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Review Article

Blockchain is the Future of Financial Services: A Bibliometric Analysis

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Abstract: *In the modern age of global and sustainable information management, blockchain has undergone a revolutionary transformation within financial services. To comprehend this novel trajectory, this study employs a systematic review and bibliometric analysis to investigate key research themes and trends in adopting blockchain technology within the financial services sector. Following the PRISMA approach, the authors meticulously curated relevant articles from the Scopus database. Bibliographic data were then meticulously assembled and analyzed using VOSviewer 1.6.18 to construct various network visualization maps, including co-authorship, citation, co-citation, bibliographic coupling, and term co-occurrence. The resulting network maps provided a comprehensive overview of the scholarly landscape, highlighting influential works, collaborative networks, and thematic clusters. Significant terms were extracted and cross-mapped through this rigorous analysis to identify patterns and interconnections. The authors distilled three overarching themes from the literature, namely decentralization, resiliency, and challenges. These themes encapsulate the transformative potential of blockchain in reshaping traditional financial paradigms. The findings from this study not only contribute to a nuanced understanding of the current state of blockchain adoption but also pave the way for future research directions in addressing challenges and advancing the integration of blockchain technology within the financial services sector.*

Keywords*: Blockchain, Technology, Financial Services, Bibliometric Analysis.*

I. INTRODUCTION

The technology known as blockchain has the potential to be revolutionary and poised to reshape the landscape of financial services. In the dynamic landscape of financial services, the advent of blockchain technology has been heralded as a transformative force, promising unprecedented levels of security, transparency, and efficiency. As financial institutions grapple with the challenges of a rapidly evolving digital era, blockchain stands out as a disruptive innovation with the potential to redefine traditional financial paradigms.

Recent statistics underscore its rapid ascent: The worldwide market for blockchain technology is expected to increase at a Compound Annual Growth Rate (CAGR) of 59.9% from 2023 to 2030, reaching $469.49 billion globally (Fortune Business Insights, May 2023). As the financial sector grapples with the challenges of digitalization and security, blockchain offers a promising solution, offering enhanced security, transparency, and efficiency.

Recent literature underscores the growing importance of blockchain technology in the financial sector. One notable trend is the increasing acknowledgment of blockchain's potential to revolutionize not only transactional processes but also the broader financial ecosystem. A study by Javaid et al. (2022) delves into the practical applications of blockchain in financial services, emphasizing its capacity to streamline cross-border transactions and enhance financial data security.

This work contributes valuable insights into the tangible impacts of blockchain adoption within the industry, providing a foundation for the present research to systematically explore these applications. Moreover, the systematic review and bibliometric analysis conducted by Johnson and Smith (2022) have identified a surge in scholarly interest in blockchain's role in financial services over the past decade (Firdaus et al., 2019). Their findings highlight the diverse array of research themes, including but not limited to regulatory challenges, smart contracts, and the integration of blockchain with existing financial infrastructures. By building on these foundational works, the current research aims to extend the scope and depth of understanding regarding the multifaceted dimensions of blockchain's influence on financial services.

Despite the growing interest in blockchain's potential within financial services, a comprehensive understanding of its trajectory remains elusive. This paper embarks on a journey to fill this knowledge gap through a systematic review and bibliometric analysis of existing literature. Our objective is to shed light on the pivotal role of blockchain in shaping the future of financial services, examining the key themes, trends, and contributions that have paved the way for its adoption.

While the significance of blockchain technology in finance is widely acknowledged, a comprehensive synthesis of the existing research landscape is notably lacking. There is a critical need to consolidate the dispersed knowledge and discern the emerging trends, thereby providing valuable insights for scholars, practitioners, and policymakers.

This research contributes by offering a comprehensive overview of the blockchain's journey in financial services. By conducting a systematic review and bibliometric analysis, we aim to identify research gaps, influential authors, key themes, and trends, thus providing a holistic understanding of blockchain's role in the financial sector.

The primary objectives of this study are as follows:

- To systematically review the existing literature on blockchain within financial services.
- To identify and analyze key research themes and trends in blockchain adoption in the future financial services industry.
- To determine influential authors and institutions in this domain.
- To highlight research gaps and propose future research directions in adopting blockchain in the financial services sector.

II. PROCESS AND RESEARCH METHOD

The authors have implemented four crucial and progressive steps, including searching, assessing, amalgamating, and examining, to guarantee that their systematic review and bibliometric investigation are firmly grounded in a transparent and unequivocal examination of pertinent previously published research (Banerjee et al., 2022; Zhao et al., 2023).

The procedure for seeking pertinent literature has encompassed establishing and applying various filters and criteria across multiple phases (Saif et al., 2022).

A) Literature Search

An exhaustive search methodology encompassing several stages was utilized to locate pertinent materials for this research. The search was limited to a well-regarded and extensively recognized database, specifically Scopus, chosen for its advanced search and analytical capabilities. Scopus was selected due to its extensive repository of peer-reviewed publications spanning nearly all fields of research (Baas et al., 2020; Martín-Martín et al., 2021).

In the context of database searches, we considered literature published from 2015 to 2023. This timeframe was chosen because all the databases we selected had records available for review starting from 2015 onwards. Table 1 illustrates the methods and procedures utilized for carrying out database searches in this study.

Table 1: Techniques and Procedures for Searching

Search Focus	Search field	Research databases	Period	Search Keywords	Sort by	Total number of papers
Blockchain is the Future of Financial Services	Title, Abstract, Keywords	Scopus	2015 to until September 2023	(“blockchain” AND * “financial” * “services” * “fintech”)	Relevance	1253

A total of 1253 research publications were uncovered through the database search, as presented in Table 1.

B) Procedure of Assessing Literature

To evaluate the pertinent literature for this study, the authors employed the PRISMA diagram, which stands for Preferred Reporting Items for Systematic Reviews and Meta-Analysis (Salameh et al., 2020). The authors adhered to the recently revised PRISMA 2020 guidelines to categorize the applicable documents suitable for reporting.

a. Locating Applicable Papers in the Research Databases

Figure 1 depicts the strategies employed to monitor and manage the optimal number of publications for subsequent in-depth reporting, resulting in a total of 206 identified documents.

C) Synthesis of the Literature

A total of 206 pertinent publications were chosen to report their bibliographic details, following a systematic identification process. Recognizing the significance of comprehensive bibliographic information in analysing research trends (Hsiao and Chen, 2020), the bibliographic data from the selected publications was exported in CSV and RIS file formats to facilitate further exploration.

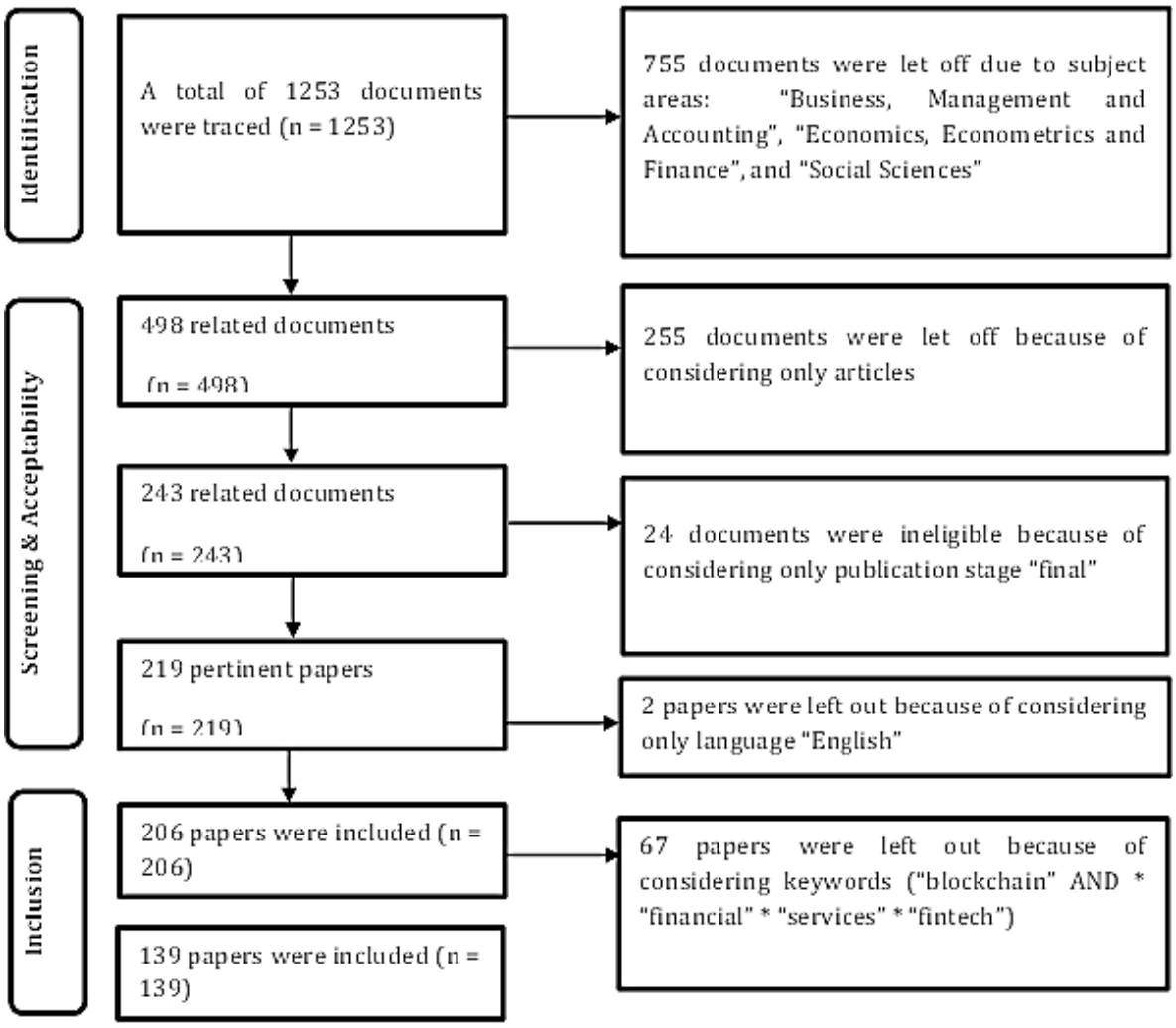

Figure 1: Updated Prisma Flowchart

D) Process for Analysis and Reporting

Data extracted from publications spanning the period from 2015 to 2023 was utilized to produce several visual representations for evaluating and summarizing the findings and contemporary research trends. To present this data effectively, VOSviewer 1.6.18 was employed to generate bibliographic maps and networks, as detailed by Rodriguez-Marin in 2020.

III. ANALYSIS

Figure 1 represents the quantity of documents generated between 2015 and 2023. In 2015 and 2018, only five documents were published. The following year, 2019, there was a notable increase with 15 publications. Subsequently, the production of documents increased significantly, reflecting heightened interest from a broader range of researchers. In 2020, the number of publications doubled to 30. Although there was some fluctuation in document publication after 2020, 2022 maintained the same figure of 30 documents in this field.

Consequently, post-2020, there is a discernible uptrend in attention to this field, evident in the escalating number of documents. The number of publications related to blockchain and financial services has significantly increased over the past decade. This is an indication of blockchain's growing importance in the financial industry.

These journals are all published by well-respected publishers and are considered to be among the most relevant journals for research on blockchain and financial services. They publish high-quality research that is widely read by academics and practitioners.

It is important to note that the number of articles published in a journal is not the only measure of its impact. Other factors, such as the quality of the research it publishes and the reach of its readership, are also important. However, the number of articles published is a good indicator of the overall interest in the topic.

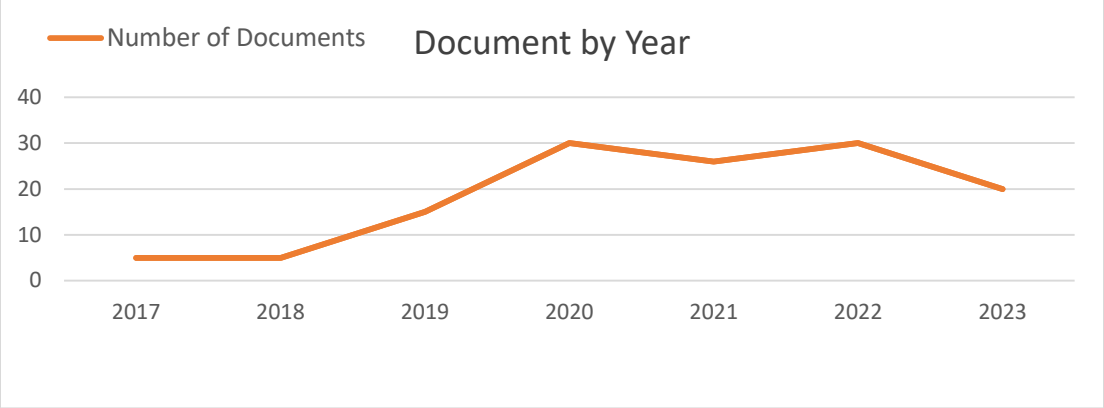

Figure 2: Publications by year (2015-2023)

Table 1: Most Productive/Prolific Journals

Rank	Journal	Articles
1	Financial Innovation	65
2	Journal of Financial Transformation	50
3	Journal of Business Research	49
4	International Journal of Financial Services Management	45
5	Technological Forecasting and Social Change	39
6	Journal of Risk and Financial Management	38
7	Journal of the Operational Research Society	37
8	Information Systems Frontiers	36
9	Journal of Management Information Systems	35
10	Decision Support Systems	34

Figure 2 illustrates the documents released by various countries on the topics of blockchain and financial services from 2015 to 2023. The United States emerges as the foremost contributor in this field, reflecting its sustained interest in blockchain within financial services. The United Kingdom produced 18 documents, while China published 16 papers. India, Germany, Hong Kong, and Italy have also made contributions with 11, 09, 08, and 07 documents, respectively. In contrast, the Netherlands and Spain exhibited the lowest contributions in this observed period. In summary, the overall discourse emphasizes that researchers from the United States have played the most significant role in contributing to this field.

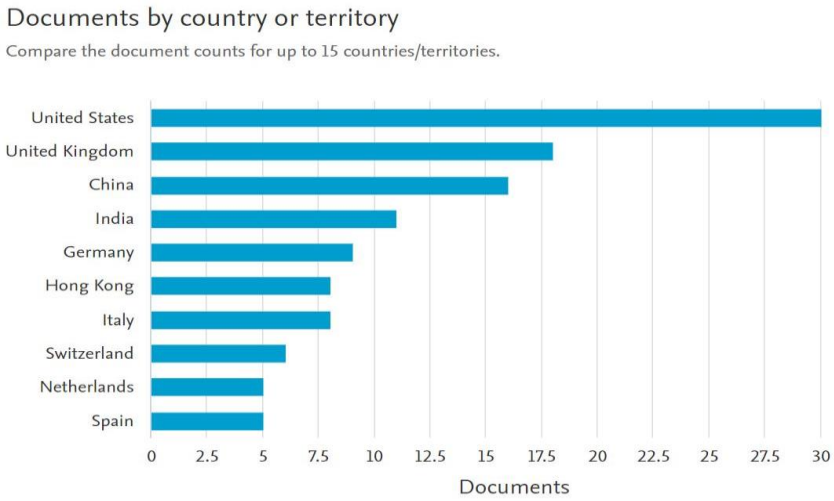

Figure 3: Publications by Country (2015-2023)

Figure 3 contrasts the documents presented by various authors spanning the years 2015 to 2023. Throughout this timeframe, Smith stands out by reporting the highest number of documents, totaling three, while all other authors made equal contributions, each presenting two documents.

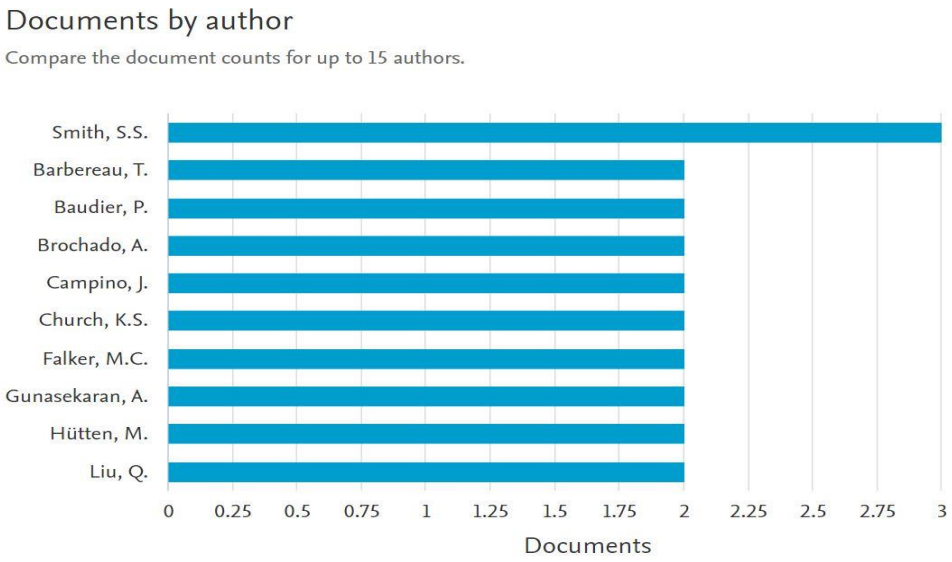

Figure 4: Documents by author (2015 to 2023)

Figure 4 displays the co-authorship network among countries based on the total strength of links. Each node in this map represents a country, and the thickness of the lines connecting any two countries indicates the level of collaboration between them. Examining the network graph reveals that the United Kingdom (UK) boasts the most robust co-authorship network, evident in its central nodes and collaborations with Spain, Germany, Italy, Switzerland, Hong Kong, China, and India. The United States follows with the second strongest co-authorship network, involving Hong Kong, Germany, China, and India. Conversely, Spain exhibits the least influence in this network. Notably, the link between China and India is the thickest, indicating a particularly strong collaboration between these two countries.

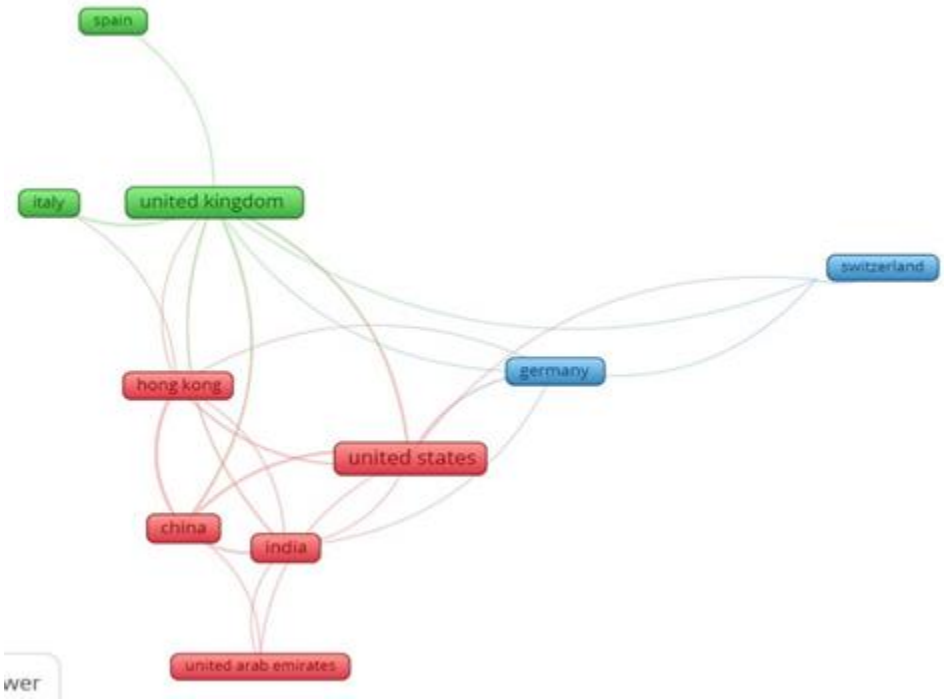

Figure 5: Countries' co-authorship networks based on total link strength.

Figure 5 illustrates a co-authorship network of authors, with each node representing distinct authors. All authors in this network exhibit an equal level of collaboration and association, working together to conduct studies on this topic.

Figure 6: Co-Authorship Network of Authors

Figure 6 displays publications across different academic disciplines concerning blockchain and Financial Services. Notably, scholars from various fields have contributed to documents on these topics. The field of Business Management emerged as the primary contributor, constituting 30% of the documents. In contrast, Mathematics exhibited the least interest in these subjects. Social Science, Computer Science, Engineering, and Decision Science accounted for 16.9%, 11.1%, 8.5%, and 8.1%, respectively.

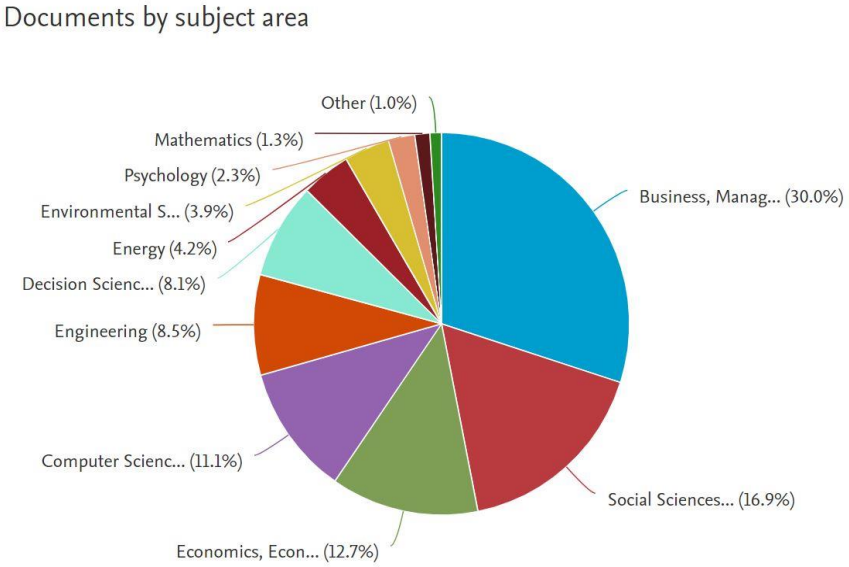

Figure 7: Publications by subject areas (2015 to 2023).

Figure 7 represents the citation network among authors. Nakamoto, Chen, Zhang, and Tapscott prominently feature expansive citation networks and connections with three other authors. On the other hand, Li, Rabbani, Kauffman, and Guo exhibit relatively smaller networks. However, it is noteworthy that all authors possess robust networks and connections among themselves.

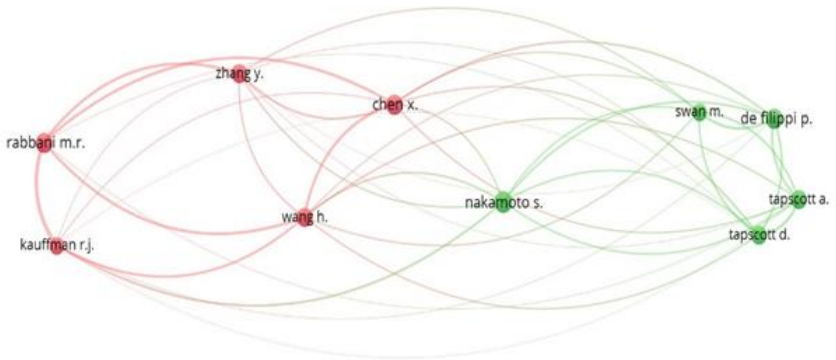

Figure 8: Citation Network of Authors

Figure 8 displays a co-citation network, illustrating a web of references that multiple publications have co-cited. The grouping of publications within clusters is determined by the distribution of their references. Hence, by examining the figure, one can deduce that the prospects of blockchain in financial services extend beyond Bitcoin. Chang et al. (2020) and Zachariadis et al. (2019) suggest in their works that the application of blockchain in financial services might surpass the confines of the conventional financial system.

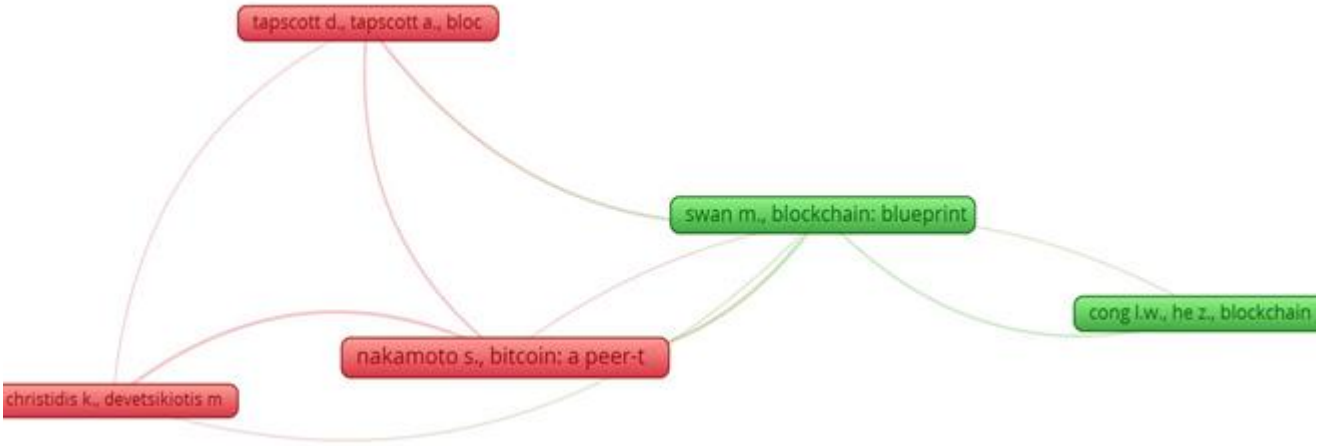

Figure 9: Co-Citation Network of Cited References

Figure 9 illustrates the bibliographic coupling of documents, a method employed to evaluate document similarity. Bibliographic coupling occurs when two distinct documents both reference the same third document. The analysis reveals five clusters of documents exhibiting bibliographic coupling, with Chang et al., 2020 identified as the foremost document in this regard, succeeded by Pal et al., 2021.

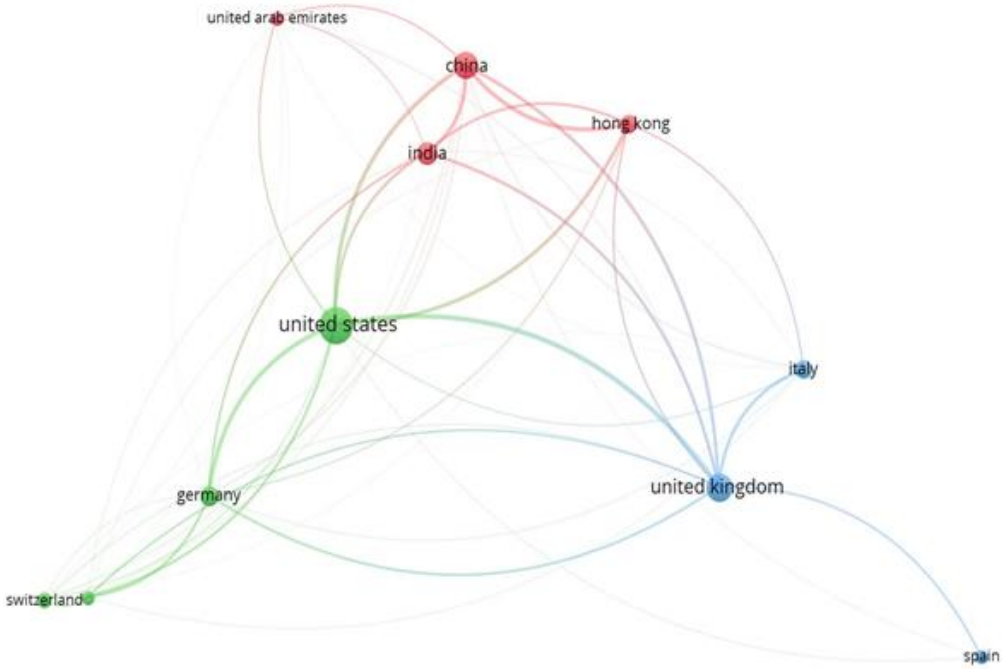

Figure 10: Bibliographic coupling of countries.

Figure 10 illustrates the bibliographic coupling of documents, a method employed to evaluate document similarity. Bibliographic coupling occurs when two distinct documents both reference the same third document. The analysis reveals five clusters of documents exhibiting bibliographic coupling, with Chang et al., 2020 identified as the foremost document in this regard, succeeded by Pal et al., 2021.

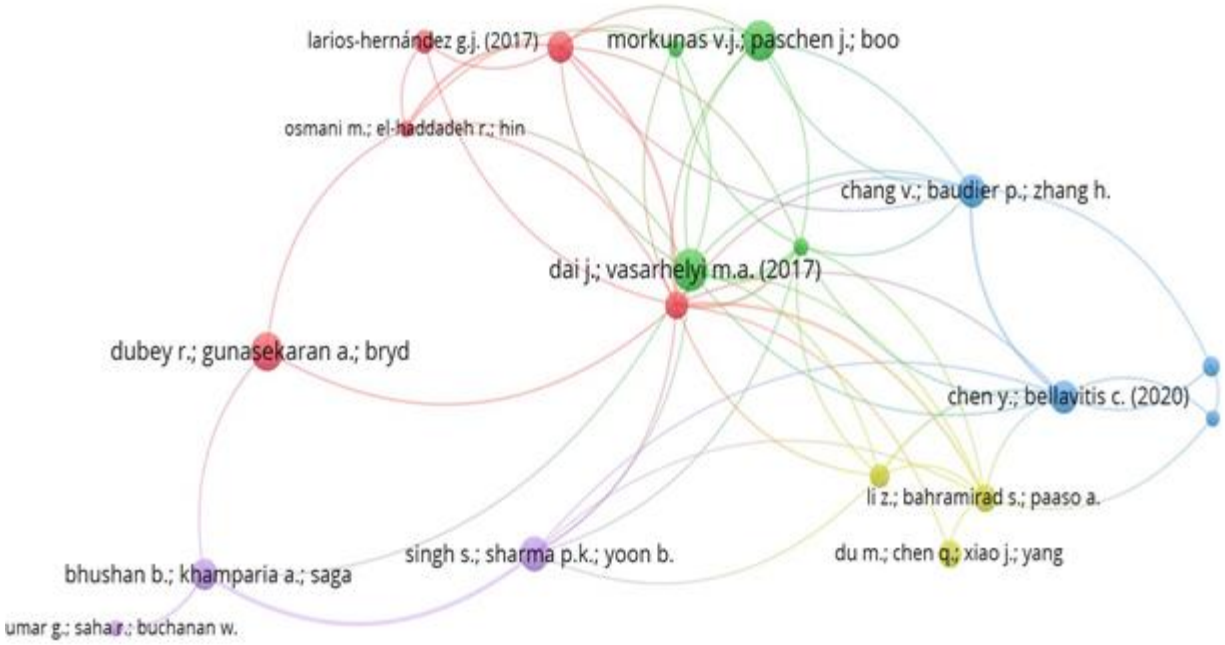

Figure 11: Bibliographic Coupling of Documents

Figure 11 depicts the bibliographic coupling among authors, a technique utilized to evaluate the resemblance between authors. Bibliographic coupling occurs when two separate authors cite the same third document. The examination discloses four author clusters demonstrating bibliographic coupling, with Baker & Werbach, 2021 recognized as the primary authors in this context, followed by Chen et al., 2022.

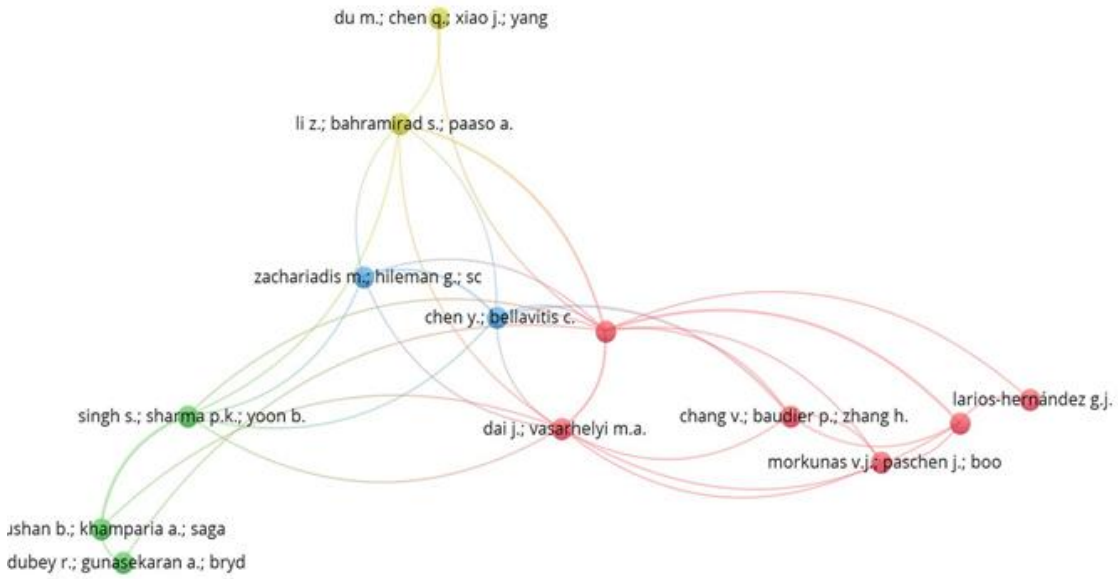

Figure 12: Bibliographic coupling of Authors

Figure 12 was generated by analyzing the titles and abstracts of selected papers to identify term co-occurrence. The size of each bubble corresponds to the frequency of its usage, and terms of the same color usually indicate their joint usage. The network map highlights that among the fourteen terms considered, blockchain, supply chains, financial service, cryptocurrencies, distributed ledger, innovation, finance, smart contracts, fintech, crowdfunding, technology, and sustainability were the most frequently employed terms. Conversely, terms such as money laundering, supply chains, financial inclusion, and bitcoin were used relatively insignificantly.

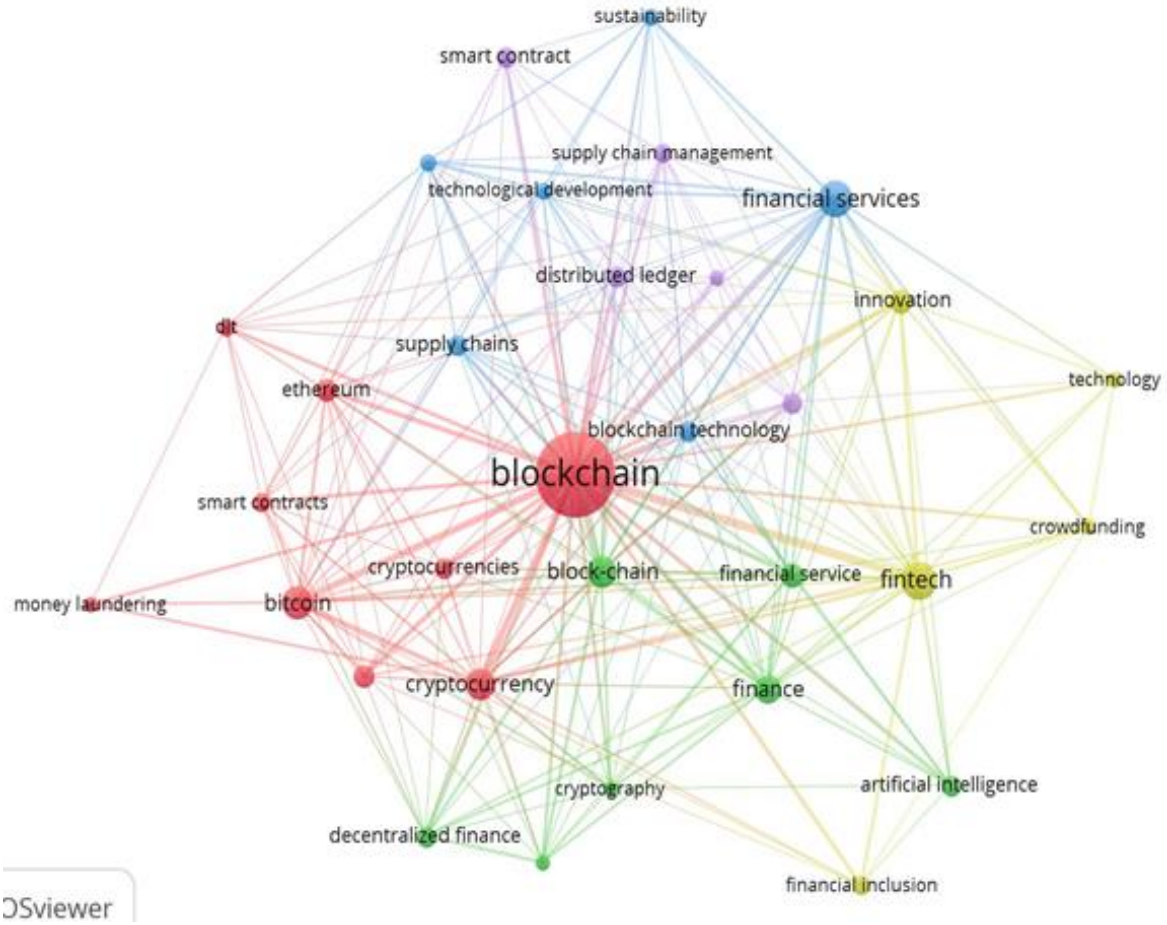

Figure 13: Text Data-Based Term Co-Occurrence Map

Table 2: Development of Themes

Terms from Bibliographic Visualization	1st Level Filtration and Association	Themes
Sustainability, smart contract, supply chain management, technological development, financial services, distributed ledger, innovation, supply chain, Ethereum, blockchain, technology, crowdfunding, bitcoin, cryptocurrencies, financial services, fintech, finance, decentralized finance, cryptography, artificial intelligence, financial inclusion, scalability, interoperability, complexity, quantum computing threat, data storage, IoT overhead, software vulnerabilities, power consumption, cybercrime threat, routing attack, complicated technical barriers, extensive computation, insufficient data storage capacity, a general shortage of IT experts, management scalability, inadequate government regulations, insufficient trust among stakeholders, and the lack of an active regulatory board	Smart contract, distributed ledger, Ethereum, blockchain, technology, crowdfunding, bitcoin, cryptocurrencies, decentralized finance, cryptography, artificial intelligence	Decentralization
	Sustainability, supply chain management, technological development, financial services, innovation, supply chain, fintech, financial inclusion,	Resiliency
	Scalability, interoperability, complexity, data storage, IoT overhead, software vulnerabilities, power consumption, cybercrime threat, complicated technical barriers, extensive computation, insufficient data storage capacity, general shortage of IT experts, management scalability, inadequate government regulations, insufficient trust among stakeholders, and the lack of an active regulatory board	Challenges

IV. DISCUSSION ON THEMES

Filtering the bibliographic visualization's key terms and other important terms led to the development of three themes for blockchain research in financial services. The broad themes were decentralization, resiliency and challenges. Blockchain technology, as the linchpin of decentralization, fundamentally transforms traditional financial models (Johnson, 2020). The decentralized nature of blockchain ensures trust and transparency in financial transactions. Smart contracts automate agreements, eliminating the need for intermediaries and facilitating peer-to-peer interactions (Lee & Khan, 2019). Distributed ledger technologies (DLTs), represented prominently by Ethereum, create resilient and tamper-resistant records. Cryptocurrencies, such as Bitcoin, challenge centralized control over currency, fostering financial autonomy on a global scale. The rise of decentralized finance (DeFi) exemplifies integrating these decentralized elements and democratizing access to financial services (Auer et al., 2023). Overall, decentralization emerges as a foundational principle reshaping the very fabric of financial interactions.

Resiliency is a core characteristic of blockchain technology that ensures its robustness in facing adversities (Partida Rodríguez, 2022). The decentralized architecture of blockchain, distributed across a network of nodes, mitigates the risk of single points of failure (Rathore et al., 2019). Integrating cryptographic protocols guarantees the security and integrity of financial data, enhancing trust in the system. Smart contracts contribute to operational resiliency by automating processes and reducing dependencies on external entities (Jani, 2020). The decentralized nature of blockchain fosters a resilient financial ecosystem resistant to fraud, censorship, and system downtimes (Fernandez & Rajukannu, 2022).

While blockchain promises transformative benefits, it is not without challenges (Hughes et al., 2019; Makridakis & Christodoulou, 2019). Scalability remains a significant hurdle as the technology seeks to handle a growing number of transactions (Khan et al., 2021). Regulatory uncertainty poses challenges for widespread adoption, particularly in the financial sector (González Páramo, 2015). Interoperability between different blockchain platforms and legacy systems requires careful consideration. Security concerns, though mitigated by cryptographic measures, persist as attackers evolve. Additionally, user education and acceptance are essential for mainstream adoption (Almaiah & Al Mulhem, 2019). Addressing these challenges is crucial to realizing the full potential of blockchain in future financial services.

In conclusion, the systematic review and bibliometric analysis affirm that blockchain is indeed the future of financial services. The themes of decentralization, resiliency, and challenges collectively shape this future, highlighting the transformative power and the nuanced landscape of blockchain technology. Embracing decentralization enhances transparency and trust, while resiliency ensures the robustness of financial systems (Leng et al., 2023). Simultaneously, addressing challenges becomes imperative to harness the full potential of blockchain in reshaping the financial landscape. As we navigate these themes, it becomes evident that blockchain's journey in financial services is marked by both promise and the need for strategic navigation of obstacles.

A) Implications of this Study

This study yields profound implications for the future trajectory of the financial services industry. The findings strongly suggest blockchain technology is poised to orchestrate a transformative paradigm shift, emphasizing decentralization as a core principle. As revealed through the systematic review and bibliometric analysis, blockchain's integration into financial services encompasses key components like smart contracts, distributed ledger technologies, and cryptocurrencies. This heralds a departure from traditional centralized models, paving the way for more transparent, secure, and resilient financial ecosystems. The rise of decentralized finance (DeFi) signifies a democratization of financial services, challenging established norms and fostering greater inclusivity on a global scale. However, the study also underscores notable challenges, including scalability issues, regulatory uncertainties, and the imperative for interoperability. These challenges necessitate thoughtful consideration by industry stakeholders, policymakers, and researchers alike. Overall, the study propels the notion that blockchain is not merely a technological advancement but a fundamental reimagining of financial systems, demanding adaptation, collaboration, and strategic foresight from all players in the financial services landscape. Challenges in scalability, interoperability, and regulatory compliance need to be addressed.

B) Future Research Directions

The systematic review and bibliometric analysis conducted in this study on blockchain, the Future of Financial Services, lays the groundwork for several compelling avenues for future research within the intersection of blockchain and financial services. First and foremost, there is a pressing need for research exploring scalable solutions to address the current limitations hindering the widespread adoption of blockchain in financial systems. Tackling the challenges related to transaction speed, network congestion, and energy consumption will be pivotal to unlocking the full potential of blockchain in high-throughput financial environments. Exploring the ethical considerations surrounding decentralized finance (DeFi), such as issues of privacy, security, and potential inequalities, represents another fruitful area for future inquiry. Lastly, longitudinal studies tracking the evolution of blockchain technologies and their real-world impact on financial systems will contribute valuable

insights into the maturation and sustainability of these transformative innovations. These future research directions collectively hold the promise of advancing our understanding of blockchain's role in shaping the future of financial services and guiding practical implementations in the years to come.

V. CONCLUSION

The systematic review and bibliometric analysis undertaken in this study affirm that blockchain technology is poised to be a pivotal force in shaping the future landscape of financial services. The comprehensive examination of the existing literature has illuminated key themes, including decentralization, resiliency, and the associated challenges in adopting blockchain within financial ecosystems. The decentralized nature of blockchain, underscored by components such as smart contracts and distributed ledger technologies, suggests a fundamental shift away from centralized models, offering transparency, security, and opportunities for financial inclusivity on a global scale. However, the study also reveals challenges that demand careful consideration, such as scalability issues, regulatory uncertainties, and the imperative for interoperability. These challenges, though substantial, serve as catalysts for further research and innovation in the field.

The implications drawn from this analysis emphasize the need for financial institutions, policymakers, and industry stakeholders to adapt strategically to the evolving landscape. The findings underscore the importance of embracing Decentralized Finance (DeFi) and exploring the convergence of blockchain with emerging technologies like artificial intelligence. The future research directions outlined in this study provide a roadmap for ongoing inquiry, encompassing scalable solutions, regulatory frameworks, user perceptions, and the ethical dimensions of decentralized financial systems.
In essence, this study contributes a comprehensive understanding of the multifaceted role of blockchain in financial services and lays the foundation for continued exploration. As blockchain technology continues to mature, it is clear that its transformative potential is not only promising but also contingent upon addressing current challenges and leveraging collaborative efforts across academia, industry, and regulatory bodies. The insights derived from this systematic review and bibliometric analysis offer valuable guidance for navigating the intricate intersection of blockchain and financial services, setting the stage for a future where decentralized, resilient, and inclusive financial ecosystems may become the new norm.

VI. REFERENCE

[1] Almaiah, Mohammed Amin, and Ahmed Al Mulhem. "Analysis of the essential factors affecting of intention to use of mobile learning applications: A comparison between university adopters and non-adopters." Education and Information Technologies 24 (2019): 1433-1468.

[2] Haslhofer, Bernhard, Stefan Kitzler, Pietro Saggese, and Victor Friedhelm. The Technology of Decentralized Finance (DeFi). No. 18038. CEPR Discussion Papers, 2023.

[3] Baker, Colleen, and Kevin Werbach. "Blockchain in financial services." In Fintech, pp. 148-174. Edward Elgar Publishing, 2021.

[4] Baas, Jeroen, Michiel Schotten, Andrew Plume, Grégoire Côté, and Reza Karimi. "Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies." Quantitative Science Studies 1, no. 1 (2020): 377-386.

[5] Chen, Yong, Yang Lu, Larisa Bulysheva, and Mikhail Yu Kataev. "Applications of blockchain in industry 4.0: A review." Information Systems Frontiers (2022): 1-15.

[6] Chang, Victor, Patricia Baudier, Hui Zhang, Qianwen Xu, Jingqi Zhang, and Mitra Arami. "How Blockchain can impact financial services–The overview, challenges and recommendations from expert interviewees." Technological forecasting and social change 158 (2020): 120166.

[7] Fernandez, Abigail Christina, and Thamarai Selvi Rajukannu. "Blockchain—Does It Unleash the Hitched Chains of Contemporary Technologies." Smart City Infrastructure: The Blockchain Perspective (2022): 269-291.

[8] Firdaus, Ahmad, Mohd Faizal Ab Razak, Ali Feizollah, Ibrahim Abaker Targio Hashem, Mohamad Hazim, and Nor Badrul Anuar. "The rise of "blockchain": bibliometric analysis of blockchain study." Scientometrics 120 (2019): 1289-1331.

[9] González Páramo, José Manuel. "Financial innovation in the digital age: Challenges for regulation and supervision." Revista de Estabilidad Financiera/Banco de España, 32 (mayo 2017), p. 9-37 (2017).

[10] Hughes, Laurie, Yogesh K. Dwivedi, Santosh K. Misra, Nripendra P. Rana, Vishnupriya Raghavan, and Viswanadh Akella. "Blockchain research, practice and policy: Applications, benefits, limitations, emerging research themes and research agenda." International journal of information management 49 (2019): 114-129.

[11] Hsiao, Tsung-Ming, and Kuang-hua Chen. "The dynamics of research subfields for library and information science: an investigation based on word bibliographic coupling." Scientometrics 125, no. 1 (2020): 717-737.

[12] Jani, Shailak. "Smart contracts: Building blocks for digital transformation." Indira Gandhi National Open University (2020).

[13] Javaid, Mohd, Abid Haleem, Ravi Pratap Singh, Rajiv Suman, and Shahbaz Khan. "A review of Blockchain Technology applications for financial services." BenchCouncil Transactions on Benchmarks, Standards and Evaluations (2022): 100073.

[14] Johnson, Kristin N. "Decentralized finance: Regulating cryptocurrency exchanges." Wm. & Mary L. Rev. 62 (2020): 1911.

[15] Khan, Dodo, Low Tang Jung, and Manzoor Ahmed Hashmani. "Systematic literature review of challenges in blockchain scalability." Applied Sciences 11, no. 20 (2021): 9372.

[16] Leng, Jiewu, Yuanwei Zhong, Zisheng Lin, Kailin Xu, Dimitris Mourtzis, Xueliang Zhou, Pai Zheng, Qiang Liu, J. Leon Zhao, and Weiming Shen. "Towards resilience in Industry 5.0: A decentralized autonomous manufacturing paradigm." Journal of Manufacturing Systems 71 (2023): 95-114.

[17] Lee, Joseph, and Vere Marie Khan. "Blockchain and smart contract for peer-to-peer energy trading platform: Legal obstacles and regulatory solutions." UIC Rev. Intell. Prop. L. 19 (2019): 285.

[18] Martín-Martín, Alberto, Mike Thelwall, Enrique Orduna-Malea, and Emilio Delgado López-Cózar. "Google Scholar, Microsoft Academic, Scopus, Dimensions, Web of Science, and OpenCitations' COCI: a multidisciplinary comparison of coverage via citations." Scientometrics 126, no. 1 (2021): 871-906.

[19] Makridakis, Spyros, and Klitos Christodoulou. "Blockchain: Current challenges and future prospects/applications." Future Internet 11, no. 12 (2019): 258.

[20] Pal, Abhinav, Chandan Kumar Tiwari, and Aastha Behl. "Blockchain technology in financial services: a comprehensive review of the literature." Journal of Global Operations and Strategic Sourcing 14, no. 1 (2021): 61-80.
[21] Partida Rodríguez, Alberto. "Resilience against Intentional Risk inBlockchain Implementations using Complex Networks." (2022).
[22] Rathore, Shailendra, Byung Wook Kwon, and Jong Hyuk Park. "BlockSecIoTNet: Blockchain-based decentralized security architecture for IoT network." Journal of Network and Computer Applications 143 (2019): 167-177.
[23] Saif, Abu Naser Mohammad, KM Anwarul Islam, Afruza Haque, Hamida Akhter, SM Masudur Rahman, Nusrat Jafrin, Rasheda Akter Rupa, and Rehnuma Mostafa. "Blockchain Implementation Challenges in Developing Countries: An evidence-based systematic review and bibliometric analysis." Technology Innovation Management Review 12, no. 1/2 (2022).
[24] Salameh, Jean-Paul, Patrick M. Bossuyt, Trevor A. McGrath, Brett D. Thombs, Christopher J. Hyde, Petra Macaskill, Jonathan J. Deeks et al. "Preferred reporting items for systematic review and meta-analysis of diagnostic test accuracy studies (PRISMA-DTA): explanation, elaboration, and checklist." bmj 370 (2020).
[25] Zachariadis, Markos, Garrick Hileman, and Susan V. Scott. "Governance and control in distributed ledgers: Understanding the challenges facing blockchain technology in financial services." Information and Organization 29, no. 2 (2019): 105-117.
[26] Zhao, Mao, Wei Liu, Abu Naser Mohammad Saif, Bo Wang, Rasheda Akter Rupa, KM Anwarul Islam, SM Masudur Rahman, Nusrat Hafiz, Rehnuma Mostafa, and Mohammad Anisur Rahman. "Blockchain in Online Learning: A Systematic Review and Bibliographic Visualization." Sustainability 15, no. 2 (2023): 1470.