

DOI: https://doi.org/10.48009/3_iis_2023_106

The future of crypto currency: gaps, challenges, and concerns

Moti Zwillling, *Ariel University, motiz@ariel.ac.il*

Dušan lesjak, *University of Primorska, dusan.lesjak@fm-kp.si*

Abstract

It is widely recognized that technology, information and applications are often integrated into everyday life, including purchasing, services and remote learning. Even traditionally conservative industries such as banking are adopting and developing digital applications for financial transactions. However, the popularity and potential of financial currencies which are defined as digital currencies or cryptocurrencies, are still uncertain and subject to debate not only among academics and the user community but also among experts. This study examines public perceptions and concerns about cryptocurrencies compared to academics' perceptions of this unique currency. The findings of this study suggest that legislation of cryptocurrencies is far from satisfactory and that other issues related to cryptocurrencies should also be considered in future studies. The conclusions and implications of the study are discussed.

Keywords: cryptocurrency, digital coin, digital wallet, fintech, legal framework, consumers

Introduction

During recent years, cryptocurrency has emerged as a unique form of digital asset, distinct from other digital technologies. (Hammi et al., 2023; Popescu., 2023) The release of Bitcoin in 2009, marked the first notable instance of cryptocurrency use by individuals. Initially, only a limited number of enthusiasts and tech-savvy individuals adopted Bitcoin as an alternative to traditional payment methods and as a means of storing value. Over time, Bitcoin and other cryptocurrencies have gained popularity due to their efficiency in enabling faster and cheaper transactions compared to conventional payment methods (Aiazbekov., 2023). However, it is crucial to assess concerns about the risks and challenges associated with cryptocurrencies, such as market volatility, regulatory uncertainty, and cybersecurity threats, considering their advantages. The adoption of cryptocurrencies, therefore, brings complex implications and impacts and requires continuous assessment and dialogue among all parties involved (Santana, and Albareda., 2022; Javaid et al., 2022). Divergent views within the industry can lead to misunderstandings and skepticism, which is counterproductive in an environment that values cooperation and trust. To facilitate a positive adoption of this digital technology, it is essential to advocate inclusive approaches, encourage communication, and promote understanding among stakeholders. This will prevent polarization and conflicts that hinder the progress and vitality of the cryptocurrency sector.

The growth of the cryptocurrency industry has been driven by the involvement of academics and the public, primarily due to the intrinsic properties of cryptocurrencies (Bibi., 2023). Academics contribute by studying and improving upon the blockchain technology underlying cryptocurrencies, increasing its security and efficiency (Sousa et al., 2022). They also help innovate by conducting research based on the unique properties of cryptocurrencies like decentralization and digital scarcity. The public, attracted by the potential for high returns, anonymity, and the ability to conduct swift cross-border transactions, has fueled demand and adoption. This involvement, coupled with the democratic and open-source nature of many cryptocurrency projects, allows the public to contribute to the industry's growth in a direct and meaningful way (Kalish., 2023; Corbet and Oxley, 2023).

Cryptocurrencies elicit divergent viewpoints between scholars (Academics) and users (General Public). In general, scholars are more focus on market risks, economic disruptions, and the need for regulation, while the public prioritize personal gains, financial independence, and the decentralized nature of cryptocurrencies. In addition, since academic researchers in most cases have a deep understanding of the technology it makes them cautious, while typical users may rely on general information about the currency.

Concerns about long-term sustainability, societal impact, and immediate benefits also differ between academic researchers and typical users. Yet, Deuber et al., (2022) showed that there are different types of people with various background and difference in behavior and reason to use cryptocurrency. The user behaviors might be dependent on the source of information such as how much they believe the technology can be trusted and the credibility on the source of information, the authors also mention that user tendency to use cryptocurrency is changed between different use case.

Variations in perspectives among stakeholders can also give rise to constructive debates and Different stakeholder perspectives can stimulate constructive debate and discussion, which helps to better understand cryptocurrencies. However, these differences can also lead to misunderstandings and impede the acceptance and development of cryptocurrencies. For example, Rehman et al., (2019) explored the trust in blockchain different ecosystems. The authors elaborate on the different types of attitudes to cryptocurrency among different holders and especially show that there is short term a long-term solution to several concerns which are perceived as important to increase the trust in the new currency and may influence on its usage among different types of stakeholders.

In general, stakeholders can be categorized into several groups: 1. Individual Investors who focus on profitability, growth, and market trends as investments; 2. Cryptocurrency Traders, who are often concentrate on short-term volatility, liquidity, and trading strategies; 3. Cryptocurrency Miners, who are concerned with mining process efficiency, security, and rewards; 4. Technology Developers, who are more Interested in technological robustness, scalability, and applications. 5. Regulatory Bodies and Policymaker who are responsible on prioritize legal aspects, consumer protection, and economic stability; 6. Academics and Researchers, who focus on study the socio-economic impact, technological underpinnings, and future developments of the currency; 7. Businesses which explore operational improvements, cost reduction, and new opportunities for usage with the currency, and finally, the general Public who Focus on accessibility, privacy, financial independence, and user-friendliness. Every stakeholder has its unique purposes and perspectives on the utility of cryptocurrency usage as mentioned by Chou et al., (2022).

We believe that cryptocurrency research is still in its early stages, however, different stakeholders, of this unique currency bring a unique perspective that can contribute to a comprehensive understanding of the cryptocurrency ecosystem. Nevertheless, it's essential to note that perspectives can greatly vary within each stakeholder group depending on individual understanding, goals, and context.

It is therefore of utmost importance for academics and individuals to recognize and grasp each other's views. Working towards a common understanding of cryptocurrencies is essential to prevent adverse consequences for the developing field. This effort allows us to maximize the potential benefits offered by cryptocurrencies while minimizing the accompanying risks and difficulties. It is noticeable that, based on our current knowledge, there is currently little or no academic research available on the different views between academics and individual stakeholders in each industry. In addition, the number of surveys that have been conducted in this area to capture attitudes towards cryptocurrencies among users is relatively small.

We aim to fill this gap with the following study: what is the attitude of academia and individuals towards blockchain currency? Specifically: What are the concerns and challenges among users and academic

scholars regarding cryptocurrency? To address these inquiries, we conducted a review using two primary sources:

- We analyzed a collection of scientific papers obtained from the Web of Science (WoS) databases.
- We obtained data on attitudes towards cryptocurrencies from users using existing questionnaires available in the Mendeley repository (Secondary Data).

Our research indicates that cryptocurrencies are not yet fully accepted by the public, but it has the potential to become a widely popular digital currency in various fields, gradually replacing traditional forms of money.

The following sections of this paper are organized as follows: Chapter 2 provides an overview of the literature on cryptocurrencies, focusing on attitudinal and regulatory issues. In Chapter 3, we outline the research methods used to analyze concerns, legislation and the views from users and academia. Chapter 4 covers the implementation of the research methods and presents the findings of the study and related implications. Subsequently, Chapter 5 discusses the results and provides concluding remarks on the present study. Finally, in Chapter 6, we address the limitations encountered during the research process and outline potential future directions for this study.

Literature review

Originally referred to as "cypherpunks," cryptocurrencies emerged in the 1990s with the aim of safeguarding privacy in an era of increasing internet accessibility. These digital currencies were primarily utilized by the public for conducting virtual transactions in online stores. Notably, exchange platforms such as Binance, Coinbase, and Bitstamp facilitated the buying and selling of cryptocurrencies. Presently, cryptocurrencies exist in various forms, including Litecoin, dogecoin, dash, and Monero, and the pioneering and renowned cryptocurrency, Zcash. The cryptocurrency is perceived in a way that each transaction is encrypted and chronologically recorded in a series of interconnected "blocks."

Over time, it turned out that numerous transactions involving cryptocurrencies remained voluntary and untraceable, leading to their prohibition in several countries. In countries, like France, cryptocurrency movements are regulated, and converting them to Euros is subject to taxation. (Van den Noord, 2005).

According to the literature, cryptocurrencies offer customers several advantages over physical currencies, thanks to their decentralized, peer-to-peer network. These benefits include low transaction fees and growing acceptance among individuals and professionals (Zutshi et al., 2021). However, cryptocurrencies also have "negative" consequences, particularly their exploitation by cybercriminals. For instance, the untraceable nature of bitcoins facilitates money laundering and tax evasion in the dark web, posing challenges for law enforcement agencies (Paesano, 2022). Moreover, cryptocurrencies like bitcoins are employed for ransom payments in cases of ransomware virus attacks.

In recent years, researchers have examined the perception and adoption of cryptocurrency attributes. For example, Gagarina et al. (2019) analyzed 262 participants aged 17-30 and found that belief and confidence in using cryptocurrency are influenced by one's belief in its potential as a suitable payment instrument. Positive attitudes towards the financial system contribute to a positive belief in the currency, while negative attitudes towards money or the government decrease the willingness to adopt it. Moreover, Soana, G. (2021, p.1) has mentioned that "The rise of cryptocurrencies during the last decade has caused growing concerns among national and international regulators".

Similar studies showed that perceived risk is of low influence regarding the adoption of digital

currencies (Arias-Oliva et al. (2019); Khan and Hakami. (2022); Raymaekers (2015). Therefore, understanding the concern to cryptocurrency usage among consumers and validate this with academic journals is crucial since it will shed light on the perception of the public to cryptocurrency.

Governmental and legislative approach/framework regarding cryptocurrencies

In addition to the literature review, it is important to highlight legislation attitude and trends as well as enforcement efforts within different countries.

Cryptocurrency regulation varies across countries, reflecting the complexity and evolving nature of this technology. Here are some key approaches:

- The United States has adopted a cautious approach, with agencies like the SEC and CFTC regulating cryptocurrencies as securities and commodities, respectively. The government has taken enforcement action against ICOs violating securities laws, and proposed regulations to report large cryptocurrency transfers to the IRS. In May 2021, the Biden administration proposed new regulations to require cryptocurrency transfers over \$10,000 to be reported to the IRS. (Biden, 2023) The proposed regulation is part of a broader effort to increase tax compliance, and it is still under review.
- The European Union has taken a comprehensive approach, with agencies like ESMA and EBA issuing guidelines on ICOs and advising a conservative approach for banks. In 2020, the EU adopted the 5th Anti-Money Laundering Directive (5AMLD, 2022), which includes provisions related to cryptocurrencies. The directive requires member states to regulate cryptocurrency exchanges and custodial wallet providers, and it also requires enhanced due diligence for transactions involving high-risk third countries.
- China has a restrictive stance, banning ICOs, cracking down on exchanges and mining, and developing its own digital currency (digital yuan) to increase control over the financial system. The government also urged local authorities to investigate and shut down cryptocurrency mining operations. (CNBC, 2017), (The Economist, 2023)
- Japan has a permissive approach, recognizing cryptocurrencies as legal payment and implementing a licensing system for exchanges. However, stricter regulations have been introduced after security breaches. India initially banned banks from dealing with cryptocurrency businesses, but the Supreme Court overturned the ban. However, there is still uncertainty as the government has yet to establish a clear regulatory framework. Various countries will continue to have different regulatory approaches as the cryptocurrency landscape evolves. Japan has taken a more permissive approach to cryptocurrency regulation, recognizing cryptocurrencies as a legal form of payment in 2017 and introducing a licensing system for cryptocurrency exchanges. (Cointelegraph) However, the government has also introduced stricter regulations over time, such as requiring exchanges to strengthen their security measures following the hack of Coincheck in 2018. (GLI, 2023)
- India has taken an ambiguous approach to cryptocurrency regulation, with the government banning banks from dealing with cryptocurrency businesses in 2018. (CNBC, 2018) The ban was challenged in the Supreme Court, which overturned it in 2020. (Reuters, 2020) However, the government has not yet introduced a clear regulatory framework for cryptocurrencies, and there is still uncertainty about how they will be treated in the future. In April 2021, the Indian government reportedly proposed a new law to regulate cryptocurrencies, which would ban all

private cryptocurrencies and create a framework for a digital rupee issued by the Reserve Bank of India. (Reuters, 2021)

Overall, the regulatory landscape for cryptocurrencies is complex and evolving, and it is likely that we will continue to see different approaches from different countries in the coming years.

Research methodology

Data Sources

The data sources in the study were based on two types of sources: 1. A collection of academic papers from the Web of Science (WoS) that are relevant to our topic, and 2. Secondary data, extracted from MendeleyTM (Korpas et al., 2023).

Analysis of the scientific corpus

A scientific survey was used based on InCites Web of Science (WoS) to extract data from academic papers published in peer-reviewed journals and conference proceedings. Each paper underwent examination based on Sardi et al.'s (2017) criteria, employing both topic modeling and manual verification to ensure relevance to the current field. Following the guidelines of Gheyas and Abdallah (2016), a systematic literature collection was conducted from 2018 to 2022. The search included editions such as Science Citation Index Expanded (SCI-EXPANDED), Social Sciences Citation Index (SSCI), Arts & Humanities Citation Index (AHCI), Conference Proceedings Citation Index–Science (CPCI-S), Conference Proceedings Citation Index—Social Science and Humanities (CPCI-SSH), and Emerging Sources Citations Index (ESCI). The search focused on the keywords: "cryptocurrency" and/or "Concern" and/or "usage". The responses of the respondents were extracted using text analysis code written in python, excel and SPSS. The secondary data was analyzed using SPSS v.29.0.0.0, which identified frequencies and plotted bar graphs.

Findings

The first part of this study relates to the analysis of academic papers from 2018 to 2022, which is quite surprising.

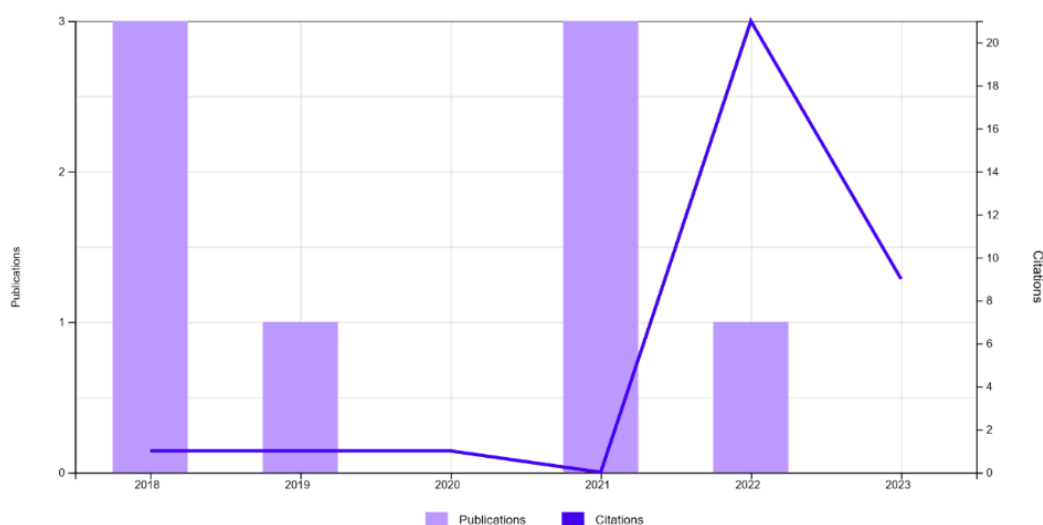


Figure 1: Analyzing scientific papers related to cryptocurrency in the Web of Science (WoS)

The finding related to this section show that the number of publications related to cryptocurrencies is relatively low, with only 8 papers focusing on concerns and trends among cryptocurrency users, published between 2018 and 2021, with a slight increase in the years 2018 & 2021. The reason for choosing this period is begun to be significant product for research and development around 2011, but most of the attention among the academic scholars in technology changes exist to the best of our knowledge around the examined period. These papers are mainly related to economics, business and law, as shown by the number of articles in these fields in Figure 2.

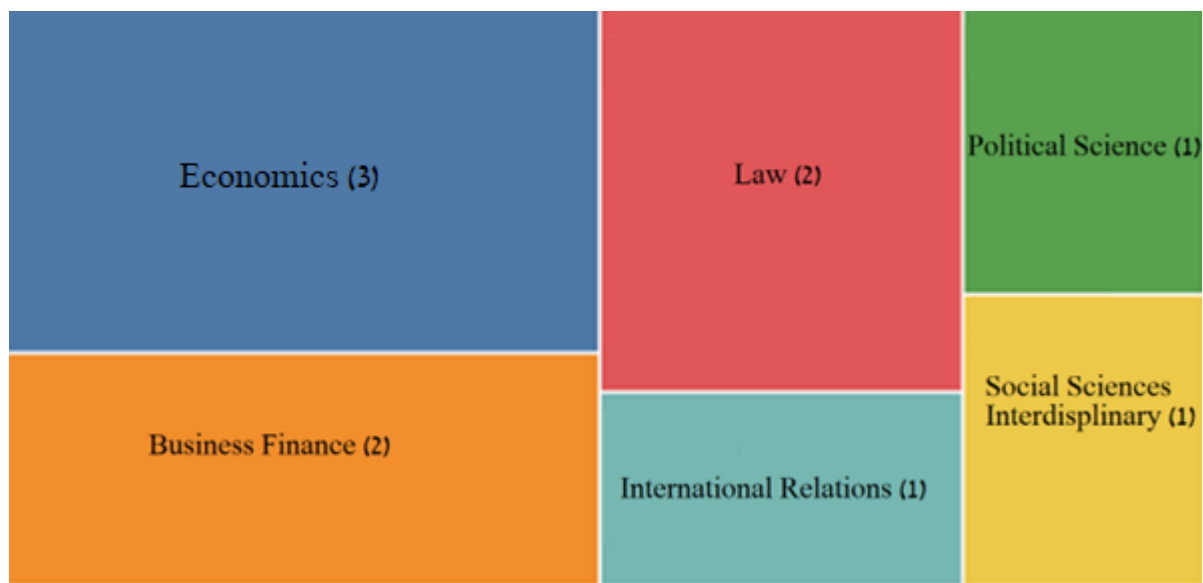


Figure 2: Visualization of cryptocurrency-related scientific articles in different academic disciplines (WoS)

Again, it is somewhat surprising that the articles analyzed are mostly from the social sciences group of disciplines, in which all the fields shown are classified according to CERIF (1991) or FORD (OECD, 2015), and not, for example, from computer science.

The papers deal with the following concerns and challenges:

1. The legal possibilities of using cryptocurrencies for the conducting of purchase and sale contracts.
2. The impact of the cryptocurrency on business and economics in the light of case law and legislation (Specifically in Ukraine). Regarding legislation and enforcement of the rules, several contributions refer to the legal vacuum in this area. In other words, the lack of legal clarification and consolidation of cryptocurrencies in many countries in the light of case law and legislation. This calls for an effective monetary policy in relation to this currency.
3. The risks affiliated with the currency and the policy decisions that are needed in near future to implement monetary policy.
4. The positive and negative sides of the coin, such as the need for footprint tracking of using this kind of currency.
5. the need for a cryptocurrency regulatory framework in the EU (especially in the UK) and the low level of cryptocurrency regulation in Russia
6. The perceived value of cryptocurrency as a civil property.
7. The environmental impact of cryptocurrency on macro financial markets and the need for a new index that best reflects major developments regarding the currency.
8. The growing concern about national and international regulations related to digital currencies.

The second part of this study exhibits the following:

Around 45% of the respondents believe that the currency should be regulated (as part of the block chain model – Most of cryptocurrencies should be on-chain”) where 30% believe that the currency should not be regulated by the governments (“Cryptocurrency does not need governance”).

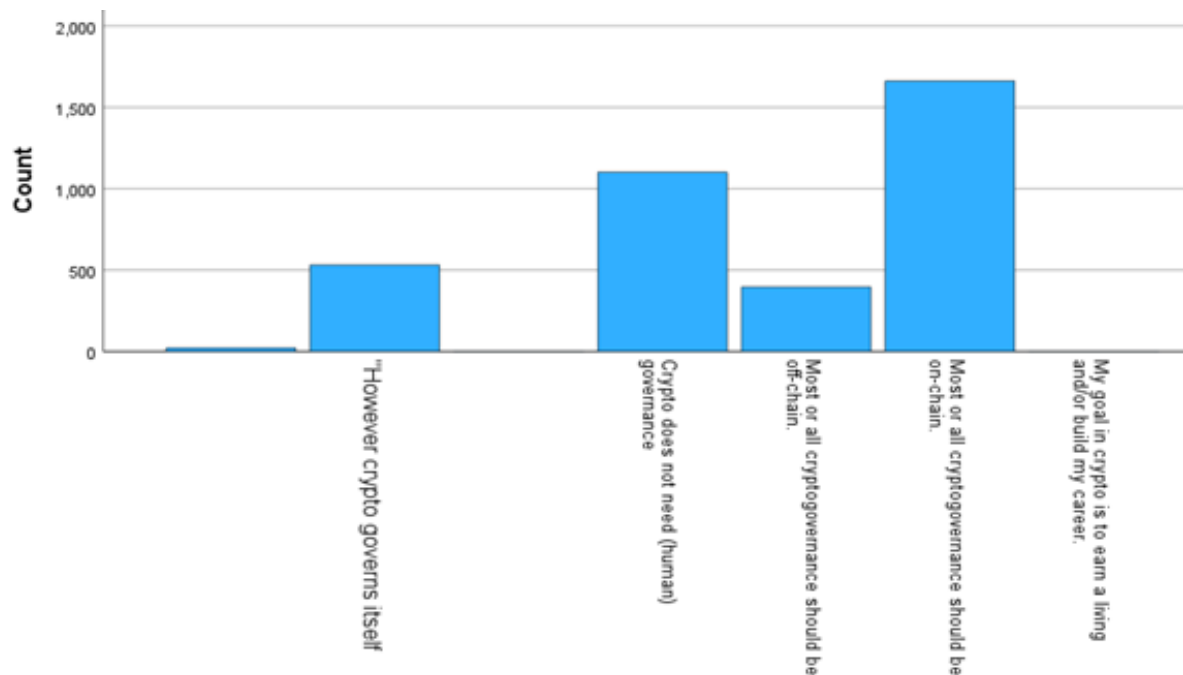


Figure 3: Consumer attitudes towards cryptocurrencies

Figure 3 shows that consumer opinion on whether cryptocurrencies should be legalized is almost identical. This is confirmed by Table 1, where 1,100 respondents think that there is no need for governance, compared to 1,661 respondents who think the opposite.

Table 1: Attitude of consumers to cryptocurrency (Statistical Analysis)

	Frequency	Percent	Valid Percent	Cumulative Percent
However crypto governs itself	531	14.3%	14.3%	14.9%
Don't Know	1	.0%	.0%	14.9%
Crypto does not need (human) governance	1,100	29.6%	29.6%	44.6%
Most or all crypto governance should be off chain	395	10.6%	10.6%	55.2%
Most or all crypto governance should be on-chain	1,661	44.8%	44.8%	100%
My goal in crypto is to earn a living and/or build my career	1	.0%	.0%	100%
Total	3,711	100%	100%	

Table 1 shows the frequency of the respondents’ answers related to their attitude to cryptocurrencies. Out of a total of 3,711, almost 30% not believe that cryptocurrency should be controlled by governance, while 45% believe the opposite (on-chain). In addition, 14.3% of the respondents believe that since cryptocurrency is maintained through a peer-to-peer network, it can govern itself. We believe that the opinion of consumers for the needs of governance, can be inferred from the fact that the currency technology is strong enough and maintained by a block chain of peer-to-peer transactions. However, future research will be needed to explore this assumption more precisely by means of a questionnaire.

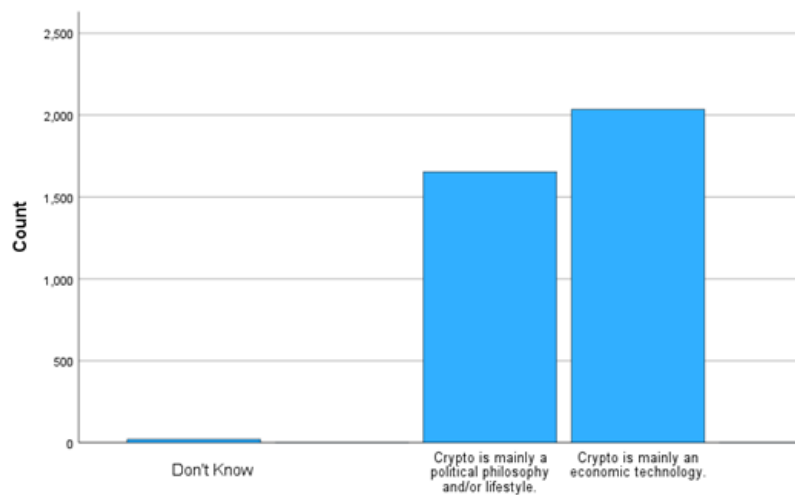


Figure 4: Cryptocurrency as perceived by respondents.

Around 45% of the respondents consider currency to be used primarily for political philosophy or lifestyle, while around 55% consider it to be a serious economic technology. This contradiction is also reflected and supported in the literature. For example, Peetz, and Mall (2017), stated that cryptocurrency is perceived as a currency which is not suitable for risk-averse individuals, but rather appeals to speculative investors with an exceptionally high tolerance for risk. The authors believe that the currency usage does reflect lifestyle and it is not considered as a serious technology. Other studies, such as Bystriakov et al., (2020) consider the currency as a serious technology although it holds many embedded risks. These opinions suggest that the digital currency is still controversial.

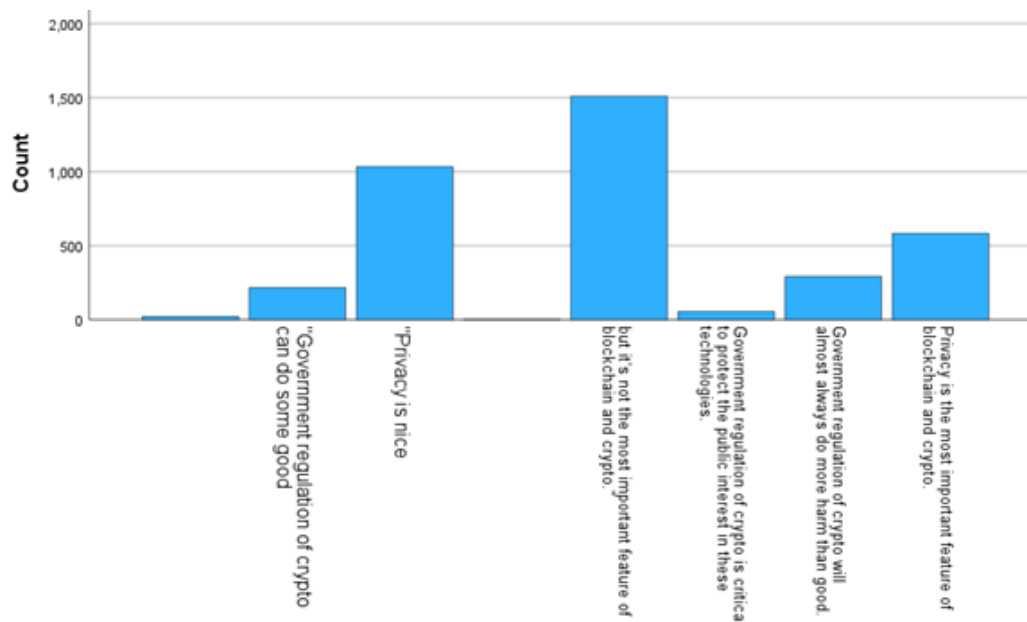


Figure 5: Main attributes of cryptocurrency as perceived by consumers.

Figure 5 shows that many respondents (1,500) do not consider privacy to be the most important feature of a currency. It is also interesting to see that while privacy is perceived by the respondents as nice to have, they believe (as inferred from other answers in the questionnaire) that the security of the currency is more important than their privacy, i.e., knowing who holds the currency and more details about it. However, fewer than 500 respondents answered that governments should not control and regulate cryptocurrencies in any way and that they perceive this as a negative action, while almost the

same number of respondents (however slightly fewer) think the opposite. Figure 5 is supported by the following details: Only 1.5% of the respondents believe that government regulation related to cryptocurrencies is crucial to protect the currency from being abused by criminals, while 41% believe that the most important issue of the currency is the fact that the data is encrypted. Only 28% of respondents consider privacy to be important. From the results shown in the table, it can be concluded that the currency is still perceived as a conversely currency (a real assets vs a “digital tool that symbols the modern lifestyle of consumers”).

Table 2: Cryptocurrency as perceived by consumers (Statistical Analysis: Frequency Analysis)

	Frequency	Percent	Valid Percent	Cumulative Percent
Don't Know	1	0.0%	.0%	0.6%
Crypto is mainly a political philosophy and/or lifestyle.	1,654	44.6%	44.6%	45.2%
Crypto is mainly an economic technology.	2,034	54.8%	54.8%	100%
Refused to answer	1	0.0%	0.0%	100%
Total	3,711	100%	100%	

Table 2 shows that approx. 45% of the respondents consider cryptocurrencies to be more related to lifestyle and modern technology rather than being a strong currency that can be used to replace conventional money. Conversely, approx. 55% of respondents believe that the cryptocurrency is a strong currency that can be used for commerce and is affiliated with modern economy transactions. We believe that this bias is derived from the fact that many people are not familiar with the use or aware of the advantages and disadvantages of cryptocurrencies.

Discussion

The research findings indicate that cryptocurrency is perceived as having certain advantages that contribute to boosting digital commerce and overall economic growth. However, these advantages are accompanied by concerns regarding its potential misuse by criminals for illicit activities such as terrorism financing and money laundering. This conclusion is drawn from the analysis of academic papers conducted in study 1.

In study 2, the focus shifts to the perspective of consumers or users of cryptocurrencies. It reveals that these individuals express less concern about the abuse of the currency compared to the criminal activities. However, they still recognize the need for appropriate legislation and regulatory measures to address potential risks and ensure the proper functioning of the cryptocurrency ecosystem. Respondents in this study primarily perceive cryptocurrency as an alternative asset among various other options for commerce, trade, and payment.

Together, these research studies highlight the complex nature of cryptocurrencies, recognizing their potential benefits for economy and the society, but also acknowledging concerns about their misuse and the importance of regulatory frameworks. The findings underline the need for a balanced approach that harnesses the benefits of cryptocurrencies while effectively addressing the associated challenges.

Implications

The research findings hold significant implications for future studies, as they highlight the need to delve deeper into the gap between public opinion on cryptocurrencies and the concerns identified in academic literature. This insight suggests that further research should seek to explore and understand the reasons for the discrepancy between public perception and scientific analysis.

One potential avenue for future research is to conduct surveys or interviews with the public to find out their perspectives on cryptocurrency. By engaging directly with individuals who have opinions about cryptocurrencies, researchers can gain a more comprehensive understanding of their beliefs, attitudes, and awareness regarding the benefits and concerns associated with this form of currency.

Future Research and Limitations

The current study acknowledges certain limitations that should be considered and addressed in future research efforts. Two specific limitations have been identified: the limited number of papers included in the study and the use of secondary data questionnaire for analysis.

Firstly, the study acknowledges that only a few papers have been published in the field of cryptocurrencies, and these were extracted from the Web of Science database, yet there are papers also before the examined period but they could be used for future study which can exhibit the differences in the attitude of stakeholders to the currency before 2011, between 2011-2018 and afterwards. Moreover, to enhance the comprehensiveness and representativeness of future research, it is recommended to explore and include additional repositories or databases that focus on cryptocurrency-related literature. This broader approach will help to capture a wider range of perspectives, insights and findings from various sources, thus enriching the analysis and providing a more comprehensive understanding of the topic.

Secondly, the study utilized a secondary data questionnaire for analysis. In future research, it is suggested to design a primary questionnaire that can be used to collect data directly from respondents in different countries. By including participants from diverse countries with different GDP values, researchers can explore possible differences in perceptions, attitudes and concerns about cryptocurrencies in different economic contexts. This comparative analysis would contribute to a more nuanced understanding of how socioeconomic factors may influence public opinion on cryptocurrencies.

To further improve future research, incorporating additional questions in the questionnaire would be beneficial. These additional questions could focus on specific aspects such as perceived benefits, risks, or regulatory preferences related to cryptocurrencies. By gathering more detailed information, researchers can gain deeper insights into the factors shaping public opinion and identify potential variations across different demographic groups or regions.

Furthermore, the study suggests the need for more extensive statistical analysis in future research. By employing a broader range of statistical techniques, such as regression analysis or factor analysis, researchers can explore relationships, patterns, and underlying factors influencing public opinion on cryptocurrencies more closely.

Addressing these limitations through future research efforts would strengthen the validity, reliability, and generalizability of the findings and ultimately contributing to a more robust understanding of public opinion and the implications of cryptocurrencies within different contexts and populations.

References

- 5AMLD (2022): EU context of anti-money laundering and countering the financing of terrorism, https://finance.ec.europa.eu/financial-crime/eu-context-anti-money-laundering-and-countering-financing-terrorism_en
- Aiazbekov, A. (2023). Cryptocurrency as a method of payment in the tourism sector. *Financial Internet Quarterly*, 19(1), 57-65.

- Akcora, C. G., Gel, Y. R., & Kantarcioglu, M. (2022). Blockchain networks: Data structures of and evidence. *Économie internationale*, (1), 29-45, at SSRN 3098765.
- Arias-Oliva, M., Pelegrín-Borondo, J., & Matías-Clavero, G. (2019). Variables influencing cryptocurrency use: a technology acceptance model in Spain. *Frontiers in psychology*, 10, 475.
- Biden administration proposal for cryptocurrency reporting (2023):
https://finance.yahoo.com/news/biden-budget-proposes-closing-crypto-loophole-to-raise-24-billion-in-new-revenue-182743431.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LmNvbS8&guc_referrer_sig=AQAAAJay9rXEHhscSThv2dqVKqUjr69lTW4ANtNsFQHhzVEmcDElT50kzreAkybXlc7UKy90twrYKrjf38hlYZH92Y0obyN9qX5ffrfJLLxxg9iR8NGUluDYuCMgt8awNGjtx9k-wg1gaoWNRoblQTek9ObLbfheOIImIAMv_Cy5TriOu
- Bitcoin, Monero, Zcash, Ethereum, Ripple, and Iota. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, 12(1), e1436.
- Bibi, S. (2023). Money in the time of crypto. *Research in International Business and Finance*, 65, 101964.
- Bystriakov A.J., Guirinskiy A.V., Nan T.N., Hidar S., Din L.C. (2020) Crypto Currencies and Possible Risks. In: Popkova E., Sergi B. (eds) *Digital Economy: Complexity and Variety vs. Rationality*. ISC 2019. *Lecture Notes in Networks and Systems*, vol 87. Springer, Cham.
https://doi.org/10.1007/978-3-030-29586-8_21
- Chou, J. H., Agrawal, P., & Birt, J. (2022). Accounting for crypto assets: stakeholders' perceptions. *Studies in Economics and Finance*.
- CERIF (1991). Common European Research Classification Scheme, annex to CERIF (Common European Research Project Information Format, Official Journal of the European Communities, L189)
- CFTC Staff Issues Advisory on Virtual Currency for Future Commission Merchants,
<https://www.cftc.gov/PressRoom/PressReleases/8291-20>
- CNBC (2017): China bans companies from raising money through ICOs, asks local regulators to inspect 60 major platforms. <https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html>
- CNBC (2018). India's central bank bans financial firms from dealing with cryptocurrency
Cointelegraph: An overview of the cryptocurrency regulations in Japan.
<https://cointelegraph.com/learn/crypto-regulations-in-japan>
- Corbet, S., & Oxley, L. (2023). Investigating the Academic Response to Cryptocurrencies: Insights from Research Diversification as Separated by Journal Ranking. *Review of Corporate Finance*, 3(4).
- Deuber, D., Ronge, V., & Rückert, C. (2022). SoK: assumptions underlying cryptocurrency deanonymizations. *Proceedings on Privacy Enhancing Technologies*, 3, 670-691.
- EBA (2014): Opinion on 'virtual currencies, EBA Economic Notes, 51(1), e12195.

ESMA highlights ICO risks for investors and firms; <https://www.esma.europa.eu/press-news/esma-news/esma-highlights-ico-risks-investors-and-firms>

Gagarina, M., Nestik, T., & Drobysheva, T. (2019). Social and psychological predictors of youths' attitudes to cryptocurrency. *Behavioral Sciences*, 9(12), 118.

Gheyas, I. A., & Abdallah, A. E. (2016). Detection and prediction of insider threats to cyber security: systematic literature review and meta-analysis *Big Data Analytics Article No 6*.

GLI (2023). Blockchain & Cryptocurrency Law and Regulations 2023 / Japan. <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/japan>
Health. *Journal of biomedical informatics*, 71, 31-48. Korpas, L., et al. (2023). Political, economic, and governance attitudes of blockchain users [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.7689912>

Hammi, B., Zeadally, S., & Perez, A. J. (2023). Non-fungible tokens: a review. *IEEE Internet of Things Magazine*, 6(1), 46-50.

Javaid, M., Haleem, A., Singh, R. P., Suman, R., & Khan, S. (2022). A review of Blockchain Technology applications for financial services. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 100073.

Kalish, K. M., Proulx, K., & Spieler, A. C. (2023). A Comparative Review of Cryptoasset Products. *The Emerald Handbook on Cryptoassets: Investment Opportunities and Challenges*, 125-139.

Khan, R., & Hakami, T. A. (2022). Cryptocurrency: Usability perspective versus volatility threat. *Journal of Money and Business*, 2(1), 16-28.

Manual, F. (2015). Guidelines for collecting and reporting data on research and experimental development. URL: <http://www.oecd.org/sti/frascati-manual-2015-9789264239012-en.htm>.

Peetz, D., & Mall, G. (2017). Why Bitcoin is not a currency but a speculative real asset. Available possible risks. In *Digital Economy: Complexity and Variety vs. Rationality 9* (pp. 175-181). Springer International Publishing.

Popescu, A. D. (2023). The Financial Digital Assets Frontier: The Bridge Between the Past and the Future. In *Research Anthology on Virtual Environments and Building the Metaverse* (pp. 1-21). IGI Global.

Ramos, D., & Zanko, G. (2021). A Review of Zcash as a Cryptocurrency Platform Aimed Towards Maintaining Privacy Between All Parties, *MobileyourLife – Bogotá, D.C., Colombia*.

Reuters (2020). India's top court strikes down RBI banking ban on cryptocurrency. <https://www.reuters.com/article/uk-india-cryptocurrency-idUKKBN20R0KX>

Reuters (2021). India proposes law to ban cryptocurrencies, create official digital currency. <https://www.reuters.com/article/us-india-cryptocurrency-lawmaking-idUSKBN29Z0EX>

Santana, C., & Albareda, L. (2022). Blockchain and the emergence of Decentralized Autonomous Organizations (DAOs): An integrative model and research agenda. *Technological Forecasting and Social Change*, 182, 121806.

- Sardi, L., Idri, A., & Fernández-Alemán, J. L. (2017). A systematic review of gamification in e-SEC guidance on ICOs: <https://www.sec.gov/securities-topics/ICO> security: a systematic literature review and meta-analysis. *Big data analytics*, 1(1), 1-29.
- Soana, G. (2022). Regulating cryptocurrencies checkpoints: Fighting a trench war with cavalry? *The Economist* (2023). China is rapidly rolling out its new digital currency. <https://www.economist.com/the-world-ahead/2022/11/18/china-is-rapidly-rolling-out-its-new-digital-currency>
- Sousa, A., Calçada, E., Rodrigues, P., & Pinto Borges, A. (2022). Cryptocurrency adoption: a systematic literature review and bibliometric analysis. *EuroMed Journal of Business*, 17(3), 374-390.
- Rehman, M. H. ur., Salah, K., Damiani, E., & Svetinovic, D. (2019). Trust in blockchain cryptocurrency ecosystem. *IEEE Transactions on Engineering Management*, 67(4), 1196-1212.
- Van den Noord, P. (2005). Tax incentives and house price volatility in the euro area: theory and evidence, *Dans Economie internationale*, No 101, pp 29-45.
- Zutshi, A., Grilo, A., & Nodehi, T. (2021). The value proposition of blockchain technologies and its impact on digital platforms. *Computers & Industrial Engineering*, 155, 107187.