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DIGITAL FINANCIAL SERVICES ADOPTION AMONG ELDERLY CONSUMERS: A BIBLIOMETRIC ANALYSIS OF RESEARCH TRENDS, KNOWLEDGE STRUCTURE AND FUTURE RESEARCH GAP

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ABSTRACT

This study presents a comprehensive bibliometric analysis of research on the adoption of Digital Financial Services (DFS) by elderly consumers within institutional platforms, reflecting the growing importance of inclusive digital finance in aging societies. Despite rapid digital transformation in financial services, elderly users remain underrepresented in adoption studies, particularly within institutional contexts such as government-linked or statutory financial platforms. This gap limits the understanding of behavioural, technological, and contextual factors influencing adoption among older populations. To address this issue, the study employs a quantitative bibliometric approach using the Scopus database. Advanced search strategies were applied based on three primary keyword clusters: "digital financial", "adoption", and "elderly", resulting in a final dataset of 114 publications spanning from 2008 to May 2026. Data were refined and standardized in OpenRefine, and performance analysis was conducted using Scopus Analyzer. Science-mapping and network-visualization techniques, including co-authorship, co-citation, and keyword co-occurrence analyses, were performed in VOSviewer to identify intellectual structures and emerging research themes. The findings reveal a significant upward trend in publications, particularly after 2018, indicating increased scholarly attention to DFS adoption among aging populations. Key contributing countries, influential authors, and high-impact journals are identified, alongside dominant research themes such as technology acceptance models, perceived risk, trust, and financial inclusion. However, notable gaps persist in the integration of customer experience, institutional platform contexts, and longitudinal behavioural insights. The study concludes by highlighting the need for more context-specific, theory-integrated, and policy-relevant research to better support elderly consumers in navigating digital financial ecosystems, thereby contributing to more inclusive and sustainable financial development.

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1. INTRODUCTION

Digital Financial Services (DFS), such as mobile banking, online banking, and mobile payments, are becoming a key part of institutional platforms (banks, governments, health and social care systems). Nevertheless, many older adults are lagging in adopting these, which leads them to financial exclusion and other costs of living in the day-to-day world (Han & Ko, 2025; Cham et al., 2021; Kumar & Yadav, 2022). Comprehending the motivations and barriers of elderly consumers towards and against DFS in these institutional settings has emerged as a critical research and policy question (Li et al., 2023; Thomas et al., 2024). A combination of individual, technological, and institutional factors influences the adoption of DFS by older persons. Existing research on mobile banking and mobile payments revealed that technology anxiety, perceived risk, and technology familiarity negatively impact adoption and continuance, particularly among older adults (aged 70+) (Dizon & Ebardo, 2025; Cham et al., 2021). On the other hand, perceived ease of use, social influence, and perceived usefulness, core constructs of the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), have been consistently found to encourage the adoption of digital banking and fintech services (Hoque & Sorwar, 2017). Nonetheless, traditional models of technology acceptance often overlook the needs and responsibilities of the elderly, leading to designs and policies that are not age-friendly (Cham et al., 2021; Tuli, 2023).

Factors noted across digital banking and digital payments are repeated throughout the literature: trust, perceived security, performance, effort expectancy, hedonic motivation, and compatibility. These are crucial in shaping digital banking and digital payments intention and use, even in the Asian market where institutional infrastructures and inclusion agendas are significant (Hoque & Sorwar, 2017; Thomas et al., 2024). The two main frameworks, TAM and UTAUT, have dominated the research field. However, they are insufficient to explain the social, cultural, and aging aspects of research, as well as institutional design, regulation, and support (Dizon & Ebardo, 2025; Hoque & Sorwar, 2017). Cross-domain evidence from older adult healthcare and assistive technology also reinforces that perceived usefulness, ease of use, and social influence are key factors in the formation of behavioural intention. Other than that, context-specific factors, including trust, training, organizational support, and visual demonstrations, are critical for adoption in real-world settings. The results indicate that education, customized support, and an inclusive interface design within institutions should be integrated into their DFS products to minimize anxiety and perceived risk (Tuli, 2023).

Finally, the literature suggests that the barriers and facilitators to elderly DFS adoption in platform institutional settings are a combination of Perceived Security (PS), User Intention (UI), and institutional adaptation challenges, as well as perceived benefits and social support. Note that classic technology acceptance

models provide a foundation with constructs specifically for the aged (aging-related anxiety toward technology, physical/cognitive decline), socio-cultural and economic factors, institutional responsibilities for training, support, as well as trust-building (Dizon & Ebardo, 2025; Thomas et al., 2024). Thus, research and practice should be based on integrated, context-sensitive frameworks that encompass individual-level determinants and institutional design and policy to further the development of truly inclusive digital financial ecosystems for older persons.

2. RESEARCH QUESTION

RQ1: How has the volume of scholarly publications on the adoption of DFS among elderly consumers in institutional platform contexts increased from 2008 to May 2026?

RQ2: What are the top ten most cited articles on DFS adoption among elderly consumers in institutional platform contexts?

RQ3: What are the main keyword co-occurrence patterns in DFS adoption research among elderly consumers in institutional platform contexts?

RQ4: What are the patterns of international research collaboration in DFS adoption among elderly consumers in institutional platform contexts, as revealed through country-level co-authorship networks?

3. METHODOLOGY

Bibliometric analysis is a process for identifying, organizing, and quantitatively studying bibliographic information from academic publications (Alves et al., 2021; Assyakur & Rosa, 2022; Verbeek et al., 2002). In addition to the basic bibliometric indicators like the number of publications, distribution in time, and the leading contributors (Wu & Wu, 2017), bibliometric methods are now being expanded with the use of more sophisticated analytical techniques, such as document co-citation analysis, which yields insights into the intellectual structure of a research field. The literature review process is highly iterative and methodologically rigorous. It involves careful keyword formulation, thorough database searching, and detailed analysis of the literature. This sequential process helps build a strong, dependable evidence base, thereby increasing the credibility of the study's findings (Fahimnia et al., 2015). In this regard, books, articles, and papers were selected as the most significant publications, as they are essential for developing the domain's theoretical and conceptual framework. Scopus was used as the main data source to ensure data accuracy, consistency, and comprehensive coverage (Al-Khoury et al., 2022; Di Stefano et al., 2010; Khiste & Paithankar, 2017). Additionally, peer-reviewed articles published in journals were considered; non-refereed publications, such as lecture notes or books, were not included to preserve the scholarly nature of the articles (Gu et al., 2019). To analyze it, Elsevier's Scopus, known for its comprehensive indexing of relevant publications, was used to collect publications from 2008 to May 2026 systematically.

4. DATA SEARCH STRATEGY

Data retrieval was conducted using the Scopus database and based on a structured, transparent search strategy, as illustrated in Table 1. The query used the TITLE-ABS-KEY field to make sure that the publications selected explicitly include the research focus in the title, abstract, or keywords. The search terms included common terms

used in DFS terms: “digital financial”, “digital finance”, “financial technology”, “fintech”, and terms related to the aged population (aged terms): “elder”, “older adult”, “senior”, “aged”, and “geriatric”. This ensures that the domain is fully covered and recognizes different language use across the studies. Filters were used to restrict the subject areas to Business Management (BUSI) and Social Sciences (SOCI) to ensure the dataset is relevant and aligned with the topics of behaviour, organization, and society within the context of the adoption of DFS. Additionally, it was limited to English-language publications to ensure uniformity in interpretation and analysis. A combined systematic search strategy yielded 114 records as the primary dataset. After retrieval, the data were screened using the inclusion and exclusion criteria listed in Table 2 to reduce the dataset further. The screening emphasized the following two dimensions: language and relevance of material. Hence, studies in languages other than English were excluded because the analysis focused on comparing studies in English and on maintaining analytical clarity. For the subject areas, the researcher retained those within the scope of BUSI and SOCI, thereby maintaining the theoretical context of the studies within the adopted subjects, namely adoption behaviour and socio-economic analysis. The publications were considered only if they appeared in these domains to avoid conceptual differences and limit the scope of the bibliometric analysis. This rigorous screening process helps improve the overall validity, coherence, and reliability of the final dataset, and the following analysis is based on high-quality, contextually relevant scholarly work.

Table 1: The search string

Scopus	TITLE-ABS-KEY ((“digital financial" OR "digital finance" OR "financial technology" OR "fintech") AND (elder OR "older adult" OR "senior" OR "aged" OR "geriatric")) AND (LIMIT-TO (SUBJAREA, "BUSI") OR LIMIT-TO (SUBJAREA, "SOCI")) AND (LIMIT-TO (LANGUAGE, "English"))

Table 2: The selection criterion is searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Subject	Business Management and Social Sciences	Others

5. DATA ANALYSIS

VOSviewer is a popular, easy-to-use bibliometric analysis tool developed by Nees Jan van Eck and Ludo Waltman at Leiden University. The software is developed specifically for the visualization and systematic analysis of scientific literature, with advanced features for building network maps, clustering similar entities, and creating density visualizations. It offers analytical flexibility, enabling analysis of various bibliometric relationships, such as co-authorship, co-citation, and keyword co-occurrence networks, which can be used to explore research domains in multiple dimensions. VOSviewer is equipped with an interactive interface and a continually evolving methodology, which enable the handling of large-scale bibliometric datasets and their dynamic interrogation. Furthermore, its ability to calculate bibliometric indicators, customize the visualization results, and integrate information from various sources makes it a powerful analytical tool for research. One of the most powerful features of VOSviewer is its ability to convert complex bibliometric structures into intuitive, easily interpretable visualizations. The software has proven successful in analysing network data, such as identifying thematic clusters,

visualizing co-occurrence patterns of keywords, and extracting density-based knowledge and information. It is intuitive, allowing novice and expert researchers to navigate and understand research trajectories effectively. The iterative nature of the updates also ensures that the software's programming in VOSviewer is methodologically relevant, as it offers flexible analytical capabilities for diverse data types, such as authorship and citation networks. The present study retrieved bibliographic information, including publication year, article title, author name, source title, citation metrics, and keywords, in plain text format from Scopus from 2008 to May 2026. This dataset was analysed using VOSviewer version 1.6.20. The software was utilized to build and interpret bibliometric networks, using VOS mapping and clustering techniques. Unlike traditional Multidimensional Scaling (MDS), VOSviewer uses a VOS visualization of similarities framework, in which items are represented in a low-dimensional space, and the distance between any two nodes reflects how similar they are. Conceptually, the VOS approach is similar to MDS. However, it differs in methodology and uses normalization procedures specifically tailored for co-occurrence data, such as the Association Strength (AS_{ij}), which is calculated as follows.

$$AS_{ij} = \frac{C_{ij}}{W_i W_j}. \quad (1)$$

It is defined as being proportional to the ratio between the observed frequency of co-occurrence between items *i* and *j* and the expected co-occurrence frequency under the assumption of their statistical independence.

6. RESULTS AND DISCUSSION

6.1 What are the research trends in adoption of DFS according to the year of publication?

This chapter shares the bibliometric results of the study on the adoption of DFS by elderly consumers in institutional platform contexts. The analysis was performed based on the metadata of publications retrieved from the selected academic database and visualized using the VOSviewer tool to detect main research patterns and the structures of ideas. The results are presented in the context of the four research questions: publication development, top-cited studies, keyword co-occurrence, and international research collaboration networks. Combined, these findings offer a holistic picture of the evolution, thematic development, and international research on the adoption of DFS by elderly consumers.

6.1.1 RQ1: How has the volume of scholarly publications on Digital Financial Services (DFS) adoption among elderly consumers in institutional platform contexts evolved from 2008 to May 2026?

As evidenced by Figure 1 and Table 3, there is a clear shift from the early to the high-growth stage in research interest in the adoption of DFS by elderly consumers between 2014 and 2023 (with records extended to 2026 in your dataset). The number of publications was very low during the early years (2008-2016), typically 1-2 per year, or less than 2%. This low count was due to the relative immaturity of fintech ecosystems and the limited attention given to the needs of elderly users in studies of digital adoption. At this stage, the research still focused on general technology

acceptance models (e.g., TAM, UTAUT) applied to mainstream populations. Institutional digital platforms such as EPF, pension systems, or government-supported financial services were not widely digitized. Secondly, smartphone penetration, digital literacy among the elderly, and policy urgency regarding aging populations were low, hindering scholarly output to some extent. Although publications increased between 2017 and 2020, the number remained relatively low, suggesting that the topic was not yet of critical academic or practical importance. A considerable increase is seen from 2021 onwards, with a sharp rise to 37 publications (32.46%) in 2025, and a high production in 2026 with 17 publications (14.91%), as demonstrated in Figure 1 and summarized in Table 3. The rise can be justified by strong structural factors and external influences, such as COVID-19, which has compelled an accelerated response to digitalization across all groups, even the elderly, who were traditionally not seen as digital consumers. The pandemic brought attention to several areas of digital inclusion, including the lack of trust, security concerns, and usability issues with financial platforms, and spurred increased academic research. At the same time, the world saw a proliferation of fintech, mobile banking, and institutional digital platforms, particularly in emerging markets, creating an environment ripe for the study of vulnerable populations such as older people. The percentages have been increasing since 2023 (over 11%) and suggest a maturity and consolidation period in which adoption factors are no longer just the topic of discussion but are studied in light of issues surrounding user experience, behavioral intention, and security perceptions in the institutional context. This pattern suggests that the use of DFS is no longer a side issue. Rather, it is a strategic research area linked to aging societies and digital transformation agendas worldwide.

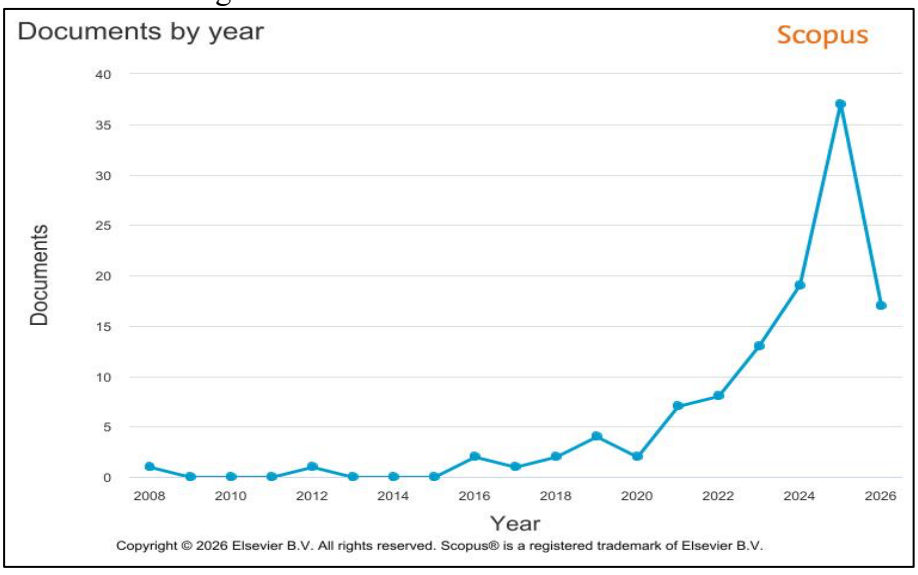

Figure 1: Annual publication trend in DFS adoption research (2008–2026)

Table 3: Annual publication trends in DFS adoption research among elderly consumers (2017-2026)

Year	No of Publications	Percentage (%)
2026	17	14.91
2025	37	32.46
2024	19	16.67
2023	13	11.40
2022	8	7.02

Year	No of Publications	Percentage (%)
2021	7	6.14
2020	2	1.75
2019	4	3.51
2018	2	1.75
2017	1	0.88
2016	2	1.75
2012	1	0.88
2008	1	0.877

6.1.2 RQ2: What are the top ten most cited articles on Digital Financial Services (DFS) adoption among elderly consumers in institutional platform contexts?

The top 10 most cited articles in the domain are listed in Table 4, which shows a significant dominance of basic and cross-cutting fintech studies over those focused specifically on the elderly. The most cited paper was Au and Kauffman (2008) (371 citations), which is far ahead of the others, playing a crucial role in laying the theoretical and economic groundwork for mobile payments. This is consistent with the general trend in bibliometrics: older publications tend to receive more citations because they have a longer standing and are more foundational. Likewise, papers such as Cheng et al. (2019) on trust in robo-advisors (62 citations) and Oladapo et al. (2022) on fintech adaptability in Islamic banking (70 citations) highlight key thematic drivers of the field, namely trust, adoption behaviour, and contextual financial systems. The availability of journals such as Sustainability, Journal of Modeling in Management, and Electronic Commerce Research and Applications also indicates that relevant research in this field is interdisciplinary, covering technology, finance, and socio-economic issues, thereby increasing visibility and reach within academic circles.

Table 4: Most cited articles.

Authors	Title	Year	Source title	Cited by
Au and Kauffman (2008)	The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application	2008	Electronic Commerce Research and Applications	371
Oladapo et al. (2022)	Customers' perceptions of fintech adaptability in the Islamic banking sector: Comparative study on Malaysia and Saudi Arabia	2022	Journal of Modeling in Management	70
Cheng et al. (2019)	Exploring the trust influencing mechanism of robo-advisor service: A mixed-method approach	2019	Sustainability	62
Sabri et al. (2024)	Impact of financial behaviour on financial well-being: Evidence among young adults in Malaysia	2024	Journal of Financial Services Marketing	57
Rasiwala and Kohl (2021)	Artificial intelligence in fintech: Understanding stakeholders' perception on innovation, disruption, and transformation in finance	2021	International Journal of Business Intelligence Research	34
Singh and Sharma (2023)	A study of Indian Gen X and millennials consumers' intention to use fintech payment services during the COVID-19 pandemic	2023	Journal of Modelling in Management	30

Authors	Title	Year	Source title	Cited by
Xu and Lin (2025)	Embracing artificial intelligence: How does intelligent transformation affect the technological innovation of new energy enterprises?	2025	IEEE Transactions on Engineering Management	28
Xu and Lin (2025)	Can fintech alleviate the financing constraints of enterprises? — Evidence from the Chinese securities market	2023	Sustainability	27
Solarz and Swacha-Lech (2021)	Determinants of the adoption of innovative fintech services by millennials	2021	E&M Economy and Management	27
Lee and Sohn (2017)	Identifying emerging trends of financial business method patents	2017	Sustainability	27

The source title analysis reveals that sustainability emerged as the most productive publication outlet, contributing four articles to the dataset (Table 5). This indicates strong scholarly attention toward sustainability, digital transformation, and technology adoption themes within the research domain. Global Business and Finance Review ranked second with three publications, highlighting the importance of business and financial perspectives in this field. Other journals, such as the International Journal of Bank Marketing, Digital Business, and the Journal of Risk and Financial Management, further demonstrate that the research area is highly interdisciplinary, spanning finance, digital banking, risk management, and consumer behaviour among older adults. A significant point noted in Table 5 is that the citation rate of recent publications (2021-2025) appears to be accelerating, indicating high interest in this field of research. Several studies, such as those on artificial intelligence in fintech, financial behavior and well-being, financial behaviour during the COVID-19 context, and financial behaviour during the COVID-19 context, have highlighted how emerging technologies and external shocks have driven scholarly interest (Rasiwala & Kohl, 2021). The network visualization map of co-authorship in Figure 2 shows the interconnection over the most influential authors. Studies of millennials and general consumers, rather than elderly consumers, indicate a research gap, which is why the current study focuses on elderly consumers in institutions. This could mean that the overall fintech adoption literature is mature. Insights into aging populations have not yet been well explored. Hence, this research is fresh and valuable. Overall, the citation pattern confirms that research that is more likely to be influential tends to address universal constructs and contexts that are more broadly applicable, such as "trust", "adoption", and "innovation", and thus are likely to be cited more frequently than research that is more specific in terms of its demographic focus.

Table 5: Top source titles

Row Labels	Count of Source title
Sustainability	4
Global Business and Finance Review	3
Risks	2
Journal of Modelling in Management	2
African Development Review	2
Digital Business	2
Journal of Islamic Accounting and Business Research	2
Economic Annals-XXI	2
Journal of Risk and Financial Management	2

Row Labels	Count of Source title
Educational Gerontology	2
Financial Innovation	2
International Journal of Bank Marketing	2

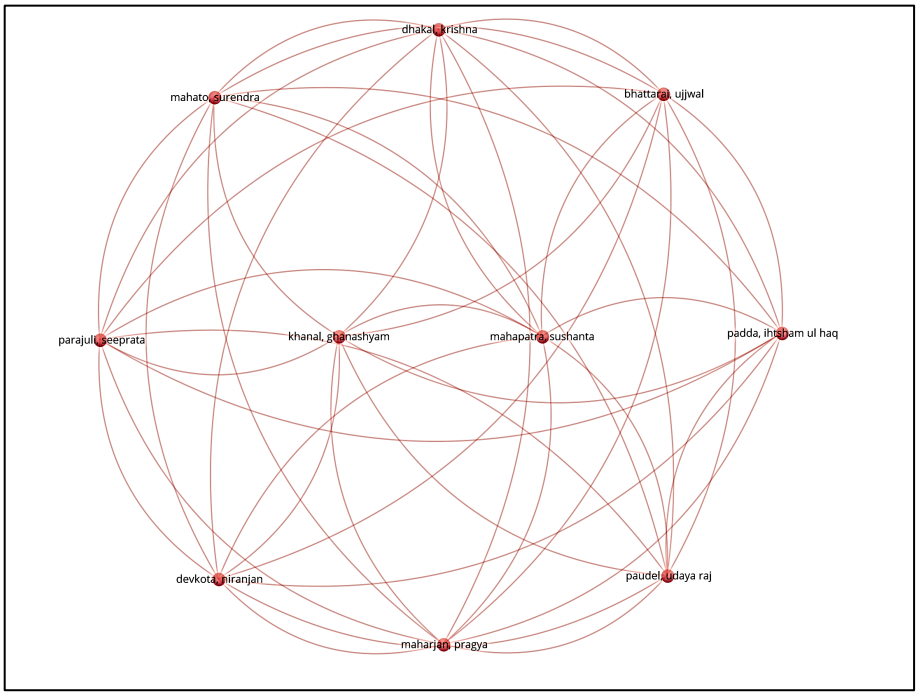

Figure 2: Network visualization map of co-authorship authors

6.1.3 RQ3: What are the main keyword co-occurrence patterns in Digital Financial Services (DFS) adoption research among elderly consumers in institutional platform contexts?

As illustrated in Figure 3, the resulting keyword co-occurrence network is densely connected in the centre around the core fintech-related constructs, with the nodes "fintech" and "financial technology" being the most frequent and tightly connected (30 and 23 co-occurrences, respectively; Total Link Strength (TLS) = 28 and 30). This means that the literature is rooted in general, fundamental concepts that ground the field rather than focusing on narrow or very specific themes. The high TLS values indicate that these keywords are often co-mentioned with several other concepts, and thus have a central role in structuring the research landscape. These are related to digital financial inclusion (19 occurrences; TLS = 29), financial behaviour (12; TLS = 18), and financial inclusion (10; TLS = 18), underscoring that the discussion occurs at both technical and social levels. In fact, there is a trend toward treating DFS adoption as a subject for accessibility, behavioural change, and socio-economic studies, especially among underserved populations. Additionally, as demonstrated in Figure 4, supporting and contextual themes that appeared included digital transformation, sustainability, emerging markets, and technology adoption, with moderate occurrence and link strength. The use of these keywords highlights a shift in the field of research toward a more interdisciplinary, policy-oriented approach that combines technological developments with other developmental objectives. Interestingly, the relatively weaker link strength is observed for terms that have

conceptual significance but are not specifically related to the research outcome of adoption. For example, fintech adoption or technological infrastructure, indicating that, although fintech adoption is a key research outcome, it is not necessarily examined in isolation. This also indicates a possible research gap, and more detailed research on the adoption process, especially with regard to specific consumer groups, such as elderly consumers in institutional settings, remains rather limited. The overall structure of the network reinforced the argument that the field is moving beyond the building blocks towards more applied and impactful research, with a growing focus on inclusion, behavior, and system enablers of DFS.

The author-level bibliometric analysis reveals that Yoris A. Au and Robert J. Kauffman recorded the highest citation impact, with 371 citations each, indicating strong scholarly influence in this research domain (Table 6). Several authors, including Jin Chen, Xusen Cheng, and Peng Gao, demonstrated stronger collaboration networks with a TLS of 5, suggesting active co-authorship relationships. Although each author contributed one document in the selected dataset, citation performance and collaboration intensity varied significantly, reflecting differences in research visibility and network connectivity.

The keyword co-occurrence analysis revealed that fintech is the most dominant research theme, appearing 30 times with a TLS of 28, indicating its central role in the knowledge network (Table 7). The keyword Financial Technology recorded the highest TLS (30), showing strong conceptual connections with other research themes. Terms such as digital financial inclusion, financial behaviour, and banking also appear frequently, suggesting that existing studies focus heavily on consumer financial access, behavioural adoption, and banking technology. Meanwhile, emerging themes such as digital transformation, sustainability, and technology adoption indicate expanding interdisciplinary interest in digital finance research.

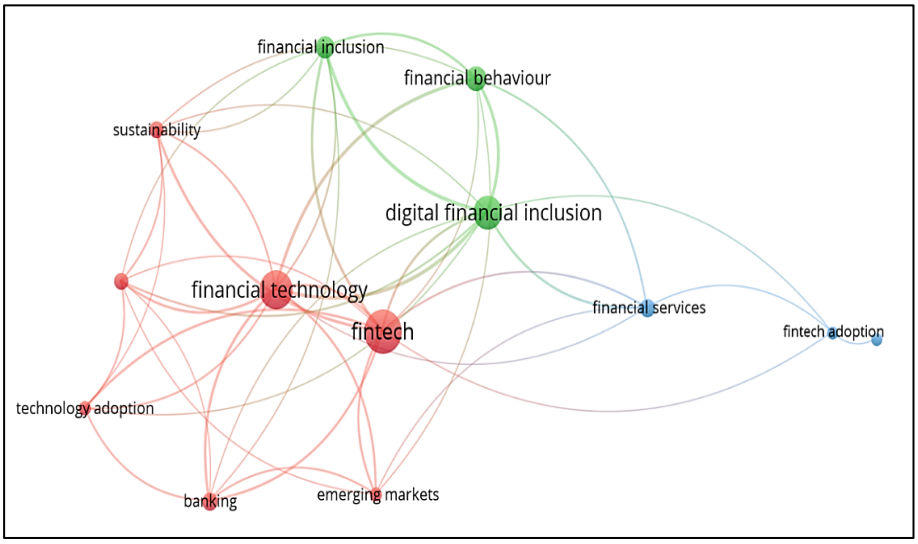

Figure 3: Network visualization map of keywords' co-occurrence

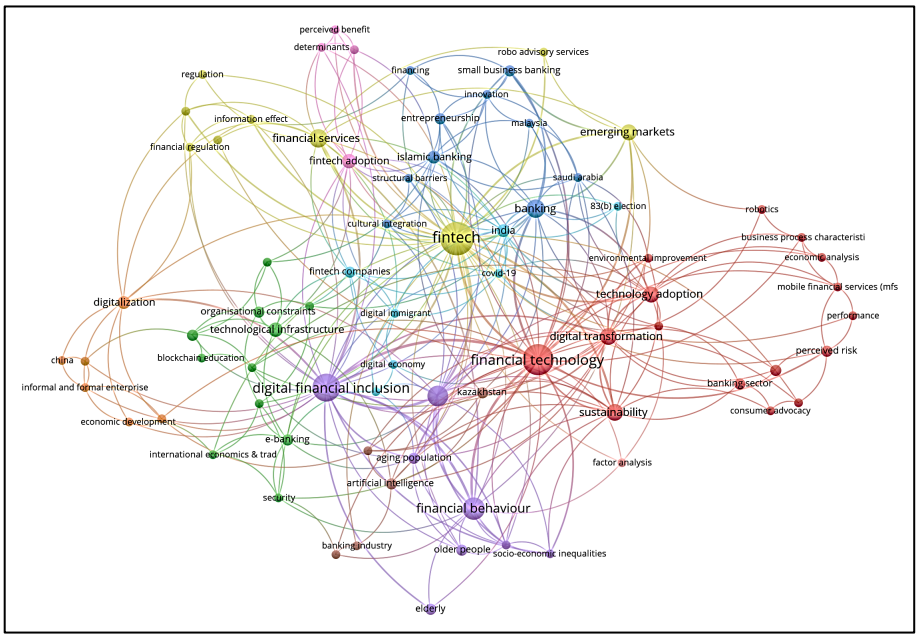

Figure 4: Network visualization map of author keywords' co-occurrence

Table 6: Top productive authors and collaboration network analysis

Rank	Author	Documents	Citations	Total Link Strength
1	Yoris A. Au	1	371	1
2	Robert J. Kauffman	1	371	1
3	Md. Mahmudul Alam	1	70	4
4	Manal Mohammed Hamoudah	1	70	4
5	Ruhaini Muda	1	70	4
6	Ibrahim Abiodun Oladapo	1	70	4
7	Olawale Rafiu Olaopa	1	70	4
8	Jin Chen	1	62	5
9	Xusen Cheng	1	62	5
10	Peng Gao	1	62	5

Table 7: Major keyword occurrence and network strength analysis

Rank	Keyword	Occurrences	Total Link Strength
1	Fintech	30	28
2	Financial Technology	23	30
3	Digital Financial Inclusion	19	29
4	Financial Behavior	12	18
5	Banking	12	16
6	Financial Inclusion	10	18
7	Financial Services	9	10
8	Digital Transformation	7	14
9	Sustainability	7	12
10	Technology Adoption	7	11

6.1.4 RQ4: What are the patterns of international research collaboration in Digital Financial Services (DFS) adoption among elderly consumers in institutional platform contexts, as revealed through country-level co-authorship networks?

The country-level co-authorship graph in Figure 5 reveals a curious research productivity/citation impact/collaboration dynamics imbalance. The number of documents recorded in India is the highest (18), followed by the United States (16) and China (12), showing that emerging and large economies are contributing to the DFS research field. The United States, however, has far more citations than publications (447), indicating that its research products are more influential and better recognized. The strong representation in the United States of high-impact journals, advanced research ecosystems, and early commitment to fintech innovation is a valid argument. Likewise, we see that Malaysia has relatively high citations (163) and only 7 documents, suggesting high-impact, context-specific studies focused on Malaysia, perhaps as a result of the institutional platforms that support these institutions, such as the Employees' Provident Fund (EPF) or Islamic finance systems, which are of interest to scholars. Countries with low citation numbers, like Jordan and Indonesia, on the other hand, have weak collaboration, indicating limited participation in global research networks or early development of research capacity. As for collaboration, the TLS (TLS = 3) is greatest in the United States (US), Malaysia, and the United Kingdom (UK), suggesting greater international research collaboration than in other nations, as revealed in Figure 6 and Table 8. This implies that collaborative networks are clustered around a few key actors, whereas other countries are more isolated. For example, while India and China have high publication numbers, their TLS (1) are low, suggesting that Indian and Chinese research is more likely to be domestically based than co-authored with other countries. Big internal research markets and local research agendas can shape such a pattern. Nevertheless, the relatively low level of collaboration between countries in Southeast Asia, such as Indonesia and Thailand, also demonstrates Southeast Asian research fragmentation, despite similar socio-economic environments and challenges with DFS adoption. The overall results indicate that although studies on DFS adoption are spread across the world, the diffusion of knowledge and the effects of DFS remain dependent on countries with stronger international partnership networks. It emphasizes the importance of expanding cross-country partnerships, especially in areas where they are underrepresented, such as the elderly as consumers on institutional platforms.

Table 8: Top 10 productive countries

Rank	Country	Documents	Citations	Total Link Strength
1	India	18	132	1
2	United States	16	447	3
3	China	12	157	1
4	Malaysia	7	163	3
5	Jordan	7	19	0
6	United Kingdom	5	13	3
7	Thailand	5	68	1
8	Indonesia	5	10	0

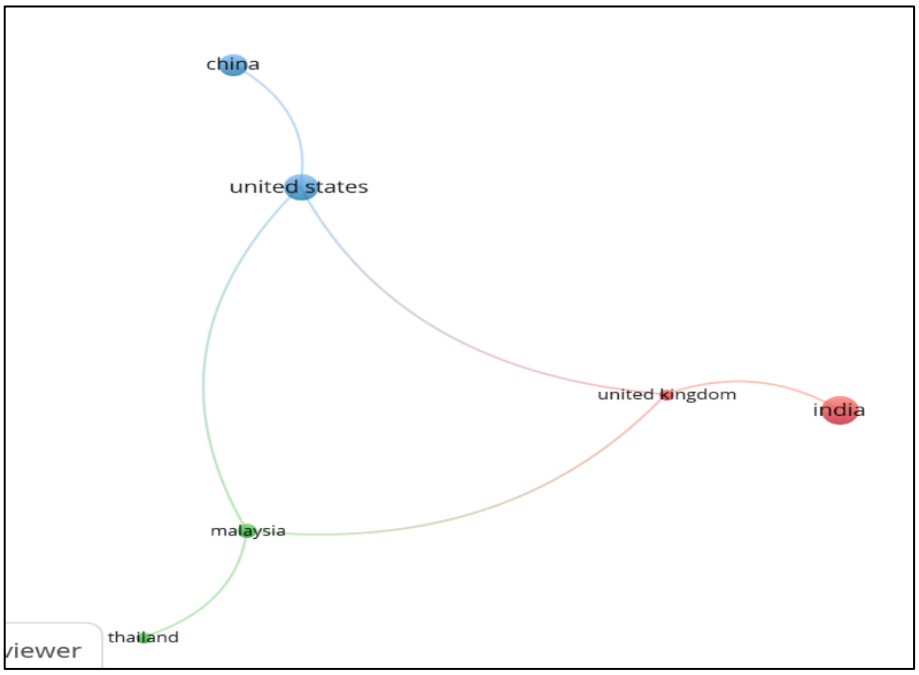

Figure 5: Country co-authorship network in DFS adoption research

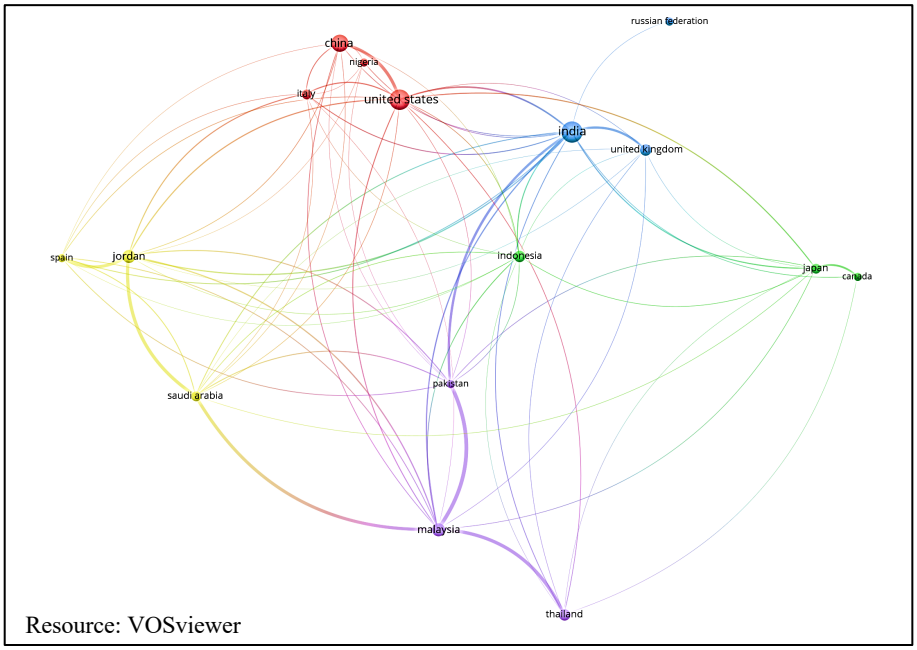

Figure 6: Bibliography coupling network in DFS adoption research

The country collaboration analysis indicates that the United States, Malaysia, and the United Kingdom demonstrate the strongest international collaboration, each recording a TLS of 3 (Table 9). This suggests these countries act as key knowledge hubs in the field of DFS research. Although India produced the most publications, its lower link strength suggests that its research output is driven more by domestic contributions than by cross-border collaboration. Countries such as Jordan and

Indonesia showed publication activity but no collaborative links within the selected dataset, suggesting opportunities for future international research partnerships.

Table 9: Country collaboration summary

Rank	Country	Documents	Citations	Collaboration Interpretation
1	United States	16	447	Strong international research collaboration
2	Malaysia	7	163	Active collaborative research network
3	United Kingdom	5	13	High global collaboration despite fewer publications
4	India	18	132	High productivity but limited international collaboration
5	China	12	157	Moderate publication output with limited partnerships
6	Thailand	5	68	Emerging collaboration activity
7	Jordan	7	19	No visible international collaboration in the dataset
8	Indonesia	5	10	Independent publication activity with no collaboration links

7. CONCLUSION

This study aimed to review, synthesize, and identify gaps in the literature on the development, architecture, and research on the adoption of DFS among elderly consumers in institutional platform contexts. Four main questions guided the analysis: What are the trends in publications, highly cited studies, keyword co-occurrence networks, and international collaboration networks? The results indicate that in this field, the number of scholarly publications has substantially increased over the years, especially since 2020, and that scholars and policymakers have become more interested in this field in relation to digital transformation and aging population concerns. Based on a citation analysis, the most impactful papers are mostly general fintech and adoption studies, indicating that fintech research for the elderly remains underdeveloped and has not yet taken hold. The mapping of keyword co-occurrence reveals a strong focus on key concepts such as fintech, financial inclusion, trust and behaviour, alongside less frequent terms such as elderly users, customer experience, and institutional platform design. Regarding collaboration, they suggest a "disparity" in the international research landscape, with a handful of countries showing a "high level of influence" and "high level of connectivity." In contrast, others are less integrated, with fewer cross-country linkages. This study builds on the existing literature by providing a systematic, evidence-based description of the intellectual property in the domain of DFS research for an under-researched group of users and an institutional setting. It builds on existing literature by highlighting key themes and gaps in research, such as the need to consider specific aspects of age and aging, the role of context in institutional settings, and experience-based perspectives. Practically speaking, the results indicate that policymakers, financial institutions, and designers of digital systems should offer greater weight to inclusive design, the development of trust-building mechanisms, and targeted support for elderly users. Although this study has contributed, it also has its own limitations, such as the use of a single database, language restrictions, and the examination of only selected areas of the subject, which could reduce the depth of the database. Future studies could extend the scope by using multiple databases, conducting longitudinal analyses, and conducting empirical testing to deepen the understanding of elderly consumers' adoption behaviours. Overall, this research highlights the usefulness and pertinence of the bibliometric

approach for identifying research trends and their future directions, and for showing how inclusive digital financial ecosystems can address the needs of aging societies.

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