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Five Significant Issues of Digital Payment Systems – A Content Analysis

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6 July 2024

To

Editor in Chief

Journal of Finance and Data Science

Dear Sir/Madam

We are very pleased to submit the new literature review manuscript entitled *"Five Significant Issues of Digital Payment Systems – A Content Analysis".* This paper explores issues of digital payment systems for defining significant current state-of-art in the literature. We utilise a content analysis for scrutinising contents of 111 sample articles in related to digital payment systems. The research team deeply investigated to identify five vital issues in digital payment systems: security, convenience, trust, privacy, and adoption of digital payment technology. We feel that this finding may add beneficial values to early career researchers in FinTech and relevant studies.

We never publish the materials to any journal or conference. Thank you for your kind attention.

Sincerely

Authors

Five Significant Issues of Digital Payment Systems – A Content Analysis

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Digital payment system, financial technology, fintech, technical issues, end users' problems.

Declaration of Interest statement

Conflict of Interest: None

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Abstract:

Digital payment systems have revolutionised the financial landscape, offering unprecedented convenience and efficiency. However, relative rapid adoption has highlighted critical issues that must be addressed to ensure their sustainability and broader acceptance. This study aims to explore the problems of digital payment systems and identify significant current issues. Using four prominent electronic databases, qualifying articles published in the last eight years (from Jan 2017 – June 2024) were sourced for categorisation and analysis. A total of 111 articles on issues of digital payment systems were selected for relevant content on FinTech (financial technology) studies. The research team deeply investigated the articles using established content analysis protocols. The analysis identified five vital issues in digital payment systems: security, convenience, trust, privacy, and adoption of digital payment technology. Other key issues are also identified through the content analysis, suggesting topical research priorities for bringing attention to future research.

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Introduction

The payment system has come a long way, from the barter system to the currency system to an intelligence-powered one. Digital technologies that have been used in the payment systems of financial industries are well-known as FinTech (Financial technologies). The tasks of FinTech are automating and delivering financial services to the masses using cutting-edge technologies and the power of the Internet (Hossain et al., 2023; Kuzior et al., 2022). The difference between traditional financial technologies and fintech can be articulated through financial services effectively for organisations, individuals, and customers, such as managing financial operations and processes using end-user digital devices (e.g. computers and mobile phones). Various business users are the users of FinTech, including retail banking (Ferrari, 2016), investment managers (Lee & Shin, 2018), charity organisations, fundraisers, and educational institutions (Gomber et al., 2018).
In the initial stage, FinTech was used at the back-end systems of banks or financial institutions. Since then, FinTech has been improving for end users by significantly impacting their user bases, extending to a wide range of customers and applications. End users may purchase online and manage their financial accounts, trade stocks, pay utility bills, and handle their medical, educational, and insurance using their digital applications instantly. The way of managing accounts, tracking stocks and funds has changed due to the power of FinTech and its advanced accessibility.

As digital payment systems allow a new reality of the elimination of physical cash, transactions must be propagated online to reduce physical activities, e.g. long waiting times at the banks or Automated Teller Machines (ATMs). The digital payment systems for the market and users must be safe, secure, sound, efficient, and accessible. Enormous changes in digital payment systems are enabled to ensure that all the criteria are met. The primary purpose of FinTech is to improve the client's economic transactions with ease, anywhere, at any time, and with security provisions. To accomplish these, FinTech institutions accumulate and join other financial service institutions so that large transactions may be accumulated and maintained for the marketplace without creating any difficulties. Financial inclusions and

leveraging technologies are considered the main driving forces behind these large transactions in the market, which minimises operational costs and joins all the stakeholders in financial industries.

As the number of transactions through FinTech is happening millions per second, it is imperative to foster primary issues: a) Concerns in relation to protecting the entire ecosystem against cyberattacks (Tan & Chung, 2023; Hossain et al., 2023; Kuzior et al., 2022); b) fraudulent actors to scam people in financial technology, especially the elderly (Kabla et al., 2022); c) data breaches that are dangerous concern regarding this technology, where digital financial institutions keep a large volume of private data of millions of users (Unsal & Brodmann, 2021; Mohammadi et al., 2022); d) agreements with legislation and policymakers regarding the conduct and standards between them and users to secure and safeguard their personal and financial information (Kharisma & Hunaifa, 2022; Sun et al., 2022); and e) human error e.g. security breaches that may happen due to mistakes made by users and human stakeholders (Kang, 2018). The background of these issues is a significant element for FinTech researchers and practitioners in this field.

In our study, we analysed existing digital payment systems studies to reveal insights using a thematic analysis so that we can outline the research agenda for further research and prepare an analysis prior to any innovative FinTech design. We selected the works of literature published in the last eight years (from 2017 to mid-2024), prepared findings using a content analysis method. The findings are classified to identify enhancements in their digital payment system analytics rationales. It is important to note that four multi-disciplinary academic databases were used as sources for the collection of literature.

Study background

Issues in the Digital Payment Systems

FinTech communities (FinTech institutions, service providers, individual users, business organisations, central banking systems) and governments continuously confront numerous issues related to digital payment systems. A good number of individual users and customers using digital payment systems are concerned regarding their privacy (Liébana-Cabanillas et al., 2024; Nurmara et al., 2023; Haque & Shoaib, 2023) as it involves their personal information and financial information. They also confront perceived risk issues in digital transactions (Susanto et al., 2022; Chaveesuk et al., 2021).

Elderly and rural customers face technological adoption problems (Golub et al., 2022; Alkhowaiter, 2020). People using digital financial systems generally face interoperability issues with their different digital devices (Ul et al., 2017). Trust issues are among the most mentioned (Thar & Wai, 2024; Mogaji & Nguyen, 2024; Ling et al., 2024). Customers are also facing issues related to perceived security (Schiansky et al., 2023; Cotugno et al., 2024; Uddin et al., 2023), perceived usefulness (Alkhowaiter, 2020; Dadhich et al., 2018), satisfaction and comfort while using digital systems (Latif & Razak, 2023), inconveniency (Abdulai et al., 2024; Musyaffi et al., 2021;), social influence (Al-Okaily et al., 2020; Musyaffi et al., 2021), cultural barriers (Antonio et al., 2024; Khan et al., 2024; Niankara & Traoret, 2023), quality of the systems are not up to their expectation (Ghobadi & Mathiassen, 2024; Ling et al., 2024; Horváth, 2023), perceived fear (Musyaffi et al., 2021) of acceptance of the systems in their daily life. Customers, businesses, and industries face major digital transaction issues. Companies and large markets have become deeply involved with digital financial technology as it offers them the speed of transactions, most of the time from one country to another, and the ability to efficiently handle large amounts of transactions.
However, FinTech has common difficulties with performance expectancy (Chaveesuk et al., 2021; Musyaffi et al., 2021), fraud vulnerability (Fachrian et al., 2024; Thar & Wai, 2024; Cebeci et al., 2022), data leaks (Cebeci et al., 2022; Lu et al., 2018), data misuse (Akanfe et al., 2020), sometimes lack traceability (Sumanjeet, 2009), internal processing

issues (Uddin et al., 2023; Segura-Millán & Perez-Verdin, 2023), loss of control (Nguyen et al., 2024), system or hardware failure (Uddin et al., 2023; Fachrian et al., 2024), and flexibility (Dadhich et al., 2018).

Existing FinTech literature

A good number of literature reviews have been conducted in the research domain. Studies mainly focused on applying financial technologies and emerging systems in different countries, industries, and marketplaces. They adopt new technological constructs, concepts, and methods for preventing security issues in digital payment systems. The majority of reviewed works highlight critical analysis of blockchain technologies and their various implications on different industries (Paul & Sadath, 2021; Sah et al., 2023; Gramlich et al., 2023; Osei et al., 2023), content and policy analysis of Central Bank Digital Currencies (CBDC) in different countries (Genc & Takagi, 2024; Sah et al., 2023; Batra et al., 2024), customer acceptance of digital payment systems (Singh et al., 2022), integration of digital payment systems (Garg & Kumar, 2024; Abdulla & Al-Alawi, 2023), adoption of digital payment in SMEs in different countries (Khan et al., 2024), mobile payment system usability analysis (Hellemans et al., 2022; Kawamoto et al., 2023), use of artificial intelligence in fintech (Dakalbab et al., 2024; Osei et al., 2023), user experience in peer-to-peer transactions (Alshater et al., 2022; Manimuthu et al., 2019). Table 1 illustrates some details of selected review studies in recent years.

Existing Studies	***Literature Review methodologies***	***Aims of the analysis***
(Kalyani & Gupta, 2023)	734 articles, meta-analysis	This study reviews 734 articles on AI and ML innovations in banking, examining their impact on sector growth, security, and consumer trust while suggesting future research.
(Osei et al., 2023)	268 publications, bibliometric analysis	This study reviews 268 digital banking transformation (DBT) publications, highlighting essential UK, USA, Germany, and China research on FinTech, blockchain, and AI trends.
(Wagner, 2024)	92 publications, full-text analysis	This study reviews 92 publications on conventional and digital investment advisory decisions, identifying five key determinants that differ in their application but are crucial for both.
(Hägele, 2024)	89 articles, descriptive analysis	This study reviews literature from 2019 to 2023 on cryptocurrency exchanges, analysing the CEX vs. DEX debate, regulatory challenges, and pricing function designs, highlighting future research opportunities.
(Dakalbab et al., 2024)	143 articles, technical analysis	This study reviews 143 articles on AI in financial trading, analysing markets, asset types, AI techniques, and performance metrics, highlighting the prevalence of technical analysis and deep learning techniques.
(Jafri et al., 2024)	26 articles, thematic analysis	This study reviews 26 articles on Fintech adoption, emphasising trust, security, and behavioural intentions. It identifies key themes and research gaps and offers recommendations for future studies using the TCCM framework.

(Sah et al., 2023)	221 articles, bibliometric analysis	This study reviews 221 Central Bank Digital Currency (CBDC) papers from 2018 to 2023, analysing trends and patterns highlighting significant publication growth in 2021-2022.
(Neves et al., 2023)	121 articles, meta-analysis	This meta-analysis synthesises 121 articles on digital financial services, emphasising adoption factors like perceived usefulness, ease of use, security, and trust. It highlights cultural influences on usage preferences and provides insights for practitioners and future research.

Table 1: Brief description of some relevant FinTech review studies

To address the limitations reported in the table, we aim to explore the issues faced in the financial technology industry with the digital payment systems literature. First, we examined the development literature to reveal the problems various stakeholders face in the digital payment system as a research methodology. For this, we elected relevant criteria and applied qualitative content analysis to generate themes inductively to match the issues in payment components. The findings are presented through the relevance analysis described below. The following sections provide great details.

Study Methodology

A Systematic Literature Review (SLR) has been effectively adopted to identify trends and generalisable insights that help direct and enhance the corpus of knowledge on a topic (Webster & Watson, 2002). Learning from this, for example, the SLR outcome helps identify productive avenues for advancing any technical information systems (e.g. a FinTech) practice and research. SLRs can maintain the development of evidence-based guidelines for practitioners and organise related studies (Ghafari et al., 2012) that offer beneficial understanding for researchers and industry practitioners in conducting their studies in future. Following the survey protocols (Brereton et al., 2007), three phases of planning (defining research question and protocol), conducting (finding and evaluating relevant studies), and document review (writing up the synthesis of findings), we design our SLR to cater for the need of capturing deeper understanding of issues in the digital payment systems. Figure 1 shows the overall review methodology we set up for the study.

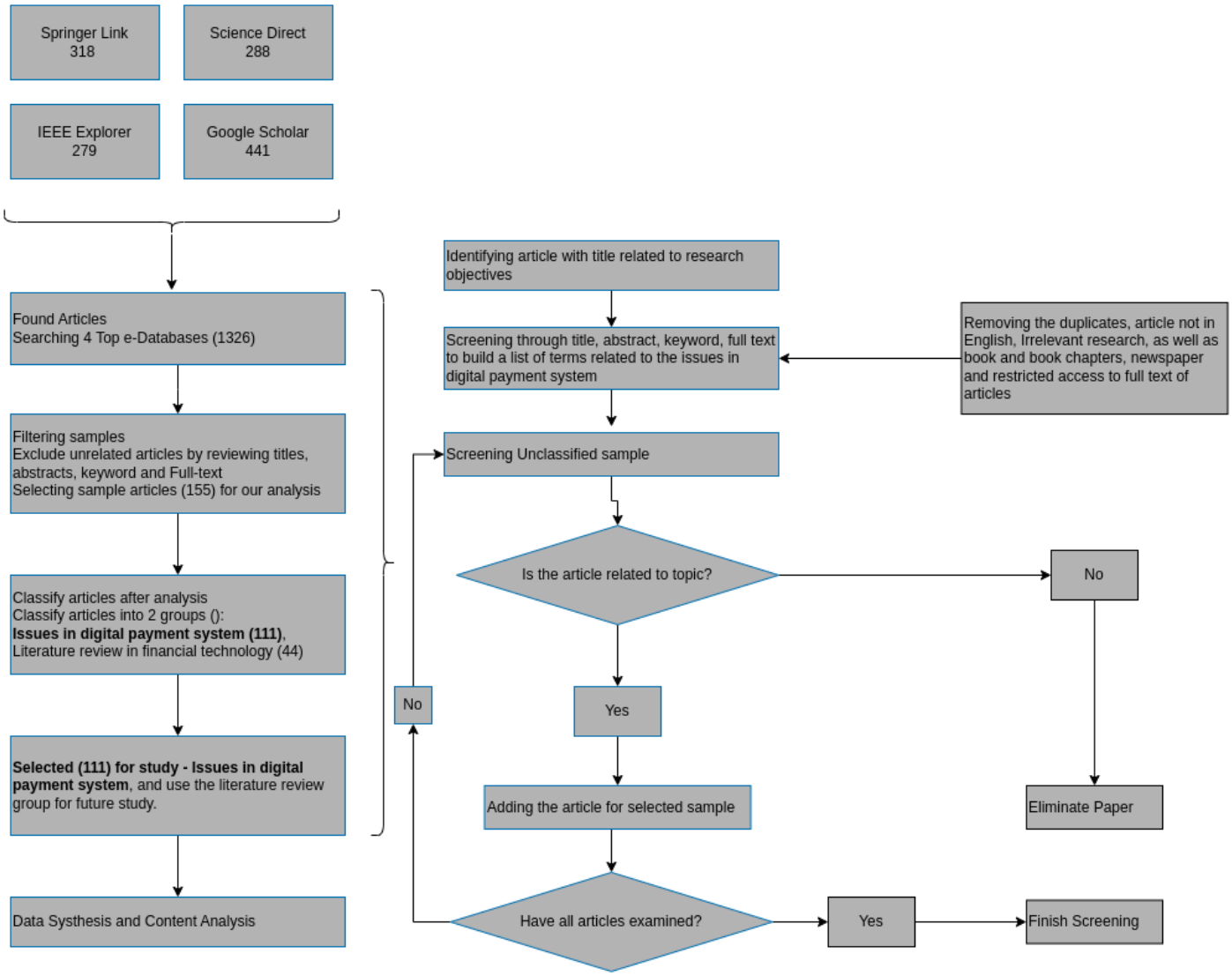

Fig 1: Proposed review methodology for sample collection and analysis

The study's primary purpose is to discover FinTech issues in industries adopting digital payment systems. The scope of this study is to promote digital payment analytics research, elevating vital issues that were described in existing studies. We took a bottom-up approach to collecting sample articles from a multidisciplinary perspective. We selected significant online databases as our source instead of identifying particular journals. While the whole sample collection and analysis process is illustrated in Figure 1, Figure 2 shows the research growth in this field.

We took 1326 sample articles and classified them into two groups. The groups are a). issues related to digital payment systems (972) and b). literature review in FinTech (354). Finally, for our analysis or further examination, we selected mainly the perceived issues in digital payment systems (337) articles that are completed research articles published in the English language. We could not use the rest of the articles due to the inaccessibility of the research articles in the database. Since we intend to illustrate the growing trends of digital payment systems studies, cumulative progress has been seen from year 2017 to mid-year 2024 in digital payment system research (data was collected up to June 2024, and we anticipate that the total research on the topic will exceed the research done in the previous year). A correlation value (R^2) of 80 per cent adjusted the trend statistics significantly.

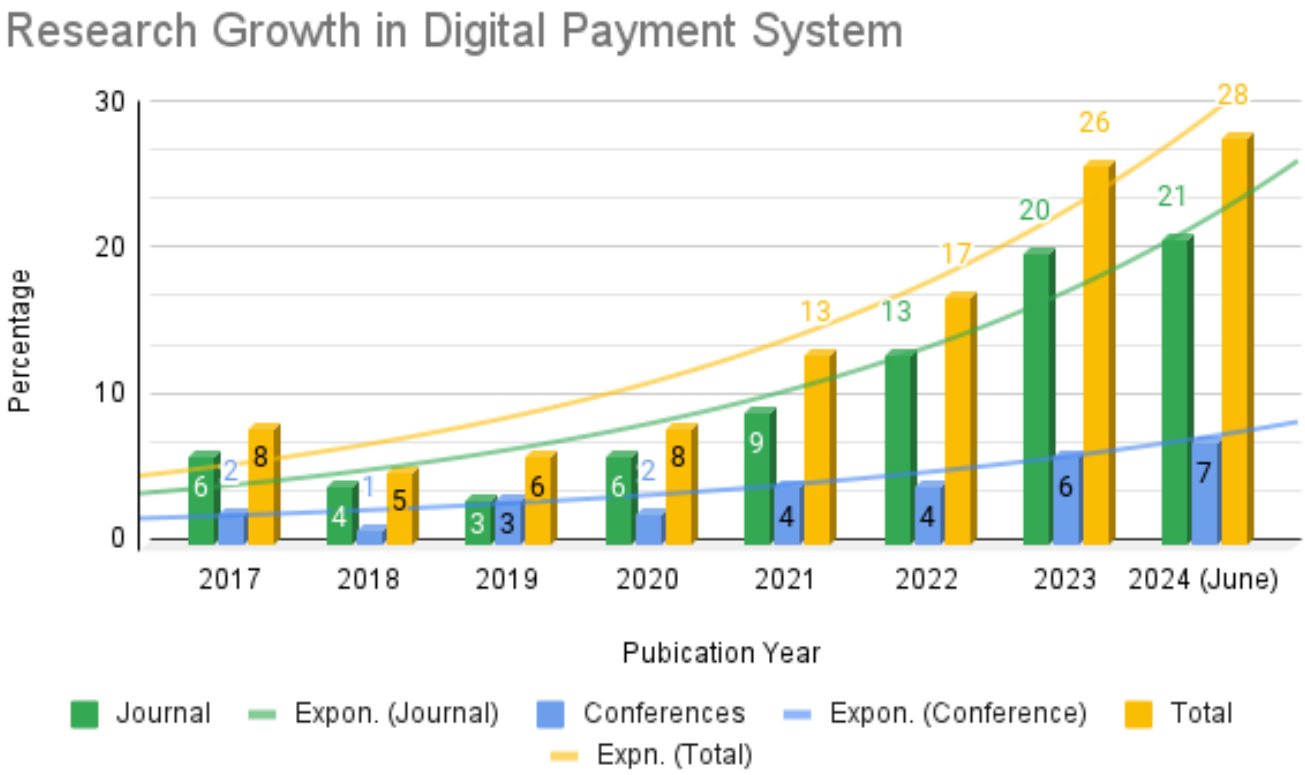

Fig 2: Research growth in digital payment systems over the past eight years.

The journal and conference publications of each year are illustrated in Figure 3. The X-axis shows the publication year. On the other hand, the Y-axis shows the percentage of journal and conference publications published each year. Each of the bars in the illustration shows the publication amount each year. From Figure 3, we can understand that the number of publications is increasing exponentially every year. More precisely, the trend line shows a steady rise for both, with journals going somewhat higher and now making up a more significant share of outputs after beginning at a lower base. The relative proportion of journals confirms the field's maturity as an emerging discipline, and ongoing expansion may be anticipated in the medium term as conference outputs are also rising in absolute terms and, if considered, as a leading indication of future journal numbers.

The search was conducted across four electronic databases to find example publications published between 2017 and mid-2024, as shown in Figure 1. In order to comply with PRISMA, which offers guidelines on the evidence-based minimum sets of items needed for performing SLRs, we also simultaneously searched for "issues and problems in digital payment systems" and "issues and problems in fintech transactions" in a particular database from 2017 to mid-2024. PRISMA focuses on meta-analysis related to digital payment systems, but it may also serve as a foundation for publishing reviews in other contexts. In order to get the highest number of pertinent articles, search words (Ghafari et al., 2012) determined subjectively were used in each database. These search strings included the terms {"issues" or "problems"} and {"digital payment" or "fintech transactions"}. We did, however, omit book chapters, media pieces, unpublished publications, non-scientific articles, and items that were not in English.

First, we identify a group of possibly relevant articles by evaluating the titles and applying the pre-established inclusion and exclusion criteria to every item. After that, the whole text of each article was acquired, and we carefully looked through each one to assess its contents. Of the 337 publicly accessible complete articles from four databases, 13 duplicates were removed, 107 items did not meet our study topic or target parameters, and 26 more articles were classified as newspaper or unreviewed internet materials. Finally, more than 80 articles were removed because of

irrelevant information discovered during a manual evaluation of the title, keywords, abstracts, and full text. Ultimately, following our issues in digital payment system group categorisation coding, we eliminated 226 articles from our sample of 337, deeming them unsuitable for answering our research question. Consequently, 111 articles were chosen for further study.

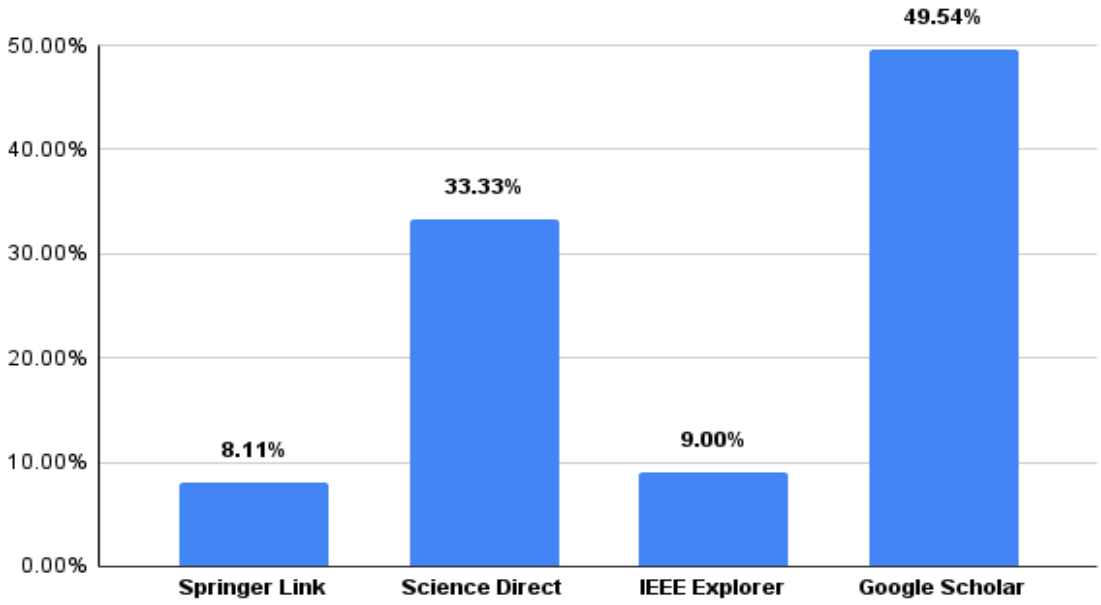

Fig 3: Database sources for issues in digital payment system research articles

Content analysis allows us to investigate target contents directly through any human interaction process, including spoken, visual, and written materials. It uses qualitative and quantitative research approaches for data analysis (Forman et al., 2008). A qualitative content analysis summarises the original data; inductive analysis is suitable when *"there are no previous studies dealing with the phenomenon or when it is fragmented*", even if deductive and inductive procedures are both often used. We use an inductive approach to analyse and classify the properties of the 111 articles regarding digital payment systems design and relevant issues. Four vital open-access databases were elected to identify articles on our target areas of interest for the investigation. Among a total of 111 articles, 09 were collected from Springer Link, 10 from IEEE Explorer, 37 from Science Direct, and a total of 55 articles were collected from the Google Scholar database due to their relevant associated facts that were of interest in the study.

Although (Elo & Kyngäs, 2008) point out that there are no precise analytic guidelines, we were influenced by their three steps of preparation, organisation, and reporting when selecting the sample to obtain insights on topics, themes, and payment issues. The categorisation process in the preparatory stage seeks to create clusters based on similar and shared attributes. According to (Elo & Kyngäs, 2008), the categorisation process involves the interpretation that guides the arrangement of categories used to characterise the phenomena under study.

During the planning stage, we reviewed sample articles to determine the research's main topics, problems and works to mitigate the issues. We searched for their carefully stated methods, assessment methodology, and design process description, as these elements are related to Hevner's clear design research criteria (Hevner et al., 2004; Camilleri & Miah, 2017; Miah, 2009). While searching for the issues, we extracted the main issues discussed in the research articles and stored them in our database. After collecting the problems, we manually counted the instances of each issue. Finally, we took the top five issues from 29 aspects that were identified in the digital payment system after the count. We also analysed the articles from the literature review and categorised them based on the topics discussed. We found 11 categories from 44 literature review articles in the literature review categories.

At a later stage of our work, we dived deeper into issues-related research articles and literature review articles to find previous works that address our five vital issues in digital payment systems and developed policies, artefacts, and methods to mitigate them. We found 37 renowned works that have offered approaches to solving our five vital issues by analysing technological provisions.

Findings of our study

Our investigation scrutinised five critical issues of interest for digital payment system research (Figure 4). The multiple-response analysis prioritised the five main foci of the currently available studies. For instance, significant problems and issues faced in the FinTech problem domain are prioritised.

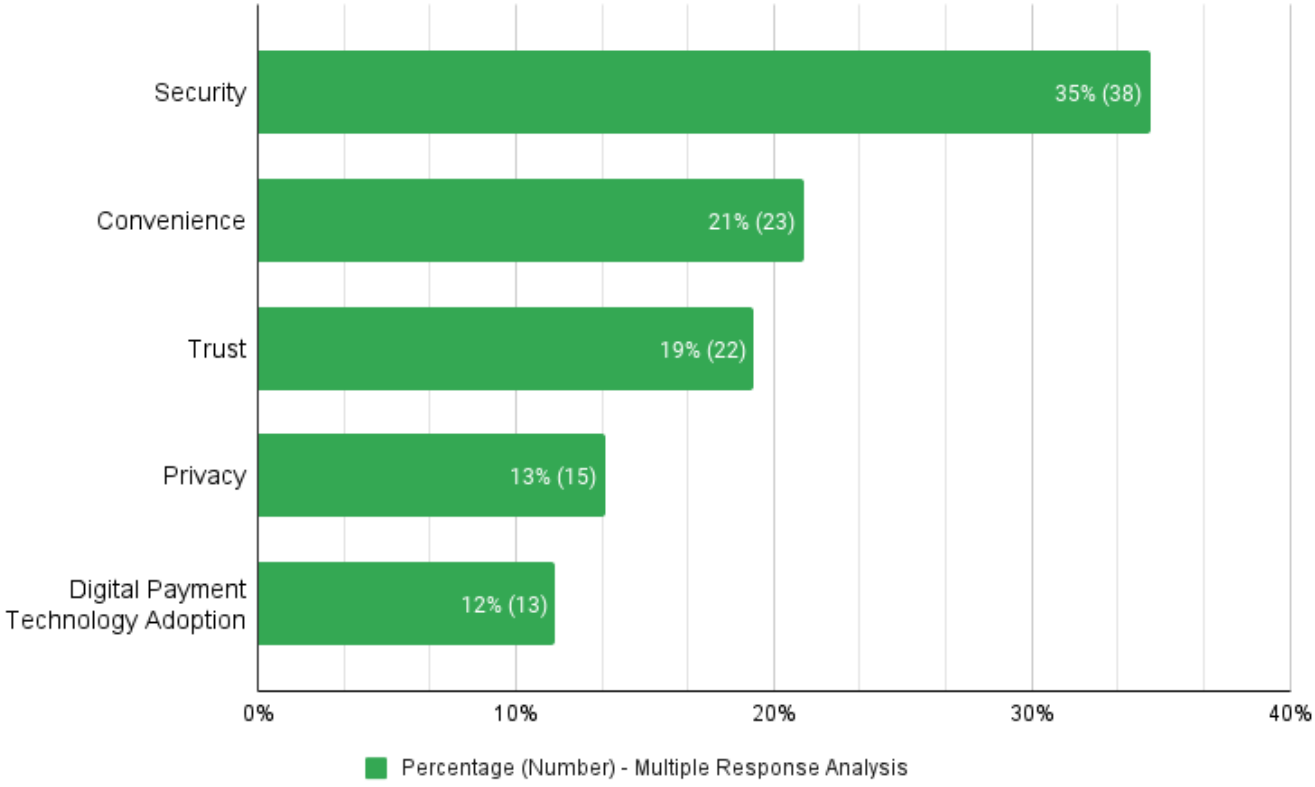

Fig 4: Five vital issues found in the digital payment systems

Our perspective was based on the objectivism paradigm, which allowed us to generate discoveries supported by previous research. “Security” issues were most common and suited to automatic assessment from large data sets due to the criminal and theft activities in the digital financial sectors. “Convenience” issues were also well represented since transitioning from a physical monetary system to a cashless, digital system is uncomfortable for large groups of people. The following issues profound in the financial technology areas are “Trust,” “Privacy,” and “Digital payment technology adoption” issues. From the total 111 research articles, we found 38 articles that studied security issues, 23 articles on convenience, 22 on trust-related issues, 15 on privacy concerns, and finally, 13 articles that talk about digital payment technology adoption.

While our investigation was to identify the five primary issues faced in the digital payment system, we have found other relevant issues. For instance, some issues are directly related to aspects of system/hardware failure, users perceived usefulness, customer satisfaction, lack of access, social influence, data misuse, lack of awareness, cultural barrier, fraud

vulnerability, transparency, flexibility, regulatory/legal issues, payment application quality, application error, data leaks, interoperability, lack of control, lack of traceability, and performance expectancy. As discussing all the issues found is within the scope of this research, our focus remains on the five primary issues that are rooted in the digital payment system areas. Our investigation, however, was predicated on manually going over each sample to determine the primary issues and further conducted research that tried to mitigate the problems.

Security issues are the primary issues for digital FinTech organisations. Digital FinTech systems handle a range of issues related to cyberattacks (Akanfe et al., 2020) and different malicious applications (Lu et al., 2018), such as computer viruses, phishing, pharming, worms, trojans, spoofing, denial of service attacks, man-in-the-middle, transaction poisoning, and spamming; security vulnerability exploits on mobile devices (Dadhich et al., 2018; Xia et al., 2019; Chen et al., 2019), online fraud (Thar & Wai, 2024; Cebeci et al., 2022; Fachrian et al., 2024), credit card fraud (Kolodiziev et al., 2020). Our study also found issues such as payment fraud in the construction industry due to complex supply chains and short-term supplier relationships (Nanayakkara et al., 2021), development of a large number of digital finance institutions without proper infrastructure due to the emerging demand during covid-19 pandemic (Aurazo & Vega, 2021; Wang et al., 2023; Chaveesuk et al., 2021), exploration of vulnerability in hardware/software limitations (Xia et al., 2019), increasing ransomware attacks (Connolly & Borrion, 2022), impacts of personal information theft from online purchase (Musyaffi et al., 2021), impacts of ethereum blockchain vulnerability to external attacks (Fachrian et al., 2024; Li et al., 2020) and scams (Ling et al., 2024; Prodhan et al., 2024).

Our research found several analytics oriented works that attempt to mitigate the security issues, such as blockchain-based payment systems (Van Glabbeek et al., 2023; Ibrahimy et al., 2023; Fachrian et al., 2024), cross-chain payment systems (Van Glabbeek et al., 2023), improving the near field communication security (Agárdi & Alt, 2022), machine learning-based approach in P2P payments (Antonio et al., 2024), interception of quantum cryptograms (Schiansky et al., 2023), interception of FairCoop cryptocurrency (Rasillo, 2023) and increasing the number of privately issued cryptocurrencies (Sadiq et al., 2023), enhancing payment security by Push-Pull-Mooring (PPM) framework and Task-Technology Fit (TTF) (Xia et al., 2023), advanced digital signature system cryptography integration (Xia et al., 2019), interception of machine learning based fraud detection systems (Thar & Wai, 2024; Kolodiziev et al., 2020), increasing the payment security in blockchain-based payment system using SafePay (Li et al., 2020) and improving the Bitcoin Collection Supervision System (BPCSS) (Chen et al., 2017).

The second vital issue considers the need for convenience in using digital FinTech. The problems faced are a lack of convenience in online purchasing (Dadhich et al., 2018), inconvenience in trade transactions (Abdulai et al., 2024), difficulties in the adoption of digital currency (Haque & Shoaib, 2023), difficulties with debit and credit card transactions (Ul et al., 2017), and inconvenience in mobile application payment (Agárdi & Alt, 2022; Perea-Khalifi et al., 2024). To address the issue, several works were offered in FinTech domain, including the development of system infrastructure (Mogaji & Nguyen, 2024; Abdulai et al., 2024), conducting technology familiarisation program in different stages, improving the mobile application quality, developing the payment system for ease of use (Poudel & Sapkota, 2022; Agárdi & Alt, 2022; Perea-Khalifi et al., 2024), improving the interoperability of the digital financial systems (Ul et al., 2017), and others.

The third primary issue is considered to be the requirements of trust. Previous studies identify this issues include, fear of financial behaviour and impact of individual users (Kajol et al., 2022; Thar & Wai, 2024), unpopularity of digital payment system among the elderly (Poudel & Sapkota, 2022; Prodhan et al., 2024), lack of trust in e-payment system (Giri & Ghimire, 2020; Chen et al., 2019), lack of confidence in the demonetization policies implemented by a government (Horváth, 2023), individual lack of faith in short-term relationship in businesses (Mogaji & Nguyen, 2024; Abdulai et al., 2024), lack of confidence in faceless transaction in post covid-19 context (Ling et al., 2024; Ibrahimy et al., 2023), and trust issues in digital asset transfer (Van Glabbeek et al., 2023), research was conducted for strengthening the legal and regulatory framework in several countries by their government (Martino, 2024; Connolly &

Borrion, 2022; Foy et al., 2022), interception of Central Bank Digital Currency and monetary policy by the central banks (Xia et al., 2023; Cotugno et al., 2024; Zhou, 2023; Horváth, 2023), policy understanding programs (Nguyen et al., 2024), and introduction of secure e-commerce scheme (Cebeci et al., 2022).

The next issue is related to privacy matters. Privacy concerns arise from cyberattacks (Akanfe et al., 2020) and data misuse (Akanfe et al., 2020; Musyaffi et al., 2021). Safeguarding user's privacy in the digital payment ecosystem is very important. User privacy includes personal information, medical history, financial information, and transactional history. Illegal users as actors try to gain a user's personal information for economic gain and identity theft (Wang et al., 2024; Ibrahimy et al., 2023). To mitigate the issues related to privacy, several studies were conducted, such as for advanced biometric authentication integration in the payment system (Liébana-Cabanillas et al., 2024), anonymous purchasing ability (Lu et al., 2018), NTRU-based signature schemes and public critical infrastructure (Xia et al., 2019), and private and anonymous decentralised crowdsourcing systems (Lu et al., 2018).

Our fifth primary issue relates to the need for FinTech adoption. All the target customers or users need to adopt the digital payment system. Findings suggest several factors: for example, 1) the lack of digital literacy (Nguyen et al., 2024; Korobeynikova et al., 2018) by a large population in the world; 2) lack of access due to infrastructural issues (Mogaji & Nguyen, 2024), 3) negative social influence (Al-Okaily et al., 2020; Musyaffi et al., 2021), 4) lack of awareness (Sahu & Singh, 2018; Naeem et al., 2020), 5) fear of perceived security and risk (Susanto et al., 2022; Chaveesuk et al., 2021;), 6) lack of control (Nguyen et al., 2024; Haque & Shoaib, 2023) and 7) high-performance expectancy (Chaveesuk et al., 2021) of the digital technology.

To mitigate the adoption issue, existing studies have been conducted, for example, mass general awareness campaigns (Al-Okaily et al., 2020; Sahu & Singh, 2018), digital literacy programs (Nguyen et al., 2024; Prodhan et al., 2024), new technology design for rural users (MrRAnandakalidass, 2023; Trivedi & Sanchiher, 2023), developing of Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) (Susanto et al., 2022), mass development of physical infrastructures (Korobeynikova et al., 2018) including unreliable electric supply, poor connectivity, and low-quality Internet.

Discussion and Conclusion

This research extends the findings of the existing literature review studies in digital payment systems. We have analysed critical digital FinTech issues, enabling us to discover key analytics techniques (e.g. machine learning and blockchain) and their provisions to solve the targeted problems. Our analysis of the five vital issues in digital payment systems—security, convenience, trust, privacy, and adoption of digital payment technology—provides a comprehensive understanding of the challenges and opportunities in this rapidly evolving sector for future research.

Security is the primary issue associated with a heightened risk of cyberattacks, including phishing and identity theft, which can result in significant financial losses and undermine user confidence. Strengthening security measures is essential to protect against these threats. Financial institutions invest in blockchain-based payment systems, machine learning-based approaches in P2P payments, and advanced digital signature system cryptography integration to safeguard transactions and sensitive information. Additionally, the introduction of quantum cryptograms can help mitigate emerging risks. Convenience is a primary driver of the adoption of digital payment systems. Users appreciate the ease of making transactions from anywhere at any time. However, this convenience can be compromised by technical glitches, interoperability issues, and user-unfriendly interfaces. Ensuring that digital payment platforms are reliable, user-friendly, and compatible with various devices is crucial. Simplifying transaction processes and providing efficient customer support can enhance the user experience and encourage wider adoption.

Trust remains a significant barrier to the widespread use of digital payment systems. Users' perceived risks, including potential financial losses and misuse of personal information, deter many from fully embracing these technologies. Building trust requires transparency from financial institutions regarding their security measures and data-handling practices. Providing users with clear information about how their data is protected and the steps taken to ensure transaction security can help bridge the trust gap. Privacy concerns are increasingly prominent as digital transactions proliferate. Users must be more aware of how their personal and financial data is collected, stored, and used. Robust data protection regulations and compliance with privacy laws are imperative to address these concerns. Financial institutions are adopting stringent data privacy policies and ensuring users' information is handled responsibly. Educating users about their privacy rights and the measures to protect their data can further alleviate privacy concerns.

The adoption of digital FinTech technology varied among different user groups (e.g. end user's design aspects in different industries (Miah, 2009; Miah & Gammack, 2008; Miah, Vu & Gammack, 2018)). Elderly and rural populations, in particular, face challenges due to limited digital literacy and access to technology. Efforts to promote digital inclusion through educational initiatives and user-friendly technologies are essential. Providing training and support to help these populations understand and use digital payment systems can facilitate broader adoption. Additionally, addressing infrastructural challenges, such as reliable internet access, is crucial for enhancing adoption rates.

In conclusion, addressing the issues of security, convenience, trust, privacy, and adoption of digital payment technology is crucial for the advancement and widespread adoption of digital payment systems. FinTech organisations and relevant policymakers should be paying attention to developing comprehensive strategies that enhance practices related to security, ensure convenience, build trust, protect privacy, and promote inclusive adoption. By addressing these five vital issues, digital payment systems can become more secure, convenient, and trustworthy, ensuring they meet the needs of a diverse range of users. Future research should focus on developing innovative solutions to these challenges, providing the resilience and inclusivity of digital payment systems in the face of evolving FinTech techniques and social or organisational landscapes. The concept developed in FinTech can be applicable in designing AI driven solution for student payment systems similar to other relevant AI design such as in higher education (Fahd, Miah, & Ahmed, 2021).

References

Abdulai, M. G., Dary, S. K., & Domanban, P. B. (2024). Adoption of digital payment platforms and trade credit activities among informal firms in Ghana. Heliyon, 10(11), e32302. https://doi.org/10.1016/j.heliyon.2024.e32302

Abdulla, I. S., & Al-Alawi, A. I. (2023). Fintech in the Fourth Industrial Revolution: Literature Review on Usage and Concerns of e-Wallet Payment Transactions. https://doi.org/10.1109/cymaen57228.2023.10051026

Agárdi, I., & Alt, M. A. (2022). Do digital natives use mobile payment differently than digital immigrants? A comparative study between generation X and Z. Electronic Commerce Research. https://doi.org/10.1007/s10660-022-09537-9

Akanfe, O., Valecha, R., & Rao, H. R. (2020). Assessing country-level privacy risk for digital payment systems. Computers & Security, 99, 102065. https://doi.org/10.1016/j.cose.2020.102065

Alkhowaiter, W. A. (2020). Digital payment and banking adoption research in Gulf countries: A systematic literature review. International Journal of Information Management. t, p. 53, 102102. https://doi.org/10.1016/j.ijinfomgt.2020.102102

Al-Okaily, M., Lutfi, A., Alsaad, A., Taamneh, A., & Alsyouf, A. (2020). The Determinants of Digital Payment Systems' Acceptance under Cultural Orientation Differences: The Case of Uncertainty Avoidance. Technology in Society, 63, 101367. https://doi.org/10.1016/j.techsoc.2020.101367

Alshater, M. M., Saba, I., Supriani, I., & Rabbani, M. R. (2022). Fintech Islamicmic finance literature: A review. Heliyon, 8(9), e10385. https://doi.org/10.1016/j.heliyon.2022.e10385

Anandakalidass, D. (2023). A Study On Problems, Prospectus And Customer Satisfaction Of Digital Payment In Public And Private Sector Banks At Thoothukudi District. https://www.boletindeliteraturaoral.com/index.php/bdlo/article/view/119

Antonio, B. O., Juan, L. R., Ana, I. D., & Francisco, L. C. (2024). Examining behaviour with machine learning for effective mobile peer-to-peer payment adoption. Financial Innovation, 10(1). https://doi.org/10.1186/s40854-024-00625-3

Aurazo, J., & Vega, M. (2021). Why people use digital payments: Evidence from micro data in Peru. Latin American Journal of Central Banking, 2(4), 100044. https://doi.org/10.1016/j.latcb.2021.100044

Batra, S., Aggarwal, V., Dhingra, B., Yadav, M., & Kumar, M. (2024). Central Bank Digital Currency: A Bibliometric and Content Analysis. https://doi.org/10.1109/icetsis61505.2024.10459631

Brereton, P., Kitchenham, B. A., Budgen, D., Turner, M., & Khalil, M. (2007). Lessons from applying the systematic literature review process within the software engineering domain. Journal of Systems and Software/the Journal of Systems and Software, 80(4), 571–583. https://doi.org/10.1016/j.jss.2006.07.009

Camilleri, E. & Miah, S.J. (2017). A Consumer Analytics Framework for Enabling Data-Driven Marketing Intervention Methods, In the proceedings of 4th Asia-Pacific World Congress on Computer Science and Engineering (APWC on CSE), https://ieeexplore.ieee.org/abstract/document/8487257

Cebeci, S. E., Nari, K., & Ozdemir, E. (2022). Secure E-Commerce Scheme. IEEE Access, 10, 10359–10370. https://doi.org/10.1109/access.2022.3145030

Chaveesuk, S., Khalid, B., & Chaiyasoonthorn, W. (2021). Digital payment system innovations: A marketing perspective on intention and actual use in the retail sector. Innovative Marketing, 17(3), 109–123. https://doi.org/10.21511/im.17(3).2021.09

Chen, P. W., Jiang, B. S., & Wang, C. H. (2017). Blockchain-based payment collection supervision system using pervasive Bitcoin digital wallet. https://doi.org/10.1109/wimob.2017.8115844

Chen, Y., Xu, W., Peng, L., & Zhang, H. (2019). Light-Weight and Privacy-Preserving Authentication Protocol for Mobile Payments in the Context of IoT. IEEE Access, 7, 15210–15221. https://doi.org/10.1109/access.2019.2894062

Connolly, A. Y., & Borrion, H. (2022). Reducing Ransomware Crime: Analysis of Victims' Payment Decisions. Computers & Security. y, p. 119, 102760. https://doi.org/10.1016/j.cose.2022.102760

Cotugno, M., Manta, F., Perdichizzi, S., & Stefanelli, V. (2024). Ready for a digital Euro? Insights from a research agenda. Research in International Business and Finance, 67, 102117. https://doi.org/10.1016/j.ribaf.2023.102117

Dadhich, M., Pahwa, M. S., & Rao, S. S. (2018). Factor Influencing to Users Acceptance of Digital Payment System. International Journal of Computer Sciences and Engineering, 06(09), 46–50. https://doi.org/10.26438/ijcse/v6si9.4650

Dakalbab, F., Talib, M. A., Nasir, Q., & Saroufil, T. (2024). Artificial intelligence techniques in financial trading: A systematic literature review. Journal of King Saud University. Computer and Information Science, 36(3), 102015. https://doi.org/10.1016/j.jksuci.2024.102015

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. Journal of Advanced Nursing, 62(1), 107–115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Fachrian, M. A., Sukarno, P., & Wardana, A. A. (2024). Decentralize transaction records of digital payment gateway using Ethereum Blockchain and Interplanetary File System. Procedia Computer Science, 237, 269–276. https://doi.org/10.1016/j.procs.2024.05.105

Fahd, K., Miah, S.J., & Ahmed, K. (2021). Predicting student performance in a blended learning environment using learning management system interaction data, Applied Computing and Informatics, https://doi.org/10.1108/ACI-06-2021-0150

Ferrari, R. (2016). FinTech Impact on Retail Banking – From a Universal Banking Model to Banking Verticalization. 248–252. https://doi.org/10.1002/9781119218906.ch65

Forman, J., Creswell, J. W., Damschroder, L., Kowalski, C. P., & Krein, S. L. (2008). Qualitative research methods: Key features and insights gained from use in infection prevention research. American Journal of Infection Control, 36(10), 764–771. https://doi.org/10.1016/j.ajic.2008.03.010

Foy, M., Martyn, D., Daly, D., Byrne, A., Aguneche, C., & Brennan, R. (2022). Blockchain-based governance models for COVID-19 digital health certificates: A legal, technical, ethical and security requirements analysis. Procedia Computer Science, 198, 662–669. https://doi.org/10.1016/j.procs.2021.12.303

Garg, M., & Kumar, P. (2024). Harnessing digital technologies for triple bottom line sustainability in the banking industry: a bibliometric review. Future Business Journal, 10(1). https://doi.org/10.1186/s43093-024-00336-2

Genc, H. O., & Takagi, S. (2024). A literature review on the design and implementation of central bank digital currencies. International Journal of Economic Policy Studies/International Journal of Economic Policy Studies. https://doi.org/10.1007/s42495-023-00125-9

Ghobadi, S., & Mathiassen, L. (2024). Developers' decision to navigate resource adversity in crowdfunded digital projects. Decision Support Systems, 177, 114083. https://doi.org/10.1016/j.dss.2023.114083

Giri, S. R., & Ghimire, S. K. (2020). Factors Affecting the Adoption of Digital Payment Systems. Journal of Innovations in Engineering Education, 3(1), 165–174. https://doi.org/10.3126/jiee.v3i1.34340

Golub, A., Brown, A., Brakewood, C., MacArthur, J., Lee, S., & Ziedan, A. (2022). Equity and exclusion issues in cashless fare payment systems for public transportation. Transportation Research Interdisciplinary Perspectivep. s, 15, 100628. https://doi.org/10.1016/j.trip.2022.100628

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services. Journal of Management Information Systems, 35(1), 220–265. https://doi.org/10.1080/07421222.2018.1440766

Gramlich, V., Guggenberger, T., Principato, M., Schellinger, B., & Urbach, N. (2023). A multivocal literature review of decentralized finance: Current knowledge and future research avenues. EM, 33(1). https://doi.org/10.1007/s12525-023-00637-4

Hägele, S. (2024). Centralized exchanges vs. decentralized exchanges in cryptocurrency markets: A systematic literature review. EM, 34(1). https://doi.org/10.1007/s12525-024-00714-2

Haque, M. A., & Shoaib, M. (2023). e₹—The digital currency in India: Challenges and prospects. BenchCouncil Transactions on Benchmarks, Standards and Evaluations, 3(1), 100107. https://doi.org/10.1016/j.tbench.2023.100107

Hellemans, J., Willems, K., & Brengman, M. (2022). Covid-19 and mobile payment in Belgium: Closing the digital divide or just for the young, social, and impulsive? Electronic Commerce Research, 23(3), 1539–1564. https://doi.org/10.1007/s10660-022-09655-4

Hevner, A., R, A., March, S. T., & Sudha. (2004). Design Science in Information Systems Research. ResearchGate. https://www.researchgate.net/publication/201168946_Design_Science_in_Information_Systems_Research

Horváth, D. (2023). Money in the digital age: Exploring the potential of central bank digital currency with a focus on social adaptation and education. Sustainable Futures, 6, 100136. https://doi.org/10.1016/j.sftr.2023.100136

Hossain, M. J., Jahan, U. N., Rifat, R. H., Rasel, A. A., & Rahman, M. A. (2023). Classifying Cyberattacks on Financial Organizations Based on Publicly Available Deep Web Dataset. https://doi.org/10.1109/cymaen57228.2023.10050921

Ibrahimy, M. M., Norta, A., & Normak, P. (2023). Blockchain-Based Governance Models Supporting Corruption-Transparency: A Systematic Literature Review. Blockchain. Research and Applications, 100186. https://doi.org/10.1016/j.bcra.2023.100186

Jafri, J. A., Amin, S. I. M., Rahman, A. A., & Nor, S. M. (2024). A systematic literature review of the role of trust and security on Fintech adoption in banking. Heliyon, 10(1), e22980. https://doi.org/10.1016/j.heliyon.2023.e22980

Kabla, A. H. H., Anbar, M., Manickam, S., & Karupayah, S. (2022). Eth-PSD: A Machine Learning-Based Phishing Scam Detection Approach in Ethereum. IEEE Access, 10, 118043–118057. https://doi.org/10.1109/access.2022.3220780

Kajol, K., Singh, R., & Paul, J. (2022). Adoption of digital financial transactions: A review of literature and future research agenda. Technological Forecasting & Social Change/Technological Forecasting and Social Change, 184, 121991. https://doi.org/10.1016/j.techfore.2022.121991

Kalyani, S., & Gupta, N. (2023). Is artificial intelligence and machine learning changing the ways of banking: a systematic literature review and meta analysis. Discover Artificial Intelligence, 3(1).https://doi.org/10.1007/s44163-023-00094-0

Kang, J. (2018). Mobile payment in Fintech environment: trends, security challenges, and services. Human-centric Computing and Information Sciences, 8(1). https://doi.org/10.1186/s13673-018-0155-4

Kawamoto, C. T., Spers, R. G., Fleury, A. L., Feldmann, P. R., & Yoshida, N. D. (2023). Determinants of success of mobile payments as innovations: An exploratory study based on the extant literature, the M-Pesa, Alipay, and Nubank cases, and the opinion of experts. Future Business Journal, 9(1). https://doi.org/10.1186/s43093-023-00272-7

Khan, K. B., Jaafar, N. I., & Zakaria, S. B. (2024). The role of collectivist cultural practices in supporting a hybrid payment system among small and medium enterprises (SMEs) in Pakistan. Future Business Journal, 10(1). https://doi.org/10.1186/s43093-024-00334-4

Kharisma, D. B., & Hunaifa, A. (2022). Comparative study of disgorgement and disgorgement fund regulations in Indonesia, the USA and the UK. Journal of Financial Crime, 30(3), 635–649. https://doi.org/10.1108/jfc-01-2022-0022

Kolodiziev, O., Mints, A., Sidelov, P., Pleskun, I., & Lozynska, O. (2020). Automatic machine learning algorithms for fraud detection in digital payment systems. Eastern-European Journal of Enterprise Technologies, 5(9 (107)), 14–26. https://doi.org/10.15587/1729-4061.2020.212830

Korobeynikova, O., Korobeynikov, D., & Popova, L. (2018). Problem solving payment innovations in the digital economy. Proceedings of the International Scientific Conference “Competitive, Sustainable and Secure Development of the Regional Economy: Response to Global Challenges” (CSSDRE 2018). https://doi.org/10.2991/cssdre-18.2018.7

Kuzior, A., Brożek, P., Kuzmenko, O., Yarovenko, H., & Vasilyeva, T. (2022). Countering Cybercrime Risks in Financial Institutions: Forecasting Information Trends. Journal of Risk and Financial Management, 15(12), 613. https://doi.org/10.3390/jrfm15120613

Latif, R. A., & Razak, F. H. A. (2023). What Do Users Complain About with Mobile App with Payment Feature in Malaysia? https://doi.org/10.1109/icoco59262.2023.10397675

Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. Business Horizons, 61(1), 35–46. https://doi.org/10.1016/j.bushor.2017.09.003

Li, Y., Liu, H., Yang, Z., Wang, B., Ren, Q., Wang, L., & Chen, B. (2020). Protect Your Smart Contract Against Unfair Payment. https://doi.org/10.1109/srds51746.2020.00014

Liébana-Cabanillas, F., Kalinic, Z., Muñoz-Leiva, F., & Higueras-Castillo, E. (2024). Biometric m-payment systems: A multi-analytical approach to determining use intention. Information & Management, 61(2), 103907. https://doi.org/10.1016/j.im.2023.103907

Ling, C. L., Waheeda, J. F., Sen, S. C., Xia, L. Y., Amerhaider, N. a. N., & Wah, H. K. (2024). E-Payment Security Mechanisms on Lazada: The Case of Malaysian and Thai. Procedia Computer Science, 234, 1340–1347. https://doi.org/10.1016/j.procs.2024.03.132

Lu, Y., Tang, Q., & Wang, G. (2018). ZebraLancer: Private and Anonymous Crowdsourcing System atop Open Blockchain. https://doi.org/10.1109/icdcs.2018.00087

Manimuthu, A., Sreedharan, R., G, R., & Marwaha, D. (2019). A Literature Review on Bitcoin: Transformation of Crypto Currency Into a Global Phenomenon. IEEE Engineering Management Review, 47(1), 28–35. https://doi.org/10.1109/emr.2019.2901431

Martino, E. D. (2024). Monetary sovereignty in the digital era. The law & macroeconomics of digital private money. Computer Law and Security Report/Computer Law & Security Report, 52, 105909. https://doi.org/10.1016/j.clsr.2023.105909

Mogaji, E., & Nguyen, N. P. (2024). Evaluating the emergence of contactless digital payment technology for transportation. Technological Forecasting & Social Change/Technological Forecasting and Social Change, 203, 123378. https://doi.org/10.1016/j.techfore.2024.123378

Mohammadi, S., Eliassen, F., Zhang, Y., & Jacobsen, H. A. (2022). Detecting False Data Injection Attacks in Peer to Peer Energy Trading Using Machine Learning. IEEE Transactions on Dependable and Secure Computing/IEEE Transactions on Dependable and Secure Computing, 19(5), 3417–3431. https://doi.org/10.1109/tdsc.2021.3096213

Miah, S.J. (2009). End user as application developer for decision support, In the proceedings of American Conference of Information Systems - AMCIS 2009, 142, https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1137&context=amcis2009

Miah, S.J. & Gammack, J. (2008). A Mashup architecture for web end-user application designs, In the proceedings of IEEE International Conference on Digital Ecosystems and Technologies, https://ieeexplore.ieee.org/abstract/document/4635223

Miah, S.J., Vu, HQ, & Gammack, J. (2018). A Big-Data Analytics Method for capturing visitor activities and flows: the case of an Island Country, Information Technology and Management, 20 (4), 203-221

Musyaffi, A. M., Johari, R. J., Rosnidah, I., Sari, D. a. P., Amal, M. I., Tasyrifania, I., Pertiwia, S. A., & Sutanti, F. D. (2021). Digital Payment During Pandemic: An Extension of The Unified Model of QR Code. Academic Journal of Interdisciplinary Studies, 10(6), 213. https://doi.org/10.36941/ajis-2021-0166

Musyaffi, A. M., Sari, D. a. P., & Respati, D. K. (2021). Understanding of Digital Payment Usage During COVID-19 Pandemic: A Study of UTAUT Extension Model in Indonesia. the Journal of Asian Finance, Economics, and Business/the Journal of Asian Finance, Economics and Business, 8(6), 475–482. https://doi.org/10.13106/jafeb.2021.vol8.no6.0475

Naeem, M., Hameed, M., & Taha, M. S. (2020). A study of electronic payment system. IOP Conference Series. Materials Science and Engineering, 767(1), 012008. https://doi.org/10.1088/1757-899x/767/1/012008

Nanayakkara, S., Perera, S., Senaratne, S., Weerasuriya, G. T., & Bandara, H. M. N. D. (2021). Blockchain and Smart Contracts: A Solution for Payment Issues in Construction Supply Chains. Informatics, 8(2), 36. https://doi.org/10.3390/informatics8020036

Neves, C., Oliveira, T., Santini, F., & Gutman, L. (2023). Adoption and use of digital financial services: A meta analysis of barriers and facilitators. International Journal of Information Management Data Insights, 3(2), 100201. https://doi.org/10.1016/j.jjimei.2023.100201

Nguyen, T. T., Tran, T. N. H., My, T. H., Dinh, T. K. L., Nguyen, T. U. N., & Dang, T. M. K. (2024). Digital Literacy, Online Security Behaviors And E-Payment Intention. Journal of Open Innovation, 10(2), 100292. https://doi.org/10.1016/j.joitmc.2024.100292

Niankara, I., & Traoret, R. I. (2023). The digital payment-financial inclusion nexus and payment system innovation within the global open economy during the COVID-19 pandemic. Journal of Open Innovation, 9(4), 100173. https://doi.org/10.1016/j.joitmc.2023.100173

Nurmara, M. a. K., Hakim, M. N., Ardy, O. H. C., Jeffrey, R., Setiono, V. A., Kanigoro, B., & Irwansyah, E. (2023). A Review of Security in Financial Technology. Procedia Computer Science, 227, 958–965. https://doi.org/10.1016/j.procs.2023.10.603

Osei, L. K., Cherkasova, Y., & Oware, K. M. (2023). Unlocking the full potential of digital transformation in banking: a bibliometric review and emerging trend. Future Business Journal, 9(1). https://doi.org/10.1186/s43093-023-00207-2

Paul, L. R., & Sadath, L. (2021). A Systematic Analysis on FinTech and Its Applications. https://doi.org/10.1109/iciptm52218.2021.9388371

Perea-Khalifi, D., Irimia-Diéguez, A. I., & Palos-Sánchez, P. (2024). Exploring the determinants of the user experience in P2P payment systems in Spain: a text mining approach. Financial Innovation, 10(1). https://doi.org/10.1186/s40854-023-00496-0

Poudel, O., & Sapkota, M. P. (2022). Consumer Perception toward Digital Payment System. Deleted Journal, 25(1), 39–50. https://doi.org/10.3126/md.v25i1.53286

Prodhan, M. M. H., Jalal, M. J. E., Alam, H., Mostofa, M. S., Khondker, B. H., & Khan, M. A. (2024). State and potential of digital financial services among farmers in Bangladesh: An in-depth study. Journal of Agriculture and Food Research, 101209. https://doi.org/10.1016/j.jafr.2024.101209

Rasillo, X. B. (2023). Digital commoning and post-capitalist crypto-economies: The case of FairCoop. Geoforum, 144, 103811. https://doi.org/10.1016/j.geoforum.2023.103811

Sadiq, M., Aysan, A. F., & Kayani, U. N. (2023). Digital currency and blockchain security in accelerating financial stability: A mediating role of credit supply. Borsa Istanbul Review, 23(6), 1251–1262. https://doi.org/10.1016/j.bir.2023.09.009

Sah, A., Bhatt, A. K., Chowdhury, S., Bhatt, S., Kargeti, H., & Tiwari, R. (2023). Central Bank Digital Currency: A Bibliometric Analysis of Scopus Database. https://doi.org/10.1109/icscc59169.2023.10335066

Sah, A., Bhatt, A. K., Chowdhury, S., Bhatt, S., Kargeti, H., & Tiwari, R. (2023). Central Bank Digital Currency: A Bibliometric Analysis of Scopus Database. https://doi.org/10.1109/icscc59169.2023.10335066

Sahu, G. P., & Singh, N. K. (2018). Identifying Critical Success Factor (CSFs) for the Adoption of Digital Payment Systems: A Study of Indian National Banks. In Advances in theory and practice of emerging markets (pp. 61–73). https://doi.org/10.1007/978-3-319-75013-2_6

Schiansky, P., Kalb, J., Sztatecsny, E., Roehsner, M. C., Guggemos, T., Trenti, A., Bozzio, M., & Walther, P. (2023). Demonstration of quantum-digital payments. Nature Communications, 14(1). https://doi.org/10.1038/s41467-023-39519-w

Segura-Millán, K., & Perez-Verdin, G. (2023). The effect of payments for ecosystem services on forest cover, land use, and capacity building in northern Mexico. Trees, Forests and People, 12, 100387. https://doi.org/10.1016/j.tfp.2023.100387

Singh, M. S., Seetharaman, A., & Maddulety, K. (2022). Customer Acceptance of Digital Payment Systems. 2022 8th International Conference on Control, Decision and Information Technologies (CoDIT). https://doi.org/10.1109/codit55151.2022.9803975

Sumanjeet, N. (2009). Emergence of payment systems in the age of electronic commerce: The state of art. https://doi.org/10.1109/ahici.2009.5340318

Sun, Y., Li, S., & Wang, R. (2022). Fintech: from budding to explosion - an overview of the current state of research. Review of Managerial Science, 17(3), 715–755. https://doi.org/10.1007/s11846-021-00513-5

Susanto, E., Solikin, I., & Purnomo, B. S. (2022). A REVIEW OF DIGITAL PAYMENT ADOPTION IN ASIA. Advanced International Journal of Business, Entrepreneurship and SMEs, 4(11), 01–15. https://doi.org/10.35631/aijbes.411001

Tan, S. F., & Chung, G. C. (2023). An Evaluation Study of User Authentication in the Malaysian FinTech Industry With uAuth Security Analytics Framework. Journal of Cases on Information Technology, 25(1), 1–27. https://doi.org/10.4018/jcit.318703

Thar, K. W., & Wai, T. T. (2024). Machine Learning Based Predictive Modelling for Fraud Detection in Digital Banking. https://doi.org/10.1109/icca62361.2024.10532788

Trivedi, H., & Sanchiher, S. (2023). CHALLENGES IN DIGITAL PAYMENT ADOPTION IN INDIA. ResearchGate. https://www.researchgate.net/publication/375610457_CHALLENGES_IN_DIGITAL_PAYMENT_ADOPTION_IN_INDIA

Uddin, M. H., Mollah, S., Islam, N., & Ali, M. H. (2023). Does digital transformation matter for operational risk exposure? Technological Forecasting & Social Change/Technological Forecasting and Social Change, 197, 122919. https://doi.org/10.1016/j.techfore.2023.122919

Ul, B., F, R., Mehraj, A., Ahmad, A., & Assad, S. (2017). A Compendious Study of Online Payment Systems: Past Developments, Present Impact, and Future Considerations. International Journal of Advanced Computer Science and Applications/International Journal of Advanced Computer Science & Applications, 8(5). https://doi.org/10.14569/ijacsa.2017.080532

Unsal, O., & Brodmann, J. (2021). Corporate reputation and market reaction: evidence from FinTech industry. Applied Economics Letters, 30(2), 141–148. https://doi.org/10.1080/13504851.2021.1980191

Van Glabbeek, R., Gramoli, V., & Tholoniat, P. (2023). Cross-chain payment protocols with success guarantees. Distributed Computing, 36(2), 137–157. https://doi.org/10.1007/s00446-023-00446-0

Wang, Y., Ding, A. S., & Xu, C. (2023). The impact of paid social Q&A on panic buying and digital hoarding at the stage of coexistence with COVID-19: The moderating role of sensitivity to pain of payment. International Journal of Disaster Risk Reduction, 84, 103472. https://doi.org/10.1016/j.ijdrr.2022.103472

Wagner, F. (2024). Determinants of conventional and digital investment advisory decisions: a systematic literature review. Financial Innovation, 10(1). https://doi.org/10.1186/s40854-023-00538-7

Webster, J., & Watson, R. (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review. https://api.semanticscholar.org/CorpusID:10686726

Xia, H., Gao, Y., & Zhang, J. Z. (2023). Understanding the adoption context of China's digital currency electronic payment. Financial Innovation, 9(1). https://doi.org/10.1186/s40854-023-00467-5

Xia, Y., Ying, C., Lin, G., & Sun, Z. (2019). A Third-Party Mobile Payment Scheme Based on NTRU Against Quantum Attacks. IEEE Access, 7, 56070–56080. https://doi.org/10.1109/access.2019.2911363

Zhou, C. (2023). Evaluating the effectiveness of monetary policy for retail central bank digital currency. Latin American Journal of Central Banking, 100111. https://doi.org/10.1016/j.latcb.2023.100111

Declaration of interests

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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