchanged electronically, but electronic payments systems can be subject to certain difficulties related to lack of scarcity (a digital file can be copied many times over, retaining the exact information as its predecessor) and lack of trust between parties. Electronic transfers of money are subject to what observers refer to as the double spending problem. In an electronic transfer of money, a payer may wish to send a digital file directly to a payee in the hopes that the file will act as a transfer of value. However, if the payee cannot confirm that the payer has not sent the same file to multiple other payees, the transfer is problematic. Because money in such a system could be double (or any number of times) spent, the money would not retain its value. Cryptocurrency proponents assert that cryptocurrency may provide an especially pronounced cost advantage over traditional payment systems for international money transfers and payments. Sending money internationally generally involves further intermediation than domestic transfers, typically requiring transfers between banks and other money transmitters in different countries and possibly exchanges of one national currency for another. Proponents assert that cryptocurrencies could avoid these particular costs because cryptocurrency transactions take place over the internet—which is already global—and are not backed by government-fiat currencies. Nevertheless, it is difficult to quantify how much traditional payment systems cost and what portion of those costs is passed on to consumers. What bears mentioning here is that certain costs of traditional payment systems—and, in particular, the fees intermediaries in those systems have charged consumers—have at times been high enough to raise policymakers' concern and elicit policy responses. (Perkins, 2020)

Related Local Literature

Presence of Cryptocurrency in the Philippines and its Growing Demand

In the Philippines, where cash remittances account for more than 9% of total GDP, cryptocurrency wallets are becoming the preferred tool for such transfers. Cash remittances increased by 5.2% year on year in the first 11 months of 2021, to US\$28.4bn. Cryptocurrency

is a cheap way of sending remittances for large unbanked populations, as long as they have sufficient access to smartphones and the internet, as in the Philippines. The influence of cryptocurrency in the country is clearly visible. Play-to-earn gaming, where players can earn fiat currency by engaging in a gaming activity, is highly popular, providing supplementary income during the covid-19 pandemic. In the medium term, we expect the authorities to promote cryptocurrency use cases with supportive policies, through government initiatives. That said, we do not expect cryptocurrency to become the prevailing method of the payment in the Philippines in the long run, as it is unlikely to be accorded legal tender status. In many ways the Philippine authorities display the most benign attitude to the regulation of crypto assets, where transactions are regulated only at the point of conversion to fiat currency. Bangko Sentral ng Pilipinas (BSP, the central bank) still relies on investor education to warn the populace about the risks attached to play-to-earn gaming. Nonetheless, BSP has been expanding its regulatory coverage to encompass more virtual asset providers, thus laying down better regulatory clarity than many other economies without dedicated cryptocurrency regulations (EIU Viewpoint, 2022).

Cryptocurrency in the Philippines is delivered thru bank transfer transaction, this deemed necessary to use this kind of currency. Some investors invest thru this technology, the popular cryptocurrency is Bitcoin, Ethereum, Bitcoin Cash and Ripple (XRP). These literature reviews try to provide solutions to address the adoption of this alternative mode of currencies in the Philippines. Now a day's limited knowledge of cryptocurrency has been an issue such as the knowledge in providing necessary block chain wallets available in the internet. Security as an issue, these wallets may be address to enhance the idea and capability of one's account or investors. The main issues with the adoption of cryptocurrencies include an early track record of illiquidity, high volatility and potentially nebulous uses. Most of the issues surrounding the successful adoption of cryptocurrencies is marred in the confusion of whether they are digital or virtual currencies, and as such, how their values are determined Within recent years, internet-based currencies and payment systems have emerged that do not require banks to process payments. The first, and still the largest, of these so-called cryptocurrencies was Bitcoin. Unlike most other currencies normally held by the central bank in their international reserves, the supply of cryptocurrencies is not controlled by a central bank but by a highly complex iteration of a mathematical proof. Network users, known as miners, gather blocks of transactions together and vie to verify them. In return, these users receive a new supply of the currency as well as any transaction fees. Several businesses around the world at present accept bitcoins as a means of final payment (Yasay, 2021).

There are over 1,000 cryptocurrencies on the market. Bitcoin, the first known cryptocurrency, is still the largest cryptocurrency by market capitalization, followed by Ethereum and Ripple. Until now, the financial worth and destiny of cryptocurrencies have been ferociously debated. Nouriel Roubini, a noted American economist, predicted that Bitcoin would crash to zero. American business magnate Warren Buffett has also hit a negative note against cryptocurrencies – that it will come to a bad ending with virtual certainty. Cryptocurrencies, particularly Bitcoin, are widely used in most developed countries such as the United States, Canada, Netherlands, and Australia . While evidence shows that Bitcoin has been extensively accepted in these developed countries, the same level of acceptance in developing economies like the Philippines has not yet been found (Rentoy, 2019).

According to the Philippine National Police – Anti-Cybercrime Group, investing in crypto-currencies can be very risky. Firstly, to buy and store a crypto-currency is quite technically demanding and it is very easy for things to go wrong. The lack of regulation and central authority means that seeking compensation or making complaints is also very difficult. Second, the crypto-currency marketplace is a target for fraud, so extra caution is needed. Also, many exchanges have been subject to cyber-attacks during which people who have left their

holdings on these exchanges have lost them. Lastly, the unstable nature of the currencies means that if you're investing with the hope of making money, it is very easy to lose some or all your original investment. Hope and optimism keeps the trend of insanity and stupidity alive for long, but once in a blue moon, rationality raises its head and that is when stupidity pays the steepest price.

Methodology

This section presents the methodological approaches used for this study. The issues discussed includes: justification for the use of the research design, research environment, research respondents, research instrument, data gathering procedure, the statistical treatment, and finally, the data analysis method employed and the ethical issues considered during and after the research.

Research Method and Design

This study used quantitative approach to identify the effects of cryptocurrency and its vulnerabilities within Metro Manila users. Research design is the researcher's plan of how to proceed to gain an understanding of some group or some phenomenon in its context (Ary, 2010). Survey in a form of a questionnaire will be used to gather data. "The collection of information from the sample of individuals through their responses to questions" (Check and Schutt, 2012).

Quantitative research includes methodologies such as questionnaires, structured observations or experiments and stands in contrast to qualitative research. Qualitative research involves the collection and analysis of narratives and/or open-ended observations through methodologies such as interviews, focus groups or ethnographies (Coghlan, D, et al, 2014). The approach is used when one wants to explore the meaning of the problem and understand it. It involves a systematic collection and interpretation of textual material derived from observation (Malterud, 2001).

To answer the research questions, the qualitative research approach will be utilized. The researchers believe that a qualitative approach will provide better description and understanding of this theme. The main advantage of using qualitative in this study is that it gives the option to go depth of the material to bring most knowledge from the informants. The researchers are looking to bring in significant amount of information from the relatively few research units.

Locale of the Study

This study was conducted in Metro Manila, Philippines specifically at PSE Tower, 5th Avenue Cor 28th Street Bonifacio Global City, Taguig and PSE Building at Exchange Road, Pasig City in Metro Manila.

Respondents

In conducting this study, the respondents will be random users of cryptocurrency in Metro Manila Area. There were 50 respondents randomly selected to ensure reliability of the study. These are users who trade in cryptocurrency and businessmen who adopt the digital currency in making payments in international trading.

The researchers conducted surveys with 50 respondents residing within Metro Manila and these respondents are users of cryptocurrency platforms to depend on their answers, knowledge and experience in the utilization of different cryptocurrency technology. Purposive sampling is "the selection of participants or sources of data to be used in a study, based on their anticipated richness and relevance of information in relation to the study's research questions" (Yin, 2011).

This study asked the respondents to answer honest experiences and views on their chosen cryptocurrency platform.

Research Instruments

This research will use casual comparative under quantitative design wherein questionnaires will be distributed to randomly selected respondents to extract their perception and actual experience in the use of cryptocurrency in trading and payment of transactions in International Trade. This will establish if there is a relationship between the vulnerabilities in the use of cryptocurrency and the international trading by using reliable statistical tools to validate the hypothesis.

Research Procedures

Survey Questionnaires were dispatch to the target respondents who are users of cryptocurrency applications and they are residing around Metro Manila. The questionnaire was designed users of Coins.ph, eToro, and BitCoin. During the data collection stage, data gathered were treated and viewed with utmost confidentiality. The data collected during the data gathering was used only for this study.

The researchers had to spend more than a month from Feb 27 to March 31st to collect data from the respondents from different areas within Metro Manila. Data were tabulated and reviewed for quantitative analysis. This sealed the reliability of the data collection instrument used. Questionnaires were handed to the 50 respondents. The data collected were tabulated and the results enabled the analysis.

Collected data from the respondents were statistically analyzed, summarized and presented with the aid of descriptive statistics to elaborate the data in a sensible way to allow easy interpretation of data. In this study we only used weighted mean (WM), to describe the combined the ratings of the respondents per item. All ratings were tabulated into a master sheet. Average weighted mean was used for all the assessments.

Four Point Likert Scale was used to basically form an opinion and response, and to avoid “neutral” option.

Results and Discussion

Presentation, Analysis, & Interpretation of Data

Problem 1. Respondents’ Assessment on cybersecurity in the cryptocurrency platform.

Table 1. Respondents’ assessment on the cybersecurity of cryptocurrency

Cybersecurity	Mean	Verbal Interpretation
1. Cryptocurrency increases the likelihood of stealing personal information such as name, address, bank information.	3.47	Agree
2. Cryptocurrency increases the likelihood of compromised trading platforms by stealing funds from users.	2.87	Agree
3. Cryptocurrency increases the malwares that mines cryptocurrencies on another person’s computer or server.	3.42	Agree
Over-all Mean	3.25	Agree

Table 1 shows the overall mean of this parameter is 3.25 which is interpreted as agree. The assessment on the cybersecurity of cryptocurrency aligns with large amount of research on privacy and security issues of blockchain as the underlying technology for cryptocurrencies. As per Zhang et al. privacy and security requirements of blockchain and identified several

aspects that need to be improved including confidentiality, unlikability of transactions, and resistance to the 51% attack.

Problem 2. Respondents' Assessment on consumer protection risk in the cryptocurrency platform.

Table 2. Respondents' assessment on the consumer protection risk of cryptocurrency

Consumer Protection Risk	Mean	Verbal Interpretation
1. Cryptocurrency increases risks of bankruptcy of the e-wallet service protection	3.61	Strongly agree
2. Cryptocurrency increases the data breaches	2.96	Agree
Over-all Mean	3.29	Agree

Table 2 shows the overall mean of this parameter is 3.29 which is interpreted as agree. The mean result agreed with Abramova and Bohme (2016) which states Bitcoin is unable to attract a wider audience of users due to its fluctuating value, the risk of financial losses in case of malfunction or security breaches of service providers' systems or users' own devices, and the lack of consumer protection. In addition, Consumer protection and the challenges that arise when blockchain-based digital currencies are used for the purposes of payment have been addressed by regulators in a variety of ways (weforum.org, 2021).

Problem 3. Respondents' Assessment on export and import in the cryptocurrency platform.

Table 3. Respondents' assessment on the export and import of cryptocurrency

Export and Import	Mean	Verbal Interpretation
1. Cryptocurrency alter trading dynamics by creating more import/exports services through the stability of prices rationed	3.39	Agree
2. Cryptocurrency can facilitate the transaction by allowing them to trust each other without a third party	3.40	Agree
3. Cryptocurrency is tamper-proof whereby any modifications must be authorized or agreed upon by both parties	3.20	Agree
Over-all Mean	3.33	Agree

It can be seen in table 3 that overall mean score is 3.33 with verbal interpretation of agree. This can also be translated that when it comes to the area of export and import respondents still considers to be a parameter of concern the respondents have provided some comments that they believed that cryptocurrency can influence the exchange rate and it will also affect the export and import prices of commodities. However, this perception is not aligned with the result from the study of Tarasova et al. (2020) which states that cryptocurrency has rather floating exchange rate to the national currencies and their types. Thus, stablecoin has entered the financial cryptocurrency market; stablecoin is cryptocurrency but its value depends on the value of traditional financial assets. Traditional financial assets include US dollar, oil, natural gas, and gold. Cryptocurrency rate pegging to the value of such an asset is the attempt to adapt digital technology to the real life.

Problem 4. Respondents' Assessment on employment in the cryptocurrency platform.

Table 4. Respondents' assessment on the employment of cryptocurrency

Employment	Mean	Verbal Interpretation
1. Cryptocurrency as form of payment for employees is far less common.	3.54	Strongly agree
2. Cryptocurrency causes wage issues as virtual currencies can fluctuate in value which could lead to underpayment.	3.70	Strongly agree
Over-all Mean	3.62	Strongly agree

Table 4 shows that the over-all mean of 3.62 which can be expressed as strongly agree. Among all the parameters employment had the highest evaluation simply because respondents anticipate that in the near future their companies will be adopting the cryptocurrency technologies to credit or transfer their salaries. There's a study last 2022 exploring the viability of compensating in cryptocurrency simply tells that multinational organizations prefer to compensate global employees in crypto because of several advantages including ease of transfer, cost-saving and gain from crypto investments (Pandya & Rao, 2022).

Problem 5. Respondents' Assessment on currency exchange rate in the cryptocurrency platform.

Table 5. Respondents' assessment on the currency exchange rate of cryptocurrency

Currency Exchange Rate	Mean	Verbal Interpretation
1. Cryptocurrency causes long-term imbalance in the Forex due to its volatility.	2.33	Moderately agree
2. Cryptocurrency increases the value of a certain currency.	3.53	Strongly agree
Over-all Mean	2.93	Agree

Table 5 shows that the computed over-all mean of 2.93 which can be interpreted as agree. Question number 1 got the lowest evaluation with 2.33, this also tells that more users believed that cryptocurrency has less effect towards the Foreign exchange. While question number 2 shows that more respondents believed that cryptocurrency with an evaluation 3.53. This also coincides with the study of Taskinsoy, 2019 states "inevitable birth of Bitcoin is the upshot of this dilemma and the most recent devaluation of the Turkish lira is an unescapable consequence that unmistakably demonstrated exactly what happens when the U.S. demands are not satisfied."

Problem 6. Respondents' Assessment on technological aspect in the cryptocurrency platform.

Table 6. Respondents' assessment on the technology of cryptocurrency

Technology	Mean	Verbal Interpretation
1. I feel that online and virtual payment and wallet platforms are safe and reliable.	3.60	Strongly agree
2. I feel that online and virtual payment and wallet platforms will be able to protect my virtual money.	3.70	Strongly agree
Over-all Mean	3.65	Strongly agree

In Table 6, the overall mean for this assessment is 3.65 with an interpretation of strongly agree. This blockchain technology will prevent any fraudsters to double spend of cryptocurrency by tampering the transactions in the ledger (Vranken, 2017). Ying et al. (2018) in their case study they concluded that, apart from enabling the use of cryptocurrency, the

blockchain is able to protect confidential information and also eliminate the intermediation from any institutions. Even though there were reports stating that Bitcoin was found to reveal 40% of the user's identity (Androulaki et al., 2013).

Problem 7. Respondents' Assessment on legal aspect in the cryptocurrency platform.

Table 7. Respondents' assessment on the legal aspect of cryptocurrency

Legal	Mean	Verbal Interpretation
1. I feel that online and virtual payment and wallet platforms are in sync with the Data Privacy Act	3.60	Strongly agree
2. I feel that online and virtual payment and wallet platforms are capable in combatting digital breaches and stealing.	3.39	Agree
Over-all Mean	3.50	Strongly agree

It can be seen in Table 7, that the overall score in this parameter is 3.50 which can be verbally interpreted as strongly agree. This means that respondents felt that cryptocurrency platforms abide with the legal requirements and industry regulations such as the Data Privacy Act of the Philippines. This aligns with the study on certain cryptocurrency platform Zeph in which it enforces privacy policies and it ensures that data available to third-party applications complies with user' privacy policies. In addition, to deal with these challenges, novel privacy-preserving solutions for blockchain based on crypto-privacy techniques are emerging to empower users with mechanisms to become anonymous and take control of their personal data during their digital transactions of any kind in the ledger, following a Self-Sovereign Identity (SSI) model (Bernabe et al., 2019).

Conclusions and Recommendations

Conclusions

Based on the findings, the following conclusions are as follows:

1. Participants of the survey who are users of cryptocurrency platforms available in the Philippines have expressed positive favors towards the features and vulnerabilities of cryptocurrency technologies. While the aspects of Employment, Technology and Legal received an outstanding evaluation of strongly agree from the respondents.
2. Respondents have assessed the technology of cryptocurrency the highest with 3.65 and evaluated with verbal interpretation of strongly agree. This signal that respondents or the users are confident and aware of the capabilities of the technology behind cryptocurrency.
3. There are couple of challenges and opportunities known to users when using cryptocurrency platforms. Issues mentioned are data breaches, legal, and fraud.
4. There have been notable best practices which is being developed and observed such as integration of government regulations to the applications to protect the personal information of its users.

Recommendations

1. The government should invest in a national -level information campaign about the benefits of utilizing cryptocurrency and its related technologies.
2. Conduct adequate, if not additional, trainings to be conducted virtually or physically in educational institutions to increase the awareness of the general public against fraud and scams.

3. The government should revisit laws that pertain to cryptocurrency and similar technologies to craft up-to-date provisions and sanctions to protect users and the general public.
4. To train and capacitate authorities and cyber personnel by means of up -skilling, re-training and procuring state-of -the art tools and equipment to fight any illegal and potential threats to cryptocurrency.

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