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Fintech for sustainable economic development in coastal areas: A bibliometric review

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Abstract

This paper claims that FinTech has great potential to advance coastal areas' sustainable economic growth. By enhancing financial inclusion, supporting green finance, and building a suitable legislative environment, FinTech might significantly help coastal economies to be resilient and sustainable. A bibliometric study was conducted over a 5-year period (2019–2024) utilizing criteria to select the most significant papers on absorptive capacity from two research databases, ISI Web of Science and Scopus. Drawing inspiration from the HistCiteTM and VoSviewer tools, the integration of financial technology (FinTech) into the economic frameworks of coastal communities offers a transformative opportunity for sustainable economic development. FinTech substantially improves financial inclusion, particularly in areas without conventional banking services. FinTech enables small to medium-sized organizations (SMEs) to obtain funding using digital platforms, advancing local businesses and economic sustainability. FinTech bolsters regional economic resilience and entrepreneurship, as industries like fisheries, which are susceptible to environmental variations, frequently determine the economic activity in coastal areas. The existence of FinTech in coastal communities, where sectors like fishing depend on economic activity, is vulnerable to environmental fluctuations.

Keywords: Coastal areas, Fintech, Sustainable economic development.

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1. Introduction

Coastal regions have recently emphasized the potential of financial technology (FinTech) to promote sustainable economic growth. Multiple studies demonstrate that FinTech has promoted financial inclusion and economic development, aiding sustainable development objectives, economic progress, and financial accessibility Abouraia and Al Morsey [1]; Maknickienė and Lapkovskaja [2]; Pawłowska, et al. [3] and Wicaksana [4]. Pawłowska, et al. [3] assert that financial innovation in FinTech has the potential to promote economic growth, consequently improving economic efficiency,

environmental sustainability, and the overall economic structure. Moreover, FinTech has facilitated financial inclusion and economic progress in developing nations [1].

Financial technology, or FinTech, has developed into a potent instrument that may substantially promote equitable and sustainable economic growth in coastal communities. Fintech can facilitate sustainable development across several industries, stimulate economic growth, and foster financial inclusion through new financial solutions. It can be crucial in assisting small and medium-sized organizations (SMEs). Research indicates that FinTech is essential for empowering SMEs, fostering economic diversity, and facilitating sustainable growth [5]. Fintech might enable SMEs to flourish and enhance economic development by making money more readily available and improving financial services.

Since FinTech addresses gender and regional imbalances, promotes financial literacy and financial initiatives, and ultimately contributes to sustainable economic development, the literature argues that it is essential for sustainable economic growth [6]. Furthermore, highlighting FinTech's significant potential to support sustainable development is its recognition as a platform for sustainable economic growth and a driver of the fourth industrial revolution [7].

Research on FinTech's prospects in other non-financial areas, such as healthcare and smart cities, has also proven how well it may help sustainable development across several sectors [8, 9]. The fact that FinTech is a driver of economic resilience and a necessary component in expanding economic possibilities under digital transformation further underscores its essential contribution to sustainable economic development.

Moreover, the ability of FinTech to increase financial inclusion is well-known. By improving access to financial services, reducing poverty, and advancing gender equality, FinTech can assist people and enterprises in underdeveloped areas—including coastal regions—in becoming more economically engaged [4]. One should also take into account how FinTech shapes environmentally friendly economic development. Moro-Visconti, et al. [6] claim that FinTech has been identified as a key player behind financial inclusion, which is required to achieve balanced, sustainable development as outlined by the UN Sustainable Development Goals. Eventually, FinTech will enable high-quality economic growth by helping nations recover, reconstruct, and rejuvenate—that is, by helping them to heal [9].

Particularly in Java, FinTech has made financial operations such as crowdsourcing, peer-to-peer lending, electronic money, and mobile and internet payments simpler for Indonesia. For the local residents, this has made financial services more convenient and easily accessible [10]. This improved availability of financial services can increase economic activity and help East Java's coastal areas to flourish overall. Through the encouragement of fair and sustainable economic growth, FinTech can transform East Java's coastal areas. By increasing financial inclusion, enabling SMEs, and promoting sustainable development, FinTech can greatly enhance the economy of the region. When fully implemented, FinTech has the potential to boost economic growth [11]. The coastal areas of East Java are rich in natural resources such as fisheries, aquaculture, agriculture, and tourism, which can promote community prosperity and economic empowerment [12].

Programs aimed at supporting coastal areas require ongoing economic advancement in East Java. Coastal towns can enhance their economic potential by effectively managing local natural resources and implementing training programs and skill development initiatives [13]. Furthermore, the development of sustainable tourism along the southern coastline of East Java necessitates the adoption of environmentally conscious travel practices [14].

Integrated Coastal Zone Management (ICZM) utilizes a holistic sustainability approach to reconcile ecological conservation with economic advancement in coastal areas [15]. To guarantee the enduring survival of coastal regions, the development of coastal ecotourism must be congruent with indigenous knowledge and sustainable practices [16]. The execution of Integrated Coastal Zone Management (ICZM) is crucial for addressing the intricate challenge of maintaining coastal regions in light of rising coastal tourism trends [17]. The sustainable economic development of East Java's coastal regions requires collaboration on fintech innovation, the economic empowerment of coastal inhabitants, the expansion of sustainable tourism, and the implementation of effective coastal management methods, including Integrated Coastal Zone Management (ICZM).

This bibliometric analysis examines the influence of financial technology, commonly referred to as FinTech, on equitable and sustainable economic development in coastal East Java. Examining several scholarly articles will allow the research to explore the impact of FinTech acceptance on regulatory challenges, risk management, financial inclusion, economic growth, and adherence to environmental, social, and governance (ESG) principles. The paper will also address how FinTech innovation contributes to the UN Sustainable Development Goals (SDGs), financial inclusion, and sustainable development. This study aims to elucidate the transformative potential of FinTech in fostering inclusivity and economic advancement in coastal communities, thereby contributing to broader sustainable development objectives through a comprehensive bibliometric analysis.

2. Theoretical Discussion

2.1. Fintech for Sustainable Economic Development in Coastal Areas

Particularly in coastal areas, financial technology (FinTech) is emerging as a primary catalyst for sustainable economic development. The application of FinTech for sustainable economic growth in coastal regions integrates multiple disciplines, including finance, technology, sustainability, and governance. Furthermore, financial technology (FinTech) has become a key driver of sustainable economic development in coastal towns by providing new solutions to promote inclusion and growth. A comprehensive analysis of pertinent data has revealed crucial insights regarding the role of FinTech in promoting sustainable economic growth in coastal areas.

The significance of digital logistics performance as a vital factor in the viability and expansion of FinTech businesses is a central theme in the research [18]. This highlights the necessity of appropriate digital infrastructure for enabling financial services and fostering economic growth in coastal areas. Furthermore, it emphasizes the imperative of preserving natural

resources like wetlands for sustainable economic development, which has formed the theoretical foundation of ecological economics, public goods theory, and sustainable development theory [19].

It is additionally posited that the modular network governance model developed by FinTechs will arise from their alteration of conventional banking systems, signifying a transition in the governance frameworks of financial institutions towards more agile and technology-oriented models [20]. This theoretical progress in governance dynamics will enable the adaptation of the financial services sector in coastal areas. The theoretical understanding of Public-Private Partnership (PPP) participants and their role in the creation of sustainable cities significantly influences the discourse on economic development in coastal areas and sustainable urban planning [21]. Clarifying the factors affecting sustainable urban development aids in understanding ways to assist public and private sectors for comprehensive advancement.

Integrated Coastal Zone Management (ICZM) facilitates the alignment of social, economic, and cultural development with environmental conservation [22], thereby ensuring the sustainable utilization of natural resources in coastal regions. This theoretical framework emphasizes the necessity of a comprehensive and coordinated approach for the long-term sustainability management of coastal habitats. Incorporating FinTech into the theoretical framework of economic, social, and environmental sustainability is advised to enhance traditional financial institutions, facilitate green transformation in enterprises, and promote Environmental, Social, and Governance (ESG) performance, thereby advancing sustainable economic and social development [23]. This theoretical integration highlights the potential of FinTech to transform the sustainable practices in coastal areas.

Wicaksana [4] performed a systematic literature analysis investigating the worldwide nexus of financial inclusion, economic development, fintech, and sustainable development goals (SDGs). The study highlighted the importance of fintech in fostering sustainable economic development in coastal areas, as it has altered power dynamics and spurred economic growth through financial innovation. Ugochukwu, et al. [8] analyzed sustainable smart cities and the contribution of fintech to enhancing environmental sustainability. The analysis of sustainable smart city development and the integration of technological advancements revealed that fintech solutions can enhance sustainable economic growth in coastal areas by promoting environmental sustainability.

Pawłowska, et al. [3] examined the influence of Fintech on sustainable development, specifically with the promotion of green financing to tackle environmental challenges. This underscores how Fintech can offer developed countries avenues for sustainable growth and improve the environmental conservation of coastal areas. Shi and Lu [9] examined the potential of fintech to improve the adaptive capacity of local economies during the digital transition and to foster economic resilience. This integrated strategy has significant potential to enhance the resilience of coastal regions to shocks and disturbances while fostering ecologically sustainable economic development.

The evaluation of the literature highlights the need for Fintech to support environmentally sustainable economic development in coastal areas. Encouragement of financial inclusion, environmental sustainability, and economic resilience will enable Fintech to become a transformational agent capable of greatly benefiting sustainable development in coastal areas. Typically, capital intake, market vitality, and potential proliferation define the indicators used to assess this factor. Capital input evaluates the production aspects involved in the quality and volume of fintech operations. Market vitality measures the effectiveness and efficiency of the manufacturing process of financial technologies. Potential proliferation assesses the generated disclosure or profitability of the fintech effort.

Table 1.
Indicator system.

Target layer	Control layer	Index layer	Description (Units)
Sustainable economic development	A: Fintech (+, Driving force)	A1: Capital input (+)	Research and development funding for industrial businesses (Ten thousand yuan)
		A2: Market vitality (+)	Technology market revenue (in tens of thousands of yuan)
		A3: Proliferation potential (+)	Annual growth rate of fixed asset investment in scientific research and technological services (%)
	B: Nature resources (+, State)	B1: Resource usage (+)	Electricity usage (Gigawatts)
		B2: Resource reserve (+)	Cultivated land (Kilha)
		B3: Resource conversion	Revenue from land value-added tax (hundred million yuan)
	C: Social vulnerability (-, Response)	C1: Social vitality (-)	The percentage of full-time employees in trade unions is expressed as a percentage (%)
		C2: Social resilience (-)	Disposable income per capita (Yuan)
		C3: Social risk (+)	The unemployment rate is expressed as a percentage of the total population (%)

Fintech's development has increased the availability of financial services, helping a broader population, including rural communities, small and medium-sized businesses, and low-income individuals. This inclusive strategy closes wealth

inequalities, unlocks economic growth opportunities, and promotes sustainable economic development [24]. This component's indicators center mostly on capital intake, market vitality, and proliferation potential. Capital input assesses the degree of production factor quality and quantity involved in fintech activities. Market vitality measures the efficiency and efficacy of fintech sector manufacturing techniques. Proliferation potential evaluates the profitability or income-producing power of fintech projects.

Natural resources are essential to economic development; thus, the current stock and usage patterns indicate sustainable economic development. Three primary elements define the measurement index for natural resources today: resource utilization, resource reserves, and resource conversion rate. Resource use measures how much natural resources are utilized in different utilities or energy. Resource reserves evaluate the future possibilities of the natural resources available for transformation into other utilities or energy sources. Resource conversion rate studies the effectiveness with which natural resources are converted into energy and capital or other economic value.

Often connected with public sensitivity to natural catastrophes such as floods and earthquakes, social vulnerability is a broad and complex term. Nonetheless, it also closely relates to the coping and adaptive capacities of social groups, companies, and countries [25-27]. For example, socioeconomic inequalities, unequal distribution of resources, and poor infrastructure help explain the sensitivity and fragility of social systems, increasing their vulnerability [28, 29]. Improving society's resilience and lowering social vulnerability regarding environmental and resource-related problems depend on addressing these fundamental issues. Risk, resilience, and social vitality are important markers of social vulnerability. As a stabilizing element that promotes social stability, the social vitality index helps to build resilience and reduce society's vulnerability.

3. Research Methodology

The references provided an insightful analysis of how FinTech can advance financial inclusion, sustainable development, and economic progress. They investigate how green economy transitions interact with sustainable development goals and economic growth. The studies highlight the need for laws, rules, and policies and how FinTech should be adapted to attain sustainable growth. Combining these references shows that FinTech is important in promoting sustainable economic growth using inclusive practices and financial innovation, complementing the larger agenda of sustainable development goals and green economic transitions.

Since the goal of this paper, "Fintech for Sustainable Economic Development," is to apply the bibliometric method. In a bibliometric study, the selection criteria for an article must be determined in the initial design phase. Searching for "Fintech," an inquiry was conducted on the ISI Web of Science (WoS) and Scopus databases in July 2024 to select the key article on "Fintech for Sustainable Economic Development" for this study. Since they gather a set of journals from various publishers and national and international literature publications, the WoS and Scopus ISI are essential scientific article databases for obtaining bibliographic revisions [30]. Based on what Mesquita, et al. [31] found in their research, three phases are followed for bibliometric analysis: database and collection criteria selection, data collection, data representation, and analysis.

The two bases investigated used the same criteria for choosing the articles, and they followed this procedure: Economics, Econometrics, and Finance; "article" as the chosen document type; the term "Fintech" should be contained in the title, abstract, or keywords; the recent five years (2019–2024); choose a magazine that publishes four or more pieces on the subject under investigation; select three authors who have produced two or more pieces; and choose an item with three or more references.

Selecting writers who publish more than two pieces follows Lotka's Law (1926), which states that many researchers write on a given topic [32]. Furthermore, the choice of magazines mainly addresses issues related to Bradford's Law, which states that periodicals covering a specific topic should be more relevant and of better quality [32]. Figure 1 the research base's selection criteria and the article count are listed. Following the criterion, 1,252 articles in Scopus and 333 papers in WoS ISI were identified, totaling 1,525 items. Of these, 46 articles appeared in both databases, and one duplicate was removed, resulting in a total of 26 essays. After studying the 26 papers chosen from the two databases, only 11 covered "Fintech." Table 1 presents the 11 selected papers along with their publication sources, references, applicable technical approaches and statistics, and their objectives.

**Figure 1.**

Flowchart of article selection in the research bases, based on the PRISMA model.

The references provided offer insights into the role of FinTech in driving economic development, sustainable growth, and financial inclusion. They explore how FinTech can contribute to economic empowerment, financial inclusion, and sustainable economic growth, aligning with the broader agenda of sustainable development.

Table 2.

Article analyzed.

Articles	References	Objectives
Local digital lending development and the incidence of deprivation in Kenya	Tetteh [33]	The study aims to estimate a local digital lending development indicator based on the ease of accessing digital credit in specific Kenyan counties and its relationship with reported deprivation levels, specifically food and health deprivation, aligning with the United Nations Sustainable Development Goals 2 and 3.
Open banking and inclusive finance in the European Union: Perspectives from the Dutch stakeholder ecosystem	Preziuso, et al. [34]	This study focuses on the Dutch stakeholder ecosystem to explore the impacts of PSD2 on inclusive finance, aiming to provide insights for policymakers and practitioners on enhancing financial inclusion in the EU.
Blockchain-oriented approach for detecting cyberattack transactions	Feng, et al. [35]	The paper proposes a real-time approach to detecting cyber attacks on account-based blockchain platforms to enhance supervision and regulation in the blockchain industry.
The social representation of fintech from the perspective of traditional financial sector professionals: evidence from Brazil	Joia and Proenca [36]	The research aims to explore financial professionals' attitudes, beliefs, and opinions toward Fintech to provide insights into the social representation of Fintech in Brazil.

Articles	References	Objectives
How does a data strategy enable customer value? The case of FinTechs and traditional banks under the open finance framework	Grassi, et al. [37]	The study aims to explore the development of data strategies for customer value in retail banking, focusing on the differences between traditional banks and FinTechs under the Open Finance framework, highlighting challenges related to information asymmetry.
Entrepreneurial, institutional, and financial strategies for FinTech profitability	Valverde, et al. [38]	The study aims to contribute to the literature by examining the drivers of break-even and time to break-even for FinTech companies using technological innovation, focusing on entrepreneurial, organizational, and financial factors.
Fintech, regtech, and financial development: evidence from China	Muganyi, et al. [39]	The paper aims to explore the interplay between fintech, regtech, and financial development in the context of China, shedding light on how these elements interact and influence one another within the Chinese financial ecosystem.
Initial coin offerings (ICOs): Why do they succeed?	Campino, et al. [40]	Like a regulated prospectus, the project details are outlined in a white paper containing technical, business, and team information, which influences the project's credibility.
COVID-19 pandemic risk and the probability of loan default: evidence from the marketplace lending market	Nigmonov and Shams [41]	The paper examines the impact of the COVID-19 pandemic on loan defaults in the marketplace lending sector.
How does financial literacy impact inclusive finance?	Hasan, et al. [42]	This study investigated the impact of financial knowledge on financial access through banking, microfinance, and fintech in Bangladesh.
Governing the gold rush into emerging markets: A case study of Indonesia's regulatory responses to the expansion of Chinese-backed online P2P lending	Tritto, et al. [43]	This paper examines Indonesia's regulatory and institutional responses to the expansion of online P2P lending backed by foreign investments, particularly from China, to mitigate risks without stifling the potential for financial inclusion.

Articles from the WoS ISI database are exported into the HistCite™ bibliometric analysis software package. In contrast, articles from the Scopus database are exported to the VOS viewer software to organize and analyze the selected articles.

3.1. Description of the Findings in the Databases

Ten authors wrote the 175 articles identified in the WoS across five journals. The journals with the highest number of publications about Fintech (Table 2) were the Journal of Sustainability Switzerland, with 32 articles, and the Journal of Open Innovation Technology, Market, and Complexity, with nine articles.

Table 3.

Most published journals about fintech (2019-2024) in the Web of Science.

	Journal	Number of articles	Impact factor
1	Sustainability in Switzerland	32	0.672
2	Journal of Open Innovation, Technology, Market, and Complexity	9	0.905
3	Environment and Planning A	5	2.084
4	Journal of Cultural Economy	5	0.813
5	International Journal of Data and Network Science	4	0.418
6	Bank and data systems	3	0.249
7	Geoforum	3	1.338
8	Journal of Governance and Regulation	3	0.208
9	Sage Open	3	0.507

We analyzed the authors with the most publications and found that Cernisevs, O; Ozili, P.K; Popova, Y; and Wojcik, D. rank first with three articles. The authors who published two articles were Al-Gasawneh, J.A; Al-Khawaja, H.A; Al-Matari, E.M; Alruwaili, T.F; Appiah-Otoo, I; and Azman, W.F.A.C. As for the publications by year, the year 2023 had the highest number of publications on the theme, with 51 documents, according to the criteria adopted for their selection. The following year, 2019, had the lowest number of publications, with 11 documents. The most cited authors in the references of the selected articles are Cernisevs, Ozili, Popova, and Wojcik, respectively. The words with the most hits in articles were "Fintech" and "Financial Technology."

Table 4.

Most used words in the articles' titles from the global citation score.

Word	Number	Context
Fintech	202	We utilized data analytics tools to assess user behavior and preferences, enhancing the personalization of digital banking services.
Financial	173	We analyzed regulatory frameworks impacting fintech operations, providing strategic recommendations to ensure compliance and mitigate risks.
Digital	115	She led the digital transformation initiatives for the bank, improving operational efficiency and customer satisfaction scores by 25%.
Technology	112	They advised clients on adopting fintech solutions, including blockchain technology and robo-advisors, to enhance their service offerings.
Innovation	55	She has developed training programs for staff on digital tools and customer service best practices, fostering a culture of innovation and responsiveness.
Economic	53	We conducted an in-depth market analysis to identify emerging trends in fintech, focusing on digital banking solutions and customer engagement strategies.

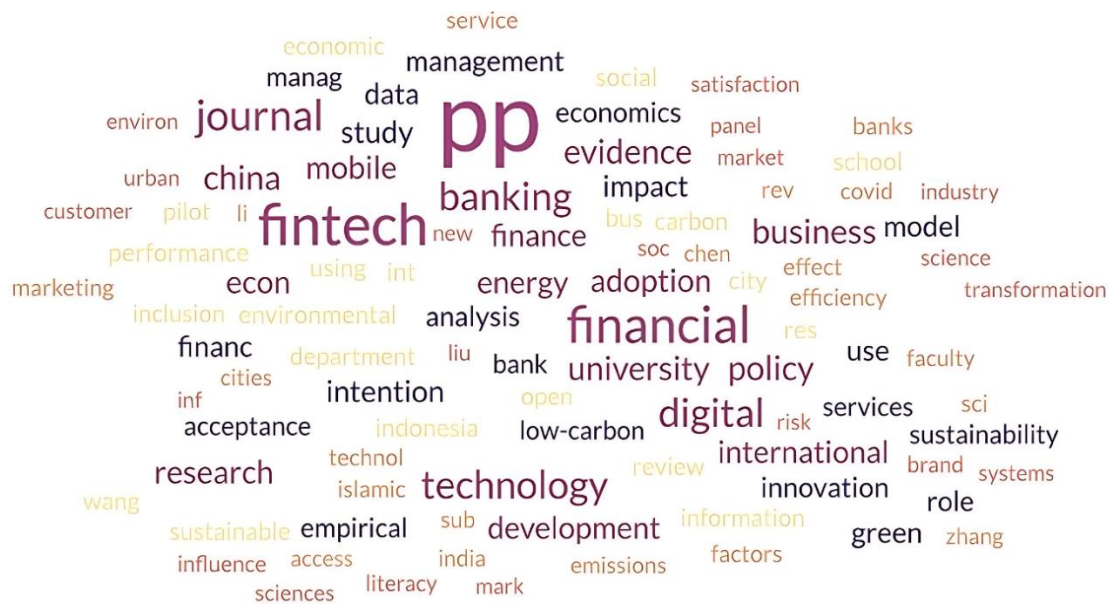


Figure 2.

Visualization of keyword networks on the topic

Table 5.

Periodicals with the highest number of articles about fintech (2019-2024) based on Scopus.

	Journal	Number of articles	H-index
1	Sustainability Switzerland	45	80
2	Journal of Open Innovation, Technology, Market, and Complexity	17	50
3	Environment and Planning A	7	154
4	Geoforum	7	141
5	Sage Open	7	60
6	International Journal of Data and Network Science	6	28
7	Journal of Cultural Economy	6	34
8	Bank and bank system	5	22
9	European Business Organization Law Review	5	27

Wojcik, D. ranks first with nine articles by analyzing the authors with the most publications. The authors who published five articles are Langley, P., and those who published three articles include Cernisevs, O., Leyshon, A., Ozili, P.K., and Popova, Y.

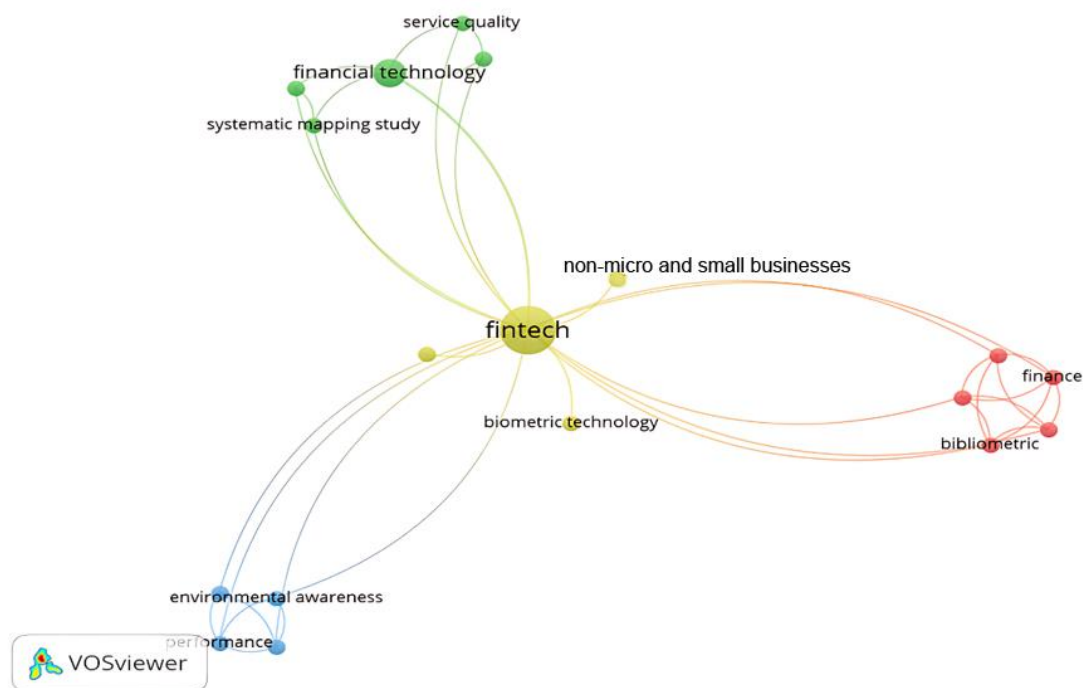
Table 6.

Word with the highest hits.

Word	Hits
Fintech	48
Financial technology	18
Bibliometric	7
Database	7
Finance	7
Payment service	7
Service quality	7
Technological development	7
Technology	7
Biometric technology	6
Innovation resistance theory	6
Environment awareness	4
Green customer behavior	4
Non-micro and small businesses	4
Performance	4
Sustainable environment	4
Financial innovation	3
Systematic mapping study	3

A total of four clusters were identified out of the 18 items, resulting in 153 links or connection hits for these words. Cluster one included the following words: bibliometric, database, finance, technological development, and technology. Cluster two contained financial innovation, financial technology, payment services, service quality, and systematic mapping study. Cluster three comprised environmental awareness, green customer behavior, performance, and a sustainable environment. Cluster four featured biometric technology, Fintech, innovation resistance theory, and non-micro and small businesses.

Concerning the terms' score, it was identified that the lowest score belongs to articles published in 2019, and the highest score belongs to those published in 2024. By analyzing the word 'Fintech,' it is possible to see that Fintech signifies a notable evolution in the financial industry, driven by the convergence of finance and information technology. Its disruptive nature challenges traditional financial institutions, fosters innovation, and requires adaptive regulatory frameworks to balance innovation with consumer protection. Figure 2 shows the evolution of correlations.

**Figure 3.**

Words with the highest hits by year.

Table 7.

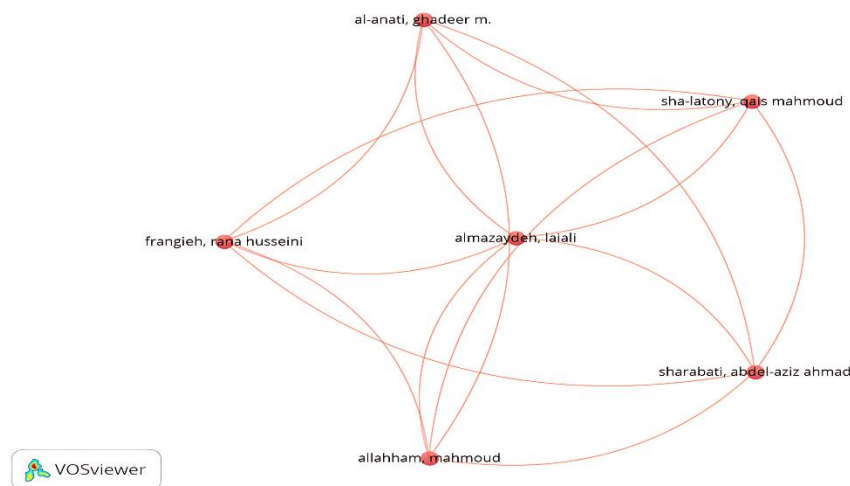
Most-cited documents and references in the articles.

Documents	Documents	Citations	Total
al-anati, ghadeer m.	1	4	5
allahham, mahmoud	1	4	5
almazaydeh, laiali	1	4	5
frangieh, rana husseini	1	4	5
Sha-latony, qais mahmoud	1	4	5
Sharabati, abdel-aziz ahmad	1	4	5

The most cited document in the field of Fintech research is a publication titled "Fintech: Ecosystem, Business Models, Investment Decisions, and Challenges." This article delves into the ecosystem surrounding Fintech, explores various business models within the industry, discusses investment decisions, and sheds light on the challenges faced in the Fintech sector. The significant volume of references demonstrates how much this work has shaped and contributed to the corpus of Fintech knowledge.

Furthermore, "On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services" was the second most frequently cited paper in the Fintech study. With 126 citations, this study analyzes Fintech's creative energies, disruptive character, and transformative qualities within the financial services industry. The report provides an understanding of how Fintech is transforming conventional financial services and shaping the future landscape of the sector.

The most frequently referenced paper in Fintech research thoroughly investigates the ecosystem, company models, investment choices, and industry challenges. The second most frequently referenced paper, on Fintech's innovative, disruptive, and transformative powers in financial services, explores this contrasting aspect. These widely referenced publications highlight that Fintech research is crucial in shaping the financial landscape and inspiring industry innovation.

**Figure 4.**

Correlation among the most cited articles.

4. Discussion

Short for financial technology, fintech is a broad spectrum of creative initiatives that use information technology to create and offer financial products and services to individuals and companies [44]. It entails the integration of various technologies within the financial sector to modernize traditional financial products and services, enhance operational efficiency, and reduce costs for financial organizations [45]. Technologies such as blockchain, artificial intelligence, and big data analytics are pivotal in reshaping financial transactions, funding mechanisms for businesses, and accessibility to financial services for consumers.

The emergence of Fintech has brought about a transformation in the financial sector, challenging traditional banking institutions with disruptive solutions and increased competition. Fintech companies, which leverage technology to enhance, automate, or modify financial services for businesses and consumers, have become significant players in the industry [46]. This shift is propelling a revolution in finance, significantly impacting the development of the financial sector [47].

Regulatory frameworks overseeing fintech innovations differ across jurisdictions, with some countries establishing specialized fintech regulators or incorporating fintech regulations within existing financial frameworks [48]. The dynamic nature of fintech innovation has necessitated regulatory adjustments to ensure consumer protection while encouraging ongoing innovation [48].

Fintech has emerged as a significant driver of sustainable economic development, particularly in coastal areas. Leveraging financial technologies (Fintech) can lead to broader economic development and inclusive growth, and facilitate international payments and remittances, thereby contributing to sustainable development in emerging economies. Fintech

drives economic development through financial innovation, catalyzes financial inclusion, and mediates sustainable growth through enhanced financial literacy [4].

Moreover, fintech is recognized as an engine for sustainable economic growth due to its unique characteristics compared to traditional financial industries [49]. It is a platform for sustainable development in developing economies, fostering innovation and economic growth [50]. Fintech also provides a new method to mobilize resources for various purposes, including funding sustainable development initiatives [51].

By means of financial organization and service optimization, fintech enhances economic structures, growth, data analysis, and digital banking performance, thereby promoting stable and sustainable economic development [52]. By dispersing money in the economy faster and more intelligently, thus supporting stability [2] and fostering sustained economic development. By allowing underbanked and unbanked people access to fairly priced finance, fintech also helps to increase financial inclusion, thereby increasing economic opportunities [53]. Reaching sustainable economic development, complete financial inclusion, and the Sustainable Development Goals (SDGs) call on the fintech sector to grow steadily. It is essential to identify and apply fintech's impact on sustainable development to effectively advance economic growth [54]. Small enterprises may find inspiration; access to funding can be streamlined; and economic growth can be accelerated [1].

5. Conclusion

Fintech, digital transformation, and financial technology collectively represent a significant shift in the financial services sector. Fintech has transformed conventional banking and financial practices by incorporating technology into the services of financial institutions, improving accessibility, efficiency, and customer experience. This transformation is marked by the emergence of various digital financial tools that have fundamentally altered consumer engagement with financial services: internet banking, mobile payments, and blockchain technologies.

The impact of fintech on financial inclusion is particularly significant. Fintech solutions have facilitated access to financial services for marginalized individuals, thereby advancing financial inclusion in developing countries. This modification allows small businesses and people to access financial products that were previously inaccessible, improving their empowerment and convenience.

Fintech, financial technology, and digital services are collectively altering the financial landscape and creating unparalleled prospects for diversity and innovation. Confronting the related difficulties, especially in risk management and financial literacy, requires a cooperative endeavor. Stakeholders must remain attentive as the business grows to capitalize on the advantages of Fintech while alleviating its hazards. (endeavour) original

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