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Bibliometric Analysis of Digital Innovation in Investment Banking Services and the Effect on Efficiency and Client Satisfaction

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Abstract
This study presents a bibliometric analysis of scholarly literature on digital innovation in investment banking, focusing on its impact on operational efficiency and client satisfaction. As the financial services industry undergoes rapid digital transformation, investment banks are increasingly leveraging technologies such as artificial intelligence (AI), blockchain, cloud computing, and big data analytics to streamline operations, reduce costs, and enhance customer experiences. The objective of this research is to systematically evaluate the trends, influential publications, key authors, and collaborative networks in this emerging domain. Using data extracted from the SCOPUS database, the analysis covers publications from 2019 to 2024. The Bibliometrix tool, using Biblioshiny in R, was employed to map co-authorship networks, citation patterns, and keyword co-occurrences. The results reveal a significant surge in publications after 2015, correlating with increased fintech activity and regulatory shifts that promote digital adoption. Key research clusters include artificial intelligence, quality of service, customer satisfaction, machine learning, and fintech. The study highlights a growing academic consensus that digital innovation enhances both back-office efficiency and front-end client engagement. However, it also identifies gaps in empirical studies measuring client satisfaction outcomes.

Keywords: Digital Innovation, Investment, Banking Services, Client Satisfaction

Introduction

Investment Banking Services

Investment banking services encompass a range of financial activities, including underwriting, mergers and acquisitions (M&A), advisory, and capital raising. These services are essential for corporations, governments, and institutions seeking to secure funding or expand operations. Investment banks act as intermediaries between securities issuers and investors, facilitating the issuance of stocks and bonds (Rosenbaum & Pearl, 2021). Moreover, they provide strategic advice during M&As and support clients in dealing with difficulties like complying with regulations and assessing the value of a company (Fabozzi, Focardi, & Jonas, 2017). Investment banks help global markets and the economy by using their financial resources and knowledge in the market.

Investment banking offers services like trading and sales, managing assets, and research. The role of the trading and sales divisions is to help buyers and sellers exchange financial instruments, which keeps capital markets from becoming short of cash (Madura, 2021). Experts in a research team analyze different industries, businesses, and types of investments to assist the company and inform its clients. Special investment plans are selected for high-net-worth and institutional clients by the division of asset management. Also, investment banks work with distressed companies to help adjust their capital and start making a profit again (Gaughan, 2017). Because of these many services, the market works well, and clients can achieve their financial aims.

Digital advancements are deeply changing the investment banking sector. Banks are using advanced

technologies such as AI, blockchain, RPA, and cloud computing to bring about new changes in their operations. The new technologies are intended to improve how the company runs and how its customers feel, both of which matter a lot in today's financial industry.

Digital Innovation in Investment Banking Services

Investment banking is changing because of digital innovation that helps run operations efficiently, fix the customer experience, and significantly refine standard business practices. Using modern technologies such as AI, blockchain, big data analytics, and cloud computing, investment banks try to simplify processes, decrease costs, and get a lead in a changing financial market. AI and machine learning have made a big difference in handling data, protecting against risks, and offering advice to clients. AI allows tools to quickly analyze a lot of data, which results in more reliable forecasts in the market and makes decisions faster. For instance, investment banks apply AI to find trading patterns, judge the level of credit risk, and give personalized investment tips to clients (Chishti & Barberis, 2016). High-frequency traders use mathematical models to conduct deals fast and use data for a competitive edge.

Investment banks are also being changed by the arrival of blockchain technology. Secure and straightforward deals become possible without intermediaries, which boosts the efficiency of how transactions are settled. Since blockchain uses smart contracts and distributed ledgers, it helps to reduce the amount of money and time spent settling transactions, along with trades in securities and standard cross-border payments (Tapscott & Tapscott, 2016). Mainly, major investment banks are currently testing platforms built on blockchain technology for clearing and settlement, proving their effectiveness for the industry in the future. Through cloud computing, banks are now finding it easier and cheaper to manage their IT infrastructure. Because of cloud-based solutions, investment banks can work with a lot of data more easily and safely, and this helps them keep up with real-time information and create new investment products (PwC, 2020). With enhanced data storage and computational capabilities, banks can also deliver more responsive client services while complying with complex regulatory requirements.

Having big data analytics is useful for understanding what clients do, how best to charge for products or services, and managing the risks that exist in a portfolio. With today's technology, investment banks can use different data, such as posts from social media, records of transactions, and feeds from the market, to gain useful insights. With these analytics, banks are able to anticipate changes in the market, evaluate their clients' needs more appropriately, and decide on strategies more effectively (Deloitte, 2021). Digital advances are also growing the number of investment platforms and mobile banking solutions where clients can use apps and websites for both investing and getting advice. Because of these platforms, clients can engage more and enjoy services that were previously limited to big companies.

Even though digital transformation helps in many ways, it raises cybersecurity issues, raises privacy concerns, and requires new rules for companies. Therefore, these banks need to purchase secure technology and obey changing regulations to gain the most out of digital innovation.

Recent Studies on Digital Innovation and Client Satisfaction in Investment Banking Services

In 2024, Zhang and Wang performed a systematic review of digital transformation's role in investments, securing funds, and company worth. Among other things, they studied factors found inside the organization, ones from outside it, and money-related outcomes to discover the impact of digitalization on company finances. Kasana, & Singh, (2024) put together a model by studying online customer experience (OCE), e-loyalty, e-trust, and e-satisfaction. It was discovered by the researchers that financial performance and customer-centricity are greatly increased by customers thinking highly of the centrality, significance, and usability of what a digital bank offers. Kitsios et. al (2023) noted that factors such as timesaving, how simple it is to use, and adaptability make customers more satisfied with digital banking. They also mentioned that customer satisfaction goes down if they worry about their data being safe and about fraud. Stefanelli et al. (2022) described how open banking and digital finance are

affecting the banking industry. They stress that strategically joining forces and using APIs plays a big role in managing customer relationships and providing well-integrated services. A study conducted by Indriasari et al. (2023) suggests that the use of AI in banking brought about a 15% increase in how customers feel about the service. With AI, they found the time needed for transactions was reduced by 25%, and the number of clients involved in their services went up by 20%.

A framework to estimate customer lifetime value (CLV) in retail banking was created by Cowan et al. (2023). By using their model, a UK lender managed to improve its CLV predictions by 43% and make its marketing campaigns more successful. Waliullah et al. (2025) discuss how cybersecurity dangers affect people's use of digital banking. It was found that using AI and biometric methods for fraud warning and security encourages trust and supports an increase in digital banking activities. According to Steria's report, the use of AI in banks this year has improved their performance and workflows. On the other hand, it is pointed out that half of the customers do not think their bank wants to help them earn more money, which suggests that engagement is lacking. The International Journal of Human Society's latest report says that the positive effects of user experience, reliability, security, service quality, convenience, and personalization on customer satisfaction apply in digital banking. Marinkovic et al. (2022) stated that digital banking has led customers to expect more from banks and urged banks to keep up with the latest technology to please their customers.

This study employs bibliometric analysis using scholarly literature from the SCOPUS database to investigate digital innovation in investment banking, with a focus on the impact on operational efficiency and client satisfaction. The bibliometric approach is a good fit for explaining the hierarchy, activity, size, and development of research in a certain field (Donthu et al., 2021) through quantitative analysis of bibliometric data (Pritchard, 1969). By using this method, trends, patterns of citations, and co-citation networks can be detected on the basis of time, author, country, journal, types of theories, methods, and research parts (Paul and Criado, 2020). Through bibliometric analysis, the most important topics, prominent scientists, active nations, and main institutions stand out, which aids in planning upcoming studies and governmental research funding (Sweileh, 2020). The technique is applied by researchers for various reasons, including discovering new tendencies, assessing journal success, mapping networks of collaboration, and investigating intellectual connections in a certain academic field (Verma and Gustafsson, 2020).

Only a few studies have carried out bibliometric analysis on digital innovation and its impact on investment banking's efficiency and client satisfaction. Arora and Banerji (2024) carried out a study that found important changes in digital banking service quality from 1991 to 2022, especially regarding how customers felt and trusted the services. Researchers relied on the Scopus database to discover major issues like customer satisfaction, using digital banking, and service, which showed the role of digital transformation in building relationships. Likewise, Zhang and Wang (2024) carried out a thorough bibliometric analysis to examine how digital transformation changes corporate finance in terms of investment, funding, and firm growth. It was found in their study that there is a growing interest in digital strategies in banking, so future research should look into their influence on both operational performance and customer satisfaction. Investment banking is more efficient and produces satisfied clients when it uses new digital tools and technologies. As a result of these analyses, the industry can adopt better strategies to suit customers' needs.

Methodology

Recently, bibliometric analysis has gained significant recognition in research (Durieux and Gevenois, 2010; Nobanee, 2021; Donthu et al., 2021; Bretas and Alon, 2021) because of the accessibility to tools like VOSviewer and Biblioshiny, and databases such as Web of Science and Scopus. Its spread in various fields reflects not just a trend, but its practical utility in managing large volumes of research data and generating high-impact insights. Bibliometric methods assist in spotting significant research trends, gaps, and emerging themes (Donthu et al., 2021). The use of these tools gives researchers access to comprehensive literature on major topics in the field,

journal performance, and authors' collaboration patterns, among others (Durieux and Gevenois, 2010; Verma, 2020). Even though bibliometric data itself is objective, its interpretation usually includes performance analysis as well as analysis of themes. Bibliometric analysis is conducted by the authors to review trends in Digital Innovation related to Investment Banking Services and how they affect both efficiency and the satisfaction of clients. It involves both performance analysis of research results and science mapping to present the interactions among its elements. This research applies to an integrated way of studying performance review, science mapping, and network analysis at once (Donthu et al., 2021).

Data extraction process

This research used SCOPUS, a database with a large collection of peer-reviewed articles, as its source for bibliometric analysis of data. The results were generated from a search formula that contained the following strings ("Digital Innovation" OR "Artificial Intelligence" AND "Investment Banking" OR "Banking Services" OR "Financial Services" AND "Satisfaction"). This is important to gather all the relevant literature about how digital innovation influences efficiency and client satisfaction in investment banking within the database. The search was conducted on 7 June 2025. In the second stage, raw data were extracted from the SCOPUS database, cleaned to remove duplicates, and merged. R Biblioshiny and Vosviewer software were used for data analysis. This process yielded 60 relevant documents encompassing various source types, including journal articles, books, book chapters, conference papers, and review articles.

Results and Discussion

Performance Analysis

Performance analysis evaluates the contribution of various academic research components within a specific discipline (Cobo and Herrera, 2011). As a fundamentally descriptive approach, it forms a key aspect of bibliometric analysis. Commonly used in literature reviews, performance analysis highlights the productivity and influence of research elements, such as authors, institutions, countries, and sources, similar to how respondent profiles are presented in empirical studies, but with greater statistical rigour (Durieux and Gevenois, 2010). The most widely used metrics in performance analysis are the number of publications and citations per research element or year. While the number of publications indicates research productivity, citation counts reflect the scholarly impact of the work [9]. Additional indicators like citations per document and the h-index combine both productivity and impact to assess research performance more comprehensively.

Table 1 illustrates the performance of publications in the field of banking. From 2014 to 2024, a total of 60 documents have been published. These works involved 209 contributing authors, with 7 publishing independently and 211 collaborating. The documents have collectively received 420 citations, averaging 176.47 citations per year.

Table 1. Metrics for performance analysis

Metric	Description	Result
Total Publication (TP)	Number of total publications	60
Number of contributing authors (NCA)	Total number of contributions from authors	209
Single-authored documents (SA)	Number of single-authored publications	7
Co-authored documents (CA)	Number of co-authored publications	211.8
Number of active years of publication (NAY)	Total period of publications by research area	10
Productivity per active year of publication (PAY)	Total publications/number of active years of publication (TP/NAY)	6
Total citations (TC)	Total citations received by published articles [Average citation per doc x Total documents]	420
Average citations (AC)/year	Average citations per year of publications [TC/Document Average Age]	176.47

Collaboration index (CI)	The extent of collaboration {(Total Authors – Single Author/No of multi-authored documents	3.81
Collaboration coefficient (CC)	Standardises the extent of researcher collaboration between 0 and 1 {1-(TP/NCA)}	0.713

The field of digital innovation for investment banking services, and its effect on both business operations and customer happiness, has seen a major increase in the past decade. According to Figure 1, there were few publications from 2015 to 2019, as just one paper was published every year, with no output in 2018. Nevertheless, an uptrend appeared in 2020, as four articles were published and were supported in 2021. In 2022 (8 articles) and 2023 (10 articles), the trend intensified, and 2024 saw a major increase with 30 published articles. This increase shows that more and more people in academia are interested in learning about the effects of digital growth on investment banking and client satisfaction. The rise in financial services research over the past few years indicates that digital tools, automation, and technologies for clients are taking a leading role. This spike in 2024 points to more people understanding the topic, and there could be important changes in what policymakers, businesses, and scientists pay attention to in the industry

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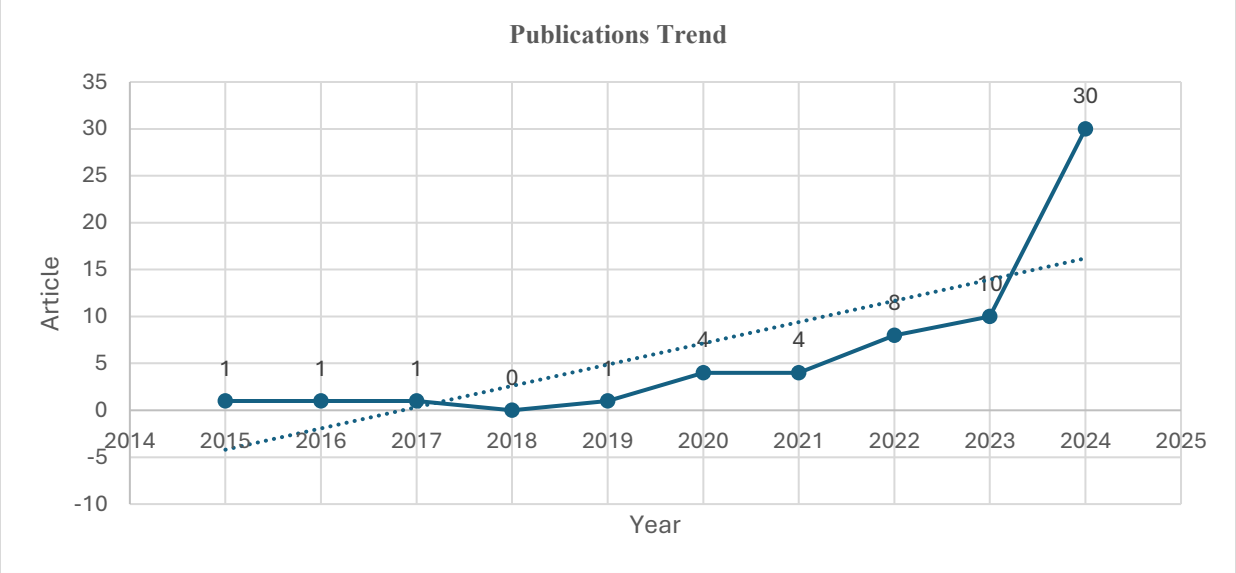

Figure 1. Annual Scientific Production

Science Mapping

Science mapping explores the relationships between various research elements, focusing on the intellectual linkages and structural networks within a field (Baker, Kumar, and Pandey, 2021). It encompasses techniques such as citation analysis, bibliographic coupling, co-citation analysis, co-occurrence networks, and collaboration mapping. When integrated with network analysis, these methods effectively reveal the bibliometric landscape and intellectual structure of a research area (Baker, Kumar, and Pandey, 2020).

Citation analysis

The idea of citation analysis in science mapping is that publications are used to record and pass on valuable research ideas and their results. This review indicates the level of influence of published documents by counting the citations they received. Therefore, uncovering the most influential and informative documents in a research area related to a research subject. Thus, it allows gathering insights into that constituent's intellectual dynamics. It shows the top 20

important and influential documents in banking performance or efficiency.

The citation analysis of the top 20 papers on digital innovation in investment banking suggests that the topic has received a lot of attention from academics. Among the papers, the highest cited is by Nguyen DM (2021), getting 153 mentions and reaching 30.60 citations each year. From 2022 to 2024, a lot of new publications have received many references. For instance, from 2022, Mahalakshmi V registered a citation rate of 41 each year, and in 2024, Sharma P achieved a rate of 8 citations every year. This points to more researchers being interested in understanding how new digital solutions support speed in banking and meet users' needs. The fact that the number of citations is going up implies that the subject plays an increasing role in research fields.

Table 2. Top 20 most cited papers. Source: Biblioshiny R package

Papers	Total Citations	TC per Year
NGUYEN DM, 2021, SUSTAINABILITY	153	30.60
MAHALAKSHMI V, 2022, MATER TODAY PROC	41	10.25
MEHROTRA A, 2019, INT CONF AUTOM, COMPUT TECHNOL MANAG, ICACTM	34	4.86
WALISZEWSKI K, 2020, ENTREP SUSTAIN ISSUES	24	4.00
AL SHEHAB N, 2021, STUD COMPUT INTELL	18	3.60
SHARMA P, 2024, INT J ELECTRON FINANCE	16	8.00
DEEPTHI B, 2022, VISION	14	3.50
GONÇALVES AR, 2023, INT J BANK MARK	12	4.00
KUMAR R, 2023, INT CONF DISRUPTIVE TECHNOL, ICDT	10	3.33
KASANA, & SINGH, (2024) P, 2024, MANAGE DECIS	9	4.50
RAMESH V, 2020, ADV INTELL SYS COMPUT	7	1.17
BARONE M, 2024, INT J BANK MARK	7	3.50
SHEELA MARGARET D, 2024, INT J COMPUT EXP SCI ENG	7	3.50
SINGH G, 2023, PROC - INT CONF TECHNOL ADV COMPUT SCI, ICTACS	7	2.33
LI B, 2021, J AMBIENT INTELL HUMANIZED COMPUT	6	1.20
IIIE M, 2017, TRANSFORM BUS ECON	6	0.67
PIOTROWSKI D, 2022, ECON BUS REV	6	1.50
KAUR R, 2024, ENVIRON SOC PSYCHOL	5	2.50

Co-occurrence analysis

The idea of co-occurrence analysis was stated by Donthu, Kumar, and Pattnaik (2020) based on content analysis, and it helps to track the intensity of meaning in keywords within texts. In other words, co-occurrence analysis is an approach that investigates the actual content of the document itself. It identifies and pulls out the important literature according to keywords common to research papers (Emich et al., 2020; Cobo MJ, and Herrera, 2011). It is meant to find words that are found together in many places throughout a research area. It displays the categorization of research subjects that are important to scholars.

The analysis of keywords used in studies related to digital innovation in investment banking uncovers the main trends that affect the area, as seen in Figure 2. Of all the terms, artificial intelligence is seen as the most

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influential, connecting the main topics the most. Being concerned with customer satisfaction and profits, digital marketing research illustrates the main focus on client results. Words like "service quality", "customer experience", and "data analytics" point out the value of digital enhancements in service provision. The use of "chatbots", "digital banking", and "process automation" denotes ways that innovations are making financial transactions easier and more convenient for people. All in all, the keyword network shows that there is increasing collaboration between researchers in AI-led banking transformation.

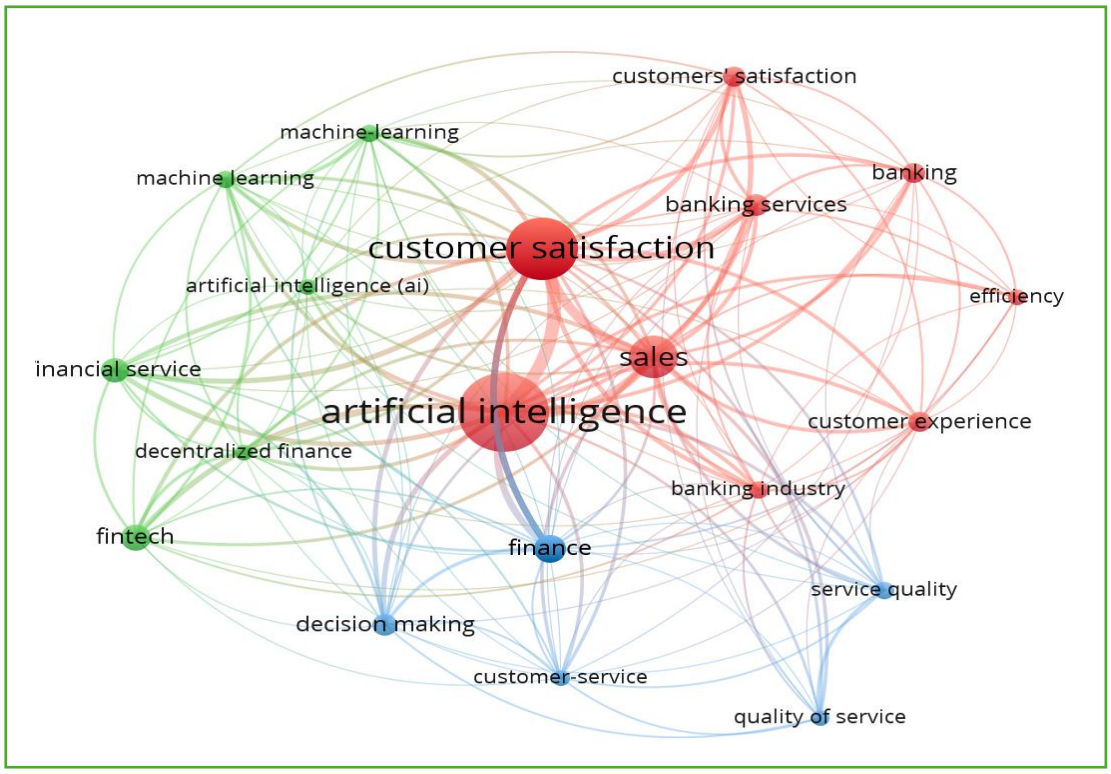

Figure 2. Co-occurrence of keywords. *Source: Vosviewer*

Co-occurrence of keywords, Tool: VOSviewer. Note that the nodes represent the keywords, and the edges between words represent their occurrence of interactions. Each colour of the nodes represents a cluster/theme. The size of the node presents a greater frequency of occurrence.

Collaboration networks

The process of collaboration analysis examines the connections between researchers in a certain group. Researchers come together in a formal way using scientific collaboration Acedo et al., 2006; Cisneros et al., 2018). For these reasons, it is necessary to know how researchers relate to each other. Because research is becoming more complex, it is normal for researchers to work together through intellectual networking. Yes, cooperation among scientists helps enhance academic research. For example, when various researchers communicate, they can explore matters more deeply and see the issues at hand (Tahamtan, SafipourAfshar, and Ahamdzadeh, 2016). Those who participate in research groups build 'invisible networks' that support better results in the specific area (Crane, 1972).

Figure 3 is a presentation of the collaboration network of authors who co-authored academic articles related to Digital Innovation in Investment Banking Services. Information on the collaboration network in investments and how it influences both efficiency and satisfaction demonstrate that various studies exist, but the area is still growing. The network includes a collection of small groups, where authors who usually collaborate are found together. Hamdan A's cluster in Cluster 1 connects various author groups by having the largest betweenness centrality (2) and the largest

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closeness (0.333). There are other authors, such as Abdulla ES, Akeel H, and Al Shehab N, in this cluster, but with lower connectivity metrics. Other groups, such as those coordinated by Barone M and Bussoli C (in Cluster 2), Akyuz GA and Balkan D (in Cluster 3), and Arora H and Deepthi B (in Cluster 5), display great internal relationships but not many ties outside the group. Overall, the layout reveals that more joint work and teamwork could boost the impact of research and its integration.

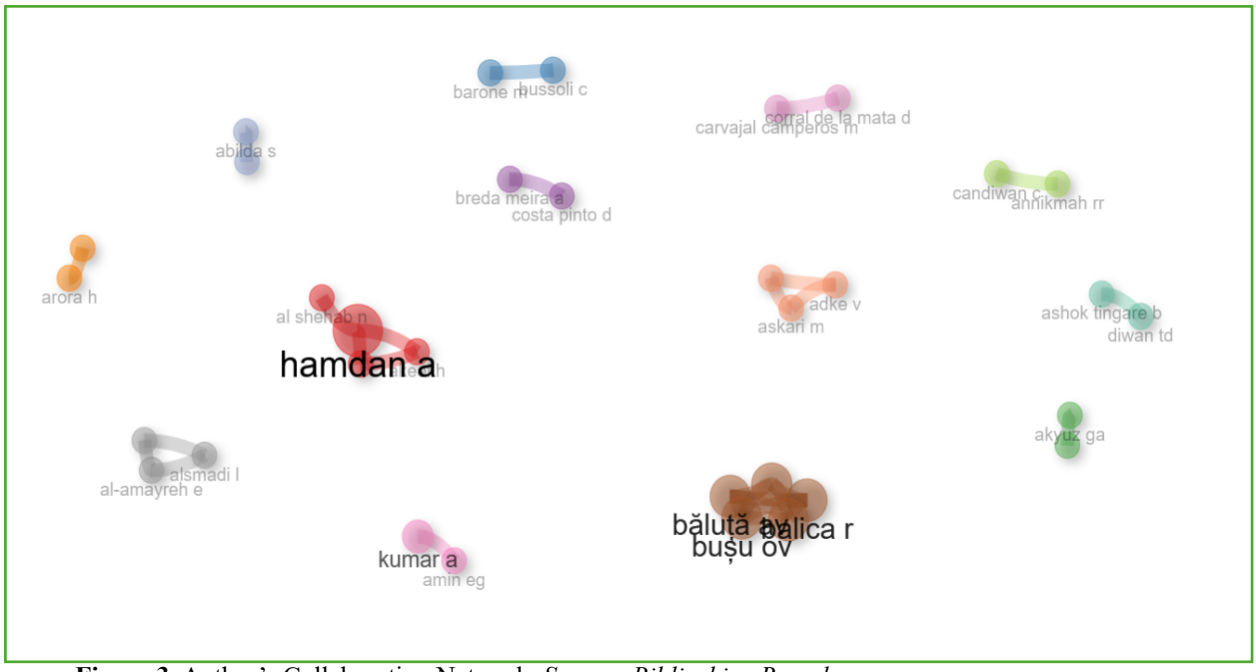

Figure 3. Author's Collaboration Network. *Source: Biblioshiny R package*

Bibliographic coupling

Co-authorship and networks among authors and important aspects of the collaboration show the cooperation between countries and institutions connected to the authors. Figure 4 reveals a collaboration network between the authors' organizations. The bibliographic network of author-affiliated institutions in studies related to digital innovation research within investment banking highlights distinct collaboration clusters. In Cluster 1, Indian colleges Panimalar Engineering College, Sri Sairam Engineering College, and Kristu Jayanti College stand out, especially since Panimalar contributes most to the collaboration by having the highest betweenness (4) and PageRank (0.046). Cluster 2 features private and California State University, showing strong internal connectivity with closeness values of 1. Cluster 3 consists of international universities such as Al-Farabi Kazakh National University and the Financial University of Russia, each with moderate closeness (0.5). This network reflects diverse geographic participation, with Indian and international institutions playing key roles in advancing digital innovation research in investment banking.

Just like the collaboration among co-authors, affiliated institutions can facilitate comparative and concurrent research as well. Figure 5 illustrates the network of collaborating countries based on authors' affiliations. The collaborative network of authors affiliated with various countries in research related to digital innovation within investment banking reveals a diverse and global engagement. India and China lead in frequency, reflecting strong research activity and collaboration hubs in Asia. European countries like Romania, Slovakia, and Austria contribute notably, highlighting the growing interest in this region. Australia and the USA represent significant participation from Western countries, while Bahrain, Indonesia, and Jordan indicate emerging research contributions from the Middle East and Southeast Asia. This distribution shows the international input of

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research on digital innovation's impact on banking efficiency and client satisfaction, encouraging cross-border collaboration

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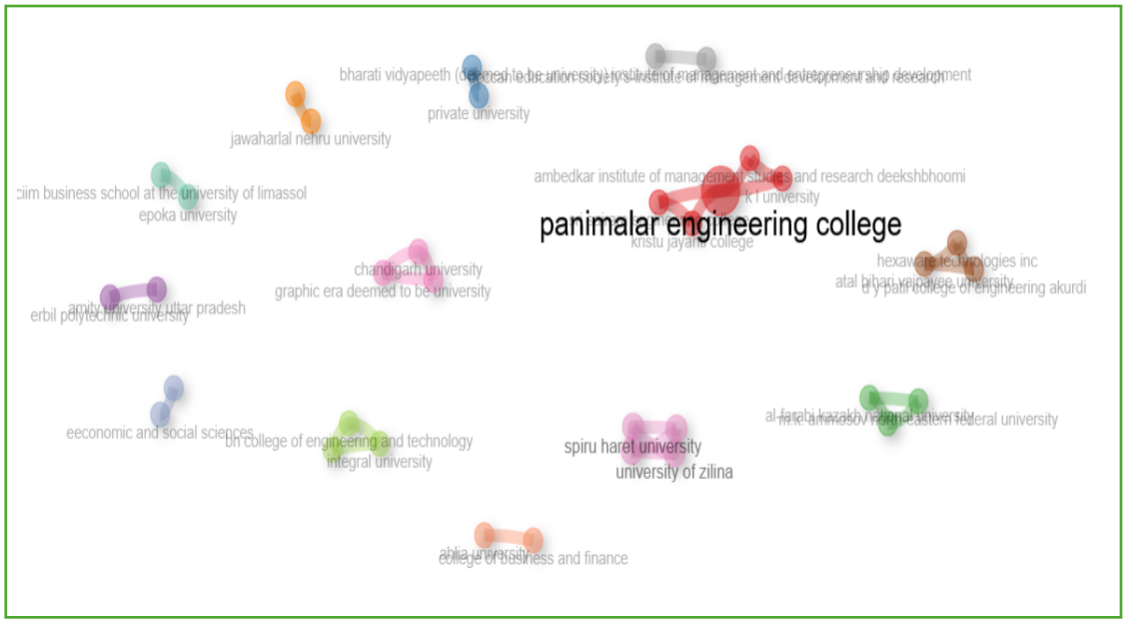

Figure 4. Bibliographic Network of author-affiliated institutions. *Source: Biblioshiny R package*

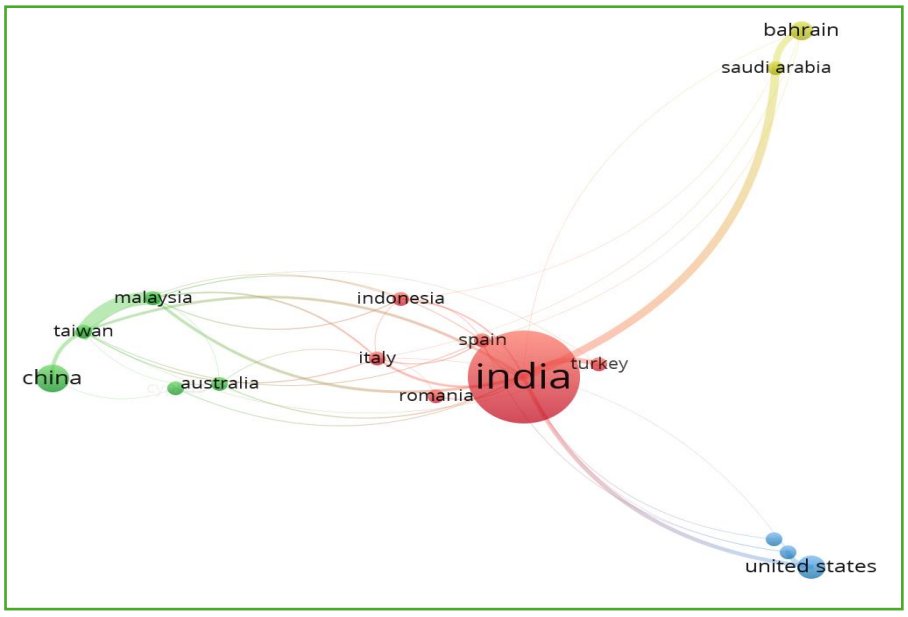

Figure 5. Collaborative authors' affiliated countries. *Source: Vosviewer*

Trends Topics

The recent trends in digital innovation within investment banking services are depicted in Figure 6. This figure shows trending topics that are impetus from 2021 through 2024. The most prominent theme is "Artificial Intelligence", having 42 publications, displaying an important role in changing banking operations and client interactions. "Customer satisfaction" theme, followed closely by 30 publications, and the "sales' theme with 19

publications. The interpretation of these results is that the sector focuses on enhancing client outcomes and revenue generation through technological advancements. "Fintech" and "decision making" are emerging areas that gained traction in 2023 and 2024, emphasizing the growing prominence of financial technology solutions and data-driven strategies in banking. Other noteworthy topics are "banking services" and "machine learning", revealing current research into improving service delivery and predictive analytics. In addition, "customer experience" is gaining more attention supporting the industry's efforts in advancing client engagement through digital innovation. All these trends reflect a vibrant research setting steered by technology's impact on efficiency and client satisfaction in investment banking.

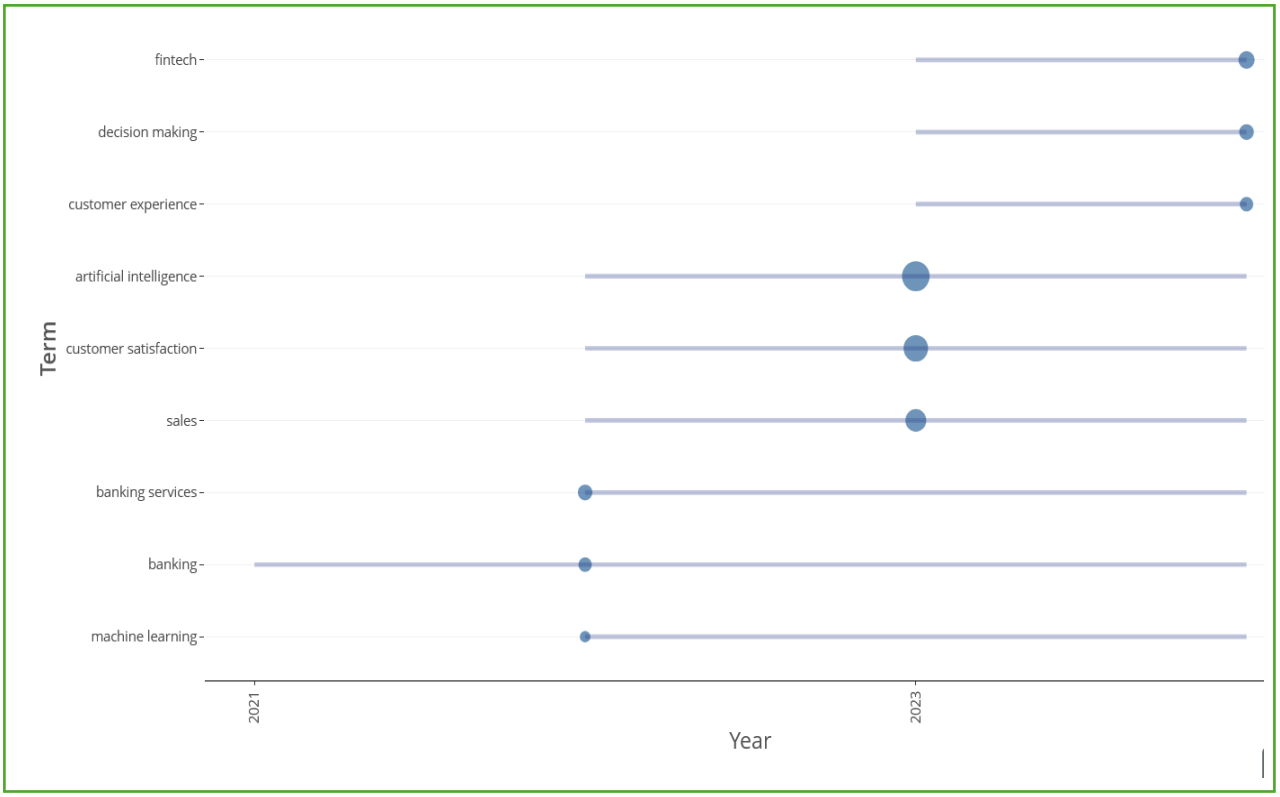

Figure 6. Trend topics. *Source: Biblioshiny R package*

Summary of Discussion

Investment banking has embraced digital advancements since 2020, as there has been a significant increase in related publications over the past two years: 2022 and 2024. The bibliometric analysis shows a strong concentration of research around emerging technologies such as artificial intelligence, machine learning, fintech, and process automation, highlighting their relevance to improving banking efficiency and enhancing client satisfaction. The increase in customer satisfaction, customer experience, and decision-making reflects a shift toward client-centric service delivery models. Collaboration networks show high international co-authorship, especially among authors from India, China, the USA, and European countries, indicating global scholarly interest. Institutional collaborations are clustered but show signs of emerging cross-border and cross-disciplinary integration. Keyword co-occurrence patterns confirm that AI, sales, and service quality are central nodes, emphasizing their role in driving banking innovation.

There was a significant increase in scientific production from 2022 to 2024, with 30 articles published in 2024 alone, accounting for half the total dataset. The most cited work (Nguyen DM, 2021) received 153 citations, indicating high academic

influence. Recent papers show rapid citation accumulation, suggesting timely relevance. Topics like *artificial intelligence*, *customer satisfaction*, *fintech*, and *sales* dominate recent research, pointing to a focus on both technological enablers and client impact. There is also a strong collaboration among the authors, with a collaboration Index (CI) of 3.8, a collaboration coefficient (CC) of 0.717, and high multi-authorship (88.3%). At the end of the day, Indian institutions like Panimalar Engineering College exhibited important roles in knowledge dissemination.

Future research should examine the sustained results of digital changes in the bank's performance and client retention over time. AI-driven approaches that are centered on the needs of clients to study how AI and ML can add a personal touch to investment banking without sacrificing privacy. Interdisciplinary collaboration among financial institutions, tech developers, and academia can result in innovations that may be used on a wider scale. Encouraging more research projects that include teams from regions in Africa and Latin America is important, and finally, incorporating up-to-date data and blockchain analytics improves both transparency and trust for banks.

Conclusion

Findings from the bibliometric analysis of digital innovation in investment banking reveal that the research area has been quickly changing, mainly due to increased interest by scholars in 2022 and 2024. Technologies such as artificial intelligence, machine learning, and fintech are currently leading the transition of banking operations, mainly to make the services more efficient and pleasing for clients. Collaborations on research, both by institutions and internationally, are increasing because this topic matters globally. As banking continues to digitize, future studies must adopt interdisciplinary approaches, incorporate client-centric perspectives, and evaluate the long-term impact of innovation on financial performance and customer loyalty. This will ensure that digital transformation not only streamlines operations but also delivers meaningful and measurable value to clients in an increasingly competitive and tech-driven financial environment.

References

Acedo FJ, Barroso C, Casanueva C, and Galán JL (2006) Co-authorship in management and organizational studies: an empirical and network analysis. *J Manag Stud*., 43(5):957–983.

Arora, P., & Banerji, R. (2024). Digital banking service quality: a bibliometric analysis of the literature from 1991-2022. *International Journal of Bibliometrics in Business and Management*, 3(2), 162-181.

Baker HK, Kumar S, Pandey N (2020) A bibliometric analysis of managerial finance: a retrospective. *Manag Finance*, 46(11):1495–1517.

Baker HK, Kumar S, Pandey N (2021) Forty years of the Journal of Futures Markets: a bibliometric overview. *J Futur Mark,* 41(7):1027–1054.

Kasana, E., & Singh, R. (2024). Central Bank Digital Currency (CBDC) Implementation in India: Implement Strategies and Challenges. In Revolutionizing Customer-Centric Banking Through ICT (pp. 98-120). IGI Global Scientific Publishing.

Bretas VPG, and Alon I (2021) Franchising research on emerging markets: bibliometric and content analyses. *J Bus Res*., 133(May):51–65.

Chishti, S., & Barberis, J. (2016). *The Fintech book: The financial technology handbook for investors, entrepreneurs, and visionaries.* John Wiley & Sons.

Cobo MJ and Herrera F (2011). An approach for detecting, quantifying, and visualizing the evolution of a research field: a practical application to the Fuzzy Sets Theory field. *J Informet.,* 5(1):146–166

Cowan, C., Galesic, M., & Keller, J. (2023). *Customer Lifetime Value Modeling in Retail Banking Using Machine Learning*. arXiv. https://arxiv.org/abs/2304.03038

Crane D (1972) *Invisible colleges: diffusion of knowledge in scientific communities*. University of Chicago Press

Cobo MJ, and Herrera F (2011) An approach for detecting, quantifying, and visualizing the evolution of a research field: a practical application to the Fuzzy Sets Theory field. *J Informet* 5(1):146–166

Cisneros L, Ibanescu M, Keen C, Lobato-Calleros O, and Niebla-Zatarain J (2018) Bibliometric study of family business succession between 1939 and 2017:

mapping and analyzing authors' networks. Scientometrics.

Deloitte. (2021). The Future of Investment Banking: Embracing Innovation. Retrieved from https://www2.deloitte.com

Donthu N, Kumar S, and Pattnaik D (2020) Forty-five years of Journal of Business Research: a bibliometric analysis. *J Bus Res.,* 109(October 2019):1–14.

Donthu N, Kumar S, Mukherjee D, Pandey N, and Lim WM (2021). How to conduct a bibliometric analysis: an overview and guidelines. *J Bus Res.,* 133(May):285–296.

Durieux V, and Gevenois PA (2010) Bibliometric indicators: quality measurements of scientific publication. *Radiology,* 255(2):342–351

Emich KJ, Kumar S, Lu L, Norder K, and Pandey N (2020) Mapping 50 years of small group research through small group research. *Small Group Res.,* 51(6):659–699.

Fabozzi, F. J., Focardi, S. M., & Jonas, C. (2017). Equity Valuation: Science, Art, or Craft?. CFA *Institute Research Foundation*.

Gaughan, P. A. (2017). *Mergers, Acquisitions, and Corporate Restructurings*. John Wiley & Sons.

Indriasari, D., Ginting, Y. D., & Sipayung, M. K. (2023). *The Role of AI in Enhancing Customer Satisfaction in Banking Services*. Public Administration and Policy. https://www.emerald.com/insight/content/doi/10.1108/pap-05-2023-0060/full/html

Imerman, M., & Fabozzi, F. J. (2025). *The Economics of FinTech: Understanding Digital Transformation in Financial Services*. MIT Press.

Kitsios, F., Kamariotou, M., & Tsakiridou, E. (2023). Exploring the Factors Affecting the Satisfaction of Digital Banking Services. *Journal of Risk and Financial Management*, 13(3), 39.

Madura, J. (2021). *Financial Markets and Institutions*. Cengage Learning.

Marinkovic, V., Djokic, J., & Kvrgic, G. (2022). Transforming Customer Expectations Through Digital Banking Services. *Journal of Risk and Financial Management*, 13(3), 39.

Nobanee H (2021) A bibliometric review of big data in finance. *Big Data*, 9(2):73–78.

Paul J, and Criado AR (2020) The art of writing literature review: what do we know and what do we need to know? *Int Bus Rev.,* 29(4):101717.

Pritchard A (1969) Statistical bibliography or bibliometrics? *J Doc*., 25(4):348–349

PwC. (2020). Financial Services Technology 2020 and Beyond: Embracing Disruption. *Retrieved from https://www.pwc.com*

Rosenbaum, J., & Pearl, J. (2021). *Investment banking: valuation, LBOs, M&A, and IPOs*. John Wiley & Sons.

Stefanelli, A., Pino, G., & Brogi, M. (2022). *Open Banking, Fintechs, and Digital Ecosystems: A Systematic Literature Review*. arXiv. https://arxiv.org/abs/2210.01109

Sweileh WM (2020). Bibliometric analysis of peer-reviewed literature on climate change and human health with an emphasis on infectious diseases. *Glob Health*, 16(1):1–17.

Tahamtan I, SafipourAfshar A, and Ahamdzadeh K (2016). Factors affecting number of citations: a comprehensive review of the literature. *Scientometrics,* 107(3):1195–1225.

Tapscott, D., & Tapscott, A. (2016). *Blockchain Revolution: How the Technology Behind Bitcoin Is Changing Money, Business, and the World*. Penguin

Verma S, and Gustafsson A (2020). Investigating the emerging COVID-19 research trends in the field of business and management: a bibliometric analysis approach. *J Bus Res*., 118(January):253–261.

Waliullah, S., Hasan, M. M., & Kamal, M. M. (2025). *Cybersecurity Risks and Digital Banking Adoption: A Review and Policy Implications*. arXiv. https://arxiv.org/abs/2503.22710

Zhang, P., & Wang, Y. (2024). Digital transformation: A systematic review and bibliometric analysis from the corporate finance perspective. arXiv preprint arXiv:2412.19817.