

Insights of Financial Literacy: A Bibliometric Analysis of Literature and Future Research Work

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Abstract:

This study analyses and summarizes financial literacy (FL) within the Scopus database through bibliometric analysis, identifying key factors, most prolific authors, top countries, keywords, co-occurrence, and prominent theories in the field. The author analysed 122 articles from 2008-2023 using various methods, including citation networks, co-citation analysis, and visualization techniques, using VOS viewer software and R programming language. The study highlights significant advancements in FL literature over the past few decades, using relational approaches like co-occurrence, co-citation, keyword, and Bradford analysis to identify new subjects for future research. The study subject is explored through extensive literature, utilizing bibliometric to gain insights. This comprehensive analysis of Scopus papers provides a targeted exploration of research themes, establishing a robust theoretical foundation for future research. Future researchers can utilize systematic literature review, meta-analysis, science mapping, and performance analysis to create a theoretical framework. This study aids researchers in identifying new research areas, sources, and collaboration opportunities, providing valuable insights for novices and future researchers, particularly in examining government financial literacy initiatives. This study enhances understanding of the FL phenomenon, collaboration networks, and the advantages and disadvantages of working across disciplines, borders, or with business entities.

Keywords: Financial literacy, financial attitude, financial knowledge, financial education, financial behaviour, and bibliometric analysis

JEL Classification Codes: G53, D83, D14, G51, I22

Paper type Literature review

1. Introduction:

Following the financial 2007-08 financial crisis, financial literacy (FL) and its many interpretations gained traction. The 2008 crisis has taught the globe that there is no such thing as free money and that every foolish action, particularly those affecting finances, comes at an excellent cost for the future. After the global financial crisis, the role of financial technology and FL was emphasized. At that time, the financial industry brought new technology into the market. The Global Financial Literacy Excellence Centre (GFLEC) report (2019) shows that only 24 % of the Indian adult population is financially literate. World economies are volatile, and no one can predict how economies will run for a long time. People must be able to understand financial concepts and instruments in an increasingly risky and globalized environment. FL has been more prominent in recent years and is a significant global problem. Financial literacy is the *“knowledge and understanding of financial concepts and skills, confidence and motivation to spread on such knowledge and understanding to make an effective decision and to enable participation in economic life”* (Atkinson & Messy, 2012). Lusardi and Mitchell (2006) define FL as applying basic financial knowledge (FK) and the capability to do basic calculations. FL-related research focuses on analyzing the results of FL, factors affecting FL, and the impact of FB and financial education on FL. Beal and Delpachitra (2003) asserted in their study that FL improves with income and work background, and their lack of financial skills will negatively impact their future lives. Financial information is more operative when modified to specific groups' needs (Clark, 2023). RBI has conducted a continuous awareness drive for financial literacy, i.e., it conducts Financial Literacy Week every year from February 16 to 23. At the present time, various digital technologies play a pivotal role in financial education and improve to FL. Despite advancements in education, technology, and advanced financial products and services, there is a vast gap in measuring the FL. Therefore, it is very necessary to study and assess the FL levels among people. FL is also important for personnel saving

management. Therefore, it is necessary to understand financial concepts and instruments in an increasingly risky and globalized environment.

In the previous year, there has been as an increased interest in this area. There is a high correlation between financial education and positive financial behavior. Good FL leads to positive FB. (Amagir et al., 2019) designed a “save wise” program for high school students in Nigeria and found that these programs improve students' financial knowledge and awareness, and their programs help them make spending decisions, purchase, and save. (Rai et al., 2019) find three significant factors to examine FL: –FK, financial attitude (FA), and financial behavior (FB). They also find that women have less knowledge compared to men. In concert with the findings. (Beal & Delpachitra, 2003) In Australia, students are risk-averse and less knowledgeable, and these studies disclosed that FL increases with working experience and income. Mielitz et al., (2018) determined the helpfulness of a financial education course in expanding FK. They found that FL was higher among individuals who utilized financial tools than among those who did not. Sangeeta et al., (2022) observed the determinants of FL. They explained that FB and FA have noteworthy influence on FK and FW and also suggested that schools, colleges, and governments should weigh in on building the attitude and FB for the security of society. Lusardi, (2019) studied financial education evidence and its implications. They suggested that the big three questions should be revised, and the education program's curriculum creates a rigorous problem for students. Akpene Akakpo et al., (2022) used a Biprobit model, and their result explained that FL improves financial inclusion. financial institutions should provide clients with basic financial knowledge and help them promote personal financial money management skills. Xiao et al., (2022) analyzed a review of financial capability. They Find that FW is an essential component in financial capability. They suggested various future directions on financial capability, like differences in consumer background and new variables like financial behavior, knowledge, and opportunity. Nuris et al., (2023) discussed in their studies and found that FA, FK, and financial socialization are the factors that affect FB. Baker et al., (2019) examined behavioral biases in FL and found differences in biases like emotional biases, disposition effect, and self-attribution among Indian investors. This study revealed that the disposition effect and herding biases are negatively associated with FL, and their evidence suggests that young investors are more secure about their returns. Banthia & Dey, (2022) examined three variables using the structural equation modeling approach in Odisha. They find that FA and FK are momentous displays of FL levels, but these two variables are negatively related. N. Garg & Singh, (2018) discussed FL among youth and found that females hold less FK, FB, and inclusive FL than males. They also concluded that there is an interdependence among FK, FB, and FA. Adil et al., (2023) study shows that FL helps investors trust, prompting their behavior in the stock market. Trust in financial institutions enriches individual intention to invest in the financial market (Cheng et al., 2023). The study indicated that underestimation in FL negatively influences stock participation in the financial market and suggested that the government improve the stock market system and try to safeguard small and medium-sized investors. Heinberg et al., (2014) conducted five steps to planning success and found that videos can more strongly motivate action than written narratives. Their study also supports the idea that financial education programs can change investor behavior. Ergün, (2018) conducted a study in eight European nations and found that male students know more about personal FK than female students, and realistic data through abundant data support these findings (Atkinson & Messy, 2012; Baker et al., 2019; N. et al., 2018; Klapper & Lusardi, 2020; Kumar et al., 2023; Lusardi, 2019; van Rooij et al., 2011; Xiao et al., 2022). This study focused on FW and found that FW can improve families' socioeconomic status. This research also reflects that financial well-being (FW) and FL are positively related and also suggests that education programs, workshops, seminars, tutorials, and awareness camps may improve the FW of individuals, and this study is supported by (Iramani & Lutfi, 2021; Sangeeta et al., 2022; Stolper & Walter, 2017; Vieira et al., 2021; Xiao et al., 2022) carried out a study in Germany and found that there is a substantial difference in demographic allies and national economies and also found that most of the study and research on FL has been conducted in United states.

Globally, evidence on FL demonstrates the presence of the problem. Poor FB troubles individuals and the global economies (L. et al., 2015). Stolper & Walter, (2017) examined The Big Three measure question used to assess FL among individuals in twenty-two single-country studies. However, greater levels of aptitude were found in upper-income nations, and only 35% of total people answered all three questions correctly on average, compared to 13% in middle-income countries and 4% in transition countries. (Stolper & Walter, 2017). de Clercq, (2019) used the big three OECD-mandated questions to study FL among adults in 30 countries and found that the majority of respondents had the highest level of education in Brazil, Croatia, South Africa, and Hungary and recommended that the current set of FK questions be re-examined. OECD, (2022) used three variables—FA, FK, and FB—as a mixed measure of FL to examine financial education levels across 30 countries. The results showed that overall FL levels are low. Hogarth & Hilgert, (2002) conducted a survey on FL in the US and asked a question covering savings and general financial management topics. They found that consumers have more knowledge about mortgages and less knowledge about savings. India's average score is 13.7 in financial literacy compared to 13.8 for countries in the (Fessler et al., 2020). The average FK score in an OECD INFE study is 4.2, and regrettably, India's score is lower than the 5.2 average for the 14 countries

included in the study. (OECD, 2022). Beal & Delpachitra, (2003) studied university students in Australia and discovered that FL may increase with income and work experience and that financial skill education is deficient in the classroom.

1.1. Objective of the study:

The research objective is to report the current status of financial literacy, with the following question defining the scope of the study.

1. To identify the most prevalent publishing trends in financial literacy in terms of journals, authors, affiliated countries, and institutions.
2. To identify the keywords most used in financial literacy in selected papers.
3. To identify the most used research tools and theory.
4. To identify the Gap and discuss the future direction.

To answer the above research objective, the rest of this paper is designed as follows: Section 2 discusses the methodology and performance analysis part. Section 3 contains the bibliometric analysis of the papers. Section 4 shows the discussion and result. Section 5 shows the conclusion, and the last, section 6, covers the future scope and limitations.

Table 1. The most recognized theory in the financial literacy domain

Sr.no	Theory	Meaning	Studies
1	Theory of Planned Behaviour	Lcek Ajzen's Theory of Planned Behavior (TPB) suggests that individual decisions can be predicted by their intention to engage in that behavior.	(Adil et al., 2023; Akhtar & Das, 2019; BILAL et al., 2021; Dewi, Febrian, Effendi, & Anwar, 2020; Mouna & Anis, 2017)
2	Theory of consumer socialization	This theory tells us that consumers can learn from a social agent, and there are three processes involved in this theory: modeling, reinforcement, and social interaction.	(Goyal & Kumar, 2021)
3	Social learning theory	Albert Bandura's social learning theory states that learning happens through observation, imitation, and modeling and is impacted by aspects including attention, motivation, attitudes, and emotions.	(Chawla et al., 2022; Goyal et al., 2022)
4	Social network theory	This theory believes in the concept of interpersonal communication. This theory focuses on transforming information, building relationships, and behavioral change.	(Bönte & Filipiak, 2012; Hermansson et al., 2022)
5	Goal setting theory	Goal-setting theory is founded on the premise that creating defined and quantifiable objectives is more successful than setting vague goals. In his essay "Towards a Theory of Task Motivation and Incentive," Edwin A. Locke established this hypothesis in 1968.	(Amagir et al., 2018, 2019; Vijay Kumar & Senthil Kumar, 2023)

6	Self-determination theory	Self-determination theory suggests that individuals are more motivated to act when they believe their actions will impact the outcome and explores how to strengthen this sense.	(Deci & Ryan, 1990)
7	Human capital theory	This theory believes in the principle of hard work and perseverance. According to this theory, human value depends on their hard work, skills, and experience.	(Mielitz et al., 2018)
8	Trans theoretical model	The Trans Theoretical Model (TTM), developed by Prochaska and DiClemente in the 1970s, emphasizes individual decision-making and intentional change in smoking cessation.	(Dewi, Febrian, Effendi, & Anwar, 2020; Goyal et al., 2022; Heinberg et al., 2014; Vijay Kumar & Senthil Kumar, 2023)

2. | Research Methodology

2.1. Databases, criteria for inclusion, and keywords

This review paper used data from the Scopus database, a top-impact journal repository, retrieved in July 2023 for bibliometric analysis. The search was conducted on July 10, 2023, and information from 2008 to 2023 was examined. The author selected this time frame because various significant government initiatives were implemented after the global financial crisis in 2007-08. The author selected the paper with indexing of the Australian Business Dean Council (ABDC), Social Science Citation Index (SSCI), and Scopus indexing in this review paper. From 2007 to 2008, the economic recession spread worldwide, especially in the United States. Millions of people lost their homes, savings, and jobs. The terms "financial attitude," "financial knowledge," and "financial education" are most frequently used synonymously in the literature (Goyal & Kumar, 2021). This paper includes social science, economics, econometrics, finance, and business management articles. Research Articles, review papers, and book chapters are considered in this study. In addition, the author did not consider a conference paper. Additionally, only the English language was considered. A string of appropriate search terms ("financial literacy" and "financial knowledge" and "financial attitude" or "financial behavior") was used to search the papers in title, abstract, or keywords, yielding 212 initial results. The articles were screened based on reading abstracts, titles, and keywords. Articles that addressed financial literacy (FL) or financial knowledge (FK), financial attitude (FA), and financial education, as well as those that were closely related to ideas like financial capability, were selected for final analyses to guarantee the inclusion of pertinent articles, and duplicate articles were then eliminated. 122 articles are analyzed for review. In this review paper, we followed the preferred reporting items for systematic reviews (PRISMA) Statement. Figure 1 represents the inclusion, keywords, criteria, and final keyword result.

2.2. Bibliometric Analysis Method:

Bibliometric analysis is a highly used approach to trace knowledge behavior in research. Bibliometrics analysis is a quantitative technique that allows examining and analyzing a study in a particular field. The author found that there are several types of systematic review papers like structured review, framework-based, hybrid-narrative framework, theory-based review, and meta-analysis (G. Garg et al., 2023; Goyal & Kumar, 2021; Kaiser et al., 2022; Nuris et al., 2023; Paul et al., 2021; Paul & Bhukya, 2021; Santini et al., 2019; Vijay Kumar & Senthil Kumar, 2023; Xiao et al., 2022) and review aiming for model/framework development. The author relied on VOS Viewer and Biblioshiny by R studio for citation, co-citation, keyword analysis, Bradford law, word cloud, and three-field plot analysis (Aria & Cuccurullo, 2017; Goyal & Kumar, 2021; Paul & Bhukya, 2021; Vijay Kumar & Senthil Kumar, 2023). Bibliometric analysis were reported in previous studies in the area of finance, such as financial literacy (Goyal & Kumar, 2021; Ingale & Paluri, 2022; Vijay Kumar & Senthil Kumar, 2023), Garg et al. 2023) and artificial intelligence and machine learning in finance (Goodell et al., 2021). The author used science mapping analysis with the help of (Donthu et al., 2021). Citation, co-occurrence, bibliographic coupling, co-citation, co-word, and Co-author analysis are performed in science mapping analysis.

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and regist

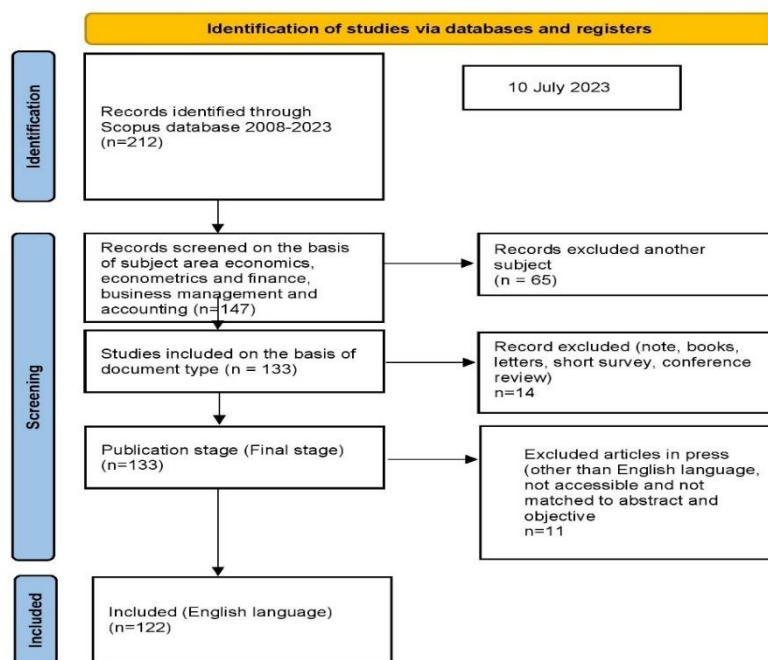


Figure 1. PRISMA flow chart as of 10 July 2023. These data are taken from only Scopus

Table 2. Overview of extant reviews and empirical studies in the financial literacy field (2008- 2023)

Authors	Title of the study	Findings	Type of Study
(Goyal & Kumar, 2021)	Financial literacy: A systematic review and bibliometric analysis	The researcher analyzed 502 peer-reviewed journal papers published between 2000 and 2019 to identify influential work, intellectual structure, and research needs on financial literacy.	Review + bibliometric analysis
(Goyal et al., 2022)	The psychological antecedents of personal financial management behavior: a meta-analysis	The findings emphasize the significance of self-control in PFMB and point to the necessity for additional investigation of the relationship between psychological characteristics and PFMB by sub-group meta-analysis.	Meta-analysis
(Amagir et al., 2018)	A review of financial-literacy education programs for children and adolescents	This paper pointed out that financial literacy education programs can improve children and adolescents' financial education and attitude.	Review
(Nuris et al., 2023)	Factors Influencing Financial Behavior of Undergraduate Students: A Systematic Review	The study reveals that financial attitudes, knowledge, socialization, self-efficacy, and threats significantly influence	Systematic review

		the financial behavior of undergraduate students.	
(Arora & Chakraborty, 2023)	Role of financial literacy in investment choices of financial consumers: an insight from India	The result highlighted that financial literacy is positively associated with investment choices and people who have higher financial knowledge are more likely to invest.	Review
(Ergün, 2018)	Financial literacy among university students: A study in eight European countries	This study supports that educational activity may improve students' financial knowledge at university.	Review
(Santini et al., 2019)	The antecedents and consequences of financial literacy: a meta-analysis	These findings suggest that educational level, financial attitude, financial knowledge, financial behaviour, gender, household income, and investments influence financial literacy.	Meta
(Bajaj & Kaur, 2022)	Validating multi-dimensional model of financial literacy using confirmatory factor analysis	The survey also found that people's financial literacy levels varied greatly based on their age, gender, marital status, region of residence, qualification, monthly family income, and work status.	Empirical
(Lusardi, 2019)	Financial literacy and the need for financial education: evidence and implications	This review paper analyzed the big three questions that are developed by OECD, INFE and found that financial literacy is low among the young and there is a vast gender gap around the world.	Review + conceptual
(Engels et al., 2020)	Financial literacy and fraud detection	This study found that there is a positive relationship between financial literacy and fraud detection. People have more financial knowledge and are more likely to detect fraud.	Empirical + conceptual
(Carpena & Zia, 2020)	The causal mechanism of financial education: Evidence from mediation analysis	In this paper, the author found that financial education must increase financial knowledge.	Empirical approach
(Morgan & Long, 2020)	Financial literacy, financial inclusion, and savings behavior in Laos	This study suggests that financial literacy positively affects financial inclusion and savings.	Conceptual
(Xiao et al., 2022)	Financial capability: a systematic conceptual	In the contemporary context, financial competence programs are becoming increasingly	review

	review, extension, and synthesis	significant when people have more choices and responsibilities for financial decisions. The study emphasizes the necessity of conducting primary research to comprehend how retail banking providers can help customers become more financially capable by offering them services and goods.	
(Cossa et al., 2022)	Financial Literacy Environment Scan in Mozambique	This study found that education level influences a person's financial attitude and behavior, and individuals with higher financial knowledge are better able to manage their finances.	descriptive
(Karakurum-Ozdemir et al., 2019)	Financial Literacy in Developing Countries	This study explained that financial literacy increases with income, and income is correlated with income.	descriptive

Source: compiled by authors

Table 3. A summary list of models, methods, and sample size in the financial literacy domain (2008– 2023)

Authors	Title	Method and model	sample size
(Mielitz et al., 2018)	Financial literacy education in a work release program for an incarcerated sample	Ordinary least square method	75
(Cucinelli et al., 2019)	Financial Literacy: The Role of the Local Context	Multiple regression model	945
(Singh & Malik, 2022)	An empirical analysis on household financial vulnerability in India: exploring the role of financial knowledge, impulsivity, and money management skills	Fractional regression model	11234
(Khan et al., 2022)	Financial capability as a function of financial literacy, financial advice, and financial	Regression	2600
(Adewumi, 2022)	Financial literacy and Business Risk-taking among business start-up Students in Nigeria	Kaiser & Meyer – olkin test & Bartlett test and regression method	145
(Vieira et al., 2021)	Financial well-being of the beneficiaries of the minha casa minha vida program: Perception and antecedents	Descriptive statistical analysis, confirmatory factorial analysis, and multiple linear regressions.	561
(Iramani & Lutfi, 2021)	An integrated model of financial well-being: The role of financial behaviour	Structural equation modeling	1158

(Robson & Peetz, 2020)	Gender differences in financial knowledge, attitudes, and behaviors: Accounting for socioeconomic disparities and psychological traits	Ordinary least square method	3502
(Aydin & Akben Selcuk, 2019)	An investigation of financial literacy, money ethics, and time preferences among college students:	A structural equation modeling	1443
(Dogra et al., 2023)	Antecedents of the Youngster's Awareness About Financial Literacy:	A structural equation modeling	647
(Bajaj & Kaur, 2022)	Validating multi-dimensional model of financial literacy using confirmatory factor analysis	CFA & Factor analysis	536

Source: compiled by authors

Performance analysis

2.3. Publication trend:

Figure 2 describes in more detail the increase in available publications based on Scopus data regarding FL between 2007 and 2023. It appears to track the number of publications each year, with the y-axis representing the number of publications and the x-axis representing the years. There is a slow initial growth in the number of publications, with minimal activity seen until 2013, when only 1 publication was recorded, and from (2014 to 2018) a gradual increase was noted, rising from 2 publications in 2014 to 8 publications in both 2016 and 2017. This phase reflects a steady growth phase. In the next phase, from (2018 to 2019): The number of publications experienced a sharp increase, jumping to 15 in 2018 and peaking at 24 in 2019. This period marks the highest publication output. After 2019, there is some volatility in publication numbers. The graph shows a dip to 19 in 2020, a slight recovery to 22 in 2021, and a decline to 17 in 2023.



Figure 2: publication year-wise.

Note: This figure signifies the publication trend of review papers between 2007 and 2023.

Table 4: Top journals for financial literacy

Source (journal)	TP	TC	FIN ANC E	Scopus and ABDC ranking	Publisher	Impact factor/cite score
journal of family and economic issues	4	223	✓	Q2 & B	Springer	2.5

International journal of bank marketing	8	203	X	Q2 & A	Emerald	5.3 & 10.3
journal of financial counseling and planning	11	129	✓	Q2 & C	Springer	.46
International journal of consumer studies	3	67	X	Q1 & A	Wiley-Blackwell	9.9 & 10.3
institutions and economies	2	61	✓	Q4	University of Malaya	.17
journal of behavioral and experimental finance	3	60	✓	Q1 & A	ELSEVIER	6.6 & 9
journal of consumer affairs	4	53	X	Q1 & A	Wiley-Blackwell	2.8 & 4.3
research in international business and finance	2	34	✓	Q1 & B	Elsevier	6.5/9.3
review of behavioral finance	2	34	✓	Q3 & B	Emerald	4.5/2.0
international journal of social economics	2	25	✓	Q2 & B	Emerald	1.9/3.1
citizenship, social and economics education	3	22	✓	Q2	SAGE.	2.1
managerial finance	5	10	✓	Q 3 & B	Emerald	1.6/3.1
international handbook of financial literacy	2	9	✓	X	Springer	
public finance quarterly	3	3	✓	Q4	State Audit Office of Hungary	NA/.17
universal journal of accounting and finance	2	2	✓	NA	Horizon Research	5.18/7.30
journal of risk and financial management	2	1	✓	Q3 & B	MDPI	2.8/.56
problems and perspectives in management	2	1	X	Q2 & NA	Business Perspectives	NA/1.54
finance: theory and practice	2	0	✓	Q3	Financial University under The Government of Russian Federation	NA/1.3
journal of eastern european and central asian research	2	0	X	Q3	Institute of Eastern Europe and Central Asia	NA/.25

Note: ABDC= Australian Business Deans Council 2022 journal ranking list. TP= total publications. TC =total citations in this table. Journals are presented according to total citations.

2.4. Leading journals for studies on financial literacy

Table 4 represents the leading journals for FL. Journal of Family and Economic Issues and International Journal of Bank Marketing are the two most prestigious journals in terms of citations, with 223 and 203 citations, respectively. However, the Journal of Financial Counselling and Planning and the International Journal of Bank Marketing are the leading two journals in terms of publication, with 11 and 8 publications, respectively. Impact factor and cite score evaluate the citation impact of journals. Impact factor measures a two-year window, while cite score measures a four-year window. The impact factor is a measurement of clavate using Web of Science data, while the cite score is measured by Elsevier using Scopus. This table shows that international journals of consumer studies have the highest impact factor and cite scores, respectively, of 9.9 and 10.3.

2.5. Country-wise publication

figure 3 demonstrates that the United States has the most articles published on FL, totaling 23, as mentioned in Figure 3. India is on the second list in the number of articles, and Malaysia is on the third list. The United States is the first in the number of citations, while India is the second in the number of citations.

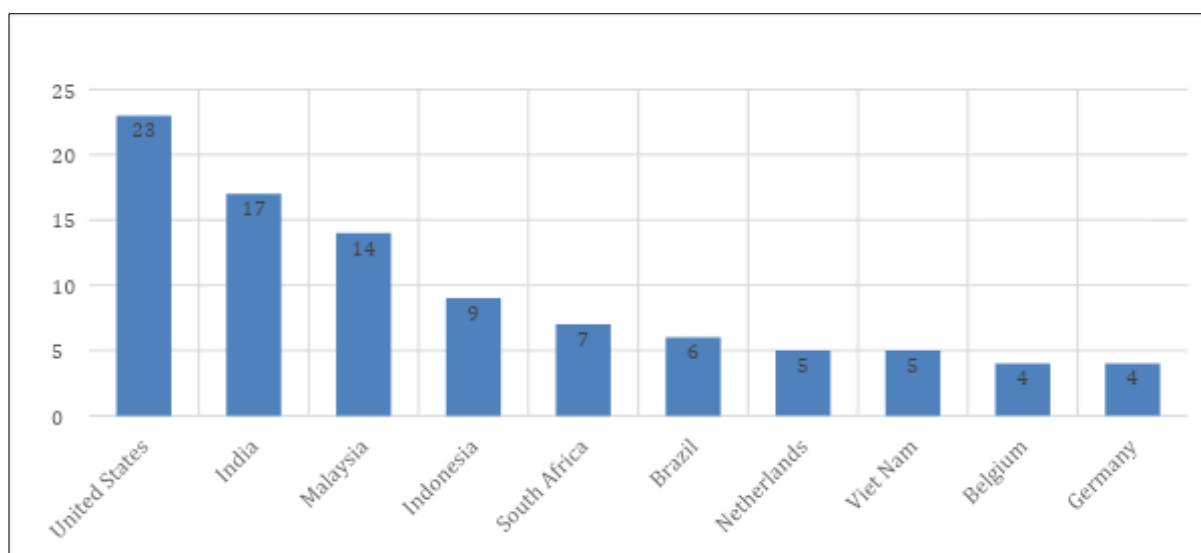


Figure3. Country wise publication

2.6. Document by top sponsored institutions

Figure 4 represents documents by top-sponsored institutions. DFG, the German Research Foundation, and the Ministry of Finance are the top two sponsored institutions in terms of publication. The prospective researcher may help these institutions to submit article publishing prices.

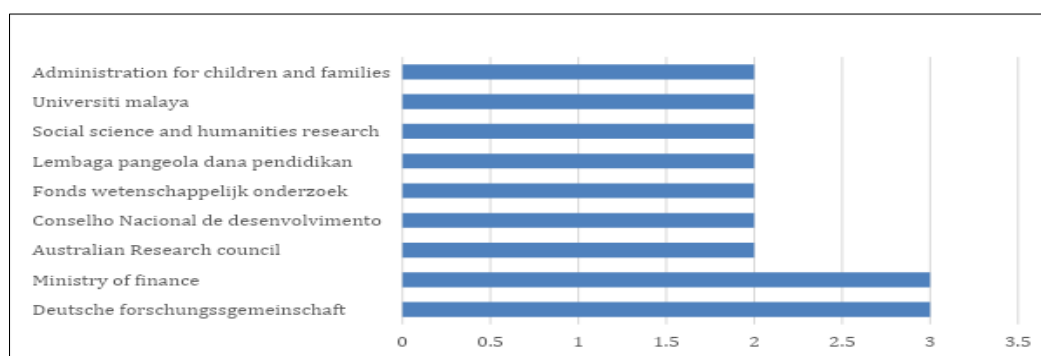


Figure4. A document by funding sponsor institutions

2.7. Collection of sample size in the previous research

This graphic illustrates frequency and sample size in research investigations. The graphic illustrates the sample size, with intervals on the x-axis and frequency on the y-axis. The two predominant frequencies are seen in the lower range (101-200) and the upper range (exceeding 2000), indicating that a substantial number of research uses either minimal or extensive sample sizes. A significant increase in research using sample sizes between 501 and 600 indicates a preference for this mid-range group. Frequencies decline for intermediate ranges, particularly in the periods 601-1000, indicating a reduced number of research using sample sizes within this range.

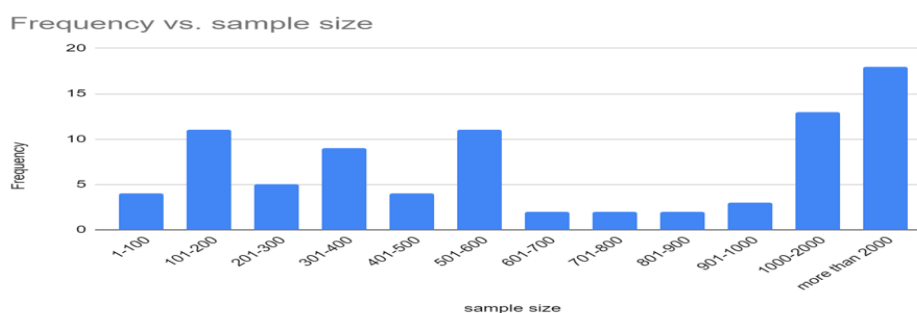


Figure 5: Collection of sample size in the previous research

3. Bibliometric analysis

Table 5. Top authors, Top organization, and Top country of research in financial literacy

Author	TP	TC	Institutions	TP	TC	country	TP	TC
(Stolper & Walter, 2017)	1	17	justus-liebig-universität gießen, licher straße 74, gießen, 35394, Germany	1	178	united states	23	437
(Henager & Cude, 2019)	2	9	philipps-universität marburg, am plan 1, marburg, 35032, Germany	1	178	Germany	4	331
(Gerrans et al., 2014)	1	9	school of psychology and social science, edith cowan university, joondalup, wa, Australia	1	92	India	17	212
(Devi et al., 2016)	1	8	uwa business school, university of western australia, crawley, wa, 6009, m250 35 stirling highway, Australia	1	92	Malaysia	14	189
(Vieira et al., 2018)	1	7	Indian institute of management Ahmedabad, india	1	82	Brazil	5	154
(Kaiser et al., 2022)	1	7	economics and finance, school of business, whitworth university, 300 w. hawthorne rd, weyerhaeuser hall 310c, spokane, 99251, wa, united states	1	78	Australia	3	100
(Rai et al., 2019)	1	7	financial planning, housing and consumer economics, university of georgia, 305 sanford dr., dawson hall, athens, 30602, ga, united states	1	78	Netherlands	5	96
(Adewumi, 2022)	1	6	federal university of santa maria, santa maria, brazil	1	74	Sweden	2	76
(Eniola & Entebang, 2017)	1	6	university of são paulo, são paulo, Brazil	1	74	United Kingdom	3	69
(Thaddeus et al., 2022)	1	6	humboldt-university of berlin and german institute for economic research (diw berlin), berlin, 10108, Germany	1	72	Rwanda	1	62
(G. Garg et al., 2023)	1	6	rukmini devi institute of advanced studies, Delhi, 110085, India	1	72	Viet Nam	5	58

(Riitsalu & Murakas, 2019)	1	57	university of koblenz-landau and german institute for economic research (diw berlin), landau, 76829, Germany	1	72	Estonia	1	57
(Morgan & Long, 2020)	1	55	German institute for economic research (diw berlin), kiel institute for the world economy (ifw kiel), humboldt universität zu berlin, berlin, 10108, Germany	1	64	Indonesia	9	57
(Kim et al., 2019)	1	53	montana state university and institute for labor studies (iza), bozeman, 59717, mt, united states	1	64	Japan	1	55
(Aydin & Akben Selcuk, 2019)	1	46	the george washington university school of business and nber, washington, 20052, dc, united states	1	64	China	2	54
(Muñoz-Murillo et al., 2020)	1	46	university of koblenz-landau, landau, 76829, Germany	1	64	Canada	3	46
(Yong et al., 2018)	1	45	department of business management, universiti malaysia sarawak (unimas), kota samarahan, sarawak, Malaysia	1	63	Colombia	1	46
(Loke et al., 2022)	3	41	development economics group, wageningen university, Netherlands	1	62	turkey	2	46
(Mouna & Anis, 2017)	1	34	university of groningen, Netherlands	1	62	Belgium	4	42
(Santini et al., 2019)	1	34	university of Rwanda, Rwanda	1	62	Hong Kong	2	38

Note: TC= total citations, TP= total publication. Here, authors, institutions, and countries are presented according to citation with the help of citation analysis.

3.1 Co-occurrence analysis

co-occurrence analysis is used to identify the most prominent themes in the subject area. The author described co-occurrence analysis using the VOS Viewer and identified 4 main clusters of FL literature, as shown in Figure 6. In the visualization theme, the central nodes are financial literacy, financial knowledge, financial attitude, and financial education, represented by larger circles. In the red cluster, the most focused on financial literacy and its effect on financial stress, retirement, and personal financial planning. In the yellow cluster, financial knowledge is the center point, and these clusters are related to financial attitude, financial behavior, and education. The blue clusters are centered around financial attitude and inclusion, while the green clusters are related to financial self-efficacy and well-being. The nodes' size indicates that these terms are the central points of the research area. Keyword network figures help the researcher recognize unfruitful research areas. The emergent themes in this area are financial inclusion, financial advice, financial capability, financial well-being, etc. The published work focused less on debt literacy, subjective financial well-being, working women, overconfidence, and debt literacy.



source: Author's compilation

3.2 Co-citation analysis:

Co-citation means the most cited reference in research articles. Each node denotes a reference that has been cited. Each node colon denotes a semantic grouping reference based on theme similarity. The degree of local citations is represented by the size of the nodes, with more prominent nodes reflecting more concentration of local citations. This analysis can be used to analyze the logical structure of a research field and the relationship among cited publications (Donthu et al., 2021). A total of 4 clusters are identified in co-citation analysis. Figure no 7 represents highly cited authors with the help of Vos Viewer based on citations with a threshold of a minimum of 15 citations. To determine the most significant authors on FL, the most cited author was Lusardi A. with 607 citations, followed by Mitchell o.s. with 299 citations. The other three authors that were cited the most are (Xiao et al., 2020)(169) citation), (Clark, 2023)(84 citations) and Serido j. (73 citations).



Figure7. Co-citation analysis

3.3 Keyword Analysis using Word Cloud

The authors described word cloud analysis using the Biblioshiny package of R Studio. Word cloud analysis provides the most influential topics and keywords used in publications in a text data set. The larger words represent higher occurrence. Figure 8 shows that Literacy, finance, knowledge, and the financial system are the most used keywords. It emphasizes the significance of financial education and training, particularly about the financial system, and accentuates the discipline's behavioral, social, and geographical aspects. The emphasis on distinct demographic groups, such as students, youth, and immigrant communities, indicates specialized research initiatives aimed at enhancing financial literacy across varied contexts.



Figure 8: Word cloud

3.4 Bradford law

The authors described Bradford's law using the Biblioshiny package of R Studio. Bradford's Law, which describes the statistical distribution of scientific or technical knowledge in a field, is depicted in Figure 10. A more comprehensive set of journals will have fewer publications on a given topic than the Bradford core, which is a small group of journals with the most. Samuel C. Bradford, a British librarian, drafted the law in 1934. In his 1933 citation study, Bradford noted the logarithmic distribution of papers. He discovered that the number of journals that published articles in a field was typically correlated with the quantity of pieces. Nevertheless, as the proportion increased, fewer journals were required to account for a certain percentage of publications. In the FL area, the Journal of Financial Counselling and Planning was discovered to be the most highly regarded journal.

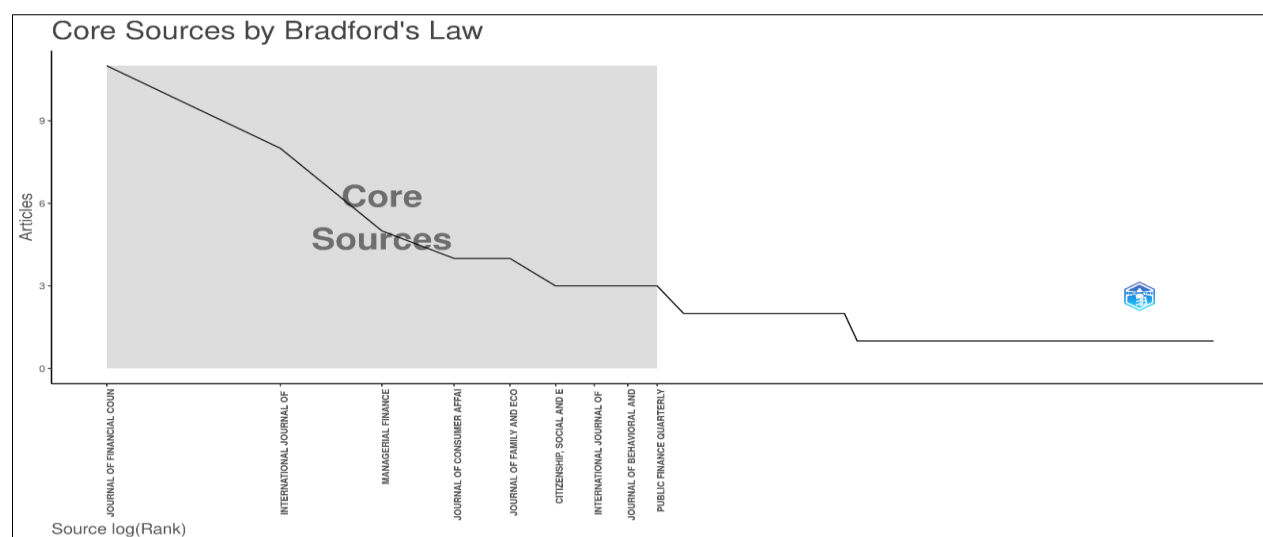


Figure10. Clustering through Bradford law

3.5 Lotka's Law

The authors described Lotka's Law using the Biblioshiny package of R Studio in Figure 11. Lotka's law explains the author's frequency of publication in any specific field. According to this law, averages of two research papers were published by articles in the FL domain. According to Lotka's Law, the number of authors who have one publication published is equal to $1/n^2$, the number of authors who have two publications published is equal to $1/n^3$, and so on. The number of authors who have published that quantity decreases exponentially as the number of articles rises. Social science, biology, physics, and other subject areas follow this rule. Anticipating this rule can measure new writers' and scientific groups' production. The author demonstrates the optimal fit for both a power law distribution with a dotted black line cut-off and a power law distribution with a solid black line.

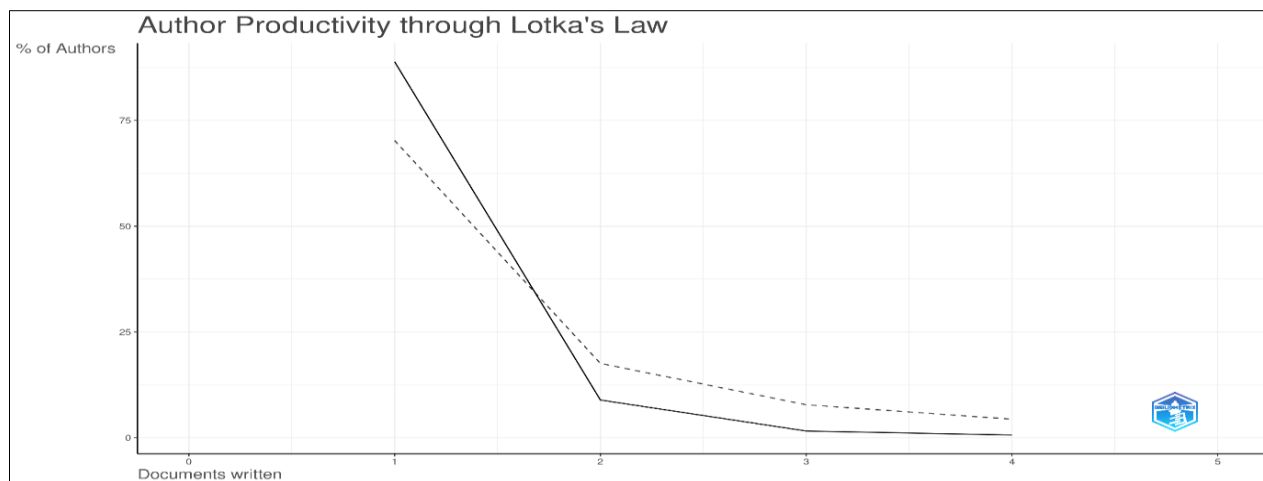


Figure 11. Author Productivity through Lotka's Law.

4 . Discussion and Results

In this paper, the author did a detailed bibliometric analysis and review of the FL field, representing 122 articles from 2008 to 2023. Based on this detailed review paper, the authors can say that FL has full-grown significantly in recent years. The publication trend shows that financial literacy is a growing phase and is now continuously upward-sloping. The Journal of Financial Counselling and Planning and the International Journal of Bank Marketing are the most prolific journals in the financial literacy area. (Dewi, Febrian, Effendi, Anwar, et al., 2020) is the top author in this domain. (DFG, German Research Foundation) Moreover, the Ministry of Finance is the top sponsored institution. This institute assists authors in providing article processing charges for publication. The United States of America, India, and Malaysia are the top country-wise publications in this subject area. Financial literacy, financial knowledge, and financial behaviour are the keywords most commonly used in FL literature. The previous author gave less attention to financial self-efficacy, financial management, debt literacy, financial satisfaction and financial advice. Regression analysis, program least square, and structural equation modelling are the most used research tools in this literature. Future researchers can also use Path analysis, Importance-performance matrix analysis, and factor analysis. The theory of planned behaviour (TPB) and social construction theories are the most used theories in this subject area. The keyword analysis suggests that future researchers focus on innumeracy in financial literacy, digital financial literacy, financial literacy and retirement planning, fintech and financial literacy, sustainable finance, financial decision-making, and behavioral economics, financial literacy of rural people, working culture in the field of financial literacy and the gender gap in financial literacy. These topics represent serious connections between financial literacy and broader socio-economic issues that merit further explanation. In fact, there is a clear need for scholars to boost understanding and application of financial literacy across diverse populations and contexts.

5. Conclusion

Financial literacy plays a significant role in accelerating the economic growth of economies. This detailed explanation describes the significant relationship between FL and economic development, emphasizing that mechanism, through FL, contributes to individual well-being and broader economic stability. Research tells that individuals with strong FL are more likely to engage in stock market investments and financial planning, enhancing their overall economic health and productivity. (van Rooij et al., 2011). Illiteracy leads to people to stress and debt constraints. People lack knowledge about basic financial products and services, and some of them are unable to use these types of services. The low level of financial literacy necessitates further exploration into the existing causes of illiteracy. Thus, unawareness of financial literacy and limited access to educational resources on financial literacy have encouraged the authors to review the literature. The author has been trying to attempt a comprehensive review of financial literacy for 15 years, using

preferred reporting items for systematic reviews for this review paper. This systematic approach ensures that the review is exhaustive and follows established standards for research findings. The theory of planned behavior (TPB) and the Trans theoretical model are still the most used theories and models in this study. The review analysis found that out of 122 articles, only two utilized qualitative methodologies, importance a prevalence of quantitative approaches in FL research. Bibliometric analysis helps the researcher to identify the most prominent authors, keywords, countries, organizations, and research journals (Aria & Cuccurullo, 2017; Goyal & Kumar, 2021; Paul et al., 2021). All these things are used in this current study. Bibliometric analysis can help in emergent propensities and outlines in the studied subjects. Based on the evidence from the various studies, the three major questions (compound interest, inflation, and risk diversification) are almost addressed in empirical studies. In this review paper, the author suggests to policymakers to improve financial literacy programs and a course that is taught in schools and colleges. These programs can help people gain basic knowledge about financial concepts and services. and future research work will be beneficial for the academicians and researchers working in this subject area. Government institutions or NBFCs offering financial awareness programs should be simple, concise, and easy to form. The author also suggested that Banks can also help people to provide basic financial skills when they are open to bank accounts. Here are some underexplored yet important theories for determining the intention to switch that should be used in future studies. The author recommended more research on the problems, challenges, unavailability, and difficulties of using financial products and services. The Ministry of Education, Central Bank, and other regulatory bodies should pay more attention to the detailed curriculum and strategy plan for the enhancement of the financial literacy of the people. FL leads to seven sustainable development goals: decreased poverty, increased well-being, higher quality of education, gender equality, economic growth, reduction in inequalities, and more responsible consumption and production. It demands intensive efforts from policymakers, makers, and researchers to prioritize FL initiatives that empower financial well-being.

6. Limitations and Future Research Directions:

Scholars, researchers, and legislators can benefit from this review paper. The field of FL research embraces massive promise for the future. This study comprises a review of 122 articles on financial literacy. The study's first and most important limitation is that it only looks at data from 2008 to 2023. Secondly, all the included articles in the paper are written in English and screened solely for content related to accounting, business management, finance, econometrics, and economics. The database was collected only from "SCOPUS," not from prominent databases like Web of Science, Elsevier, Google Scholar, etc. Using data from several sources could produce better outcomes. Future researchers may also use thematic analysis, meta-analysis corresponding analysis, and scientific mapping to find emerging sources in this field. The author found only two to three paper-related awareness and initiative programs for financial literacy in this review paper. Future researchers can also work on how these programs can be helpful for people or how these programs are effective in terms of knowledge and attitude of people. The keyword analysis suggests that future researchers focus on innumeracy in financial literacy, digital financial literacy, FL and retirement planning, fintech and FL, sustainable finance, financial decision-making, and behavioral economics, FL of rural people, working culture in the field of financial literacy and the gender gap in FL. When the author scanned through the literature, the author could not find a universal definition of FL; the author's findings are in line with the past literature on the definition of FL. (Cucinelli et al., 2019). Given this definition, FL can quickly have different meanings for different people. Finally, our publication analysis showed that the literature on financial literacy was constant or slow from 2015 to 2018. The literature realized the importance of momentum from 2019 to 2022, and this momentum revealed that financial literacy is an interesting and promising field. This surge is supported by (Goyal & Kumar, 2021; Vijay et al., 2023). Programs for financial education must be more focused on raising awareness and enhancing financial well-being. Financial illiteracy can be decreased with the aid of appropriate financial education programs that enhance money management abilities, encourage prudent financial behavior, and lessen impulsivity. This study is supported by (Sangeeta et al., 2022; Yew et al., 2017). In this review paper, most of the study was found to be based on primary data. The constraints of utilizing primary data include non-acceptability and limited applicability over a vast geographic region. The report recommends further investigation utilizing secondary data. Focus group research might be used to address these issues. Focus group studies provide valuable insights into participants' experiences and beliefs, making them ideal for qualitative research purposes. Future research can be conducted on literacy programs and how these programs affect people's behavior and attitude.

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