

## Tracing The Evolution Of Financial Literacy Research: A Twenty Year Scopus Bibliometric Study

*Menelusuri Evolusi Penyelidikan Literasi Kewangan: Analisis Bibliometrik  
Berasaskan Scopus Sepanjang Dua Dekad*

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### ABSTRACT

*Integrating financial literacy into business education is vital for preparing future professionals to operate in today's complex financial environment. Beyond basic bookkeeping, it supports strategic judgement, risk evaluation, and ethical conduct, while strengthening understanding of markets, investments, and financial planning. Although its value is widely recognised, incorporation into business curricula remains uneven across regions. Prior studies show that financial literacy improves cash flow management, strengthens business sustainability, and enhances decision-making, yet important implementation gaps persist. This study applies bibliometric analysis to Scopus-indexed publications from 2004 to 2025 to trace how financial literacy research in business education has developed. The analysis covers publication and citation trends, influential scholars and journals, and patterns in authors' keywords. Results show a steady rise in scholarly attention, driven by growing economic uncertainty and the need for financially capable graduates. Nonetheless, disparities across regions and limited integration of financial and economic education remain evident. Future work should examine long-term outcomes of financial education, the influence of artificial intelligence and fintech, and the effectiveness of digital financial literacy initiatives. Emerging themes such as cryptocurrencies, sustainable finance, and digital banking literacy also merit deeper exploration. Closing these research gaps is essential for developing graduates who can confidently navigate an increasingly dynamic financial landscape.*

*Keywords: Financial literacy; Bibliometric analysis; Business education; Accounting education; Strategic decision-making*

### ABSTRAK

*Literasi kewangan merupakan komponen penting dalam pendidikan perniagaan moden, khususnya dalam usaha melahirkan graduan yang mampu mengurus cabaran kewangan yang semakin kompleks. Integrasi literasi kewangan dalam kurikulum bukan sahaja memperkukuh kemahiran asas seperti perakaunan, tetapi juga meningkatkan keupayaan pelajar membuat keputusan strategik, menilai risiko, dan mengamalkan amalan kewangan beretika. Pengetahuan tentang pasaran modal, strategi pelaburan dan perancangan kewangan turut menyokong pertumbuhan perniagaan yang mampan dan pembangunan ekonomi negara. Walaupun kepentingannya semakin diiktiraf, penerapan literasi kewangan dalam pendidikan perniagaan masih tidak sekata antara institusi dan wilayah. Kajian turut menunjukkan manfaat seperti pengurusan aliran tunai yang lebih baik, peningkatan kelestarian perniagaan, dan keputusan pengurusan yang lebih berkualiti, namun jurang pelaksanaan dan kurangnya penyelidikan mengenai hubungan antara pendidikan kewangan dan ekonomi masih berterusan. Kajian ini menggunakan analisis bibliometrik terhadap penerbitan yang diindeks Scopus dari 2004 hingga 2025 bagi meneliti perkembangan penyelidikan berkaitan literasi kewangan dalam pendidikan perniagaan. Analisis meliputi tren penerbitan dan sitasi, pengarang serta jurnal berpengaruh, dan pola kata kunci penyelidikan. Dapatan menunjukkan peningkatan minat akademik, didorong oleh persekitaran ekonomi yang semakin rumit dan keperluan melahirkan graduan yang berkeupayaan kewangan. Penyelidikan masa depan wajar memberi tumpuan kepada kesan jangka panjang pendidikan kewangan, peranan teknologi seperti AI dan fintech, serta keberkesanan kaedah pembelajaran digital. Selain itu, topik baharu seperti mata wang kripto, kewangan mampan dan literasi perbankan digital juga perlu diterokai bagi memastikan graduan lebih bersedia menghadapi landskap kewangan yang sentiasa berubah.*

*Kata kunci: Literasi kewangan; Analisis bibliometrik; Pendidikan perniagaan; Pendidikan perakaunan; Keputusan strategik*

## INTRODUCTION

Integrating financial literacy into business education has become increasingly important as graduates are expected to make sound financial decisions, evaluate risks, and understand the wider consequences of their choices in a rapidly changing economic landscape. Modern business environments require individuals who can interpret financial signals, anticipate market shifts, and respond responsibly to uncertainty. This competence goes beyond the foundational skills of bookkeeping or financial statement interpretation. It includes an understanding of capital markets, investment strategies, financial planning, and ethical financial behaviour. Embedding these elements into business curricula allows institutions to prepare future professionals who are capable of driving sustainable growth, strengthening organisational resilience, and contributing meaningfully to economic development.

The growing emphasis on financial literacy is reflected in increasing academic attention to the topic. Studies such as Sufian and Wen (2024) show that stronger financial knowledge enhances cash flow management, improves investor readiness, and supports long-term business sustainability. Beyond technical knowledge, financial literacy shapes sound judgement and confidence when navigating complex financial choices. Practical, context-sensitive financial education is particularly crucial for small and medium-sized enterprises, where owners often operate under uncertainty and must respond quickly to changing commercial conditions. Research by Bilal, Khan, Irfan, Haq, Ali, Kakar, Ahmed and Rauf (2021) further demonstrate that individuals with higher levels of financial literacy are more likely to adopt responsible financial habits and pursue entrepreneurial ventures with greater confidence. These findings underline why financial literacy is now viewed as a core capability for business graduates rather than an optional skill set.

As financial activity moves increasingly onto digital platforms, digital financial literacy has emerged as an essential extension of traditional financial competence. This development brings together financial understanding and digital proficiency, equipping individuals to manage online transactions, navigate digital investment tools, and protect personal information in an environment marked by cybersecurity risks. Evidence from Nugraha, Violin, Anantadjaya, Nurlia and Lahiya (2023) shows stronger digital financial literacy is associated with safer online behaviour and greater awareness of digital risks among students. In addition, the use of interactive digital materials has been shown to improve financial learning outcomes, particularly in areas such as budgeting, investment, and expense management, while aligning with students' preference for accessible and engaging learning formats. Digital financial literacy plays a significant role in the performance of small enterprises, especially for entrepreneurs who use digital platforms to manage finances, engage with customers, and secure funding. These insights highlight that digital financial literacy is now a critical component of the skill set expected of future business professionals.

This evolving landscape underscores the need to understand how financial literacy research has developed over time and how the academic community has responded to the growing demand for financially capable graduates. Lyons, Kass-Hanna and Fava (2023) point to the complexity of digital financial literacy and call for more empirical work to explore its influence on behaviour, inclusion, and overall well-being. Such calls reflect broader concerns about uneven integration of these competencies across educational systems and the absence of a clear picture of global research trends.

To address these gaps, this study conducts a bibliometric analysis of Scopus-indexed publications from 2004 to 2025. The analysis covers publication and citation trends, influential scholars and journals, and patterns in authors' keywords. The findings show a steady rise in scholarly interest, driven by economic uncertainty and the increasing need for graduates who can navigate both financial and digital demands with confidence. By mapping the evolution of financial literacy research, the study provides a clearer understanding of how this field has developed, where scholarly attention is concentrated, and which areas require further exploration as business education continues to evolve.

## LITERATURE REVIEW

### FINANCIAL LITERACY WITHIN THE CONTEXT OF ACCOUNTING AND BUSINESS EDUCATION

Financial literacy encompasses the ability to understand and effectively apply various financial concepts and skills to make well-informed decisions (Shaikh and Khan, 2025). It facilitates ethical financial practices, efficient risk management, investment maximization, and growth in the economy. Hence, financial literacy empowers individuals to make informed decisions that contribute to their overall financial well-being. It gives a person the capacity to use scarce financial resources effectively and economically. By enabling more effective financial management, a higher level of financial literacy also can reduce the likelihood of individuals falling prey to predatory lending schemes or other forms of financial fraud. People with less financial literacy and awareness may experience negative outcomes from poor decisions and calculations. However, Muhamad Yusof, Md. Sarmila and Awang (2023) found that financial knowledge alone rarely shapes real financial outcomes because many people understand basic concepts yet struggle to act on them. Consistent habits such as budgeting, saving and managing credit prove far more influential, showing that behaviour ultimately drives financial wellbeing more than theoretical understanding

Accounting and business education involves the study of diverse principles and practices related to the management, analysis, and reporting of financial transactions and business operations. Financial literacy is intrinsically linked to accounting and business education, as all three domains aim to cultivate the knowledge and skills necessary for sound financial decision-making. This interconnection yields significant reciprocal benefits by enhancing individuals' capacity to navigate complex financial environments. Accounting and business education provide technical foundations such as understanding financial statements, budgeting, and investment principles. On the other hand, financial literacy influences students' financial decision-making and career preparation. Zaimovic, Torlakovic, Arnaut-Berilo, Zaimovic, Dedovic, and Meskovic (2023) suggest that integrating financial literacy into business curricula enhances students' ability to apply financial concepts in real-world scenarios. Similarly, Abdul Latiff, Abd Rahman, and Hashim (2024) found a strong association between financial knowledge, behaviour and financial literacy among accounting students at Universiti Teknologi MARA. The study highlights that accounting education not only strengthens technical competence but also plays a crucial role in shaping students' financial attitudes and behaviours, thereby reinforcing their overall financial literacy.

Financial planning, investment strategies, and risk management are increasingly recognised as essential competencies within contemporary accounting and business education programs, yet the literature reveals important nuances in how these skills are cultivated. A

systematic review by Ansari, Albarrak, Sherfudeen, and Aman (2022) emphasizes that experiential learning methods such as case studies and simulations are particularly effective in shaping students' financial behaviour, suggesting that pedagogy plays a decisive role in translating knowledge into practice. Furthermore, Ahmad, Mohd Fazil, and Abu Bakar (2021) indicate positive correlation higher level of financial literacy and increased entrepreneurial motivation, thereby positioning financial education not only as a tool for prudent decision making but also as a driver of innovation and self-employment. However, Derbyshire, Fouché, and McChlery (2023) caution that strategies must be context specific, particularly for small and micro enterprises where financial literacy needs differ substantially from those of larger institutions. Taken together, these studies indicate a convergence between financial literacy, entrepreneurship, and accounting curricula. At the same time, they also highlight a gap in the literature, since pedagogical innovations and entrepreneurial outcomes are well documented, but the role of these competencies in sustaining long-term resilience remains underexplored.

Financial literacy within the realm of business education can be interpreted as comprising three primary components: financial knowledge, corresponding skills, and attitudes conducive to informed financial behaviour. Financial knowledge refers to the cognitive understanding of financial concepts such as budgeting, interest rates, inflation, and investment strategies which is essential for interpreting financial statements and making sound economic decisions (Rehman and Mia, 2024). However, knowledge alone is insufficient without the ability to apply it in practice. On the other hand, financial skills involve the practical application of this knowledge, including the ability to prepare budgets, manage credit, analyze financial alternatives and make informed investment choices. These skills are often cultivated through experiential learning approaches embedded in accounting and business curricula, such as simulations, internships, and case-based exercises. Integrating experiential learning into accounting education will significantly enhance students' practical competencies and critical thinking abilities by bridging the gap between theoretical instruction and real-world application. Meanwhile, a positive financial attitude is characterized by discipline, future orientation and risk awareness that has been shown to significantly influence financial behaviour. Collectively, these studies highlight the multidimensional nature of financial literacy, yet they also expose a gap. Although knowledge, skills and attitude have been examined individually, limited attention has been given to how these components interact to reinforce long-term resilience across diverse financial contexts.

Integrating financial literacy into accounting and business education is considered a more adaptable approach in a rapidly evolving socio-financial environment as it equips students with the necessary knowledge and skills to navigate complex financial landscapes effectively. A thorough knowledge of finance is necessary for efficient financial management since it equips individuals and organisations with the analytical tools and conceptual frameworks needed to make informed decisions, allocate resources efficiently and ensure long-term sustainability. According to Alam, Shaukat, Mushtaq, Ali, Khushi, Luo, and Wahab (2021), financial management serves as a strategic guide for maintaining liquidity, optimizing capital structure and enhancing operational efficiency, all of which are grounded in sound financial knowledge. For this reason, financial education, both formal and informal, is essential, and it should begin early to foster good financial habits.

Financial literacy contributes to both personal and professional financial outcomes, with evidence showing that higher levels of knowledge correlate with desirable spending habits and greater satisfaction. This literacy can be demonstrated through creative classroom simulations in primary schools. Together, these findings suggest that financial education should be

conceptualized as a lifelong process, beginning in childhood and extending into adulthood, though further research is needed to assess how early interventions influence long-term resilience.

Financial education is widely recognized as encompassing planning, investing, and saving, and is often facilitated through targeted initiatives such as seminars that strengthen decision-making capabilities. Evidence suggests that such education contributes directly to financial sustainability, with literacy and education identified as reliable indicators of long-term stability. Beyond sustainability, financial education also shapes behavior and personality traits, particularly among youth, underscoring its developmental role. Cultural and geographical contexts further complicate this relationship, as it shows that values and attitudes are deeply embedded in local environments. The correlation between financial knowledge and behavior is explained through bounded rationality, where decision-making is constrained by limited resources and cognitive capacity, often leading to seemingly irrational outcomes (Qamar, Rasheed, Kamal, Rauf, & Nizam, 2023). Importantly, business education initiatives have been shown to raise financial literacy levels, yet the literature remains fragmented. While sustainability, cultural influence, and bounded rationality have each been examined, less attention has been given to how these factors interact to shape long-term resilience across diverse populations.

#### BIBLIOMETRIC ANALYSIS

Bibliometrics apply mathematical and statistical techniques to quantify scholarly communication, evaluate research impact, and map the intellectual structure of academic disciplines. Commonly, bibliometric studies involve performance analysis such as publication counts, citation analysis and h-index evaluations as well as science mapping, which visually represents research networks through co-citation, co-authorship and keyword co-occurrence analyses. These methods facilitate a comprehensive understanding of the development of scientific knowledge, allowing researchers to identify thematic trends, research gaps, and emerging clusters of inquiries. Pradana, Elisa, and Syarifuddin (2023) describe bibliometric analysis as a systematic approach for measuring, monitoring, and assessing scholarly output, while Susanty, Artadita, Pradana, Neo, Neo, and Amphawan (2022) note that it offers insights into publication patterns, influential authors, prominent journals, and methodological approaches.

The effectiveness of bibliometric research however hinges on access to large-scale, high-quality bibliographic datasets that typically sourced from established databases such as Scopus or Web of Science which can vary in language, disciplinary coverage and indexing policies (Palos-Sánchez, Baena-Luna, Badicu, and Infante-Moro, 2022). Moreover, bibliometric analysis is increasingly employed across disciplines from economics and health sciences to education and environmental studies with the intention to support evidence-based decision-making, policy development and strategic funding allocation. When integrated with systematic reviews, bibliometric techniques offer quantitative breadth that complements qualitative depth thereby providing a more holistic synthesis of the literature. Nonetheless, scholars should remain cognizant of its limitations, including potential database bias citation lag, and the risk of equating citation frequency with research quality (Goodell, Kumar, Lahmar, and Pandey, 2023). Taken together, bibliometric approaches offer a powerful toolkit for evaluating and visualizing the evolution, influence, and structure of scholarly domains.

To date, most bibliometric studies on financial literacy have focused on its relationship with financial behavior, decision-making and employment outcomes. However, there is a discernible absence of research addressing its intersection with accounting and business education. The data presented in TABLE 1 highlights several important trends in the recent scholarly



discourse on financial literacy. For instance, the studies conducted by Yuvapriya and Subbalakshmi (2024) predominantly explore behavioral and cognitive dimensions, emphasizing financial behavior and decision-making. Similarly, the research by Nabila et al., (2024) adopts a regional lens by concentrating on literature pertaining to Indonesia. Notably, the study by Lucaci and Năstase (2023) comprises the most comprehensive dataset, reflecting sustained scholarly interest in the nexus between financial literacy and employability over an extended period.

Despite the breadth of these contributions, a thematic analysis reveals a predominant focus on individual level financial outcomes, with minimal attention given to the role of formal education particularly within accounting and business curricula in shaping financial literacy. This gap is especially striking considering that both Scopus and Web of Science encompass a broad spectrum of education-related publications. The underrepresentation of educational contexts in this body of literature underscores a significant opportunity for further inquiry into how financial literacy is embedded in academic programs and how pedagogical approaches within accounting and business education can foster financial competence.

TABLE 1. Summary of Previous Study

Author	Domain/Search Strategy	Data Source & Scope	Total documents examined	Subject area
M. Yuvapriya, A.V.V.S. Subbalakshmi	"financial literacy", "financial behavior"	Scopus (2014-2023)	203	Financial literacy
Samanol Shuhaimi, Md Zani Rosliza	"financial literacy", "financial decision-making"	Scopus	417	Financial literacy
Farizka Shafa Nabila, Mahir Pradana, Anita Silvianita, Arry Widodo, Agus Maolana Hidayat	"Financial Literacy" "Indonesia"	Scopus (2020 - 2023)	84	Financial literacy
Ancuța Lucaci, Carmen Năstase	"financial literacy" "employ"	WoS (1997-2023)	1641	Financial literacy

## METHODOLOGY

This study employs bibliometric analysis to explore the research landscape on financial literacy within the context of business education from 2004 to 2025, as illustrated in FIGURE 1.

The year 2004 was selected as the baseline for this bibliometric analysis after reviewing publication trends in the dataset. Although some studies on financial literacy and business education appeared before 2004, annual publication output during that period was extremely limited, generally fewer than two documents per year. This suggests that the topic had not yet developed into a sustained or coherent research stream. From 2004 onwards, there has been a clear and consistent increase in publications, reflecting the emergence and early growth of financial literacy as a formal area of academic inquiry within business, accounting, and education. Therefore, 2004 was chosen as a methodologically sound and conceptually meaningful starting point, marking the beginning of significant scholarly engagement in this research domain.

This study used the Scopus database as the primary source for bibliometric data collection because of its comprehensive coverage of publications in education, business, and social sciences, and its compatibility with advanced bibliometric tools such as VOSviewer. Scopus includes a broader range of international publications than many other databases, including Web of Science

(WoS), particularly in fields such as accounting, education, and entrepreneurship, which are central to this study. Additionally, Scopus provides detailed metadata such as citation counts, author affiliations, and keywords, enhancing the accuracy and depth of bibliometric mapping (Sau and Nayak, 2023). Although Web of Science is also a reputable source, Scopus was prioritised as it offers more extensive journal coverage, greater accessibility to education-related research, and consistent export formats compatible with the visualisation tools used in this analysis.

To identify relevant literature, a specific search string was developed: (TITLE-ABS-KEY(("account\* literacy" OR "account\* knowledge" OR "financial literacy" OR "financial knowledge" OR "financial capability" OR "personal finance") AND ("business education" OR "accounting education" OR "entrepreneurship education" OR "finance education"))) AND PUBYEAR > 2004 AND PUBYEAR < 2025. This search ensured the inclusion of studies related to both financial literacy and various forms of business education. The initial search yielded 166 documents within the defined time frame. A preliminary screening process was conducted using the downloaded Scopus dataset in Excel format, which led to the removal of two duplicate entries, resulting in a refined dataset for analysis.

Maintaining data accuracy and relevance is critical in bibliometric studies. To achieve this, OpenRefine was used as a data-cleaning tool. OpenRefine helped correct inconsistencies in the dataset, such as spelling variations, synonyms, and plural forms, particularly within the author keywords field. This step was essential to standardize the terms for meaningful analysis and to avoid fragmentation of data due to inconsistent labeling.

Following data harmonization, the dataset was further prepared for analysis using BiblioMagika® and VOSviewer. These tools enabled visualization and mapping of bibliometric networks such as keyword co-occurrence, citation relationships, and authorship patterns. This structured process allows the study to present a comprehensive overview of the trends, research themes, and influential contributors in the area of financial literacy and business education over the past two decades.

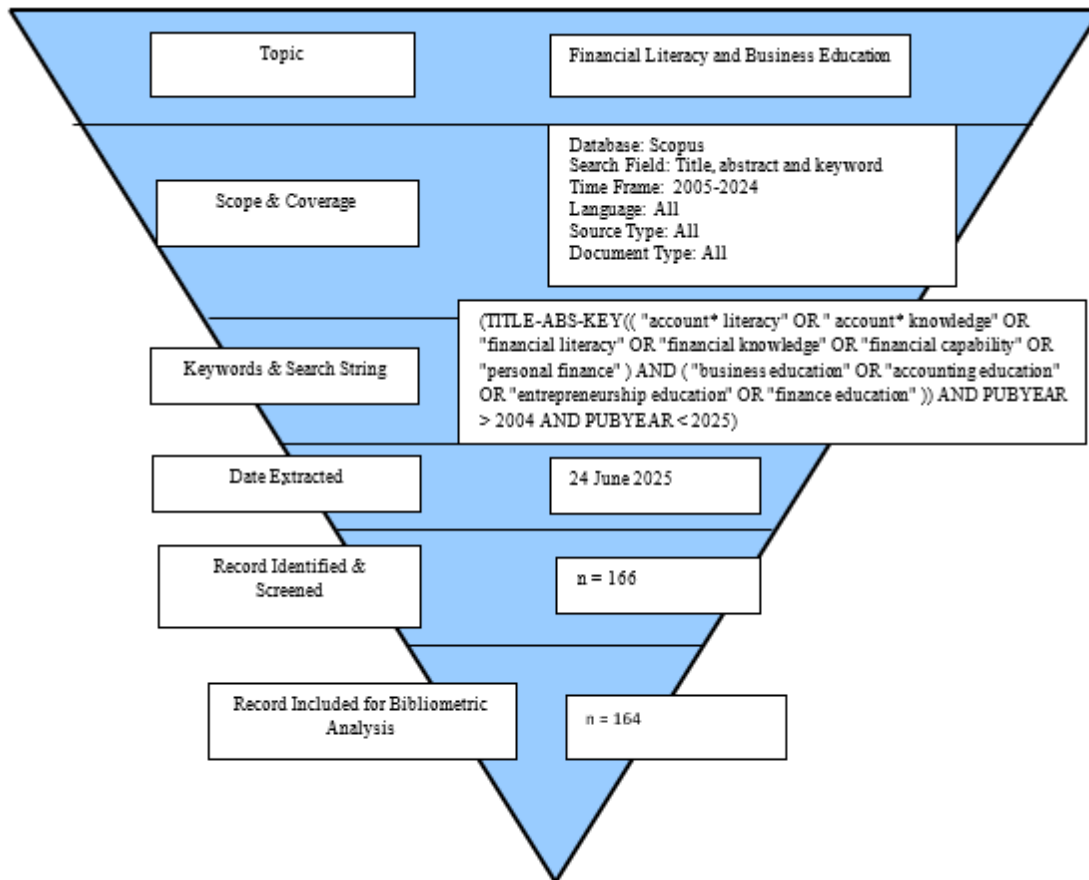


FIGURE 1. Flow Diagram for Bibliometric Analysis (Source: Ahmad, Nasir, Halmi, & Adnan, 2024)

## RESULTS AND DISCUSSION

### DOCUMENTS PROFILES

The bibliometric analysis shows that between 2004 and 2025, a total of 164 publications on financial literacy involved contributions from 431 authors, as depicted in TABLE 2. Over this 22-year period, the field has maintained an average annual citation rate of 103.19, indicating a consistent and growing academic interest. The average of 2.63 authors per paper suggests a moderate degree of collaboration, which is common in interdisciplinary research that integrates perspectives from economics, education, sociology and behavioural sciences. Of the total publications, 132 papers, accounting for about 80 percent of the total, have been cited at least once, reflecting a strong level of scholarly engagement. These cited works collectively received 2,167 citations, equating to an average of 13.21 citations per paper, which increases to 16.42 when only cited papers are considered.

Impact metrics further demonstrate the strong influence of research in this field. The h-index of 25 indicates that 25 papers have each received at least 25 citations, showing that a considerable number of studies have achieved lasting academic recognition. The g-index of 41 reveals that the most highly cited papers contribute significantly to the overall impact, highlighting



the presence of influential works that attract substantial attention from scholars. The total citation count within the h-core is 2,017, which points to a concentration of citations among a smaller set of impactful publications that form the core of this research area. The m-index of 1.136 reflects steady productivity and sustained influence over the years, suggesting consistent contributions to the development of the field. On an individual level, each author has received an average of 5.03 citations, showing that contributions are not only collaborative but also carry meaningful recognition. Taken together, these figures portray financial literacy research as a mature and influential area of study, characterised by a steady stream of high-quality publications, impactful core works, and a pattern of collaboration that enhances both the scope and quality of academic output.

TABLE 2. Citations metrics

<b>Main Information</b>	<b>Data</b>
Publication Years	2004 - 2025
Total Publications	164
Citable Year	22
Number of Contributing Authors	431
Number of Cited Papers	132
Total Citations	2,167
Citation per Paper	13.21
Citation per Cited Paper	16.42
Citation per Year	103.19
Citation per Author	5.03
Author per Paper	2.63
Citation sum within h-Core	2,017
h-index	25
g-index	41
m-index	1.136

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

#### PUBLICATION TRENDS

FIGURE 2 illustrates the annual distribution of total publications and total citations related to financial literacy in business education between 2004 and 2025. The data reveal important patterns in the evolution of academic interests and the impact of publications in this area over the past two decades. The steady increase in publication output corresponds with the global surge in academic attention to financial literacy and education noted in other bibliometric reviews. For example, Goyal and Kumar (2021) and Vijay Kumar and Senthil Kumar (2023) reported a rapid expansion of financial literacy research since the early 2000s, driven by recognition of its importance for economic stability and social inclusion. Similarly, Donthu et al. (2021) observed that the growing accessibility of bibliometric data has facilitated a significant rise in research output across business and education disciplines.

Overall, the FIGURE shows a clear upward trend in publication volume, particularly from 2018 onward. The number of publications peaked in 2024, at 22, which represents the highest annual output in the reporting period. 2019 saw the highest number of citations (387), coinciding with a publication peak of 21 articles. 2019, which coincides with a publication peak of 21 articles. This data indicates that several high-impact articles published in or before 2019 received substantial recognition in the academic community. 2021 sees a further increase in citations, with 265 citations, despite a lower number of publications compared to 2019. The results suggest that

research published in previous years has continued to impact subsequent scholarship, reflecting the continued relevance of key papers during this period.

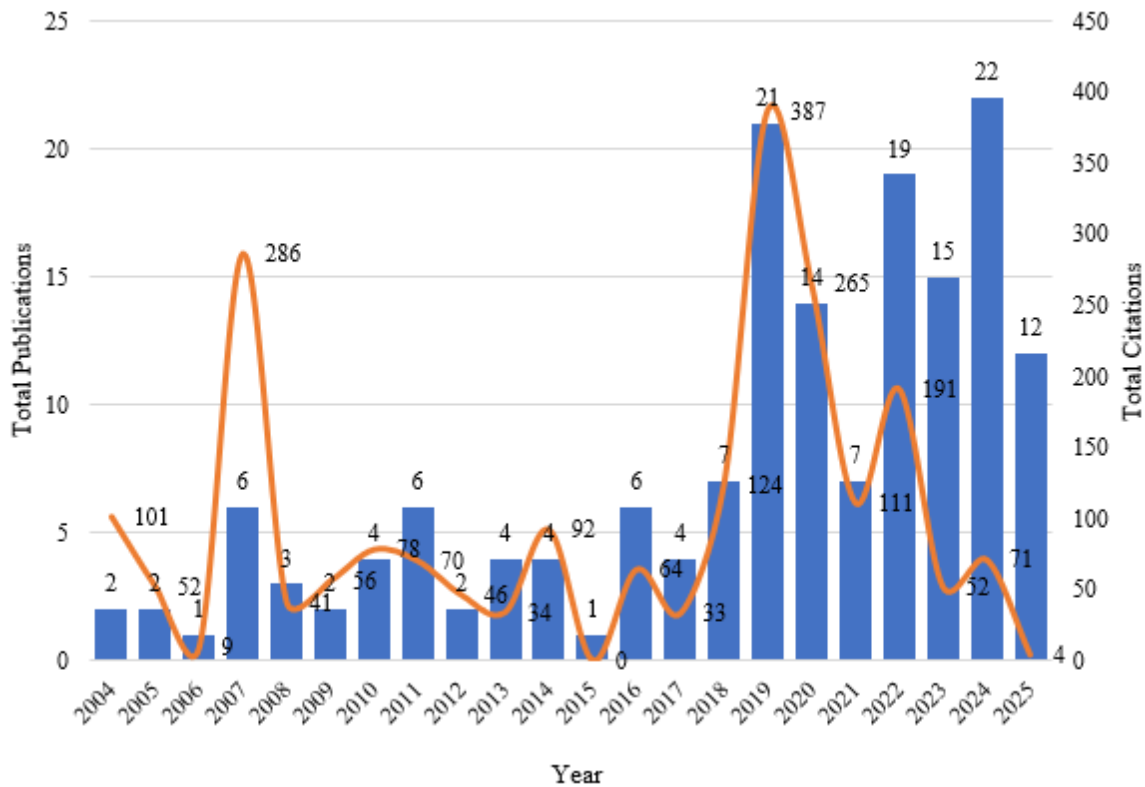


FIGURE 2. Number of Publications and Citations over Years  
 Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

#### INFLUENTIAL AUTHOR(S) AND JOURNAL

TABLE 3 presents the ten most influential papers in the field of financial literacy and business education, each receiving more than fifty citations. These publications represent seminal contributions that have significantly shaped the direction and priorities of research in this domain. The most cited work is by Peng, Bartholomae, Fox and Cravener, published in 2007, with a total of 168 citations and an annual citation rate of 8.84, highlighting its enduring relevance over time. Notably, the article by Qasim and Kharbat in 2020 records the highest annual citation rate of 22.5, with 135 total citations, reflecting its rapid and substantial influence despite being a recent contribution.

Other highly impactful works include Rebele and St. Pierre (2019) commentary on learning objectives in accounting education, which received 123 citations at a rate of 17.5 per year, and Palmer, Ziegenfuss and Pinsker (2004) study on international competencies for auditors and accountants, with 86 citations at 3.91 per year. Research by Awayiga, Onumah and Tsamenyi in 2010 on graduate skills development in Ghana has garnered 72 citations, while Colombelli and colleagues' 2022 work on challenge-based learning has achieved 67 citations with a high annual rate of 16.75.

The remaining influential works address diverse themes such as the lifestyle correlates of musical preferences, the effects of personal finance education on university students, and the integration of data-driven decision-making in accounting curricula. Collectively, these papers illustrate the evolving scope of financial literacy and business education research, highlighting the need for continual adaptation of teaching methods, curriculum design and cross-disciplinary collaboration to meet the demands of an increasingly digital and dynamic financial landscape.

TABLE 3. Top 10 Authors with total citations more than 50 citations

No	Author(s)	Title	Source Title	TC	C/Y
1	Peng T.-C.M.; Bartholomae S.; Fox J.J.; Cravener G. (2007)	The impact of personal finance education delivered in high school and college courses	Journal of Family and Economic Issues	168	8.84
2	Qasim A.; Kharbat F.F. (2020)	Blockchain technology, business data analytics, and artificial intelligence: Use in the accounting profession and ideas for inclusion into the accounting curriculum	Journal of Emerging Technologies in Accounting	135	22.5
3	Rebele J.E.; St. Pierre E.K. (2019)	A commentary on learning objectives for accounting education programs: The importance of soft skills and technical knowledge	Journal of Accounting Education	123	17.5
4	Palmer K.N.; Ziegenfuss D.E.; Pinsker R.E. (2004)	International knowledge, skills, and abilities of auditors/accountants: Evidence from recent competency studies	Managerial Auditing Journal	86	3.91
5	Awayiga J.Y.; Onumah J.M.; Tsamenyi M. (2010)	Knowledge and skills development of accounting graduates: The perceptions of graduates and employers in Ghana	Accounting Education	72	4.50
6	Colombelli A.; Loccisano S.; Panelli A.; Pennisi O.A.M.; Serraino F. (2022)	Entrepreneurship Education: The Effects of Challenge-Based Learning on the Entrepreneurial Mindset of University Students	Administrative Sciences	67	16.75
7	North A.C.; Hargreaves D.J. (2007)	Lifestyle correlates of musical preference: 3. Travel, money, education, employment and health	Psychology of Music	57	3.00
8	Gerrans P.; Heaney R. (2019)	The impact of undergraduate personal finance education on individual financial literacy, attitudes and intentions	Accounting and Finance	52	7.43
9	Ballou B.; Heitger D.L.; Stoel D. (2018)	Data-driven decision-making and its impact on accounting undergraduate curriculum	Journal of Accounting Education	52	6.50
10	Johan I.; Rowlingson K.; Appleyard L. (2021)	The Effect of Personal Finance Education on The Financial Knowledge, Attitudes and Behaviour of University Students in Indonesia	Journal of Family and Economic Issues	51	10.2

**Note:** TC=total citations; C/Y=average citations per year;  
 Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

TABLE 4 presents the most influential journals contributing to financial literacy in business education, ranked by total citations. This analysis highlights the primary sources where impactful research is published and the journals that drive scholarly discourse on integrating financial literacy into business curricula. The Journal of Family and Economic Issues stands out as the most influential source, with two publications accumulating 219 citations, averaging 109.50 citations per publication. The Journal of Accounting Education follows closely, recording three publications with a total of 177 citations, averaging 59 citations per publication, reflecting its strong presence in shaping educational perspectives in the accounting field.

Accounting Education emerges as the most prolific contributor with eleven publications, amassing 167 citations. Its h-index of 7 and g-index of 11 demonstrate not only its high output but also the impact and relevance of its published works, positioning it as an important platform for emerging researchers. The Journal of Emerging Technologies in Accounting also features prominently, with a single publication achieving 135 citations, indicating the significance of research linking technological advances with financial literacy education.

Other notable sources include Administrative Sciences with three publications and 95 citations, and Managerial Auditing Journal with one publication garnering 86 citations. The appearance of Psychology of Music and Critical Perspectives on Accounting in the list points to an interdisciplinary dimension, suggesting that financial literacy research extends beyond traditional business and finance journals. Collectively, these journals shape the intellectual landscape of financial literacy in business education, offering diverse perspectives that strengthen both theoretical development and practical application in an evolving educational environment.

TABLE 4. Most Influential Source Title by Total Citations

Source Title	TP	NCA	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>	<i>m</i>
Journal of Family and Economic Issues	2	7	2	219	109.50	109.50	2	2	0.105
Journal of Accounting Education	3	9	3	177	59.00	59.00	2	3	0.250
Accounting Education	11	23	10	167	15.18	16.70	7	11	0.318
Journal of Emerging Technologies in Accounting	1	2	1	135	135.00	135.00	1	1	0.167
Administrative Sciences	3	9	3	95	31.67	31.67	3	3	0.750
Managerial Auditing Journal	1	3	1	86	86.00	86.00	1	1	0.045
Psychology of Music	1	2	1	57	57.00	57.00	1	1	0.053
Accounting and Finance	1	2	1	52	52.00	52.00	1	1	0.143
Critical Perspectives on Accounting	1	3	1	49	49.00	49.00	1	1	0.083
Management Accounting Research	1	1	1	49	49.00	49.00	1	1	0.048

**Note:** TP=total number of publications; NCA=number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; *h*=h-index; *g*=g-index; *m*=m-index.

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

#### AUTHORS' KEYWORD(S)

FIGURE 3 shows the most frequent keywords used by authors in publications on financial literacy and business education. The analysis highlights dominant themes, emerging areas, and possible research gaps, reflecting how scholars define and prioritise topics in this evolving field. The most common keyword is “accounting education,” appearing in 36 documents, followed by “financial literacy” with 30 occurrences. This pattern underscores the strong connection between accounting and financial literacy, suggesting that a solid understanding of accounting principles is essential for interpreting and applying financial information, especially in business education programmes. “Financial education” and “entrepreneurship education,” with 23 and 21 occurrences respectively, indicate significant attention towards equipping learners with broad financial skills and entrepreneurial capabilities.

Keywords such as “universities,” “business education,” “education,” “students,” and “accounting profession” point to a comprehensive research perspective that addresses both institutional frameworks and individual learning outcomes. The presence of “entrepreneurial intention” and “personal finance,” each appearing in 10 publications, reflects growing interest in

understanding how financial literacy influences entrepreneurial behaviour and personal financial management. Meanwhile, “entrepreneurship,” recorded in 9 documents, reinforces the focus on fostering innovation and self-employment through financial knowledge. The relatively lower frequency of terms like “students” and “accounting” at 5 occurrences each suggests potential areas for further exploration, particularly in examining learner-centred approaches and the integration of accounting fundamentals into financial literacy curricula.

Overall, the keyword distribution reveals that research in this field not only prioritises core accounting and finance competencies but also integrates entrepreneurship and personal financial management, signalling opportunities for expanding interdisciplinary and applied research in the future.

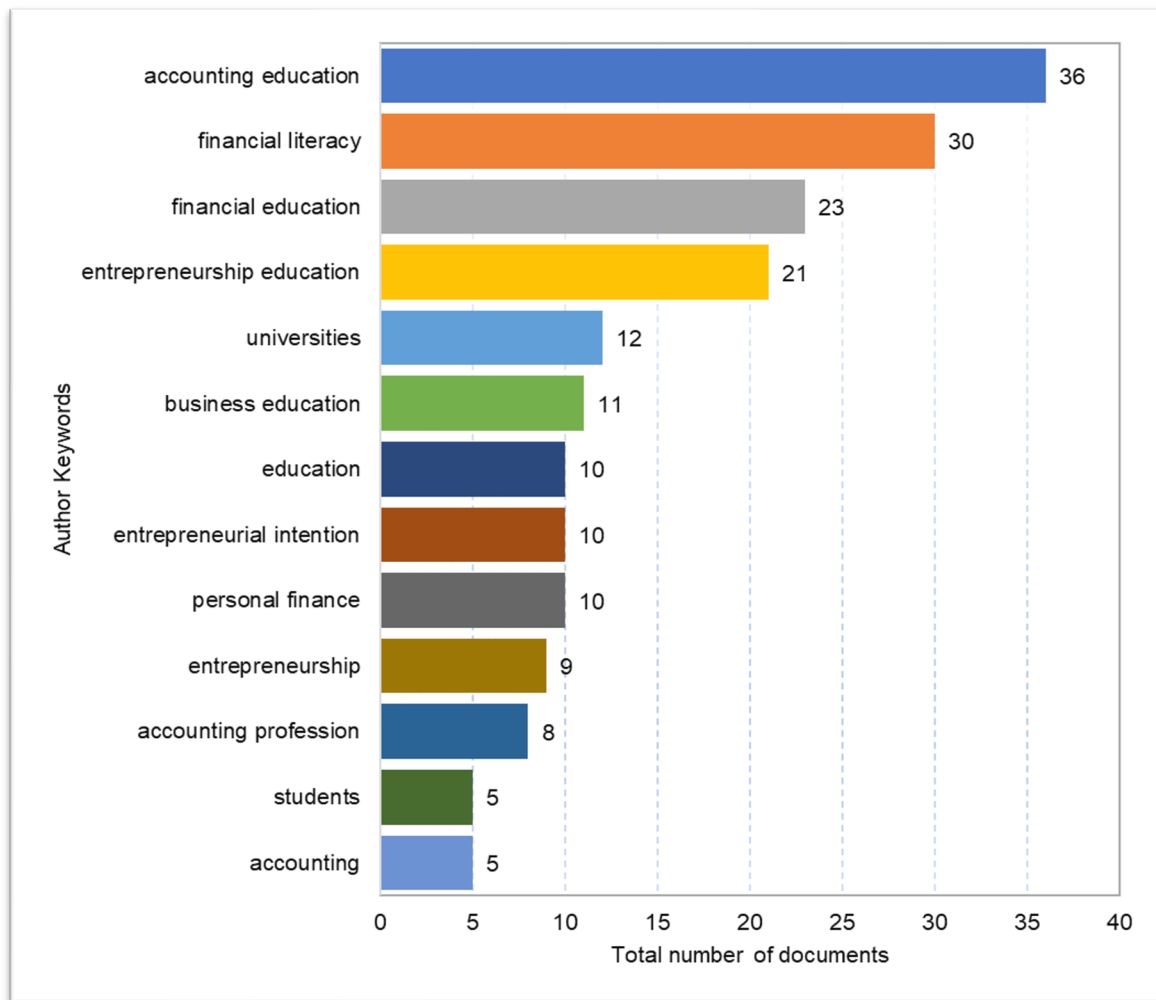


FIGURE 3. Author Keywords by Document Frequency  
Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

FIGURE 4 illustrates the temporal distribution and citation impact of the 10 most frequent author keywords in research on financial literacy in business education. The x-axis indicates the average year of publication and thus provides an insight into the temporal development of individual keywords over time, while the y-axis indicates the number of published documents. The size of the individual bubbles reflects the citation frequency and thus captures the scientific

influence of individual topics. The terms “accounting education” and “financial literacy” are prominent, exhibiting the greatest document counts and the most substantial citation bubbles, underscoring their recognized significance and ongoing academic focus in the earliest years of publication. These keywords also have the largest bubble sizes and the highest number of documents (670 and 497 respectively), which indicates not only a high level of scholarly interest over time, but also a considerable citation impact. Their early appearance and continued relevance indicate that they form the core of this field of research. The publications from 2017 to 2020 predominantly concentrate on education across several domains, including accounting, finance, business, and entrepreneurship. The publications from late 2020 to 2025 concentrate on entrepreneurship and entrepreneurial intention. While they have a medium to high number of publications (121 and 269), their bubble size indicates a growing, but not yet maximal, citation impact. This positioning suggests that these emerging areas of focus, likely driven by the increasing global emphasis on entrepreneurship, innovation, and the need for adaptable educational approaches for the 21st century economy. The differences in citation impact between keywords illustrate the dynamics of academic influence, where established topics retain their dominance while new areas gain prominence. This analysis highlights the importance of longitudinal studies and thematic integration for the development of future research agendas in financial and entrepreneurial education.

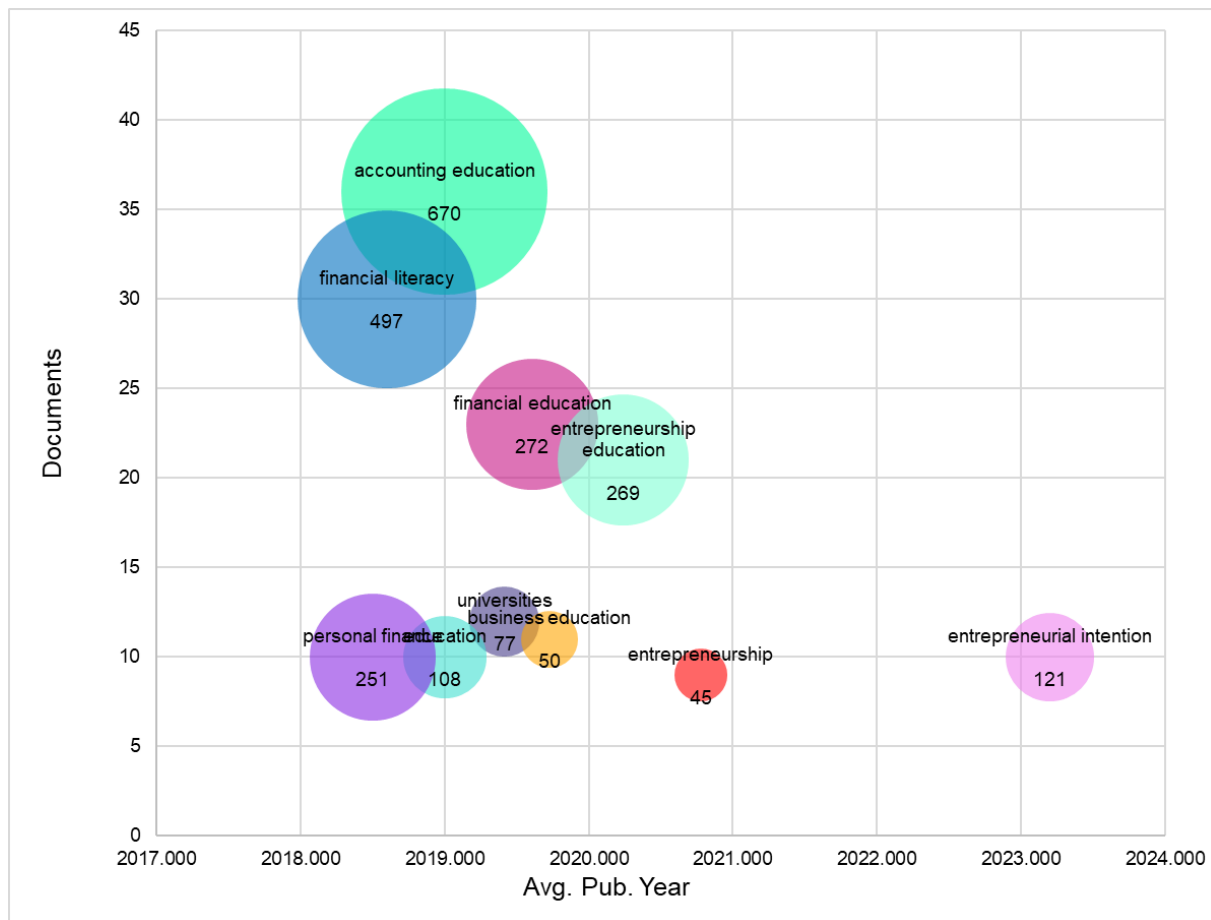


FIGURE 4. Temporal and Citation Impact of Top 10 Most Frequent Author Keywords  
 (Min. Freq. = 5, Bubble Size = Citations)  
 Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)



The VOSviewer visualization shown in FIGURE 5 provides a detailed mapping of the co-occurrence network of author keywords that enables understanding of the thematic structure of research on financial literacy in business education. VOSviewer is a powerful bibliometric tool specifically designed to create and explore bibliometric maps based on network data, enabling researchers to identify relationships between keywords. Its ability to cluster related keywords into visual networks helps uncover conceptual connections and hidden patterns in large bodies of literature, which is particularly valuable in fields such as education and finance where interdisciplinary topics often overlap.

The network visualisation in this study complements and extends the findings of Vijay Kumar and Senthil Kumar (2023), who mapped the global intellectual structure of financial literacy research. In their analysis, financial literacy emerged as the dominant thematic node, closely linked to financial education, financial inclusion, behavioural finance, and financial knowledge. These clusters reflect the broader conceptual foundations of financial literacy as both an educational and behavioural construct. Consistent with their findings, the network mapping in this study also places financial literacy at the centre of the research landscape, with strong connections to financial education and personal finance. However, this study advances the discussion by revealing a distinct academic–professional dimension, where accounting education, business education, and entrepreneurship education form integral clusters. This suggests a shift in recent years from general financial literacy awareness towards its pedagogical integration within higher education and professional training contexts.

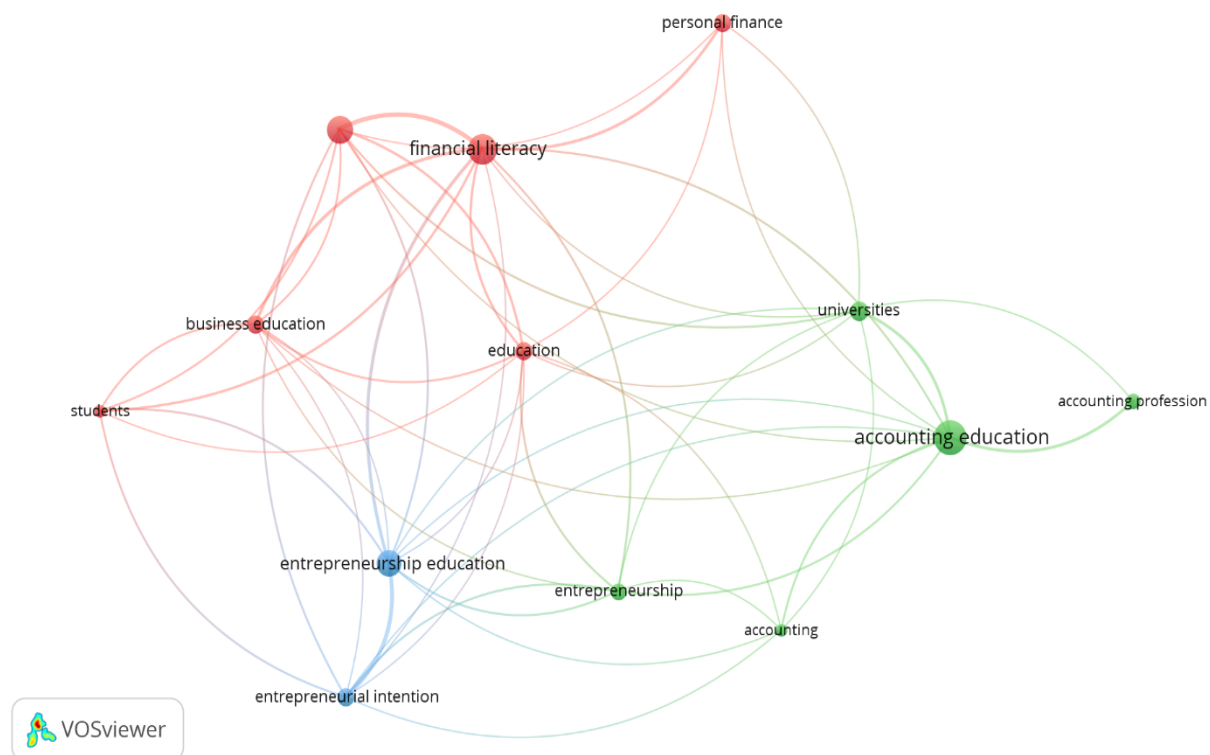


FIGURE 5. Keyword Co-occurrence Network

The network classifies the most important keywords into three different clusters as depicted in TABLE 5, which gives substantial insight into the conceptual structure of financial literacy research in business education. Cluster 1 illustrates the integration of financial literacy into a broader educational environment. Cluster 2 shows a range of research linking entrepreneurship, universities, and preparing students for professional roles. Cluster 3 represents the relationship between financial literacy and the development of an entrepreneurial mindset, which shows the integration of financial literacy into real-world applications. Overall, the visualization created with VOSviewer provides a clear and interpreTABLE map of the development of research topics in the field of financial literacy and business education.

TABLE 5. Clustering Research Themes

<b>Cluster 1</b>	<b>Cluster 2</b>	<b>Cluster 3</b>
Business education	Accounting	Entrepreneurial intention
Education	Accounting education	Entrepreneurship education
Financial education	Accounting profession	
Financial literacy	Entrepreneurship	
Personal finance	Universities	
Students		

## CONCLUSION

This study provides a comprehensive bibliometric analysis of research on financial literacy in business education over two decades, from 2004 to 2025. By analyzing 164 publications indexed in Scopus, the study identified key publication trends, influential authors, leading journals, and keyword clusters. The results show that research has steadily shifted from accounting education topics to innovative topics that link financial literacy with entrepreneurship. Analysis of keywords and clusters reveals an interdisciplinary landscape that reflects that financial literacy is essential not only to the financial well-being of individuals but also to the advancement of entrepreneurial skills and the alignment of higher education outcomes.

The results show that there are differences in research quality between regions and that most important studies are published in only a few journals, indicating that more international collaborations could improve the variety and relevance of future research. The emergence of recent keywords such as “entrepreneurial intention” points to a promising area of research investigating how financial literacy supports entrepreneurship and innovation. However, this study is not without limitations. Using only the Scopus database is reasonable because it covers a lot of information and is good for measuring research, but it might miss important studies found in other databases like the Web of Science, which could make the analysis less complete.

Future research should address these limitations by incorporating multiple databases to broaden the scope of the analysis and using complementary qualitative methods such as systematic literature reviews. Longitudinal studies examining the impact of financial literacy interventions on students’ financial behavior and careers would also provide valuable insights. Ultimately, continuous research and innovation in financial literacy are essential to prepare graduates to navigate an increasingly complex financial environment, contribute to sustainable economic development, and adapt to the rapidly changing global financial landscape.

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