

A study of financial literacy in developing countries: A bibliometric analysis

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Abstract: The significance of financial literacy is garnering worldwide attention across all age groups. Financial literacy has been defined by certain scholars as a necessary skill for individuals to possess in order to effectively navigate their future financial endeavors. The aim of this article is to perform a bibliometric analysis and systematic literature review in order to investigate the present corpus of scholarship on the application of Financial Literacy. The present study entailed a comprehensive analysis of existing research papers to ascertain the principal contributors to this specific domain, noteworthy subthemes, and prospective directions for further investigation. There has been a noticeable rise in the quantity of literature pertaining to this topic during the period spanning from 2020 to 2023. Furthermore, the utilization of network analysis was employed to chart research clusters. The aforementioned discovery yielded a cumulative total of 84 scholarly publications. The findings of the analysis indicate that there exists a gap in the comprehensive research of the keywords “Financial Behavior”, “Financial Attitude”, and “Financial Inclusion”.

Keywords: financial attitude; financial management; financial satisfaction; generation z

1. Introduction

The phenomenon of globalization has facilitated swift progress across nations and has underscored the growing importance of financial literacy in attaining heightened economic prosperity (Clichici and Moagăr-Poladian, 2022). In the current era of globalization, financial literacy is deemed essential for the success of one’s business, the overall economy, and the nation as a whole, as noted by (Khan et al., 2022). The topic of financial literacy has garnered significant attention on a global scale and has undergone notable advancements in recent times. The acquisition of financial literacy is of paramount importance in enabling individuals to develop a comprehensive understanding of the financial system, which in turn empowers them to make informed decisions regarding their personal finances (Lahiri and Biswas, 2022). Financial literacy has the potential to mitigate the susceptibility of individuals to unfavorable investment decisions concerning their hard-earned financial assets, particularly in a world where ceaseless Ponzi schemes, also referred to as get-rich-quick schemes (Lontchi et al., 2022). The degree of an individual’s financial literacy has the potential to significantly impact their ability to assess investment options and effectively manage financial assets. The financial market offers a broad spectrum of digital products and has witnessed a rise in financial inclusion. In the midst of the swiftly expanding landscape of financial innovation, the proliferation of digital financial products necessitates that consumers exercise caution in their selection of such products (Huo et al., 2023). Research examining both developed and developing nations has demonstrated that a deficient level of financial literacy is associated with increased risk in the utilization of financial products and can have significant

implications for individuals' present and future well-being (Struckell et al., 2022). This encompasses the effects on individuals' approaches to establishing their financial planning and objectives, their inclination towards investing funds in unsuitable products, and the factors that ensnare them in illicit investments. It is imperative for individuals to possess financial literacy in order to assess and make informed decisions regarding optimal financial choices for their overall well-being (Ozili et al., 2022). The construct of financial literacy has been operationalized and assessed through a comprehensive framework, as posited by Koskelainen et al. (2023). The concept of financial literacy pertains to the various aspects of financial behavior, attitude, and financial numeracy skills (Mireku et al., 2023).

The author observes that despite the existence of numerous inquiries into Financial Literacy, there seems to be a scarcity of studies that concentrate on examining and evaluating Financial Literacy using bibliometric and network analysis techniques. The aim of this study is to rectify the aforementioned inadequacy by carrying out a thorough examination of the extant literature on Financial Literacy. The proposed task entails conducting a bibliometric analysis to ascertain the key authors, journals, and keywords that have made significant contributions to this particular field. Furthermore, the present study will suggest potential directions for further investigation regarding Financial Literacy. The purpose of conducting a bibliometric analysis is to methodically, clearly, and consistently scrutinize scholarly literature, with the intention of providing current and future scholars with insights into the patterns and advancements within the particular area of inquiry. The aforementioned task is accomplished through meticulous examination of extensive literature databases, which function as sources of data extraction and verification, thereby mitigating potential research bias. The subsequent segments of this scholarly article scrutinize the relevant literature to furnish a more profound comprehension of Financial Literacy and the methodology employed to carry out this investigation.

2. Literature review

Financial literacy is a crucial skill for individuals to possess in the current century (Lo Prete, 2022). They assert that enhancing financial literacy is imperative to bolster economic growth in any global economy. Financial literacy pertains to an individual's capacity to acquire and evaluate financial information in order to make informed investment choices (Zaimovic et al., 2023). Furthermore, financial literacy pertains to an individual's capacity to carry out various monetary tasks, encompassing but not restricted to acquiring, safeguarding, and utilizing funds (Sekita et al., 2022). The extant literature, drawing from multiple studies, suggests that the cultivation of robust financial skills is a prerequisite for proficient money management (Yang et al., 2023). Our proposal posits that individuals possessing financial literacy are more inclined towards exercising prudence in financial planning, as evidenced by their propensity to engage in savings and investment activities. According to Tuffour et al. (2022) research, individuals with low literacy skills are negatively impacted in their ability to save, and a lack of knowledge regarding fundamental financial concepts is associated with a deficiency in wealth. According to Mireku et al. (2023), financial literacy pertains to possessing the appropriate knowledge necessary for making informed

decisions when selecting financial products and services. Comprehending financial terminology is imperative for enhancing financial literacy. Financial literacy pertains to the comprehension, consciousness, and expertise of individuals regarding financial products, institutions, and terminologies that are relevant to daily decision-making processes such as interest rates, inflation, savings, loans, risk, return, among others (Gallego-Losada et al., 2022). This includes practical knowledge of financial products and terminologies, as stated by Ansari et al. (2022). The authors Kumar et al. (2023) present a theoretical framework that defines financial literacy as a set of interrelated components, including financial knowledge, skills, and behavior. Financial literacy is a composite of financial knowledge, behavior, and attitude (Mustafa et al., 2023). Financial literacy encompasses various metrics that evaluate consumers' financial knowledge, abilities, and perspectives towards money (Puelz and Puelz, 2022). According to Weissberger et al. (2023), financial literacy is a complex construct that encompasses various factors such as awareness, experience, knowledge, skills, capability, goal, and behavior, all of which are crucial in facilitating effective financial decision-making.

Bibliometric analyses employ mathematical and statistical methodologies to examine patterns in previously published literature (Ansari et al., 2022). Bibliometric analyses conducted across various research domains involve the examination and cartography of published literature within the respective field. In recent times, scholarly investigations have been conducted on bibliometric analysis within the field of finance, with a particular focus on financial literacy. The methodology outlined in this paper is heavily dependent on computational resources, with a primary emphasis on data mining, statistical analysis, and calculations, to reveal patterns and trends within a particular area of research (Rethlefsen et al., 2021). The objective of this particular research methodology is to improve the understanding of the relationships between journal citations and to provide a summary of the current state of knowledge regarding a pre-existing or new research topic.

3. Results and discussion

To achieve the specified aims and respond to the diverse queries, a methodical examination of the scholarly literature was conducted in adherence to the guidelines of the Preferred Reporting Items for Systematic Reviews (PRISMA), as delineated by Page et al. (2021). The present work constitutes a systematic and structured analysis of the existing body of literature pertaining to the utilization of Financial Literacy. The extant body of literature was considered in order to establish a basis for selecting the keywords. This analysis was conducted utilizing the keywords "Financial Literacy" and "Indonesia" among other relevant topics. The Scopus database is subjected to analysis based on the provided keywords, yielding significant outcomes. Scopus is widely regarded as a highly significant database globally owing to its vast collection of significant and research papers. A systematic review was conducted wherein the articles retrieved from the database were evaluated based on their adherence to the inclusion and exclusion criteria, quality and applicability of the study, and other relevant characteristics. Only those articles that met the aforementioned criteria were included in the review. The information in **Table 1** outlines the inclusion and

exclusion criteria of the scientific literature that has been reported.

Table 1. Inclusion and exclusion criteria.

Inclusion	Exclusion
<ul style="list-style-type: none">• Academic articles, Book Chapters, and Books• Studies with the title “Financial Literacy”• Studies with the word “Indonesia”• Full text studies• Public works• Studies published in English	<ul style="list-style-type: none">• Whitepapers, note, short survey, and online presentation• Documents that were not available• Documents that did not contain most of the variables analyzed in this study

The literature review encompassed scholarly articles, books, and book chapters that were published in prestigious indices with high impact. The absence of a peer-review mechanism precluded the evaluation of technical reports, online presentations, headlines, quick polls, notes, and conference abstracts. Numerous research (including articles, books, and conference papers) containing the keywords “Indonesia” and “Financial Literacy” were discovered; however, no relevant work was found. Therefore, research that did not explicitly address the Financial Literacy concept was excluded from the review.

4. Discussion

The current investigation concerns research studies that are accessible in the Scopus database, where the terms “Indonesia” and “Financial Literacy” have been incorporated in the title. An initial count of 84 scholarly articles was obtained from the Scopus database. The aforementioned criteria were employed to evaluate the documentary volumes in accordance with the systematic review principles outlined in the PRISMA protocol. All documents related to Financial Literacy were included as part of the criteria for inclusion. The process flow for the selection of papers to undergo review is illustrated in **Figure 1**.

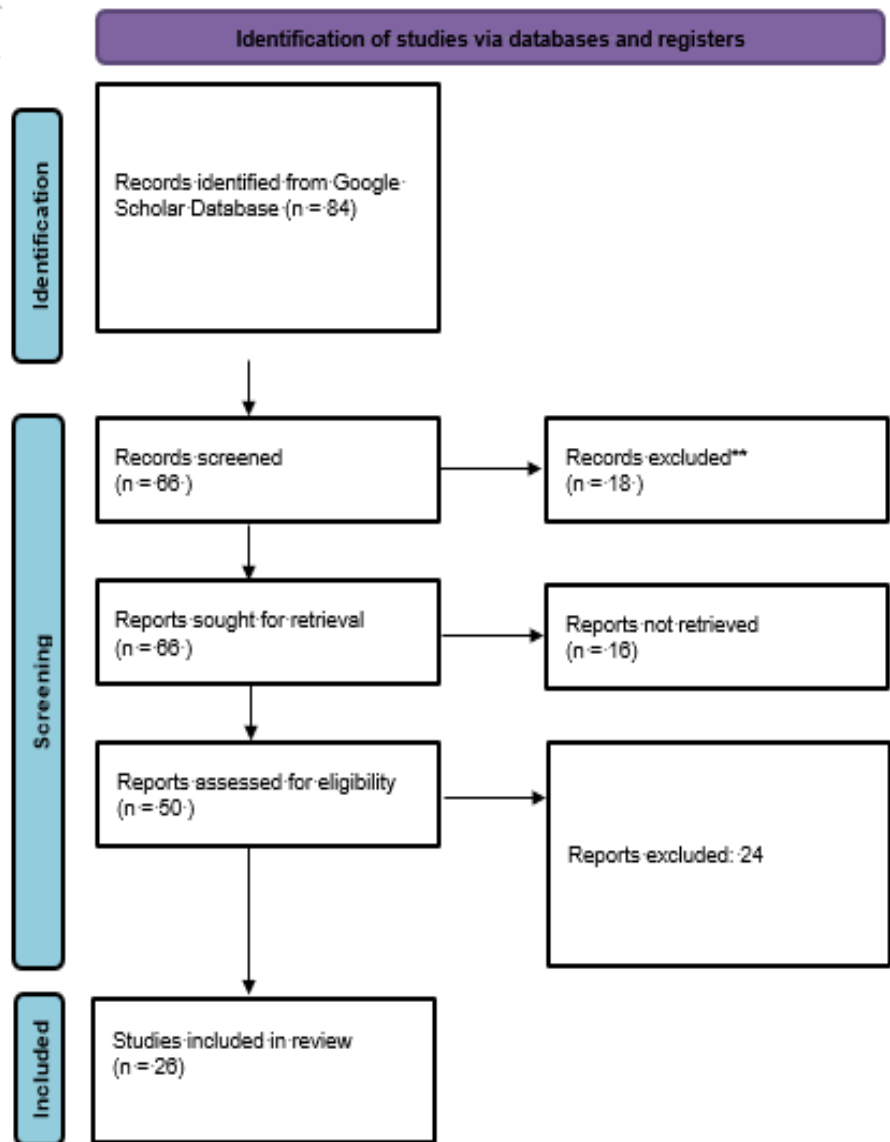


Figure 1. PRISMA phases of literature review.

The present research endeavors to examine the body of literature pertaining to the concept of “Financial Literacy” without imposing any temporal constraints. The present investigation examined a corpus of 84 scholarly works pertaining to the subject of “Financial Literacy”. The impact of financial literacy is universal across all individuals. The significance of this subject matter lies in the fact that the ramification of financial decisions can exert an impact on the decision-making process of individuals. The findings of the data analysis indicate that the year 2020 has exhibited the greatest volume of publications pertaining to the subject of “Financial Literacy”, with a cumulative count of 21 publications. Nonetheless, there was a decrease in the number of publications in 2021, with only 14 being recorded. It is projected that by the year 2023, there will be a total of eight publications pertaining to the topic of “Financial Literacy.” There is an anticipation of a rise in the quantity of published works in the year 2023, as seen in **Table 2**.

Table 2. Number of paper.

Year	Number of Paper
2016	4
2017	1
2018	5
2019	13
2020	21
2021	14
2022	18
2023	8
Total	84

The present study demonstrated three distinct features of data analysis utilizing VOS viewer, specifically co-authorship, co-occurrence, and citations. The following section presents the outcomes of the analysis that was carried out.

4.1. Co-authorship

Regarding the authors who have a network connection, **Figure 2** is displayed. There are still a few authors who are related, so it is hoped that in the future, more researchers will collaborate to generate higher-quality research results. In **Figure 2**, the authors adopt the Financial Literacy theme as their focus.

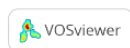
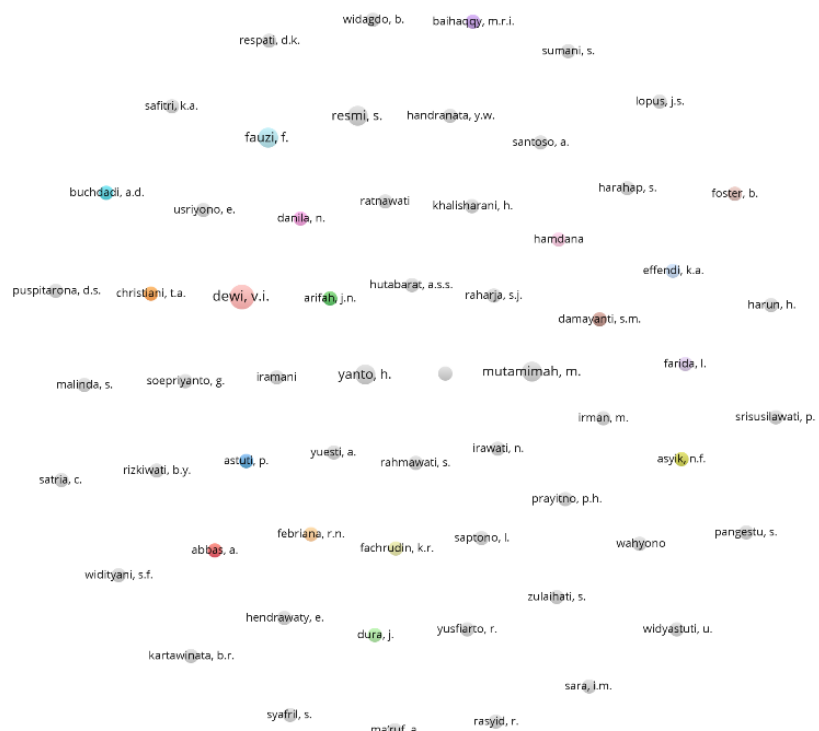


Figure 2. Co-authorship.

Table 3. (Continued).

Ranking	Citation	Author	Title	Year
6	11	V.I. Dewi	Financial literacy and its variables: The evidence from Indonesia	2020
7	10	Iramani	Financial literacy and business performances improvement of micro, small, medium-sized enterprises in East Java Province, Indonesia	2018
8	9	S.F. Widityani	Do socio-demographic characteristics and financial literacy matter for selecting Islamic financial products?	2020
9	8	M. Mutamimah	Corporate governance, credit risk, and financial literacy for small medium enterprise in Indonesia	2021
10	8	U. Widyastuti	Financial education, financial literacy, and financial Behavior: What does really matter?	2020

The aforementioned table presents the ten articles with the highest number of citations from their time of publication up until the present moment. The majority of the citations exhibit a prevalence of papers that were published in the year 2020. As per the findings presented in **Table 3**, the scholarly article titled “The relationships between market orientation, learning orientation, financial literacy, on the knowledge of competence, innovation, and performance of small and medium textile industries in Java and Bali” has garnered the highest number of citations, amounting to a total of 20. The aforementioned article was authored by Wahyono and Hutahayan (2021). The objective of this research is to offer novel theoretical and practical perspectives on the strategies employed by small and medium-sized enterprises (SMEs) to enhance their business competencies, innovations, and performance. This is achieved through the utilization of market orientation, learning orientation behaviors, and financial literacy. In 2016, data was gathered from small and medium enterprises (SMEs) in the textile industry with a workforce ranging from 5 to 99 individuals, located in the provinces of Bali and Java, Indonesia. The study’s findings validate the impact of financial literacy on the operational efficiency and inventive capabilities of small and medium-sized enterprises (MSMEs) in the creative sector located in Central Java. The statement posits that possessing adequate financial literacy skills can potentially enable MSMEs to effectively enhance their performance and innovation through informed financial and managerial decision-making.

The aforementioned papers have been classified based on the primary authors who have made significant contributions to the proliferation of literature pertaining to the subject matter of “Financial Literacy”. The subsequent table presents a compilation of distinguished writers who have made significant contributions to the body of literature pertaining to Financial Literacy, as seen in **Table 4**.

Table 4. Top author.

Author	Number of Paper
V.I. Dewi	3
F. Fauzi	2
H. Yanto	2
M. Mutamimah	2
S. Resmi	2

The table provided indicates that there are five authors, with one author having

published three articles and the remaining authors having published two articles each. V.I Dewi authored three articles, titled “Financial literacy and its variables: The evidence from Indonesia”, “Does financial perception mediating the financial literacy on financial behavior? A study of academic community in central Java Island, Indonesia”, and “How do demographic and socioeconomic factors affect financial literacy and its variables?”. The articles authored by V.I. Dewi and published in the years 2020 and 2022 are of academic interest. Second top writer, F. Fauzi, wrote two articles, titled “Women entrepreneurship in the developing country: The effects of financial and digital literacy on SMEs’ growth” and “Mapping potential sectors based on financial and digital literacy of women entrepreneurs: A study of the developing economy”.

5. Conclusion

In contemporary times, there has been an increasing inclination towards the acquisition of knowledge and skills pertaining to financial literacy. Numerous studies conducted across different nations have demonstrated that an individual’s level of Financial Literacy has a significant impact on their financial decision-making and behavior (Sinnewe and Nicholson, 2023). The scholarly literature has unambiguously established that financial literacy is an essential component of achieving financial wellness. The acquisition of financial literacy enables individuals to assess and enhance their ability to comprehend and make informed decisions regarding diverse financial products and services, thereby promoting their autonomy and self-determination (Kumar et al., 2023). Financial literacy refers to the comprehension of the significance of money and the ability to optimize its utilization for maximum benefits (Song et al., 2023).

The current study utilizes a bibliometric analytical approach to ascertain the three main elements of co-authorship, co-occurrence, and citation. The present investigation adhered to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines and employed the analytical paradigm for reported impact studies, as outlined by Page et al. (2021). The scientific rigor of this study is bolstered by the inclusion of current literature and the utilization of prominent databases, such as the Scopus Database.

The utilization of the Scopus database provides evidence of the trend towards investigating Financial Literacy in the year 2020. The current investigation excluded publications that were deemed irrelevant or contained redundant material, in addition to those that did not incorporate the appropriate keywords in their abstracts or titles. The specified keywords and titles yielded a total of 84 publications.

It is essential to recognize and conduct further examination into the diverse constraints of this research. In the dearth of numerical evaluation, we resorted to bibliometric analysis, which is not exempt from constraints. The primary selection criterion for our research was the possibility of obtaining a larger sample size, which led us to opt for the Scopus database over Google Scholar or Web of Science. The second constraint concerns the temporal and linguistic scope of the results, which were limited to a particular time period and restricted by the use of English search terms. Despite the aforementioned limitations, this study has furnished a satisfactory

foundation for discussing the reservations of adopters with regards to the implementation of Financial Literacy.

The present investigation utilizes the Scopus database. Subsequent investigations may employ alternative databases for the purpose of extracting data. Subsequently, the keyword search may be adapted to encompass supplementary keywords, thereby expanding the scope of pertinent publications within this domain for the purposes of the investigation. Furthermore, the research suggests that financial literacy is positively associated with enhanced financial inclusion across diverse demographic groups in Indonesia, including but not limited to age, gender, marital status, occupation, income, and geographic location. The development of financial literacy in individuals has been found to promote a heightened sense of empowerment and informed decision-making in relation to financial matters.

Author contributions: Conceptualization, FSN and AS; methodology, FSN; software, FSN; validation, FSN, AW and AMH; formal analysis, FSN; investigation, FSN; resources, AW; data curation, AMH; writing—original draft preparation, FSN; writing—review and editing, AS; visualization, FSN; supervision, MP; project administration, MP; funding acquisition, AS. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

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