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Bibliometric Visualization of Global Trends in Financial Literacy and Digital Household Debt 2020-2025

Maria Suryaningsih[1]*, Susi Susilawati[2], Ramdany[3], Ridwan Saleh[4], Samukri[5]
Universitas Teknologi Muhammadiyah Jakarta, Indonesia
Corresponding Author: Maria Suryaningsih: maria@utmj.ac.id

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ABSTRACT

Low levels of financial literacy are a major factor contributing to household debt and poor financial decision-making. This study aims to map the development of literature on financial literacy and household debt during 2020–2025 using a bibliometric approach. A total of 427 Scopus-indexed articles were analyzed using Bibliometrix (RStudio) and VOSviewer. The findings reveal that financial literacy is strongly associated with financial education, debt behavior, and financial resilience. The United States and Indonesia were the leading contributors, while Olivia S. Mitchell and Annamaria Lusardi emerged as influential authors in scientific collaboration networks. The study concludes that financial literacy plays a strategic role in shaping household financial behavior and reducing over-indebtedness. It recommends contextual educational programs, international research collaboration, and longitudinal studies to strengthen long-term impacts.

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INTRODUCTION

The development of the global financial system and digital transformation have changed household financial decision-making patterns to become increasingly complex. Increasing access to digital financial services, consumptive credit, online loans, and various modern financing instruments encourages people to be more actively involved in debt-based economic activities. However, the ease of access is not always followed by the ability of the community to understand risks and manage finances rationally. This condition leads to an increase in household vulnerability to over-indebtedness problems, especially in groups with low levels of financial literacy (Kurowski, 2021; Fong, 2025). This phenomenon shows that financial literacy has become a strategic issue that is not only related to the ability of individuals to manage finances, but also related to social and economic stability of households more broadly.

Globally, various studies show that low financial literacy correlates with the weak ability of people to make sound financial decisions, including in the use of household debt. Chikeya and Ntsalaze (2025) explain that household debt is influenced by a combination of macro factors such as housing prices, economic growth, and inflation rates, as well as microfactors such as education, income, and household socioeconomic conditions. On the other hand, Fong (2025) found that individuals with high levels of financial literacy tend to be more disciplined in managing credit and understanding the long-term consequences of debt use. However, high financial literacy has not been able to completely eliminate risky debt behavior because financial decisions are also influenced by psychological factors, consumptive lifestyles, and social pressures (Cude et al., 2020; Siyal et al., 2024). This suggests that the relationship between financial literacy and debt behavior is multidimensional and requires a more comprehensive analytical approach.

In the context of developing countries, household debt problems are becoming increasingly complex as the penetration of digital financial services and technology-based credit increases. Hu and Liu (2025) note that community involvement in digital financial activities in rural areas of China is not always followed by adequate risk management capabilities. Similar phenomena have also occurred in many other developing countries, including Indonesia, where increased access to digital lending services often encourages consumptive behavior and impulsive financial decisions. In addition, during the COVID-19 pandemic, households with low levels of financial literacy have proven to be more vulnerable to economic stress and fail to manage their debt obligations in a sustainable manner (Kurowski, 2021). This condition shows that financial literacy is not only related to basic economic knowledge, but also an important instrument in building household financial resilience in the midst of global economic uncertainty.

The urgency of research on financial literacy and household debt is increasing because the phenomenon of over-indebtedness is now not only occurring in low economic groups, but also in the middle class who have high access to modern financial products. The use of credit cards, buy now pay later services, payday loans, and online loans is becoming increasingly common without being balanced by an understanding of the long-term risks (Cude et al., 2020; Siyal et al., 2024). In addition, the gender gap in financial literacy is also still an important issue. Sholevar and Harris (2020) show that women are often underrepresented in household financial decision-making and have lower levels of financial literacy than men. This condition shows that social, cultural, and demographic factors have a significant influence on people's financial behavior. Therefore, strengthening financial literacy needs to be understood as part of a more inclusive and sustainable socio-economic development strategy.

Although the relationship between financial literacy and debt behavior has been extensively studied, much of the previous research has still focused on empirical approaches in developed countries such as the United States and Western European countries. Tao et al. (2024), Kurowski (2021), and Siyal et al. (2024) show that research related to household debt in developing countries is still relatively limited, even though people in developing countries face higher levels of financial vulnerability due to economic inequality and low social protection. In addition, most previous studies have focused more on the direct relationship between financial literacy and debt levels, without integrating the influence of psychological and socioeconomic factors more deeply. In fact, household financial decisions are also influenced by variables such as religiosity, materialism, conscientiousness, neuroticism, education level, and social pressures that develop in society (French & McKillop, 2016; Cude et al., 2020; Siyal et al., 2024).

Another research gap lies in the limited theoretical framework that is able to integrate financial literacy, behavioral factors, socioeconomic dynamics, and digital technology penetration simultaneously in understanding household debt behavior. Most previous studies have used a partial approach that only highlights one specific dimension, such as financial education or access to credit, without looking at the complex interactions between those variables thoroughly (Hu & Liu, 2025). In addition, bibliometric studies that specifically map the development of the literature on financial literacy and household debt during the post-pandemic period are still relatively limited. In fact, the development of financial technology, changes in people's consumption behaviors, and the increasing use of digital credit services show that there has been a major transformation in household financial management patterns over the past few years. Thus, a bibliometric study is needed that is able to map the intellectual structure, research trends, and development of the main themes in this field in a more systematic manner.

Based on the background and gaps of the research, this study aims to examine the development of the scientific literature on the relationship between financial literacy and household debt by emphasizing the behavioral and socioeconomic factors that affect it during the period 2020–2025. The research was conducted using a bibliometric approach to articles indexed in the Scopus database with the help of Bibliometrix (RStudio) and VOSviewer software. In particular, this study aims to identify publication trends, map scientific collaboration networks, analyze keyword linkages, and explore dominant themes that develop in the study of financial literacy and household debt behavior. The bibliometric approach was chosen because it is able to provide a systematic picture of the conceptual structure and intellectual development of a research field based on quantitative and visual analysis of scientific publication data.

This research is expected to make a theoretical and practical contribution. Theoretically, this study contributes to enriching the development of financial literacy studies by presenting a comprehensive mapping of the relationship between financial literacy, behavioral factors, and socioeconomic dynamics in the context of household debt. In addition, this study also expands the discourse on the importance of integrating behavioral approaches and digital technology in contemporary financial literacy studies. Practically, the results of the research are expected to be the basis for governments, educational institutions, the financial sector, and policymakers in designing financial education programs that are more contextual, inclusive, and based on community needs. This research is also expected to be able to encourage cross-border research collaboration and the development of strategies to increase household financial resilience to reduce the risk of over-indebtedness in the future.

THEORETICAL REVIEW

Financial Literacy and Household Indebtedness Behavior

Financial literacy is a key factor in making household debt decisions. Individuals who have a good financial understanding tend to be more careful in managing financial obligations and avoid impulsive use of debt. In the context of Singapore, (Fong, 2025) suggests that a high level of financial literacy correlates with ownership of complex assets and a tendency to pay debts on time. Conversely, low literacy can increase the likelihood of using debt without careful planning (Fong, 2025).

This is also reflected in the findings (Kurowski, 2021) which highlights that during the COVID-19 crisis, households with low financial literacy experienced a higher vulnerability to over-indebtedness. This impact arises due to a lack of understanding of debt risk and difficulties in developing medium- to long-term financial strategies.

The Role of Socio-Economic and Demographic Factors

Socioeconomic factors such as income, education level, age, and gender contribute to variations in financial literacy and debt behavior. In a society-based study of developing countries, it was found that low-income and poorly educated groups are more likely to experience debt problems, due to limited access to adequate financial information (Siyal et al., 2024).

The same research also revealed that gender and religiosity can play a role as moderator variables. For example, individuals with high levels of religiosity tend to have a more conservative preference for the use of debt, as long as it is supported by adequate financial understanding (Siyal et al., 2024).

Personality, Materialism, and Financial Risk

(Cude et al., 2020) It shows that psychological characteristics such as materialism and impulsivity are positively correlated with consumptive behavior and the use of high-cost debt.

In a study of Iranian households, they found that emotionally unstable (neurotic) personalities and high consumptive values increase the likelihood of unhealthy credit use. These findings confirm the importance of including personality variables in financial literacy and debt studies.

Financial Literacy and Digital Economy

Advances in digital technology create new opportunities as well as challenges in financial decision-making. In the context of rural households in China, (Hu & Liu, 2025) suggests that the digital economy increases household participation in risky assets, but the effect is highly dependent on the level of financial literacy. Without the ability to navigate digital information and risks, this engagement has the potential to increase financial losses.

The study also concluded that financial literacy plays a mediating role in the relationship between digital technology adoption and financial risk-taking. Highly literate individuals are able to access, understand, and use digital information effectively to support sound financial decision-making (Hu & Liu, 2025).

METHODOLOGY

This study adopts a Systematic Literature Review (SLR) approach combined with bibliometric analysis to examine the development of the literature on financial literacy and household debt, with an emphasis on behavioral and socioeconomic factors. This approach is used to map the conceptual structure, scientific collaboration network, and keyword linkages in the publication range from 2020 to 2025 (Hu & Liu, 2025);(Fong, 2025).. The data source is derived from two credible international scientific databases, namely Scopus and the Web of Science (WoS), which provide rich and structured publication metadata for bibliometric analysis purposes. Articles included in this study were selected based on inclusion criteria, namely articles in English, published in peer-reviewed journals, open access, and relevant to the topic of financial literacy and household debt. Meanwhile, conference articles, editorials, and publications that do not relate the two main concepts are excluded from the analysis (Siyal et al., 2024).

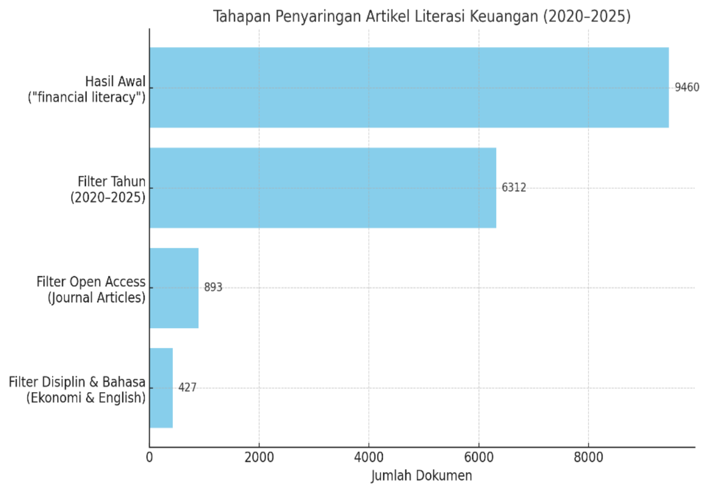


Figure 1. Visualization of the Scopus database filtering process

The data search process was carried out using the main keyword "financial literacy". Initial search results yield thousands of documents from different types of publications and year of publication. The screening stage was carried out in stages based on the publication time range of 2020–2025, the type of scientific article document, open access, the fields of Economics, Econometrics, and Finance, and the use of English, so that 427 articles were obtained as the final data of the research. All bibliographic metadata is then exported in CSV format for further analysis. To ensure transparency and accountability of the research, the entire article selection process, documentation of analysis parameters, and bibliometric export results are stored in digital format.

Bibliometric analysis was carried out using two main software, namely VOSviewer and Bibliometrix through RStudio. VOSviewer is used to build a visualization of keyword co-occurrence relationships, co-citation, bibliographic coupling, as well as a collaborative network of authors and institutions. Meanwhile, Bibliometrix and Biblioshiny were used to extract descriptive statistics of publications, analyze thematic evolutions, compile a map of conceptual structures based on Multiple Correspondence Analysis (MCA), and identify literature developments based on the author's year, country, and productivity (Aria et al., 2023).

The next stage is a thematic analysis of the results of bibliometric mapping which is then synthesized narratively to build a conceptual framework regarding the relationship between financial literacy, socioeconomic factors, and household debt behavior. This combination of SLR and bibliometric approaches allows the research not only to present publication trends, but also to identify dominant themes, intellectual structures, and future research opportunities more comprehensively.

RESULTS AND DISCUSSION

Main Information

A bibliometric analysis of 427 scientific articles published during the period 2020 to 2025 reveals a dynamic development of the literature in the field of financial literacy and household debt. Despite the decline in the annual growth rate of -4.68%, the publication quality indicator still showed good performance. The average age of the document is relatively young (2.38 years) and the average citation rate of 11.16 per article reflects that the literature in this field is still very relevant and widely referenced in the current academic discourse (Fong, 2025); (Kurowski, 2021).

From the content aspect, the articles reveal the diversity of study focuses through the use of keywords by the author. There were 1,167 keywords explicitly defined by the author, showing the breadth of scope and multidisciplinary approach in discussing the topic of financial literacy and debt. Terms such as "financial literacy", "debt behavior", "household decision-making", and "socioeconomic context" reflect how complex the issues are discussed. In addition, the *Keywords Plus* system used by the database also added an additional 70 keywords obtained through reference analysis, helping to enrich the identification of hidden themes that may not have been directly mentioned by the author but are conceptually relevant.

In terms of scientific involvement, 1,130 authors were involved in the published analysis. Each article is written by three authors on average, with about 25% involving cross-border cooperation. This high level of collaboration indicates an exchange of global perspectives, which enriches understanding of the relationship between financial literacy and debt management in various cultural and social contexts. For example, the difference in approach between households in Singapore(Fong, 2025) and rural areas in China (Hu & Liu, 2025) It is a reflection on the importance of context in financial literacy research.

Overall, these results show that the study of financial literacy and household debt develops in the midst of an interdisciplinary approach, involving economic, psychological, behavioral, and social perspectives. These findings not only strengthen the conceptual basis in academic research, but also provide valuable input for policymakers and financial practitioners, particularly in developing financial education strategies based on socio-economic behaviors (Siyal et al., 2024); (Tao et al., 2024).

Thus, it can be concluded that the study of financial literacy and household debt is not only developing in the number of publications, but also in terms of depth of content, breadth of reference, and network of researcher collaboration. These findings provide a strong foothold for the preparation of conceptual maps and the formulation of more integrative and cross-disciplinary directions for further research.

Here is table 1. Key data recapitulation visualization

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2020–2025
Sources (Journals, Books, etc.)	165
Documents	427
Annual Growth Rate %	-4.68
Document Average Age	2.38
Average citations per doc	11.16
References	21,374
DOCUMENT CONTENTS	
Keywords Plus (ID)	70
Author's Keywords (DE)	1,167
AUTHORS	
Authors	1,130
Authors of single-authored docs	51
AUTHORS COLLABORATION	
Single-authored docs	55
Co-Authors by Doc	2.98
International co-authorships %	24.82
DOCUMENT TYPES	
Article	427

In addition, it was found that the publication's annual growth rate showed a negative value of -4.68% during the period 2020 to 2025. This figure shows that the number of new publications each year has decreased on average in the last five years. However, these results do not necessarily signal a decline in interest or urgency towards the topic of financial literacy, but rather reflect natural fluctuations in research and publication trends. This decline is likely influenced by a variety of factors, such as a shift in scientific focus to new issues (e.g. ESG, digital finance, or AI technologies), the impact of the COVID-19 pandemic that slowed global research productivity at the beginning of the decade, as well as the rigorous selection of data in this study that included only English-language, open-access, and relevant articles in economics and finance.

Therefore, although there has been a slight decrease in the growth in the number of publications quantitatively, the quality and collaboration in research remains high. These findings confirm that the topic of financial literacy and household debt remains an important position in the contemporary scientific landscape, with strong support from collaborative networks between researchers across countries and disciplines.

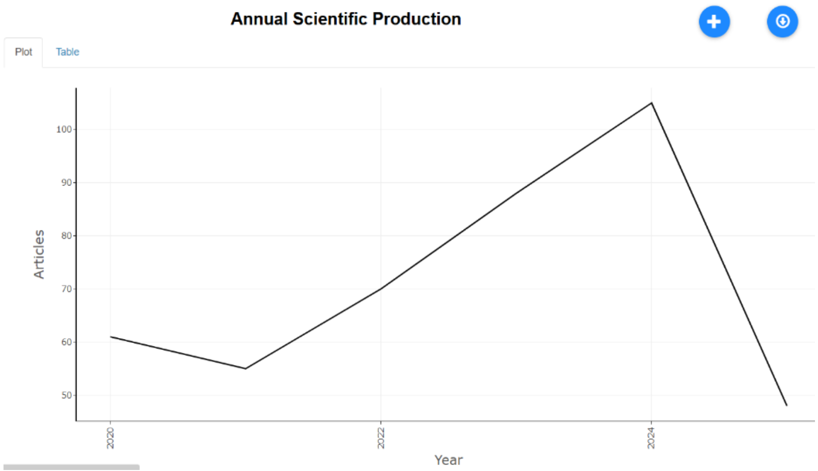
Number of Publications Each Year

Figure 2 of the "Annual Scientific Production" graph illustrates the number of scientific articles published each year related to the topic of financial literacy and household debt during the period 2020 to 2025. At the beginning of the period, precisely in 2020, there were around 61 articles published. However, in the following year (2021), this number decreased to around 55 articles, which was most likely influenced by the impact of the COVID-19 pandemic on academic productivity and global research activities.

Entering 2022, there has been a significant increase in the number of publications, reaching around 70 articles. This trend continues with increasing consistency until it reaches its peak in 2024, where the number of published articles reaches more than 100 documents. This surge reflects the increasing concern of academics for the importance of financial literacy in the context of household financial management, especially post-pandemic.

Nevertheless, this trend does not continue in 2025. The data shows a sharp decline in the number of publications, with only about 47 articles recorded. This decline also affected the annual growth rate which became negative, which was -4.68%. However, this decline does not necessarily reflect an overall decline in academic interest, as it could be due to limitations in data processing in the current year or a shift in research focus to new issues such as ESG, digital finance, or financial technology.

Figure 2. Key data recapitulation visualization



Source: *Output Biblioshiny*

Thus, despite fluctuations in the number of publications, in particular a sharp decline in 2025, in general the trend over the past five years shows increased attention to the topic of financial literacy and household debt, especially during the transition and post-pandemic recovery.

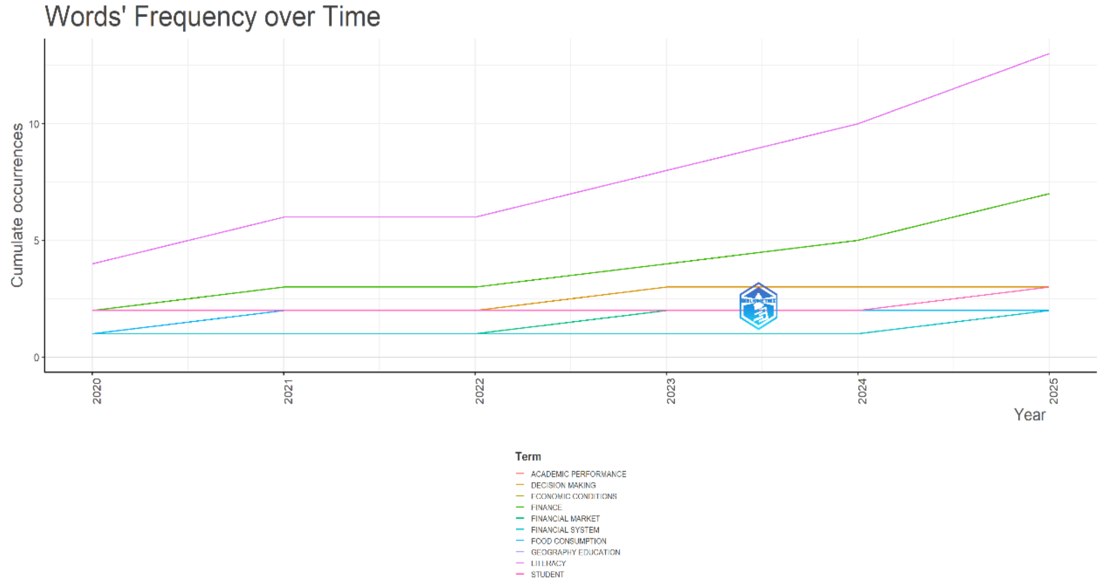
As seen in Figure 3, the graph "Words' Frequency over Time" illustrates the development of the cumulative frequency of keywords used in scientific publications related to the topic of financial literacy during the period 2020 to 2025. Each line on the graph represents a single thematic keyword that appears in academic articles, and reflects the level of relevance and direction of development of the research focus over time.

The most prominent keyword throughout the period was "literacy", which saw a significant increase from about four occurrences in 2020 to more than eleven times in 2025. This surge shows that the concept of literacy, especially financial literacy, is increasingly becoming the center of attention in academic discourse, along with the increasing need for people to understand and manage financial aspects in daily life.

In addition, the term "finance" also shows a steady growth trend, with an increase in frequency from year to year indicating a greater focus of research on financial aspects in general. Keywords such as "decision making", "economic conditions", and "financial system" also increased, underlining that behavioral dimensions, macroeconomic conditions, and financial system structures are also considered as important contexts in the study of literacy and household debt.

Meanwhile, some keywords such as "academic performance", "student", and "geography education" have relatively low emergence rates and tend to be stagnant over the past five years. This shows that although formal education and student population remain part of the literature, it has not yet become the main focus in the financial literacy discourse related to the dynamics of household debt.

Figure 3. Visualization of Words' Frequency over Time



Source: *Output Biblioshiny*

Thus, the graph reflects a shift in research interest towards a more applicative and contextual direction, with an emphasis on financial literacy and decision-making skills in practical life, compared to formal education-based approaches.

Production of Scientific Articles by Country

The visualization of the world map on the "Country Scientific Production" graph shows the geographical distribution of scientific contributions related to financial literacy and household debt during the period 2020 to 2025. The darker blue color represents the country with a higher number of publications. Overall, the United States dominates the number of scientific articles in this field, with more than 70 publications, followed by the United Kingdom, China, and other European countries. Meanwhile, developing countries such as Indonesia, India, and Pakistan also showed increased contributions, with Indonesia recorded contributing more than 25 scientific articles during the analysis period.

The dominance of these countries is in line with previous research. (Lusardi & Mitchell, 2023) noted that the United States is a pioneer in the development of a policy-based financial literacy framework. In Asia, studies by (Hu & Liu, 2025)) shows that financial literacy has an important role in directing household financial decisions, especially in the context of the digital economy in rural China. In the Southeast Asian region, (Fong, 2025) found that financial literacy combined with the digital financial system significantly improved the quality of household financial behaviour in Singapore.

In terms of individual contributions, the most prolific writer in this field is Enkeleda Lulaj, who consistently writes about economic well-being, household financial governance, and the implementation of financial literacy in developing countries. His research highlights the relationship between financial literacy, verified financial statements, and financial strategies in supporting the circular economy in the small and medium business sector (Lulaj et al., 2023). This contribution strengthens the direction of global research that places financial literacy as an important pillar in supporting household economic resilience.

Based on the results of the visualization of the "Country Scientific Production" map, Indonesia is recorded as one of the developing countries with a significant level of scientific contribution in the study of financial literacy and household debt during the period 2020 to 2025. The blue color that is quite intense in Indonesian territory indicates a relatively high number of publications, which is estimated to be more than 25 scientific articles published in the five years. This shows that the issue of financial literacy is increasingly receiving serious attention in the Indonesian academic environment, both in the realm of higher education and economic and social research institutions.

Indonesia's contribution is inseparable from the increasing awareness of the importance of household financial management, especially in facing the challenges of the digital economy, access to online loan services, and the increasing phenomenon of over-indebtedness among urban people and millennials. Previous studies corroborate these findings. For example, research by (Lulaj et al., 2023) highlighting the importance of a transparent financial reporting system and strong financial literacy as instruments to support economic resilience in the small business sector, which is also relevant in the context of Indonesia's household economy. On the other hand, (Hu & Liu, 2025) In his study in China, it shows that financial literacy is an important link between the use of digital technology and smart financial decision-making in rural areas, a condition that is also widely encountered in various regions of Indonesia.

In addition to quantitative contributions, publications from Indonesia also show collaborative trends, both at the national and international levels. Several publications originating from Indonesian authors are recorded to involve collaboration with institutions from Europe and East Asia, indicating the beginning of the formation of cross-border research networks. The most dominant themes in publications from Indonesia include Islamic financial literacy, debt behavior among students and young families, and the integration of financial literacy education in school and higher education curricula. Research by (Siyal et al., 2024) (Siyal et al., 2024), although focusing on Pakistan, underscores the importance of religiosity and convenience of access factors in the use of dimensional credits which are also very relevant in the social and cultural context of Indonesia.

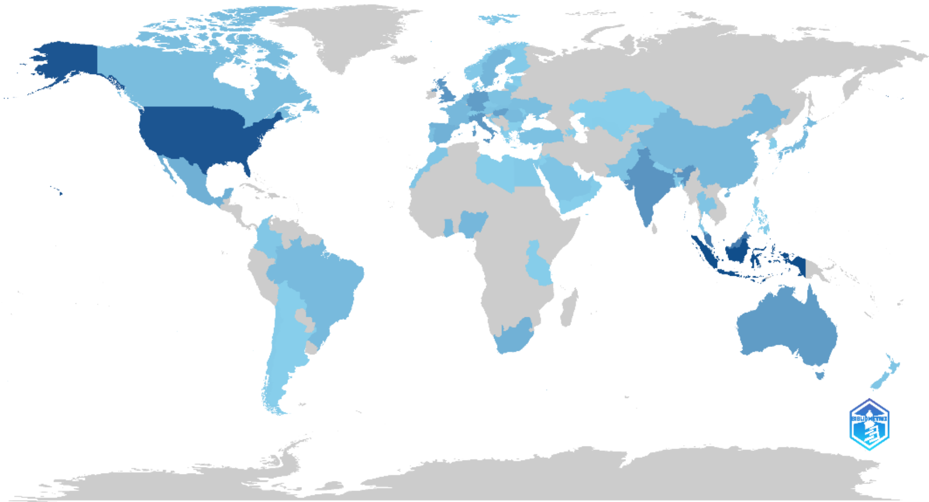


Figure 4. Country *Scientific Production Visualization*

Thus, it can be concluded that Indonesia occupies an important position in the global scientific map related to financial literacy, and has great potential to continue to strengthen its academic contribution through contextual, collaborative, and sustainable approaches.

Table 2 provides further details that support information from the previous map regarding the number of scientific publications on financial literacy in different countries.

Table 2. Visualization of the Number of Scientific Publications

Country	Frequency	Country	Frequency	Country	Frequency
INDONESIA	127	SLOVAKIA	14	AZERBAIJAN	3
USA	119	TURKEY	13	CYPRUS	3
MALAYSIA	78	AUSTRIA	12	DENMARK	3
INDIA	55	CROATIA	12	OMAN	3
UK	53	PAKISTAN	12	PHILIPPINES	3
ITALY	52	POLAND	12	SOUTH KOREA	3
AUSTRALIA	48	LITHUANIA	10	ISRAEL	2
GERMANY	47	SAUDI ARABIA	10	LIBYA	2
HUNGARY	44	THAILAND	10	TANZANIA	2
MEXICO	29	MOROCCO	9	UGANDA	2
SOUTH AFRICA	28	NEW ZEALAND	9	UZBEKISTAN	2
SPAIN	28	UNITED ARAB EMIRATES	9	ARGENTINA	1
NETHERLANDS	26	ALBANIA	7	BOLIVIA	1
SWEDEN	23	BANGLADESH	7	BULGARIA	1
NIGERIA	22	COLOMBIA	7	GREECE	1
CHINA	21	CZECH REPUBLIC	7	JORDAN	1
FRANCE	21	NORWAY	7	KAZAKHSTAN	1
GHANA	21	EGYPT	6	LATVIA	1
BRAZIL	19	SWITZERLAND	6	MOLDOVA	1
JAPAN	19	ESTONIA	5	YEMEN	1
ROMANIA	19	FINLAND	5		
BELGIUM	18	SINGAPORE	5		

CANADA	17	CHILE	4
UKRAINE	16	NEPAL	4
PORTUGAL	15	QATAR	4

Research in the range of 2020 to 2025 shows that financial literacy plays an important role in shaping household debt management behavior. (Calcagnini et al., 2024) developed a dynamic model that links financial literacy to household financial vulnerability, and found that households with low financial literacy tend to react more strongly to income shocks, thereby increasing the risk of being trapped in the debt cycle. These findings are reinforced by research (Chetioui et al., 2024) which concludes that financial literacy not only has a direct impact on financial well-being, but is also mediated by behavioral and socioeconomic factors, especially in the context of developing countries.

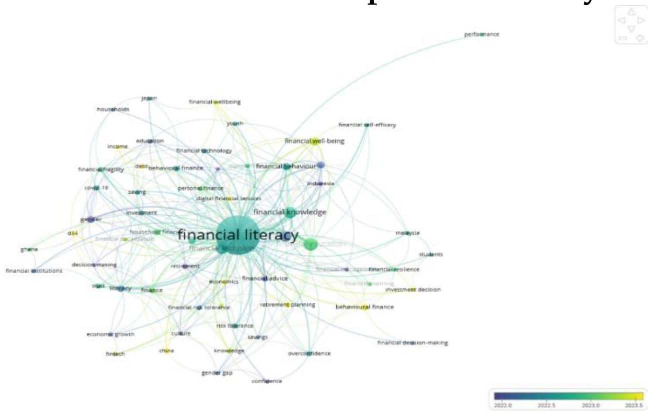
In crisis situations such as the COVID-19 pandemic, financial literacy plays a protective role against the risk of over-indebtedness (Kurowski, 2021). Meanwhile, a study by (Hu & Liu, 2025) in rural China, highlighting the role of financial literacy in improving household readiness for the digital economy, as well as encouraging more informed financial risk-taking through social interaction and strengthening market information.

Overall, the findings provide a solid basis that strengthening financial literacy is crucial in helping households avoid debt bondage, especially in the face of economic uncertainty and structural changes such as financial digitalization,

Relationship Between Keywords

The analysis using the following VOSviewer application presents a visual representation of the keywords that appear most often in scientific publications with the theme of financial literacy:

Figure 5. Visualization of Relationships Between Keywords



In Gaambar 5 The results of keyword mapping using VOSviewer generated through VOSviewer analysis of financial literacy publications from 2020 to 2025 show that the term *financial literacy* is the main center in the structure of the literature analyzed. The large size of this word node suggests that the topic is the dominant focus in various scientific publications. *Financial literacy* was found to be strongly correlated with other terms such as *financial knowledge*, *financial education*, and *financial inclusion*, which indicates that financial literacy is not only seen as a basic understanding, but also as a means to expand access to financial services and encourage wise financial decision-making. In addition, its relationship with keywords such as *risk tolerance*, *retirement planning*, and *financial resilience* confirms that financial literacy plays a role in building long-term resilience to financial risks.

This visualization also shows the connection with behavioral concepts such as *debt behavior*, *financial behavior*, *self-efficacy*, and *Saving*, which underscores the psychological dimension of financial literacy. This is in line with the findings (Cude et al., 2020), which states that personality and financial knowledge influence a person's tendency to behave financially risky. The emergence of terms such as *COVID-19* and *financial fragility* in this network strengthens the position of financial literacy as a protection in the midst of crisis conditions, as evidenced by studies (Kurowski, 2021), which found that individuals with higher levels of debt literacy tend to be more resilient to economic pressures during the pandemic.

In addition, the presence of country names such as *Indonesia*, *Malaysia*, *Ghana*, and *China* shows that the study of financial literacy is increasingly raised in the context of developing countries. As shown by (Hu & Liu, 2025), financial literacy in rural China helps households in making financial decisions amid the development of the digital economy. On the other hand, (Fong, 2025) found that technology-based financial education in Singapore has a positive impact on household financial management behaviour. These findings reinforce that financial literacy is a cross-issue and regional topic that is interconnected in micro and macroeconomic development.

The following is a follow-up analysis related to the distribution of keywords processed using R-Studio software.

Figure 6. BECOME CLOUD

Figure 6 of the word cloud bibliometric results shows the most frequently used keywords in publications regarding financial literacy and household debt during the period 2020 to 2025. The terms displayed with the largest size, such as "literacy", "finance", and "academic performance", reflect the high frequency of their occurrence in the literature, indicating that the main focus of research is largely directed at the relationship between financial understanding and educational attainment.

This is in line with studies (Chetioui et al., 2024), which shows that financial literacy contributes to improving household financial well-being, including through education. In addition, the emergence of words such as "decision making", "financial market", and "financial system" reinforces that financial literacy is also very relevant in the context of individual behavior in making economic decisions and interacting with the financial system at large (Fong, 2025).

The word cloud also highlights keywords related to social welfare such as "economic conditions", "food consumption", and "energy poverty", which shows that financial understanding also influences decisions on basic consumption and access to basic necessities. In this case, (Tao et al., 2024) It proves that financial literacy can help households reduce the burden of energy poverty. The emergence of the words "geography education" and "student" shows that many studies target the student population, both as recipients of literacy programs and as research subjects, as discussed in the study (Hu & Liu, 2025) about the influence of financial education on risk management skills.

Furthermore, the presence of terms such as "covid-19", "epidemiology", and "financial risks" indicates that financial literacy is also studied in the context of economic resilience during a crisis. (Kurowski, 2021) shows that a good level of debt literacy is able to help individuals and families avoid adverse financial decisions during the pandemic. Thus, this word cloud underlines that financial literacy is a broad concept and cross-sectors involving behavioral, social, educational, and economic dimensions in a comprehensive scientific study unit.

Keyword Frequency Development

The following visualization shows the change in keyword usage frequency over time based on the results of the VOSviewer analysis.

Figure 7. Keyword Frequency Development

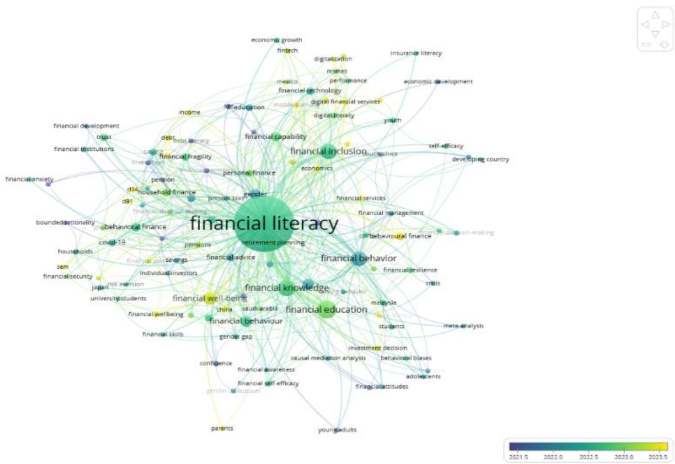


Figure 7 above shows a map of the keyword network generated through bibliometric analysis with the help of VOSviewer, especially in the form of temporal visualizations (*overlay visualization*) shown the conceptual structure of the literature on the theme of financial literacy during the period 2020 to 2025. Terms *financial literacy* being the main node with the largest size, signifying that this concept is a central focus in the scientific publications being analyzed. These keywords are closely related to terms such as *financial knowledge*, *financial education*, and *financial behavior*, which illustrates that financial literacy is not only understood as the accumulation of knowledge, but also as a foundation in shaping wise financial behavior (Fong, 2025).

In addition, connectivity with keywords such as *retirement planning*, *financial well-being*, and *risk aversion* It shows that financial literacy plays an important role in long-term financial planning and strengthening household economic resilience. This is in line with the findings (Hu & Liu, 2025), which states that financial literacy can increase the involvement of people, particularly in rural areas, in digital financial services and help them make more informed risk decisions.

The emergence of terms such as *students*, *adolescents*, *young adults*, and *gender gap* indicates that the focus of the research is also directed at demographic aspects and financial access gaps, especially in the younger generation. In this case, (Cude et al., 2020) It shows that individual character and financial knowledge are closely related in shaping risky financial behavior tendencies. On the other hand, keywords such as *covid-19*, *crisis*, and *financial fragility* reflects that financial literacy is increasingly relevant in the context of economic uncertainty. (Kurowski, 2021) emphasized that understanding debt can provide protection for households from financial downturn during crisis times.

The relationship with concepts such as *behavioral finance*, *trust*, *financial inclusion*, and *bounded rationality* also shows that financial literacy is not only a technical aspect, but also includes behavioral dimensions, trust, and structural influence. Overall, this visualization underscores that financial literacy is a multidimensional issue that continues to grow and is interconnected with various social, economic, and psychological aspects.

Author Network Mapping

Bibliometric visualization of the results of the analysis using VOSviewer which describes the network of authors based on co-occurrence and citation rates in financial literacy publications during the period 2020–2024

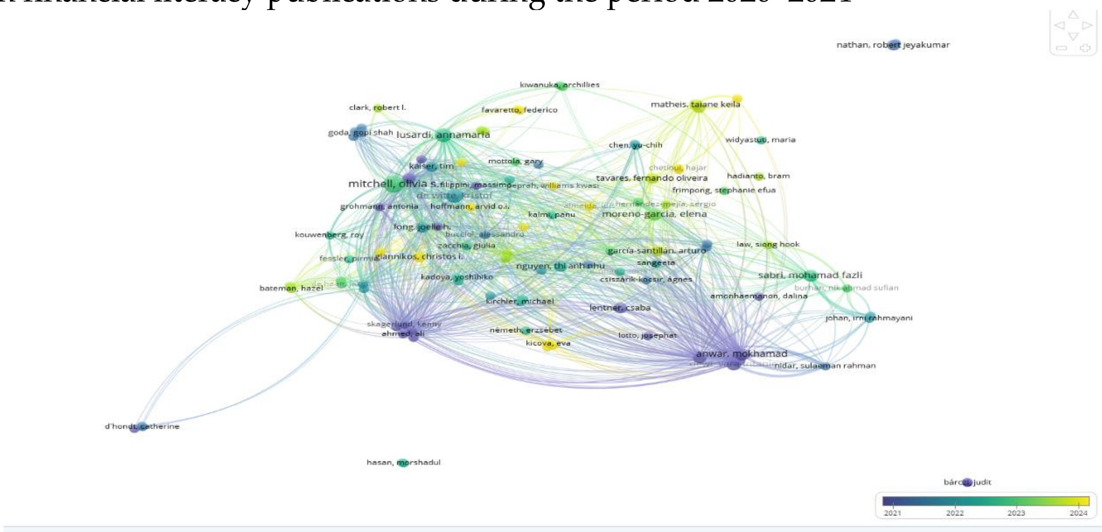


Figure 8. Author Network

Figure 8 of the VOSviewer analysis above shows a map of collaboration between authors in financial literacy and household debt research from 2021 to 2024, as shown by the color gradation from blue (early year) to yellow (most recent year). The larger the author's name appears, the higher his contribution in the number of publications, while the connecting lines between the names represent the cooperative relationship between the authors in the joint publication. The most dominant figures in this network are Olivia S. Mitchell and Annamaria Lusardi, two widely known researchers in the field of financial literacy. Mitchell appears to have forged many collaborations with other authors such as Antonia Grohmann, Joelle H. Fong, and Massimo Filippi, which confirms his position as a central researcher in the global collaborative network. This is in line with the notes of Lusardi and Mitchell (2020) who show their role in developing an understanding of the influence of financial literacy on long-term financial planning.

In addition, a number of researchers who are active in recent publications (marked with light yellow-green, especially in 2023–2024) such as Talane Keila Matheis, Elena Moreno-García, and Mohamad Fazli Sabri show a tendency for recent research that focuses more on the context of developing countries. Names from the Southeast Asian region, such as Irni Yunita Johan and Maria Widyastuti, indicate the growing contribution of Indonesian academics in financial literacy research, especially on the themes of financial inclusion, debt behavior, and financial education.

On the other hand, some researchers such as Catherine d'Hondt and Robert Jeyakumar Nathan appear to be in a position more detached from the network center, indicating their involvement in research projects that are more independent or regionally specific. The development of collaborative networks, which have seen increasing density in the last two years, reflects increasing global awareness and cooperation in responding to financial literacy challenges, especially in the face of economic crises and digital transformation.

CONCLUSIONS AND RECOMMENDATIONS

The results of a systematic literature review of 427 scientific publications for the period 2020–2025 show that financial literacy has an important role in shaping household financial behavior and preventing excessive debt. Bibliometric analysis shows that financial literacy is closely related to financial knowledge, financial education, financial resilience, and household debt management behavior. The development of the research theme also shows the expansion of the focus of the study towards contemporary issues such as the COVID-19 pandemic, digital financial technology, financial inclusion, and social inequality based on age, gender, and education level. Indonesia is the country with the highest publication contribution, while international collaboration continues to grow and strengthen the position of financial literacy as a multidisciplinary global issue.

Based on these findings, financial literacy programs need to be designed more contextually according to the socio-economic conditions of the community, especially for financially vulnerable groups.

The use of digital technology and fintech also needs to be optimized to increase financial literacy and inclusion while still paying attention to digital financial risk education. In addition, follow-up research is recommended using a longitudinal approach and strengthening cross-border collaboration to expand the development of financial literacy and household debt behavior studies in the future.

FURTHER STUDY

Further research is recommended to develop a longitudinal study on the influence of financial literacy on household debt behavior in various economic conditions, including the digital era and post-global crisis. In addition, future research needs to integrate behavioral, psychological, gender, and financial technology (fintech) variables to gain a more comprehensive understanding of household financial decision-making. It is also important to strengthen cross-border research collaboration to broaden academic perspectives and enrich the development of more contextual and adaptive financial literacy models.

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