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(AIJBES)www.aijbbs.comEXPLORING THE INTEGRATION OF GENDER GAP AND
FINANCIAL LITERACY CONCEPT: A TREND PUBLICATIONSuziraha Dzulkepli^{1*}, Shariah Bagam Abdul Rahman², Mohd Afiq Ab Jalil³¹ Faculty General Studies and Foundation, University College of MAIWP International (UCMI), Batu Caves, Kuala Lumpur.Email: suziraha@ucmi.edu.my² Faculty of Management, Education and Humanities, University College of MAIWP International (UCMI) (UCMI), Batu Caves, Kuala Lumpur.Email: shariahbagam@ucmi.edu.my³ Faculty of Management, Education and Humanities, University College of MAIWP International (UCMI), (UCMI), Batu Caves, Kuala LumpurEmail: afiqjalil@ucmi.edu.my

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Abstract:

This bibliometric analysis investigates research trends and collaborative networks in the area of "Gender Gap and Financial Literacy," highlighting key findings and thematic progressions in the field. As financial literacy significantly impacts personal economic well-being, understanding gender disparities within this context has become increasingly relevant, especially amid global discussions on financial inclusion and gender equity. However, limited studies synthesize the broader scope of this research, revealing a gap in identifying collaborative patterns and major themes that shape academic discourse. This study addresses this by utilizing Scopus Analyzer and VoSviewer software to map the research landscape. From a dataset of 1,041 documents, keyword co-occurrence and co-authorship analyses were conducted to identify central themes, influential countries, and major keywords shaping the discourse. Results show a significant concentration on terms such as "financial literacy," "gender gap," and "financial inclusion," underscoring a central focus on gender disparities in financial knowledge and access. The United States, United Kingdom, and Australia emerged as leading contributors, with notable collaborative networks extending across diverse global regions. Furthermore, keywords related to health, social issues, and education, including "COVID-19," "inequality," and "higher education," indicate that global events and socioeconomic factors intersect substantially with financial literacy research. The findings emphasize a growing, interdisciplinary focus on gender and financial literacy, with increasing global collaboration aimed at advancing understanding and promoting gender-inclusive financial education. This study provides a comprehensive view of the research landscape, identifying

key areas for future investigation to address persistent gaps and enhance gender equality in financial literacy.

Keywords:

Gender, Gap, Financial, Literacy, Inclusion

Introduction

The gender gap in financial literacy is a well-documented phenomenon, with numerous studies highlighting that women generally exhibit lower levels of financial knowledge compared to men. This disparity is not merely a reflection of differences in personal characteristics such as education or income but is also influenced by broader economic and social environments. For instance, research using international OECD/INFE microdata indicates that the gender gap in financial literacy is more pronounced in developed countries, suggesting that societal factors play a significant role in perpetuating this divide (Cupák et al., 2018). Additionally, the financial decision-making dynamics within households, where decision-making is often not centralized in one spouse, further complicate the understanding of this gap (Raquel Fonseca et al., 2010).

Several studies have attempted to dissect the underlying causes of this gender gap. One significant finding is that psychological traits and gender stereotypes contribute to the observed differences in financial literacy. For example, gender stereotypes related to household finance are already evident among teenagers, indicating that these biases are ingrained early in life (Driva et al., 2016). Moreover, the measurement methods used to assess financial literacy may also influence the perceived gap. When advanced techniques like item response theory (IRT) are employed, the gender gap appears in only about half of the sample, compared to a conventional approach where the gap is observed in a majority of cases (Ooi, 2020). This suggests that traditional measurement methods may underestimate women's financial knowledge, thereby inflating the gender gap.

Overall, these insights underscore the complexity of the gender gap in financial literacy and highlight the need for multifaceted approaches to address it effectively.

Literature Review

The concept of financial literacy is increasingly recognized as essential for economic empowerment, particularly for addressing gender gaps in financial inclusion. Rinaldi et al., (2024) underscore that financial education enhances financial knowledge, as demonstrated in their study involving university students. Despite improved literacy, the study reveals a persistent gap in perceived financial self-efficacy between genders, suggesting that knowledge alone may not fully address the gender disparity in financial confidence. Similarly, Razzaq et al., 2024 highlight the limited financial access for Pakistani women compared to men, showing that socio-economic barriers often limit the effectiveness of general financial education for women. These findings collectively indicate that while financial literacy programs have merit, they may need to include targeted strategies to address gender-specific barriers effectively (Rinaldi et al., 2024; Razzaq et al., 2024; Zahid et al., 2024).

Research exploring the socio-economic dimensions of financial literacy reveals further complexity in the gender gap. Razzaq et al., (2024) employ logistic regression to analyze the gender disparity in financial inclusion within Pakistan, attributing part of the gap to entrenched

societal norms that limit women's financial participation. The study emphasizes that educational and employment opportunities have a less substantial impact on women's financial inclusion than they do for men, suggesting systemic obstacles beyond individual financial literacy. This sentiment is echoed by Zahid et al., 2024, who found that despite advancements in financial knowledge among women, significant barriers in accessing financial services remain, particularly in male-dominated societies. Together, these studies emphasize that simply enhancing financial literacy is insufficient for women in environments where social norms and structural barriers persist (Razzaq et al., 2024; Zahid et al., 2024; Mohammed & Katare, 2024).

The role of financial literacy in financial decision-making is also scrutinized with a focus on gender. Amaroh et al., (2024) examine how financial literacy and trust influence investment decisions among Indonesian women, particularly in Sharia-compliant financial instruments. Their findings suggest that increased financial literacy can improve women's investment decisions, but only when accompanied by trust in financial institutions and financial spirituality, a cultural value factor. This contrasts with Rinaldi et al., (2024), who report that financial literacy alone did not fully resolve self-efficacy issues in financial matters among Italian students, underscoring the importance of context in understanding gender-related financial behavior. Amaroh et al., (2024) thus propose that additional factors like cultural beliefs might need to be integrated into financial education to better address gender disparities (Amaroh et al., 2024; Rinaldi et al., 2024; Zahid et al., 2024).

Studies further analyze gender-based financial disparities from a societal perspective, particularly regarding societal norms that value men's financial success over women's social status. Mohammed & Katare (2024) explore how arranged marriages in India reinforce gender-based financial inequalities by prioritizing male economic success over women's financial autonomy. Their research finds that while grooms are selected based on economic potential, brides are chosen for social status, leading to limited financial empowerment for women. This reflects a broader cultural trend that constrains financial independence for women. These cultural aspects align with findings by Amaroh et al., (2024) on the financial spirituality orientation in Indonesia, suggesting that societal norms, whether through marriage practices or financial decision-making, heavily influence gender disparities in financial autonomy (Mohammed & Katare, 2024; Amaroh et al., 2024; Razzaq et al., 2024).

Studies on gender disparities in financial literacy indicate that socio-economic, cultural, and psychological factors play key roles in shaping these differences. Espinoza-Delgado & Silber, (2024) found low financial literacy and significant gender gaps in Argentina and Paraguay, driven by differences in financial knowledge and education (Espinoza-Delgado & Silber, 2024). In the UK, Conte et al., (2024) observed that accounting for "Do not know" survey responses reduced perceived gender differences, suggesting that survey methods may overestimate gender gaps due to response hesitancy (Conte et al., 2024). In Nigeria Olanrewaju & Aluko, (2024) noted that digital finance access is limited for women, largely due to digital literacy barriers and infrastructure deficits (Olanrewaju & Aluko, 2024).

Research from China by Preston et al., (2024) highlighted that cultural and regional factors impact gendered financial literacy gaps, emphasizing the need for culturally tailored interventions (Preston et al., 2024). Hoechenberger et al., (2024) identified gender differences in cryptocurrency literacy, with women tending to rate their knowledge lower despite comparable skills, pointing to self-perception barriers (Hoechenberger et al., 2024). Similarly,

Lamboglia & Stacchini, (2024) found that in European countries with higher social mobility, financial literacy is higher among women and disadvantaged groups, suggesting social mobility may support financial knowledge acquisition (Lamboglia & Stacchini, 2024).

These findings collectively indicate that financial literacy initiatives must consider not only educational and economic disparities but also cultural and psychological factors to support women's financial empowerment. Inclusive, targeted programs addressing both knowledge and confidence barriers are essential for meaningful progress toward gender parity in financial literacy and financial inclusion Lamboglia & Stacchini, (2024); Espinoza-Delgado & Silber, (2024); Conte et al., (2024); Olanrewaju & Aluko, (2024); Preston et al., (2024); Hoechenberger et al., (2024); Lamboglia & Stacchini, (2024)).

Research Question

- What are the research trends in gender gap and financial literacy?
- Who and how much has been published in the area with regard to the authors?
- Who is the top 10 authors based on citation by research?
- What are the popular keywords related to the study?
- What are co-authorship countries' collaboration?

Methodology

Bibliometrics involves gathering, managing, and analyzing bibliographic data from scientific publications Alves et al., (2021); Assyakur & Rosa,(2022); Verbeek et al., (2002). This includes general statistics like the journals where studies are published, the year of publication, and primary author classifications Wu & Wu, (2017), as well as advanced techniques like document co-citation analysis. Conducting a successful literature review requires an iterative approach, starting with identifying relevant keywords, followed by a thorough search and analysis to create a comprehensive bibliography for reliable results Fahimnia et al., (2015). In this study, we focused on top-tier publications, as these offer crucial insights into the theoretical frameworks driving the field's development. To ensure data accuracy, we used the SCOPUS database Al-Khoury et al., (2022); di Stefano et al., (2010); Khiste & Paithankar, (2017) and included only peer-reviewed journal articles, intentionally excluding books and lecture notes to maintain quality (Al-Khoury et al., 2022; di Stefano et al., 2010; Khiste & Paithankar, 2017). Scopus, chosen for its extensive coverage, provided publications from 1978 through December 2023, forming the basis for our analysis.

Data Search Strategy

Advanced searching is a method used to refine and focus search results in databases like Scopus, ensuring precision and relevance in academic research. The search string provided in Table 1 is: `TITLE ((gender AND gap OR inequality OR divide OR disparity) AND (financial AND literacy OR education)) AND (LIMIT-TO (LANGUAGE, "English"))`. This string uses Boolean operators such as "AND" and "OR" to combine keywords systematically, targeting papers with terms related to "gender gap," "inequality," "divide," or "disparity," alongside "financial literacy" or "education" in their titles. It also limits results to English-language publications, making the search both targeted and accessible. This structured approach helps retrieve only the most relevant studies, which is especially important for bibliometric analyses or systematic reviews.

Table 2 elaborates on the inclusion and exclusion criteria applied after using the search string. The inclusion criterion specifies that only papers written in English are considered, while non-English papers are excluded. This ensures consistency in the language of analysis and aligns with the research focus. By combining the search string's precision in Table 1 with the clear selection criteria in Table 2, the study achieves a well-defined and relevant dataset for the topic "Gender Gap and Financial Literacy: A Trend Publications." This process saves time and ensures high-quality data for further analysis.

TABLE 1**The Search String.**

Scopus	TITLE
	((gender AND gap OR inequality OR divide OR disparity) AND (financial AND literacy OR education)) AND (LIMIT-TO (LANGUAGE, "English"))

TABLE 2**The Selection Criterion Is Searching**

Criterion	Inclusion	Exclusion
Language	English	Non-English

Data Analysis

VOSviewer is a user-friendly bibliometric software developed by Nees Jan van Eck and Ludo Waltman at Leiden University, Netherlands (van Eck & Waltman, 2010, 2017). Widely used for visualizing and analyzing scientific literature, the tool excels in creating intuitive network visualizations, clustering related items, and generating density maps. Its flexibility allows for the analysis of co-authorship, co-citation, and keyword co-occurrence networks, helping researchers gain a comprehensive understanding of research landscapes. The interactive interface, combined with regular updates, ensures the efficient exploration of large datasets. VOSviewer's ability to compute various metrics, customize visualizations, and its compatibility with different bibliometric data sources make it an invaluable resource for scholars seeking deeper insights into complex research areas.

One of the key strengths of VOSviewer is its ability to transform complex bibliometric datasets into visually interpretable maps and charts. The software specializes in network visualization, clustering related items, analyzing keyword co-occurrence patterns, and creating density maps. With its user-friendly interface, it enables both novice and experienced users to explore research domains effectively. Regular updates ensure that VOSviewer remains at the cutting edge of bibliometric analysis, providing valuable insights through metric computation and customizable visualizations. Its versatility in handling different types of bibliometric data, such as co-authorship and citation networks, positions VOSviewer as a critical tool for scholars seeking to explore and understand their research fields more deeply.

Datasets containing information on publication year, title, author name, journal, citations, and keywords in PlainText format were extracted from the Scopus database, covering the period from 2020 to December 2023. These datasets were then processed using VOSviewer software version 1.6.19. Using VOS clustering and mapping techniques, the software helped generate visual maps, providing an alternative to the Multidimensional Scaling (MDS) method (Appio et al., 2014). While MDS focuses on representing items in low-dimensional spaces based on similarity measures, VOSViewer positions items so that their proximity accurately reflects their relatedness and similarity (van Eck & Waltman, 2010). Unlike MDS, which relies on similarity metrics like cosine and Jaccard indices, VOS uses a more suitable method for normalizing co-occurrence frequencies, such as association strength (AS_{ij}), which is calculated as [28].

$$AS_{ij} = \frac{C_{ij}}{W_{iwj}}$$

which is “proportional to the ratio between on the one hand the observed number of cooccurrences of i and j and on the other hand the expected number of co-occurrences of i and j under the assumption that co-occurrences of i and j are statistically independent” (Van Eck & Waltman, 2007).

Result and Finding

What Are The Research Trends In Online Learning Studies According To The Year Of Publication?

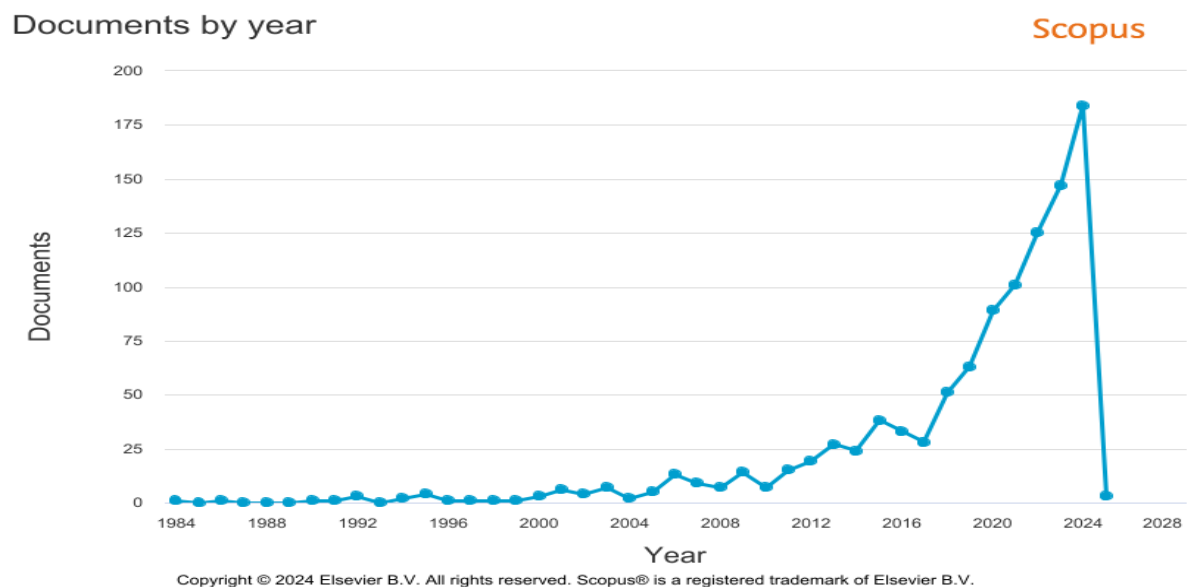


Figure 1: Plotting Document Publication By Years.

The bibliometric trend depicted in this chart from Scopus indicates a significant rise in scholarly publications related to the topic of "Gender Gap and Financial Literacy" over the past few decades. Beginning with minimal interest from 1984 to approximately 2005, the field saw a slow but steady increase in publications until around 2015. Post-2015, the research interest appears to have accelerated rapidly, suggesting an emerging recognition of the importance of

gender disparities in financial literacy. This surge in scholarly attention may be attributed to a combination of increased global awareness of gender inequalities and the growing impact of financial literacy on individual and economic well-being.

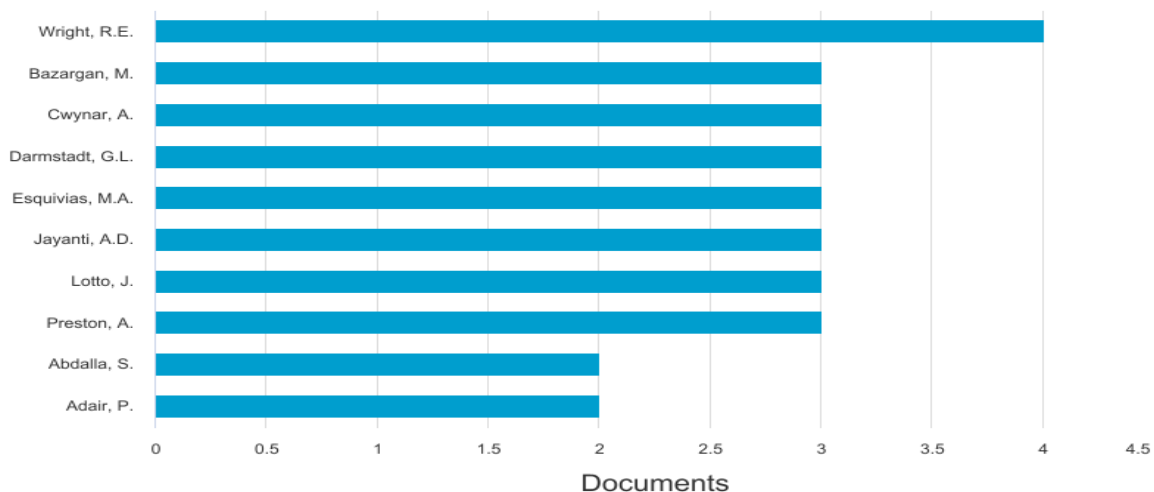
The sharp peak observed around 2024 implies a potential culmination of interest, perhaps driven by current events, policy initiatives, or the expansion of digital financial tools that make financial literacy more accessible yet expose disparities between genders. The subsequent steep drop following 2024 could reflect incomplete data, as newer publications may not yet be indexed, or it may signify a saturation point where foundational research has been established, and the focus may now be shifting to specific applications or interventions. This bibliometric trend underscores the increasing global emphasis on addressing the gender gap in financial literacy, highlighting the need for targeted research and solutions to foster inclusive financial empowerment.

Who Writes The Most Cited Articles? And Where Do They Work?

Documents by author

Compare the document counts for up to 15 authors.

Scopus



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Figure 2: Plotting Document Publication By Authors

Table 3: Percentages Of Publication Of Authors

AUTHOR NAME	Number	Percentages
Wright, R.E.	4	0.384245917
Bazargan, M.	3	0.288184438
Cwynar, A.	3	0.288184438
Darmstadt, G.L.	3	0.288184438
Esquivias, M.A.	3	0.288184438
Jayanti, A.D.	3	0.288184438
Lotto, J.	3	0.288184438
Preston, A.	3	0.288184438

Abdalla, S.	2	0.192122959
Adair, P.	2	0.192122959

This chart illustrates the contribution of various authors to the research on the "Gender Gap and Financial Literacy," with a focus on document count per author. Leading this group is R.E. Wright, with a slightly higher document count than the other authors, indicating that Wright has a prominent presence in this field. This level of contribution suggests a significant level of expertise and possibly a substantial influence on the discourse surrounding gender and financial literacy. Authors like M. Bazargan, A. Cwynar, and G.L. Darmstadt also show high publication counts, though slightly less than Wright's, demonstrating their active involvement in advancing research in this area.

The relatively small range in document counts among the listed authors suggests a balanced distribution of research contributions, with multiple authors consistently engaging in this topic. This indicates that the research community addressing the gender gap in financial literacy is collaborative, with numerous scholars producing comparable levels of work. However, Wright's slightly higher document count might point to a specialized focus or leadership role in the field, potentially making their research highly relevant for other scholars and policymakers aiming to address gender-based financial literacy disparities.

Who Is The Top 10 Authors Based On Citation By Research?

Table 4: Publication And Citation Summary

Authors	Title	Year	Journal	Cited by
R. Jewkes et al., (2002)	Risk factors for domestic violence: Findings from a South African cross-sectional study	2002	Social Science and Medicine	563
Goyal & Kumar, (2021)	Financial literacy: A systematic review and bibliometric analysis	2021	International Journal of Consumer Studies	524
Hasin & Grant, (2015)	The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Waves 1 and 2: review and summary of findings	2015	Social Psychiatry and Psychiatric Epidemiology	330
Weech-Maldonado et al., (2003)	Race/ethnicity, language, and patients' assessments of care in medicaid managed care	2003	Health Services Research	316
R. K. Jewkes et al., (2003)	Gender inequalities, intimate partner violence and HIV preventive practices: Findings of a South African cross-sectional study	2003	Social Science and Medicine	298
Shen, (2013)	Inequality quantified: Mind the gender gap	2013	Nature	270
Bucher-Koenen &	Financial literacy and retirement planning in Germany	2011	Journal of Pension Economics and Finance	264

Lusardi, (2011)				
Perry et al., (2021)	Pandemic precarity: COVID-19 is exposing and exacerbating inequalities in the American heartland	2021	Proceedings of the National Academy of Sciences of the United States of America	260
R Fonseca et al., (2012)	What Explains the Gender Gap in Financial Literacy? The Role of Household Decision Making	2012	Journal of Consumer Affairs	255
Dodd et al., (2021)	Psychological wellbeing and academic experience of university students in australia during covid-19	2021	International Journal of Environmental Research and Public Health	250

What Are The Popular Keywords Related To The Study?

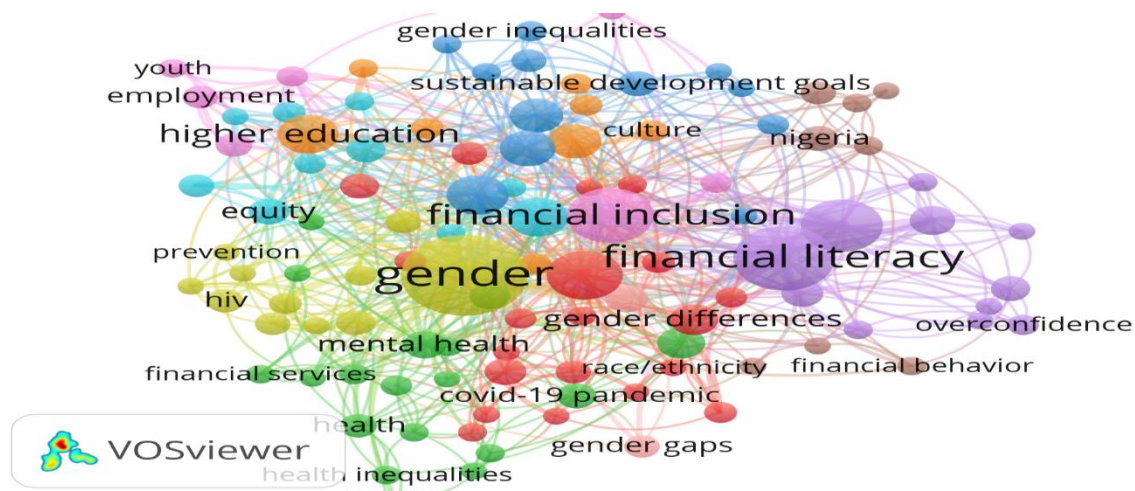


Figure 3: Network Visualization Map of Keywords' Co-Occurrence

The keyword analysis of "Gender Gap and Financial Literacy" reveals a rich intersection of themes, where "gender" and "financial literacy" are prominently featured, with 134 and 83 occurrences, respectively. These keywords also possess the highest link strength—191 for "gender" and 130 for "financial literacy"—indicating their centrality and interconnectedness in the research landscape. Closely associated terms like "financial inclusion" (59 occurrences, 105 link strength) and "gender gap" (54 occurrences, 79 link strength) further underscore the focus on disparities in access to and understanding of financial services between genders. This data suggests that a substantial portion of the literature emphasizes understanding and addressing the structural inequalities that affect financial literacy and access, particularly along gender lines.

Health and social issues also appear prominently, with keywords like "covid-19" (24 occurrences, 41 link strength), "inequality" (29 occurrences, 48 link strength), and "mental health" (14 occurrences, 27 link strength). These terms highlight the impact of global crises

and socio-economic factors on financial literacy and gender equality. "Higher education" (29 occurrences, 40 link strength) and "education" (45 occurrences, 66 link strength) show a notable focus on the role of education in reducing the gender gap, which is likely seen as a critical lever for improving financial literacy among underrepresented groups. These associations point to the increasing recognition of multi-dimensional factors affecting gender disparities in financial knowledge, where health, education, and economic crises like the COVID-19 pandemic are seen as intersecting influences.

Finally, other keywords like "entrepreneurship" (10 occurrences, 14 link strength), "empowerment" (7 occurrences, 14 link strength), and "women" (30 occurrences, 44 link strength) indicate an emphasis on female economic empowerment through financial literacy. This focus on empowerment and entrepreneurship suggests a trend toward promoting financial literacy as a means to enable women, especially in business, to gain greater economic control and security. These connections align with global efforts to support sustainable development goals, particularly gender equality and economic inclusion, signaling that research in this field is both broad and interdisciplinary, addressing the systemic challenges that contribute to financial disparities among women.

What Are Co-Authorship Countries' Collaboration?

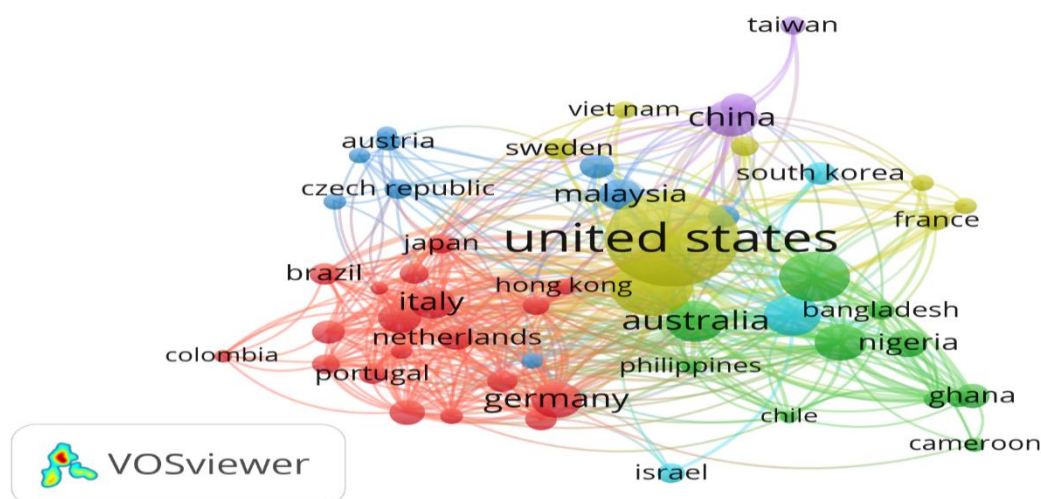


Figure 4: Network Visualization Map Of Co-Authorship Countries' Collaboration

The bibliometric analysis reveals significant contributions from various countries, particularly in financial literacy and gender gap research. The United States, with the highest number of documents (325) and citations (7976), underscores its leading role in this field, with an impressive total link strength of 173, indicating extensive collaboration and influence in global research networks. Following the United States, the United Kingdom, Australia, Canada, and India also show notable activity in publications and citations. These countries have a high total link strength, suggesting they are central nodes in the research network, collaborating extensively with other nations and contributing substantial influence in advancing understanding of financial literacy and gender disparities.

Other countries, though with fewer documents, exhibit strong citation counts and moderate link strength, suggesting impactful research despite fewer publications. For instance, Ghana (18 documents, 380 citations) and Egypt (7 documents, 342 citations) have contributed highly-cited works that resonate in the field. This impact is further reflected in other countries such as Bangladesh, Chile, and Denmark, where smaller document outputs are paired with high citation numbers and link strength. These countries appear to have produced high-quality research, drawing significant attention and contributing important perspectives on the intersection of gender and financial literacy.

Furthermore, the collaborative landscape is diverse, with countries like South Africa, Netherlands, and Switzerland exhibiting high link strengths despite medium citation counts, indicating their active participation in international research networks. The global distribution of research activity highlights the increasing interest and collaborative efforts in addressing the gender gap in financial literacy. This expansive network of collaborations is crucial, as it supports knowledge sharing across different socioeconomic and cultural contexts, enhancing the depth and applicability of research findings globally. Overall, the network visualization map provides a valuable overview of the research landscape on e-learning during COVID-19. It highlights the key themes, areas of focus, and potential areas for further investigation. By analyzing the relationships between keywords, you can gain deeper insights into the trends and nuances within this field of research.

Discussion and Conclusion

The analysis of research trends in "Gender Gap and Financial Literacy" demonstrates a clear rise in academic publications on this topic over recent decades. Initially, the field attracted limited attention, with publications remaining sparse from 1984 to around 2005. A gradual increase followed until approximately 2015, after which the number of studies grew sharply, indicating a growing awareness of gender disparities in financial literacy. This increased scholarly attention aligns with heightened global awareness of gender inequalities and the crucial role of financial literacy in personal and economic development. The surge in 2024 likely reflects responses to policy shifts, current events, or the broad adoption of digital financial tools, which may offer more access to financial knowledge but also reveal gendered differences in financial literacy.

A subsequent decline in publications post-2024 may suggest either incomplete indexing of recent studies or a shift in focus toward specific interventions following the establishment of foundational research. These trends suggest a sustained global effort to address financial literacy inequalities across genders, calling for further targeted investigations and actionable solutions. In addition, leading contributors to this field show diverse research orientations, from examining financial literacy in specific demographics to broader social issues linked to economic inclusion, highlighting an interdisciplinary approach in addressing the gender gap in financial literacy.

The keyword analysis for "Gender Gap and Financial Literacy" reveals a range of interconnected themes. Keywords such as "gender" and "financial literacy" stand out due to their high occurrence and link strength, emphasizing their centrality in this research field. Closely related terms, including "financial inclusion" and "gender gap," highlight a strong focus on understanding financial access disparities between genders. Health and social keywords, such as "COVID-19," "inequality," and "mental health," indicate the influence of global crises and socio-economic challenges on gender and financial knowledge. Additionally,

keywords like "education" and "higher education" underline the importance of educational initiatives in closing the gender gap in financial literacy, suggesting a view that education plays a critical role in enhancing financial knowledge among underserved populations.

The analysis of international collaboration underscores the significant contributions from countries like the United States, United Kingdom, Australia, Canada, and India, which are both highly productive and central to the research network. Notable influence is also observed from Ghana, Egypt, Bangladesh, and other countries with fewer documents but substantial citation impact, reflecting quality contributions. The collaborative network extends globally, with countries such as South Africa, Netherlands, and Switzerland playing crucial roles in connecting different regions through research partnerships. This international cooperation enriches the understanding of gender-related financial literacy issues across diverse cultural and economic contexts, fostering a global approach to addressing these disparities and promoting inclusive financial empowerment.

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