# Cryptocurrency Research in the Field of Information Systems: A Literature Review and its Implications for Sharing Economy Research

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## Abstract

*Cryptocurrency has been widely adopted as an asset for investment with the rise of numerous well-known cryptocurrency exchanges. Practitioners and enthusiasts have begun to promote cryptocurrency as a means of payment in the sharing economy. This new trend has also received attention from academia, especially among information systems (IS) scholars. Thus, the purpose of this paper is to consolidate knowledge about cryptocurrency in the field of IS through a systematic literature review and provide insights for researchers to seek opportunities for cryptocurrency research in the context of the sharing economy.*

**Keywords:** Cryptocurrency, Sharing Economy, Decentralized Finance, Systematic Literature Review

## 1. Introduction

Cryptocurrency, a blockchain-based currency grounded on computer cryptography and decentralized network architecture, is receiving a great deal of attention from investors, regulators, and the media. For example, Elon Musk, the CEO of Tesla, often tweets about Bitcoin, Dogecoin, and cryptocurrency in general. Binance, the world's largest cryptocurrency exchange, has announced a plan in May 2022 to launch payment and trading services, which it could expand to the retail public, in Dubai and Bahrain. Many countries are attempting to win the title of "International Fintech Hub" by licensing cryptocurrency exchanges (Knowles, 2022). The global population of cryptocurrency buyers and sellers is estimated to be more than 106 million (Crypto.com, 2021).

The popularity of cryptocurrency among users has also attracted substantial attention from academia. The first academic study on blockchain or cryptocurrency was conducted in 2008 (Ante, 2020). More recently, cryptocurrency scholarship has continued to emerge rapidly, and therefore it is essential to understand the current state of our knowledge and identify potential research directions.

Although researchers in other disciplines have already reviewed the cryptocurrency literature (Corbet et al., 2019), little effort has been made to evaluate the status of cryptocurrency research in the information systems (IS) field. Cryptocurrency is only widely used as an asset for investment, not for its original purpose of competing with the fiat currency system (Nakamoto, 2009). One possible reason is that cryptocurrency is not widely used as a means of payment. The sharing economy, which focuses on peer-to-peer trading, represents an opportunity for the wide adoption and application of cryptocurrency. Thus, our main objectives are to provide a comprehensive understanding of the state of cryptocurrency research in the IS field and to offer direction to IS researchers for future research in the sharing economy context.

Few literature reviews focus on cryptocurrency research, instead exploring other perspectives, such as IS-related topics, digital currency, central bank digital currency, cryptocurrency market manipulation, and the factors involved in cryptocurrency valuation (Morisse, 2015; Oshodin et al., 2016; Tronnier, 2020; Eigelshoven, 2021; Gildehaus & Abramova, 2022). Furthermore, unlike Hawlitschek et al. (2020), who focused on the limitations and potentials of blockchain technology in the sharing economy context, we offer directions for future research by identifying potential research topics and ideas. The paper is organized as follows. Section 2 explains the nature of cryptocurrency and its relationship with the SE. Section 3 presents the literature search and identification procedures. Section 4 provides a comprehensive review of the state of cryptocurrency research in the IS field. Section 5 offers directions for future research. The paper concludes with a discussion of its contributions and limitations.

## 2. Conceptual background

### 2.1 Cryptocurrency

Cryptocurrency shares the main characteristic of its record-keeping system, which is decentralization.

The main source of this decentralization is the novel record-keeping technology, namely blockchain technology (Li & Wang, 2017). Unlike the traditional record-keeping system, blockchain technology does not require a trustful centralized authority to ensure the integrity, security, and privacy of data storage. Cryptocurrency not only breaks traditional systems by decentralizing the record-keeping system but also becomes a means of payment for Web 3.0, as described by Ethereum co-founder Gavin Wood, who coined the term. In the Web 3.0 environment, Internet activities will be supported by blockchain systems and crypto-based economics. Increasingly, cryptocurrency can be used in tokenized economies for playing games, gambling, producing work, and securing contracts (Delfabbro et al., 2021). Its rapid development and applications are having a substantial impact on digital transformation (Tana & Breidbach, 2021). Thus, we focus on cryptocurrency implications, not blockchain technology, in the sharing economy context.

## 2.2 Cryptocurrency in the sharing economy

The rise of cryptocurrency has encouraged people to think about how to resolve the evolutionary struggles of the contemporary sharing economy, such as the lack of trust-in-peers contained in a centralized sharing economy platform (Killeen, 2015; Mehrwald et al., 2019; Hawlitschek et al., 2020). The centrality of sharing economy platforms (such as Airbnb and Uber) is a severe barrier to the evolution of the sharing economy because trust-in-platform overshadows trust-in-peers (Mehrwald et al., 2019). Users trust the platform rather than other platform users who offer the service or product. The act of "sharing" (i.e., the act of distributing owned assets to others and the economy as a system to generate and utilize wealth) is mainly motivated by trust-in-platform, as in a traditional e-commerce or business-to-business model, not trust-in-peers (Mehrwald et al., 2019). Cryptocurrency can resolve the issue of building trust-in-peers in a less-centralized sharing economy platform (Mehrwald et al., 2019; Hawlitschek et al., 2020; Tan & Salo, 2021). First, the use of cryptocurrency as a means of payment can facilitate peer-to-peer exchanges in a trust-free system. Because trust is a core issue in the sharing economy context (Hawlitschek et al., 2020), if people hold widely recognized cryptocurrency, trust-in-cryptocurrency can become a proxy for trust-in-peers in a platform applying that cryptocurrency for transactions or trust-in-peers is enhanced by the similarity of ideology. Second, the centrality of transaction management on a sharing economy platform can also be solved by cryptocurrency adoption. Whether tokens or coins are used, cryptocurrency is always accompanied by a

blockchain system. Thus, the decentralization of transaction management can be practiced by using cryptocurrency and its blockchain without harming the platform's security. As a result, we believe that cryptocurrency can be an indispensable component in building a less centralized platform and enhancing trust-in-peers in the context of sharing economy (Killeen, 2015; Mehrwald et al., 2019; Hawlitschek et al., 2020; Tan & Salo, 2021).

## 3. Literature search and identification

Figure 1 depicts our two-stage search approach (Tranfield et al., 2003). This approach is systematic and comprehensive, reducing bias in our paper selection.
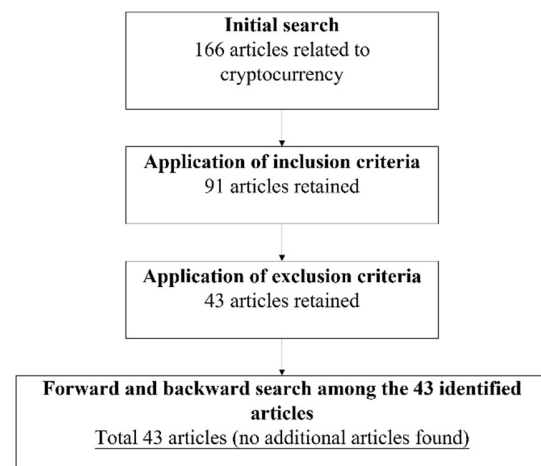


**Figure 1. The literature search and identification procedures.**

In the initial search stage, we performed an abstract search with keywords closely related to cryptocurrency, such as "cryptocurrency," "Bitcoin," "Ethereum," "digital currency," crypto token," "crypto asset," and "decentralized finance" in the appropriate electronic databases, including Taylor & Francis Online, Wiley Online Library, PubsOnLine, SAGE Journals, AIS eLibrary, and ScienceDirect. No specific period was designated. After the electronic search, we executed a manual search of a basket of eight IS journals and targeted seven conference proceedings to ensure that we had not missed any cryptocurrency-related research papers. We identified 166 articles.

In this paper, we limited our search for conference proceedings to IS-recognized conferences (i.e., the International Conference on Information Systems (ICIS), the Americas Conference on Information Systems (AMCIS), the European Conference on Information Systems (ECIS), the

Pacific Asia Conference on Information Systems (PACIS), the Mediterranean Conference on Information Systems (MCIS), the Australasian Conference on Information Systems (ACIS), and the Hawaii International Conference on System Sciences (HICSS)) and research articles published at the Association for Information Systems Senior Scholars' Basket of Journals. By doing so, we can provide a sufficiently broad overview of the state of cryptocurrency research in the IS field.

Following the procedures in other IS literature review papers (Cheung & Thadani, 2012; Chan et al., 2017; Chan et al., 2020), we applied inclusion and exclusion criteria to our initial set of articles. In this stage, we focused on cryptocurrency papers that had a research design. This proposed selection strategy prevented us from including a less relevant and uncontrollable sample of research papers. For the inclusion criteria, we only included articles that primarily focused on cryptocurrency. For the exclusion criteria, we excluded articles (1) that were not completed research papers; (2) that did not report empirical results; and (3) that overlapped. Here, "overlap" refers to conference proceedings and papers that eventually were published in the journals. Next, we conducted a backward and forward search in Google Scholar to identify the key prior articles. No additional research papers were identified. Consequently, 43 articles were retained for further analysis.

## 4. Current state of knowledge on cryptocurrency research

We used the five guiding questions (Cheung & Thadani, 2012; Chan et al., 2017; Chan et al., 2020) set forth below to structure our review and provide an overview of the current state of cryptocurrency research. The answers to each question are presented in the sub-sections that follow.
1. What are the trends in cryptocurrency research in the IS field?
2. What are the foci of the studied research papers?
3. What are the theories or models used in the studied research papers?
4. What are the methods used in the studied research papers?
5. What are the characteristics of the data samples used in the studied research papers?

### 4.1 Research trends

We found an increasing interest in cryptocurrency research among IS researchers. The first cryptocurrency conference paper was published in the ECIS Proceedings in 2014. Glaser et al. (2014) examined the effect of historical blockchain network transactions and crypto-exchange volume on then-current blockchain network transactions and crypto-exchange volume to determine how the public adopted cryptocurrency. Between 2014 and 2017, as shown in Figure 2, there was a steady increase in the number of papers published. The first cryptocurrency journal paper was published in the Journal of Management Information Systems (JMIS) in 2018. Its authors (Mai et al., 2018) examined the dynamic interactions between social media and the monetary value of Bitcoin using textual analysis and vector error correction models. After that, we observed a significant increase from 2 publications in 2018 to 9 publications in 2019, peaking with 13 publications in 2020. However, there was a slight decline in 2021. One possible explanation for this decline is that IS scholars' interests may have shifted from cryptocurrency to the application of its characteristics, including how the cryptocurrency system helps the sharing economy to emerge (e.g., Ballandies et al., 2021; Heines et al., 2021; Hofmann et al., 2021).
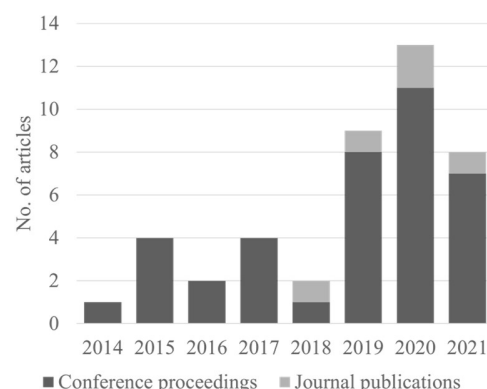


**Figure 2. Timeline of cryptocurrency publications.**

As shown in Figure 2, most of the studied papers were published in conference proceedings. Since 2014, there have been 38 such papers (see Table 1). ECIS was the most popular outlet for cryptocurrency research. Almost every year, except for 2015 and 2017, at least one relevant paper was published in ECIS Proceedings. Eleven papers were identified as having been published in ECIS Proceedings from 2014 to 2021. The second most popular outlet for cryptocurrency research was the proceedings of HICSS. All of the identified HICSS papers were published between 2019 and 2021.

| | ACIS | AMCIS | ECIS | HICSS | ICIS | MCIS | PACIS |
|---|---|---|---|---|---|---|---|
| 2014 | | | 1 | | | | |
| 2015 | | | | | | 3 | 1 |
| 2016 | | | 1 | | 1 | | |
| 2017 | | 1 | | | 1 | 2 | |
| 2018 | | | 1 | | | | |
| 2019 | | 2 | 1 | 2 | 2 | | 1 |
| 2020 | 1 | | 4 | 2 | 1 | | 2 |
| 2021 | | 1 | 3 | 3 | 1 | | |

Note: AMCIS: Americas Conference on Information Systems, ECIS: European Conference on Information Systems, HICSS: Hawaii International Conference on System Sciences, ICIS: International Conference on Information Systems, MCIS: Mediterranean Conference on Information Systems, PACIS: Pacific Asia Conference on Information Systems.

**Table 1. The number of publications by conferences between 2014 and 2021.**

There were only five papers published in major IS journals between 2017 and 2021 (see Figure 3). JMIS was the most popular outlet for cryptocurrency research, with three papers published. Two of these papers examined how social media affected the price of Bitcoin (Mai et al., 2018; Xie et al., 2020). The last paper used a machine learning algorithm to detect risky nodes, which could be affiliated with criminal activities (Sun Yin et al., 2019). The other two papers were published in MISQ and the European Journal of Information Systems (EJIS). The MISQ paper examined the stability of transaction fees from a demand-supply perspective (Ilk et al., 2021). The EJIS article employed regret theory and used a mixed methods approach to identify the factors motivating Bitcoin investment (Mattke et al., 2020).
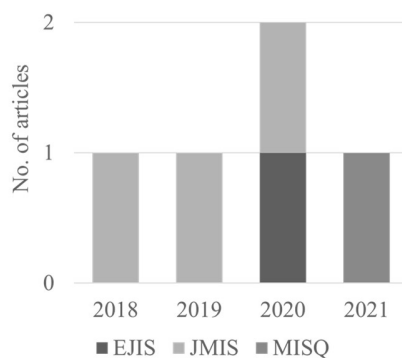


Note: EJIS: European Journal of Information Systems, JMIS: Journal of Management Information Systems, MISQ: Management Information Systems Quarterly.

**Figure 3. The number of publications by journal between 2014 and 2021.**

## 4.2 Research foci

Building on prior bibliometric studies (e.g., Liu, 2016; Holub & Johnson, 2018), we identified four groups of cryptocurrency research streams: (1) the finance and economics stream (n = 22), (2) the user perspective stream (n = 13), (3) the crime detection and prevention stream (n = 5), and (4) the management stream (n = 3). Table 2 presents the streams and foci of the identified cryptocurrency research articles published in major IS journals and conference proceedings.

| Stream | Foci | No. of papers |
|---|---|---|
| Finance and Economics (n = 22) | Investment | 7 |
| | Coin-mining reward | 4 |
| | Investors' behavior | 7 |
| | Decentralized finance | 3 |
| | Fundraising | 1 |
| Users Perspectives (n = 13) | Adoption | 9 |
| | Trust establishment | 3 |
| | Forkings | 1 |
| Crime Detection and Prevention (n = 5) | Detection | 4 |
| | Prevention | 1 |
| Management (n = 3) | Business models | 2 |
| | Operation | 1 |

**Table 2. The research foci of cryptocurrency research.**

Many cryptocurrency publications belonged to the first stream. There were five subfields, and the topic of investment and investors' behavior received the most attention (seven papers). The user perspective stream was the second-largest stream of cryptocurrency research in the IS discipline. Three subfields were identified. Articles in the crime prevention and detection stream primarily focused on crime detection. Finally, articles in the management stream focused on identifying emerging business models in the cryptocurrency ecosystem and how cryptocurrency applications affect the operations of businesses.

## 4.3 Theories and models

Table 3 summarizes the theories and models used in prior cryptocurrency studies. Approximately 42% (n = 18) of the identified articles used at least one theory or model to develop their studies. The technology acceptance model (TAM) and the unified theory of acceptance and use of technology were the two most popular theories. For instance, Abramova and Böhme (2016) used TAM to explain why users chose Bitcoin. Voskobojnikov et al. (2021) extended TAM by identifying three common constructs related to cryptocurrency adoption: risk, trust, and self-

efficacy. Researchers also applied theories and models from other disciplines, such as behavioral finance and economics. The diversity of these theoretical foundations demonstrates the complexity of cryptocurrency research. It also implies that there is a potential for cryptocurrency research to be conducted by researchers from any discipline.

| Stream | Theories/Models |
|---|---|
| Finance and Economics (n=8) | Agency theory and signaling theory, the cost of production model, heuristics and personality traits, the hidden Markov model, the law of demand and supply, regret theory, the technology acceptance model (TAM), and the unified theory of acceptance and use of technology (UTAUT) |
| User Perspective (n=8) | Actor-network theory, affordance theory, diffusion of innovations (DOI) theory, digital currency-enabled transactions trust model, the six elements of an effective apology, TAM, UTAUT, utility theory |
| Crime Detection and Prevention (n=1) | Rational choice theory. |
| Management (n=1) | Fiat payment network. |

**Table 3. Theories/models used in prior cryptocurrency papers published in IS outlets.**

### 4.4 Research methods

Figure 4 summarizes the research methods used in the cryptocurrency studies published in IS outlets. The most popular method was the modeling approach. Researchers using this approach mainly captured data through observations or secondary data, such as market data, blockchain network data, and social media data, through its corresponding application programming interface. The second most common research method was the survey. Similar to Risius and Spohrer's 2017 finding, cryptocurrency is still in the early stage of the hype circle. Because the cryptocurrency researchers in our sample were still exploring topics and phenomena of interest, they used the survey method. Interview and case study methods were also widely used for exploratory purposes.

### 4.5 Research samples

Figure 5 summarizes the research samples in prior cryptocurrency papers. The majority of identified studies (n = 28) involved non-human subjects as the unit of analysis. Most of these articles involved textual data (e.g., posts on social media, project information, and news) and index data (e.g., financial data, cryptocurrency market data, on-chain data, and Wikipedia and Google search trends). The remaining articles (n = 15) involved human subjects as the unit of analysis. Most of these articles (n = 12) targeted

individuals with knowledge about cryptocurrencies, such as investors, community members, practitioners, miners, and other stakeholders.
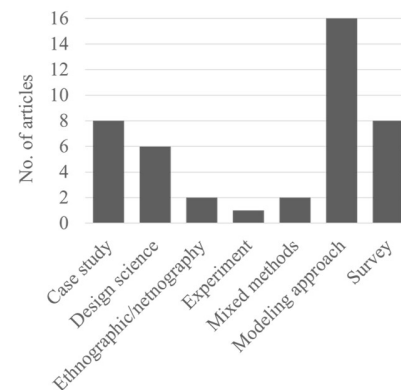


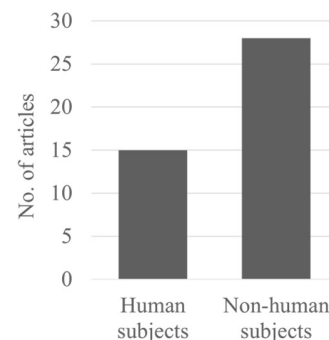**Figure 4. Methods of cryptocurrency research.**



**Figure 5. Samples used in cryptocurrency research.**

## 5. Future research directions regarding the implications of cryptocurrency for the sharing economy

Our review reveals the state of cryptocurrency research in the IS discipline. The number of publications remains small, and only five articles appear in the basket of eight senior journals. Many potential research topics are still underexplored, especially in the sharing economy context. We agree with Hawlitschek et al. (2020) that trust-in-peers and the existence of platforms are crucial for the sharing economy. Therefore, future cryptocurrency research in the sharing economy context should consider these two critical components. For this reason, we introduce the affordances of the sharing economy platform (Sutherland & Jarrahi, 2018), with a focus on the affordances of trust building and transaction managing. We also build on these perspectives to propose future research directions for scholars interested in

understanding cryptocurrency in the sharing economy context.

## 5.1 The affordances of the sharing economy platform

Sutherland and Jarrahi (2018) proposed the dimensions of the affordances of sharing economy platforms (see Table 4). Managing transactions and trust building are the most relevant of these dimensions that cryptocurrency can contribute to building a decentralized sharing economy platform and enhancing trust-in-peers. For instance, the most well-known case is Opensea.io, the largest P2P cryptocurrency-based non-fungible token (NFT) trading platform. Although there have been no studies on the source of people's trust in Opensea.io, the answer might be Opensea.io's use of Ethereum for trading. If so, people trust the others in Opensea.io may because they trust Ethereum.

| Affordance of sharing economy platform | Description |
| --- | --- |
| Generating Flexibility | The provision of rapid, dynamic access. Resources, work, or labor can be accessed on-demand, and participants can contribute to different roles. |
| Match-Making | Participants are brought together based on their needs or what they can provide. The platform optimizes this process through algorithmic or digitally supported filtering, evaluation, and searching. |
| Extending Reach | The depth of access provided by the platform, in terms of scale, distance, and heterogeneity of resources and peers. Participants can reach more resources, more different kinds of resources, more distant resources, and resources that were previously inaccessible or idle. |
| Managing Transactions | Handling the logistics of the transactions, either by holding currency, providing security, recordkeeping, or providing a workspace for the completion of a task. |
| Trust Building | Establishing a system of legitimacy, encouraging participants' confidence both in other participants and in the process of mediation itself |
| Facilitating Collectivity | Encouraging and benefiting from collective action. Participation in the sharing economy is entangled with larger social movements, and the mediator builds off of the social capital of communities, neighborhoods, and professional groups. |

**Table 4. Affordances of the sharing economy platform (Sutherland & Jarrahi, 2018).**

## 5.2 Future research directions

Table 5 presents potential research questions targeting the affordances of sharing economy platforms. We focus on the following dimensions: (1) managing transactions and (2) trust building.

### 5.2.1 Safety and privacy in the sharing economy

Crime detection and prevention are not an extremely difficult task for a centralized sharing economy platform. Meanwhile, the privacy concern may be huge because of its centrality. Therefore, adopting cryptocurrency for transactions may satisfy the privacy concern because of decentralized transaction management with traceable pseudonymity techniques (Sun Yin et al., 2019). However, because the anonymity of cryptocurrency makes it attractive to criminals (Janze, 2017; Sun Yin et al., 2019; Turner et al., 2021), safety concerns are a significant barrier to cryptocurrency adoption in the sharing economy. Managing this conflict between safety and privacy will be a challenging mission for researchers encouraging the adoption of cryptocurrency in the sharing economy context. For instance, if a wallet address is connected to a real identity, there is a serious privacy concern, because the blockchain network data may be open to everyone or permitted nodes. If a wallet address is not connected to a real identity, it may be difficult to target the person, even if they are associated with a criminal. Interested researchers could address this issue from either a political or technological perspective to design a protocol that balances safety and privacy concerns.

| Affordance of sharing economy platform | Foci | Potential research questions |
| --- | --- | --- |
| Managing Transactions | Safety and privacy | • What is the wallet user's accepted balance of safety and privacy?<br>• Do regulators make feasible recommendations for developers to achieve a balance between safety and privacy according to the rules (e.g., GDPR and CCPA)?<br>• Which UX or UI design can address the conflict between safety and privacy? |
| | Means of payment | • Do users, systems, and platforms accept or have the ability to engage in micro-trading, as afforded by blockchain?<br>• How can record-keeping related to cryptocurrency transactions remain in regulatory compliance?<br>• What happens if the platform adopts cryptocurrency as a means of payment? |
| | Transaction cost | • How can the platform manage the short-term uncertainty of cryptocurrency transaction fees?<br>• What is the appropriate amount of cryptocurrency liquidity required to maintain the stability of the platform's operations? |
| Trust Building | Trust-in-cryptocurrency | • Do people in sharing economy trust the cryptocurrency that their peers hold on hand rather than trust their peers in person?<br>• Do people's similar attitudes toward the sharing economy and cryptocurrency enhance their trust in each other in the sharing economy context?<br>• Is trust-in-cryptocurrency and the trust involved in trust-in-peers the same in sharing economy context? |
| | Selection of cryptocurrency | • How do a given cryptocurrency's background and ideology impact trust-in-cryptocurrency?<br>• Which cryptocurrency is the most trusted by stakeholders in the sharing economy?<br>• How can the most trusted cryptocurrency be identified while satisfying the concerns of stakeholders in the sharing economy? |

**Table 5. Potential research questions for future research.**

### 5.2.2 A means of payment in the sharing economy

Although the public has adopted cryptocurrency as an investment tool (Glaser et al., 2014), cryptocurrency can be a means of payment in the decentralized sharing economy platform because of its utility in participant-involved transactions management (Killeen, 2015; Sutherland & Jarrahi, 2018; Hawlitschek et al., 2020). On a cryptocurrency-based platform, a person can purchase a minimal unit if the supplier agrees, and the transaction cost is relatively low because the cost is calculated based on the transaction's data size, not the value of the payment (Killeen, 2015). Over-flexibility may have a substantial mental cost in that buyers and suppliers need to keep track of a large amount of information to complete a fair trade. Moreover, although the blockchain behind a cryptocurrency can manage transactions with security and integrity, blockchain compliance remains questionable (Abramova & Böhme, 2016; Kimmerl, 2020; Ye & Zhao, 2021). Furthermore, our review found a lack of experiments, research, or protocols to study the actual effect of the use of cryptocurrency as a means of payment. At present, there is no confirmed, evidence-based answer to the question of whether cryptocurrency should be adopted in the sharing economy.

### 5.2.3 Transaction costs

Ilk et al. (2021) provided a comprehensive explanation of the stability of transaction fees in the Bitcoin blockchain through the model of demand and supply. They treated Bitcoin mining as a market for data storage. Their model showed that the long-term stability of transaction fees was supported by the feedback loop between daily average fees paid per byte and daily median confirmation times. Because cryptocurrency trading requires "gas" fees (i.e., transaction fees within the blockchain), when users of a sharing economy platform use cryptocurrency to trade, the transaction cost includes both platform fees and gas fees. Although Ilk et al. (2021)'s findings supported the long-term stability of gas fees, such fees may remain uncertain in the short term. This short-term uncertainty can cause issues for non-frequent or inactive users of the platform because their average gas fees may be either higher or lower than those of frequent and active users. The non-frequent or inactive users may suddenly trade a lot when the gas fee is lower than average or cancel the transactions when the gas fee is higher than average. Thus, the short-term uncertainty of gas fees may aggravate the transaction management problem because of the difficulty of maintaining a suitable amount of cryptocurrency

liquidity within the platform to maintain the stability of the operation.

### 5.2.4 Trust-in-peers and trust-in-cryptocurrency

Cryptocurrency has been suggested as the solution to the problem of lack of trust-in-peers (Mehrwald et al., 2019). Undoubtedly, cryptocurrency, with its support for trust building, should be part of the future of the sharing economy. Zarifis et al. (2015) validated the notion that trust can come from transaction experience, faith in humanity, institution-based trust, and trust in the retailer. Nagel and Kranz (2020) argued that trust can also come from information technology artifacts. Voskobojnikov et al. (2021) found that trust-in-cryptocurrency was the main barrier to nonusers' adoption of cryptocurrency. From the findings of the studied articles, we can identify the sources and factors of trust-in-cryptocurrency and we can understand that trust is the main concern of people adopting cryptocurrency. Accordingly, trust-in-cryptocurrency is a crucial component of adopting cryptocurrency as a means of payment. However, the relationship between trust-in-cryptocurrency and trust-in-peers is not studied by scholars yet. For instance, people who have a positive attitude toward cryptocurrency may also have a positive attitude toward the sharing economy because of their preference for decentralization, so they may be more willing to trust each other in the context of sharing economy. Furthermore, a person may trust the cryptocurrency held by other people rather than trusting the people themselves, so trust-in-cryptocurrency may be a proxy for trust-in-peers. Studying the relationship between trust-in-cryptocurrency and trust-in-peers could help us understand how cryptocurrency helps build trust in sharing economy platforms.

### 5.2.5 Selection of cryptocurrency

People do not trust all cryptocurrencies. Mattke et al. (2020) found that profit expectancy was not necessary for investment behavior; some people may invest for ideological reasons. In other words, not everyone treats cryptocurrency as an asset whose profitability should be considered. This approach can also be applied to the user's selection of cryptocurrency. When trust building is an issue, the background and ideology of a given cryptocurrency are important. First, assuming that people trust each other because they trust the cryptocurrency they hold, people may trust a person holding Bitcoin more than a person holding a lesser-known cryptocurrency. Second, assuming that people trust other people whose ideology is similar to their own, a person using USDT (Tether) would tend to trust a person using BUSD

(Binance USD) since they have similar preferences of cryptocurrency (i.e., they select to hold stablecoin in this case). Moreover, social sentiment and attention to cryptocurrency have a significant relationship with cryptocurrency performance (Georgoula et al., 2015; Mai et al., 2018; Kremser et al., 2019; Xie et al., 2020). In other words, people's opinions or beliefs regarding cryptocurrency affect the performance of cryptocurrency and vice versa. Thus, the performance of a given cryptocurrency may affect how people view others trading in that cryptocurrency. For instance, if a platform allows people to use a high-risk cryptocurrency and fiat currency for transactions, people may not trust the person using a high-risk cryptocurrency because of risk aversion. Thus, it may potentially discourage trust-in-peers within the platform if there are a certain amount of people using that high-risk cryptocurrency for transactions. Stablecoins (i.e., coins whose exchange rate with the fiat currencies, such as the US dollar and Euro, is manipulated to be one-to-one) can be unstable, as shown by the failure of UST (TerraUSD), so only allowing stablecoins may not be a successful solution for this issue. Because the uncertainty of the cryptocurrency market can affect trust-in-cryptocurrency and trust-in-peers, the selection of cryptocurrency can affect the trust-building ability of a cryptocurrency within a sharing economy platform. Therefore, selecting a suitable cryptocurrency is a critical topic for interested scholars to study.

## 6. Discussion

This review paper contributes to the literature by offering an overview of the state of cryptocurrency research in the IS discipline. In addition, the paper offers insights into the cryptocurrency implications for the sharing economy and the affordances of sharing economy platforms. First, we presented a detailed overview of the state of cryptocurrency research in the IS field from five unique perspectives: trends, foci, theories and models, methods applied, and research samples. Second, we discussed how the implications of cryptocurrency can build trust-in-peers and a less centralized sharing economy platform through "trust building" and "managing transactions" affordances. In terms of academic contributions, we provide scholars with a complete view of the state of cryptocurrency research in the IS field, along with feasible suggestions for future research directions regarding the implications of cryptocurrency for the sharing economy. For our practical contributions, we offer a general view of IS research into cryptocurrency-related phenomena and issues and what we can expect

to know in the future about how cryptocurrency can be applied in the sharing economy.

Nonetheless, this paper cannot avoid the typical limitations of literature reviews. First, this systematic review paper was limited to the set of articles that met the targeted keywords and selection criteria available in the data source. Researchers could still gain further knowledge from sources beyond academic journals and conferences in the IS field. Second, our results were limited by the early stage of cryptocurrency research. We were unable to identify a dominant theory or model from our data set, so we could not create an integrated framework. Further studies should replicate this paper's approach and method in different stages, contexts, and cultural backgrounds to develop an integrated framework or even a meta-analysis once the sample of articles is adequate.

## 7. Reference

Abbatemarco, N., De Rossi, L., & Salviotti, G. (2018). An econometric model to estimate the value of a cryptocurrency network. The Bitcoin case. *ECIS 2018.*

Abramova, S., & Böhme, R. (2016). Perceived benefit and risk as multidimensional determinants of bitcoin use: A quantitative exploratory study. *ICIS 2016.*

Ante, L. (2020). A place next to Satoshi: foundations of blockchain and cryptocurrency research in business and economics. *Scientometrics*, 124(2), 1305-1333.

Ballandies, M. C., Dapp, M. M., Degenhart, B. A., & Helbing, D. (2021). Finance 4.0: Design principles for a value-sensitive crypto economic system to address sustainability. *ECIS 2021.*

Chan, T. K., Cheung, C. M., & Lee, Z. W. (2017). The State of Online Impulse-buying Research: A Literature Analysis. *Information & Management*, 54(2), 204-217.

Chan, T. K., Cheung, C. M., & Lee, Z. W. (2020). Cyberbullying on Social Networking Sites: A Literature Review and Future Research Directions. *Information & Management*, 103411.

Chanjaroen, C., Amin, H. and Ossinger, J., 2021. Singapore Has Grand Ambitions to Become a Global Crypto Hub. *Bloomberg.*

Chaudhary, K. C., Chand, V., & Fehnker, A. (2020). Double-spending analysis of bitcoin. *PACIS 2020.*

Chen, W., Xie, K., & Li, W. (2020). Growing Entrepreneurship with Crypto Tokens. Available at SSRN 3472069. *ICIS 2020.*

Cheung, C. M., & Thadani, D. R. (2012). The Impact of Electronic Word-of-Mouth Communication: A Literature Analysis and Integrative Model. *Decision Support Systems*, 54(1), 461-470.

Corbet, S., Lucey, B., Urquhart, A., & Yarovaya, L. (2019). Cryptocurrencies as a financial asset: A systematic analysis. *International Review of Financial Analysis*, 62, 182-199.

Delfabbro, P., King, D. L., & Williams, J. (2021). The psychology of cryptocurrency trading: Risk and protective factors. *Journal of behavioral addictions*, 10(2), 201-207.

Dürr, A., Griebel, M., Welsch, G., & Thiesse, F. (2020). Predicting Fraudulent initial Coin Offerings using Information Extracted from Whitepapers. *ECIS 2020.*

Eigelshoven, F., Ullrich, A., & Parry, D. A. (2021). Cryptocurrency Market Manipulation: A Systematic Literature Review. *In International Conference on Information Systems.*

Esmaeilzadeh, P., Hemang, S., & Cousins, K. (2019). Individuals' cryptocurrency adoption: A proposed moderated-mediation model. *AMCIS 2019.*

Georgoula, I., Pournarakis, D., Bilanakos, C., Sotiropoulos, D., & Giaglis, G. M. (2015). Using time-series and sentiment analysis to detect the determinants of bitcoin prices. *MCIS 2015.*

Gildehaus, L., & Abramova, O. (2022). Social Media Attention, Investor Sentiment, and Cryptocurrency Prices: A Literature Review of Determinants and Modeling Approaches. *PACIS 2022.*

Gkritsi, E., 2022. UAE to Issue Crypto Licenses in Bid to Become Industry Hub: Report. *CoinDesk.*

Glaser, F., Zimmermann, K., Haferkorn, M., Weber, M. C., & Siering, M. (2014). Bitcoin–asset or currency? Revealing users' hidden intentions, *ECIS 2014.*

Hawlitschek, F., Notheisen, B., & Teubner, T. (2020). A 2020 perspective on "The limits of trust-free systems: A literature review on blockchain technology and trust in the sharing economy". *Electronic Commerce Research and Applications*, 40, 100935.

Hayes, A. S. (2015). Cryptocurrency value formation: An empirical study leading to a cost of production model for valuing bitcoin. *MCIS 2015.*

Heines, R., Dick, C., Pohle, C., & Jung, R. (2021). The Tokenization of Everything: Towards a Framework for Understanding the Potentials of Tokenized Assets. *PACIS 2021*

Hofmann, A., Freichel, C., & Winkelmann, A. (2021). A Decentralized Marketplace for Collaborative Manufacturing. *ECIS 2021.*

Hofmann, A., Schatz, F. J., & Winkelmann, A. (2020). Uncovering the Mining Behaviour in Proof-of-Work Blockchains. *ECIS 2020.*

Holub, M., & Johnson, J. (2018). Bitcoin research across disciplines. *The information society*, 34(2), 114-126.

Hülsemann, P., & Tumasjan, A. (2019). Walk this Way! Incentive Structures of Different Token Designs for Blockchain-Based Applications. *ICIS 2019.*

Ilk, N., Shang, G., Fan, S., & Zhao, J. L. (2021). Stability of Transaction Fees in Bitcoin: A Supply and Demand Perspective. *MIS Quarterly*, 45(2), 563–692.

Islam, N., Mäntymäki, M., & Turunen, M. (2019). Understanding the role of actor heterogeneity in blockchain splits: An actor-network perspective of bitcoin forks. *HICSS 2019.*

Jafar, B., 2022. The French Binance License: Is Paris Planning to Become Europe's Crypto Hub?. *Finance Magnates.*

Janze, C. (2017). Are cryptocurrencies criminals best friends? Examining the co-evolution of bitcoin and darknet markets. *AMCIS 2017.*

Janze, C., & Gvozdevskiy, I. (2017). What Drives the Competition of Cryptocurrency Exchanges? Examining the Role of the Market and Community. *ICIS 2017.*

Kazan, E., Tan, C. W., & Lim, E. T. (2015). Value creation in cryptocurrency networks: Towards a taxonomy of digital business models for bitcoin companies. *PACIS 2015.*

Keller, A., & Scholz, M. (2019). Trading on cryptocurrency markets: Analyzing the behavior of bitcoin investors. *ICIS 2019.*

Killeen, A. (2015). The confluence of bitcoin and the global sharing economy. *In Handbook of digital currency* (pp. 485-503). *Academic Press.*

Kim, K., & DAIDJ, N. (2021). Information Asymmetry on Cryptocurrency Trading: The Spillover Effect and Quality of Social Sentiment. *AMCIS 2021.*

Kim, K., Lee, S. Y. T., & Assar, S. (2019). Coin market behavior using social sentiment Markov chains. *PACIS 2019.*

Kimmerl, J. (2020). Understanding users' perception on the adoption of stablecoins-the libra case. *PACIS 2020.*

Knowles, M., 2022. The Philippines kickstarts 'fintech hub' by licensing cryptocurrency exchanges. *Medium.*

Kremser, T., Radszuwill, S., Schweizer, A., & Steffek, B. (2019). How do large stakes influence bitcoin performance? Evidence from the Mt. Gox liquidation case. *ECIS 2019.*

Lankton, N., McKnight, D. H., & Thatcher, J. B. (2014). Incorporating trust-in-technology into Expectation Disconfirmation Theory. *The Journal of Strategic Information Systems*, 23(2), 128–145.

Li, X., & Wang, C. A. (2017). The technology and economic determinants of cryptocurrency exchange rates: The case of Bitcoin. *Decision Support Systems*, 95, 49–60.

Liu, J. (2016, October). Bitcoin literature: a co-word analysis. *In 6th Economics & Finance Conference, OECD: Paris* (pp. 262-272).

Lockl, J., & Stoetzer, J. C. (2021). Trust-free banking missed the point: The effect of distrust in banks on the adoption of decentralized finance. *ECIS 2021.*

Mai, F., Shan, Z., Bai, Q., Wang, X., & Chiang, R. H. L. (2018). How Does Social Media Impact Bitcoin Value? A Test of the Silent Majority Hypothesis. *Journal of Management Information Systems*, 35(1), 19–52.

Marella, V., Kokabha, M. R., Merikivi, J., & Tuunainen, V. (2021). Rebuilding Trust in Cryptocurrency Exchanges after Cyber-attacks. *HICSS 2021.*

Mattke, J., Maier, C., Reis, L., & Weitzel, T. (2021). Bitcoin investment: a mixed methods study of investment motivations. *European Journal of Information Systems*, 30(3), 261–285.

Mehrwald, P., Treffers, T., Titze, M., & Welpe, I. (2019). Blockchain technology application in the sharing

economy: a proposed model of effects on trust and intermediation. *HICSS 2019.*

Morisse, Marcel, "Cryptocurrencies and Bitcoin: Charting the Research Landscape" (2015). *AMCIS 2015 Proceedings*. 16.

Nagel, E., & Kranz, J. (2020). Exploring Technological Artefacts at the'Trust Frontier'of Blockchain Token Sales. *ECIS 2020.*

Nakamoto, S. (2009). "Bitcoin: A peer-to-peer electronic cash system"

Oshodin, O., Molla, A., & Ong, C. E. (2016). An information systems perspective on digital currencies: a systematic literature review. *ACIS 2016 Proceedings*. 74.

Park, M., & Chai, S. (2020). The effect of information asymmetry on investment behavior in cryptocurrency market. *HICSS 2020.*

Qureshi, S., & Xiong, J. (2019). The effect of bitcoin transactions on human development: Emerging business models. *AMCIS 2019.*

Risius, M., & Spohrer, K. (2017). A Blockchain Research Framework. *Business & Information Systems Engineering*, 59(6), 385–409.

Sadhya, V., Sadhya, H., Hirschheim, R., & Watson, E. (2018). Exploring technology trust in Bitcoin: The blockchain exemplar. *ECIS 2018.*

Sapuric, S., Kokkinaki, A., & Georgiou, I. (2017). In Which Distributed Ledger Do We Trust? A Comparative Analysis Of Cryptocurrencies. *MCIS 2017.*

Schirrmacher, N. B., Jensen, J. R., & Avital, M. (2021). Token-Centric Work Practices in Fluid Organizations: The Cases of Yearn and MakerDAO. *ICIS 2021.*

Shin, S. I., Kim, J. B., Hall, D., & Lang, T. (2019). What Information Propagates among the Public when an Initial Coin Offering (ICO) is Initiated? A theory-driven approach. *HICSS 2019.*

Sun Yin, H. H., Langenheldt, K., Harlev, M., Mukkamala, R. R., & Vatrapu, R. (2019). Regulating Cryptocurrencies: A Supervised Machine Learning Approach to De-Anonymizing the Bitcoin Blockchain. *Journal of Management Information Systems*, 36(1), 37–73.

Sutherland, W., & Jarrahi, M. H. (2018). The sharing economy and digital platforms: A review and research agenda. *International Journal of Information Management*, 43, 328-341.

Tan, T. M., & Salo, J. (2021). Ethical marketing in the blockchain-based sharing economy: Theoretical integration and guiding insights. *Journal of Business Ethics*, 1-28.

Tana, S., & Breidbach, C. (2021). Institutionalizing Digital Transformation through Cryptocurrency Use. *ECIS 2021.*

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. *British Journal of Management,* 14(3), 207–222.

Tronnier, F., Hamm, P., & Harborth, D. (2020). The Role of Behavioural Biases and Personality Traits of Retail Investors in ICOS. *ECIS 2020.*

Tronnier, F., Recker, M., & Hamm, P. (2020). Towards Central Bank Digital Currency–A Systematic Literature Review. *ACIS 2020 Proceedings*. 131.

Turner, A., McCombie, S., & Uhlmann, A. (2021). Follow the money: Revealing risky nodes in a Ransomware-Bitcoin network. *HICSS 2021.*

Voskobojnikov, A., Abramova, S., Beznosov, K., & Böhme, R. (2021). Non-Adoption of Crypto-Assets: Exploring the Role of Trust, Self-Efficacy, and Risk. *ECIS 2021.*

Wang, Y., & Chen, R. (2020). Cryptocurrency price prediction based on multiple market sentiment. *HICSS 2020.*

Wörner, D., Von Bomhard, T., Schreier, Y. P., & Bilgeri, D. (2016). The Bitcoin ecosystem: disruption beyond financial services?. *ECIS 2016.*

Xie, P., Chen, H., & Hu, Y. J. (2020). Signal or Noise in Social Media Discussions: The Role of Network Cohesion in Predicting the Bitcoin Market. *Journal of Management Information Systems*, 37(4), 933–956.

Ye, C., & Zhao, L. (2021). Public Perceptions of Facebook's Libra Digital Currency Initiative: Text Mining on Twitter. *HICSS 2021.*

Zamani, E. D., & Babatsikos, I. (2017). The use of bitcoins in light of the financial crisis: The case of Greece. *MCIS 2017.*

Zarifis, A., Cheng, X., Dimitriou, S., & Efthymiou, L. (2015). Trust in Digital Currency Enabled Transactions Model. *MCIS 2015.*