Evaluating the Effect of Financial Distress on Earnings Quality: A Bibliometric Analysis

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Abstract:

This study uses bibliometric analysis to review the research on the effects of financial distress on earnings quality. The analysis draws on a sample of 166 articles published in the SCOPUS database between 1984 and 2022. The authors with the highest citations in SCOPUS-indexed journals were determined using a mixed qualitative-quantitative methodology, identifying Ashraf et al. as the most productive authors, and research collaboration's publications coming from the United States. The findings also revealed that most authors have at least one publication published in SCOPUS journals within the timeframe, and Leeds University Business School has the highest collaboration between researchers or authors from different organizations. The current study provides a historical overview of the prominent journals in evaluating the publication of financial distress and earnings quality activities within SCOPUS-indexed journals, thus enhancing understanding of the literature in this field and fostering interest in potential future collaborative opportunities.

Keywords: Financial distress, Earnings quality, Bibliometric analysis, Co-citation analysis, Bibliographic coupling, Co-authorship analysis.

1. Introduction

Every newly formed company adheres to the accounting principle of going concern, which asserts that the corporate entity will continue its operations in the foreseeable future and will not be compelled to liquidate or cease operations for any reason. However, failure to make sound financial management decisions may result in the firm's insolvency (EL Deeb & Ramadan, 2020) and, in the worst-case scenario, could make it vulnerable to acquisition by other firms. When facing financial difficulties, company managers may be involved in earnings manipulation as a means to retain support from stakeholders and present a favourable financial performance that signals their ability to secure bank loans, thus mitigating the risk of bankruptcy or the possibility of being removed from the capital market (Purba et al., 2022; Dianita, 2011). Nevertheless, not disclosing the initial indication of bankruptcy to the stakeholders may expose them to a vulnerable position, given that bankruptcy can result in financial losses and societal burdens for executives, investors, lenders, and employees (Hassanpour & Ardakani, 2017; Bisogno & DeLuca, 2015).

In the aftermath of Enron and WorldCom, two of the most glaring instances of opportunistic manipulation of earnings, policymakers, investors, academics, and practitioners are aware of earning manipulation activities conducted by the managers as it resulted in the biggest bankruptcies ever witnessed in the history of the United States (Jiraporn et al., 2008). The presence of financial distress can exert pressure on managers, potentially affecting their decision-making and prompting them to employ earnings management strategies, particularly when there is a shift in managerial incentives during times of financial distress (Almubarak et al., 2023; Iatridis & Kadorinis, 2009).

In order to reduce the occurrence of unexpected negative profits, earning management is conducted by employing discretionary accruals to manipulate the incremental profit known as accruals-based earnings management. A different strategy, often acknowledged as real earnings management, entails managers implementing actual economic actions to attain the desired profit level such as reducing avoidable costs in research and development, maintenance, and advertising, including cutting down on the cost of goods sold by boosting production during the accounting period

(Ranjbar & Amanollahi, 2018). According to Purba et al. (2022), companies started to engage in aggressive earnings management as financial distress started leading to liquidity issues.

Given that real earnings management requires considerable cash flow, prior research has found that corporations engage in real earnings management when they are in reasonably good financial health. As financial difficulty worsens, however, they tend to shift towards accruals-based earnings management (EL Deeb & Ramadan, 2020).On the contrary, Wawo and Habbe (2023) discovered that the more severe the company's financial difficulty, the more likely the manager will rely on real earnings management rather than accrual-based earnings management.

Based on the negative repercussions of financial distress and managers' deceptive behaviour to establish a consistent earning quality, it sheds light on the necessity of research to analyse the evolution of scientific knowledge in the literature on this relationship. By employing bibliometric citation analysis and the citation-mapping technique using VOSviewer, we came out with five research questions (RQs): (RQ1): *What is the current trend of co-authorship based on authors?* RQ2: *What is the current trend of co-authorship based on countries?* RQ3: *What is the current trend of co-authorship based on organizations?* RQ4: *Who are the most influential authors on the relationship between financial distress and earning quality?* RQ5: *What countries have contributed the most to research on financial distress and earning quality?*

Previous researchers such as Fakhar et al. (2023) limit their work solely to financial distress in the banking industry, whereas Sa'diyah et al. (2022) review documents on financial distress during Covid-19 using both bibliometric and content analysis. Within the realm of enhancing earnings quality, the majority of researchers have employed the concept of earnings management, recognizing it as a key mechanism through which financial distress can impact the quality of earnings. As of now, there is an extensive amount of literature on bibliometric analysis of earnings management, including Ahmad et al. (2023), Teixeira and Rodrigues (2022), Vagner et al. (2021), and Siekelova (2020).Our literature review differs from those of other authors in that there is no literature review on the effect of financial distress on earnings quality using a bibliometric analysis to evaluate the progress in the field and answer our RQs.

The rest of the paper is organized as follows: Section 2 provides a brief review of the literature on the relationship between financial distress and earning quality. Section 3 presents the research methodology employed in this study. Section 4 presents the results of our bibliometric citation analysis. Section 5 concludes and discusses our study's limitations.

2. Literature Review

Financial distress can be described as a company's failure to repay its short-term obligations (El Deeb & Ramadan, 2023), and a lack of cash prevents a company from operating normally, forcing it to go bankrupt (Wawo & Habbe, 2023). A consistent decrease in profitability also indicates an early signal of financial distress (Purba et al., 2022). Financial distress can arise from several factors, with El Deeb and Ramadan (2020) highlighting that poor financial management decisions play a substantial role in a company's ultimate insolvency, stemming from cases like fraud, ineffective resource allocation, and inadequate communication within the organizational hierarchy. Furthermore, financial distress also occurred due to unforeseeable events, such as pandemics, global economic downturns, and political turmoil. Early detection of financial bankruptcy is imperative to safeguard creditors and investors (Bisogno & DeLuca, 2015), allowing them to plan for potential negative consequences (El Deeb & Ramadan, 2020). Currently, various tools have been developed for bankruptcy prediction purposes such as Altman Z-Score, Zmijewski, Grover, and Springate (Wawo & Habbe, 2023). Nevertheless, the same authors assert that no solitary model can accurately forecast a company's bankruptcy.

Earnings quality has emerged as a vital instrument for assessing a company's going concern, and it also plays a role in improving the decision-making process of shareholders, stakeholders, financial analysts, and investors (Ibrahim et al., 2023).Managers frequently employ earnings manipulation for various purposes as part of their efforts to enhance the quality of earnings. These include the desire to meet targeted earnings levels, which can enhance their reputation and align with their interests. They also aim to align with market predictions, establish consistent earnings trends, minimize fluctuations in stock prices, and steer clear of government interference or inquiries (El Deeb & Ramadan, 2020).Regarding earnings information, the agency conflict may result in management engaging in counterproductive actions due to conflicting interests, leading to inefficiencies and financial losses for all involved parties (Saleh et al., 2020).

Managers often employ various strategies to manage earnings, either by making deliberate adjustments in discretionary accruals, which involve choosing accounting policies or procedures that support their expected results, or by engaging in real earnings management, which entails manipulating the actual operational activities of the company, such as sales and production (Wawo & Habbe, 2023). In a previous study, Hassanpour and Ardakani (2017) discovered a significant positive association between pre-bankruptcy financial distress and real activities management and accrual manipulation. Ibrahim et al. (2023) discovered a significant negative association between financial distress and earnings quality.

Besides that, regardless of whether it involves accruals or real activities, earnings management tends to diminish earnings quality in firms that are susceptible to financial distress (Ibrahim et al. 2023; Saleh et al., 2020).Therefore, it can be deduced that financially distressed companies often involved in earnings management, leading to a detrimental impact on the quality of their earnings. Nevertheless, it is important to acknowledge that companies facing financial difficulty manage earnings to survive, and the capacity to engage in such earnings management practices diminishes as government intervention increases and public scrutiny shifts towards the company (Purba et al., 2022).

3. Research Methodology

The bibliometric methodology encompasses the use of quantitative tools (i.e., bibliometric analysis – e.g., year, subject, source, country, author, and affiliation. For the purpose of this study, data was collected from the SCOPUS database. It represents the most reputable social science journals and articles, often employed for bibliometric analysis (Donthu et Al, 2021). The idea of this method is based on the analysis of database research to decipher how to target the highest quality articles and reviews on the impact of financial distress on earnings quality (Merigó & Yang, 2017). Previous researchers have concentrated on utilizing the 'bibliographic' web editions of the database (Archambault et al., 2009; Suffian et al., 2023). It is critical to the success of our data collection, as the accuracy in picking the right keyword highly affects the results number. To ensure that all or most of the relevant publications from the SCOPUS database are selected, this study adopted this query which was chosen after careful consideration: TITLE-ABS-KEY (*financial AND distress) AND (earnings AND quality) AND (LIMIT-TO (EXACTKEYWORD , "Financial Distress") OR LIMIT-TO (EXACTKEYWORD , "Earnings Management") OR LIMIT-TO (EXACTKEYWORD , "Financial Crisis")) AND (LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "ECON") OR LIMIT-TO (SUBJAREA , "SOCI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND EXCLUDE (YEAR , “2023”)).

Initially, the articles and reviews on the related field were 477. However, this analysis excluded and included irrelevant studies in several ways, including eliminating the year 2023 and limited to only English articles. This study has undergone a careful and cursory evaluation of the title and abstract of each article to include or remove extraneous papers to ensure that the obtained data is of direct relation to the defined purpose rather than discussing the topic in a non-marginal and non-flimsy manner (Suffian et al., 2023). Thus, the final sample of the data in this study is 166 articles and reviews that remain. The final data covers the period of 38 years from the year 1984 until 2022.

4. Findings and Discussion

4.1 Co-authorship based on Authors.

Figure 1 above shows that 163 out of 166 authors met the thresholds, thus answering RQ1. It indicates that each author has at least one publication published in SCOPUS journals between 1984 and 2022 in this field. Countries are depicted as nodes in the network above, and co-authorship ties are represented as edges. This graphic representation can provide a good impression of the overall co-authorship landscape among the selected countries (Jan et al., 2022; Martínez et al., 2022). According to the graph above, each of the 163 authors has an equal contribution to the dataset. It demonstrates that all the authors chosen are influential and prolific authors who actively participate in research collaborations. Nonetheless, no clusters or subgroups of authors commonly collaborate. As a result, there are limited potential research networks or collaborative theme areas. It also reveals the writers' unusual research interests or shared ties.

The study may successfully explain the co-authorship trends among the selected authors based on the minimal document criterion by using this approach. It can discover prolific authors, highlight collaboration clusters, uncover interdisciplinary collaborations, and investigate author partnership dynamics. Such findings can help writers gain a better understanding of research relationships and encourage further study of prospective collaborative prospects.

4.2 Co-authorship based on Countries.

Figure 2 displays the result of international cooperation between countries to assess RQ2. As we can see, 16 countries are linked to one another. Initially, there were 49 countries; however, after limiting to a minimum document of a country of 5, only 16 countries met the thresholds and connected from one to another. In the network above, countries are shown as nodes and co-authorship ties are displayed as edges. It depicts the pattern throughout the 16 countries. This graphic depiction can provide a clear sense of the overall co-authorship landscape among the selected countries (Robertson et al., 2020). According to the figure above, the United States has the most collaborations inside the dataset. Malaysia, Indonesia and the United Kingdom follow. It demonstrates that these four countries have already built robust research networks and collaborative alliances. It can also provide insights into the countries that actively participate in international research cooperation. The analysis can provide a comprehensive understanding of co-authorship patterns among countries in the context of the minimal document threshold by presenting and debating these findings. It can provide insights into countries that participate actively in research collaborations, highlight regional or theme patterns, and propose possible areas for more research and collaboration.

4.3 Co-authorship based on Organizations.

To address RQ3, this study also presents the result of co-authorship based on organizations. Co-authorship based on organizations refers to the collaboration between researchers or authors from different organizations or institutions in the creation of scholarly documents, such as research papers or publications (Avelar et al., 2022). In this case, the criterion for considering an organization as a co-author is that it should have a minimum number of documents equal to or greater than two.

Based on the information in Figure 3, this study only consider 354 organizations as a total. Out of these organizations, only five have met the threshold of having at least two documents. This means that out of the 354 organizations, only these 5 organizations have collaborated with researchers or authors from other institutions on multiple occasions to produce scholarly documents. The five organizations or institutions are Leeds University Business School; the Accounting Research Institute, Universiti Teknologi MARA, Malaysia; School of Business Management and Administrative Sciences, India; School of Accounting, Curtin Business School, Australia; and School of Accounting, Massey University, New Zealand.

Co-authorship between organizations indicates that researchers or authors from different institutions have worked together, combining their expertise and resources to contribute to a particular research topic or field of study. Collaborative efforts like this often lead to the exchange of ideas, increased scientific productivity, and knowledge sharing among institutions. Identifying and analyzing co-authorship patterns can provide valuable insights into the scientific collaboration networks, interdisciplinary research trends, and the distribution of research efforts among different organizations. It can also help in evaluating the impact and influence of specific institutions or researchers within a given field.

4.4 Citations based on Authors.

It can also help in evaluating the impact and influence of specific institutions or researchers within a given field. In bibliometric, citations are an important metric used to measure the impact and influence of scholarly publications and authors (Amjad et al., 2020). When analyzing citation data, various thresholds can be set to identify authors who meet certain criteria. In this scenario, the thresholds are defined as follows: (1) The minimum number of documents of an author is 2. This means that an author must have at least two publications to be considered, and (2) the minimum number of citations of an author is 1. This means that an author must have at least one citation from other scholarly works.

Moving on to RQ4, among the 163 authors, only three authors satisfy the criteria mentioned earlier, as illustrated in Figure 4.This means that these three authors have published at least two documents and have received at least one citation each from other scholarly works. The authors are Ashraf et al., Kalbuana et al., and Nagar et al. According to the statistics, Ashraf et al. obtained 10 citations for two documents published in SCOPUS journals. Meanwhile, Kalbuana et al. have received 3 citations for their 2 SCOPUS documents, while Nagar et al. have received 29 citations for their 2 SCOPUS documents.

Identifying authors who meet these thresholds can be useful in bibliometric analyses as it highlights authors who have made a minimum impact in terms of publication output and citation recognition. It provides a way to focus on authors who have made significant contributions to the field, even if they are not the most prolific or highly cited researcher’s overall. Further analysis and exploration of these three authors and their publications may provide insights into their specific research areas, collaborations, and potential areas of impact within the field of study.

4.5 Citations based on Countries.

In bibliometric, the analysis of citations based on countries provides insights into the research output and impact of different nations (Li & Xu, 2021; Mao et al., 2018). By setting specific thresholds, you can identify countries that meet certain criteria in terms of their publication output and citation recognition. In your scenario, the thresholds are defined as follows: (1) the minimum number of documents of a country is 5. This means that a country must have at least five publications to be considered, and (2) the minimum number of citations of a country is 1. This means that a country must have received at least one citation from other scholarly works.

Based on these thresholds, this study has identified that out of the 49 countries, 16 countries meet both criteria. The answer to RQ5 lies in Figure 5. This implies that these 16 countries have published at least five documents and have received at least one citation each from other scholarly works. Identifying countries that meet these thresholds allows you to focus on those nations that have a notable research output and have received some level of recognition through citations. It provides a starting point for further investigation into the scientific contributions and impact of these countries in various research fields.

Further analysis of these 16 countries and their research output can shed light on their strengths, collaborations, and impact within the academic community. It can also be helpful for policymakers, funding agencies, and researchers themselves to understand the global distribution of research efforts and identify potential areas for collaboration and knowledge exchange.

5. Conclusion

This study set forth to understand researchers’ contributions to the literature on financial distress and earnings quality by analyzing published articles collected from the SCOPUS database-indexed journals. We conducted a bibliometric analysis on 166 pieces of literature on financial distress and earnings quality from 1984 to 2022, utilizing tools that include keyword co-occurrence analysis, co-authorship analysis, citation analysis, and co-citation analysis. A citation-mapping approach, VOSviewer, generates a network map to visualize co-occurrence networks of relevant terms collected from scientific publications. The analyses revealed that 163 out of 166 authors had at least one publication published in SCOPUS journals between 1984 and 2022 in this field. According to co-authorship based on countries, the United States emerges as the nation that engages in international research cooperation the most, followed by Malaysia, Indonesia, and the United Kingdom. The most active institutions in terms of collaboration between researchers or authors from different organizations on financial distress and earnings quality are Leeds University Business School, with Accounting Research Institute, Universiti Teknologi MARA, Malaysia, School of Business Management and Administrative Sciences, India, School of Accounting, Curtin Business School, Australia, and School of Accounting, Massey University, New Zealand close behind. In the context of author citations, Ashraf et al., Kalbuana et al., and Nagar et al. are the authors who have published at least two documents and have earned at least one citation from other scholarly works. This also indicates that Ashraf et al. were the most productive authors in this area of study, with ten citations for two SCOPUS journal papers.

The study sheds light on the state of research on financial distress and earnings quality, highlighting the need for additional research into the underlying mechanisms that drive this relationship. The findings can help to shape more effective financial reporting and disclosure practices, allowing stakeholders to make more informed investment and risk management decisions. Furthermore, the study's findings may have theoretical and practical applications. The results of this study offer a historical overview of how the literature has changed over the last four decades. Moreover, it identifies the most significant and productive authors, academic institutions, and countries within this literature landscape. This information should prove valuable for researchers when deciding which countries to work with on advanced research endeavors and which institutions to engage with.

In conclusion, it is imperative to acknowledge that the current study has certain inherent limitations. One significant limitation is the data collection methods used in this study. All of the articles extracted for this study came from a single scholarly database, highlighting that it might not include the entire spectrum of literature that is currently available on the subject. As the current study focuses on the effect of financial distress on earnings quality with a limited analysis, future research endeavours should pursue different avenues of investigation, employ varied methodologies and analytical tools, and produce a variety of assessments that offer unique perspectives on the multifaceted relationship between financial distress and earnings quality. This will undoubtedly contribute to a more robust and holistic body of knowledge in this area, facilitating a more nuanced comprehension of the intricate dynamics at play within the realm of corporate finance and accounting.

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Tables and Figures

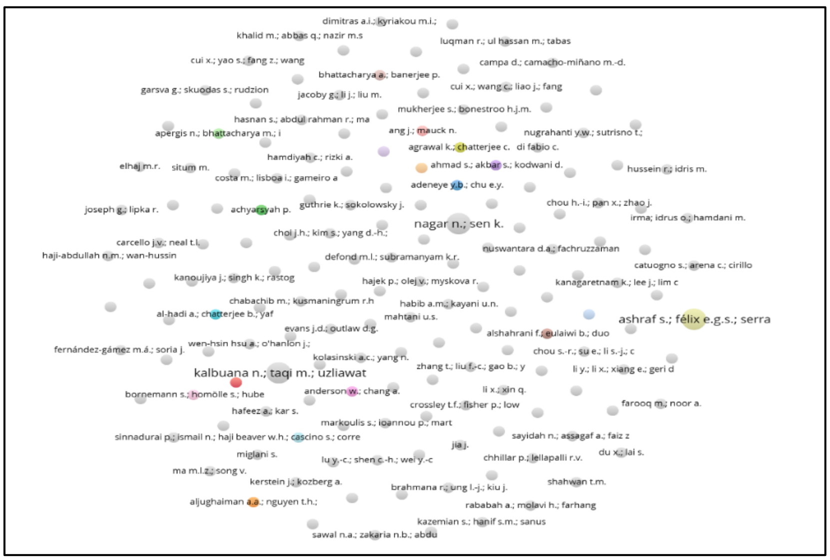

Figure 1: The network of cooperation, based on the co-authorship of the main author.

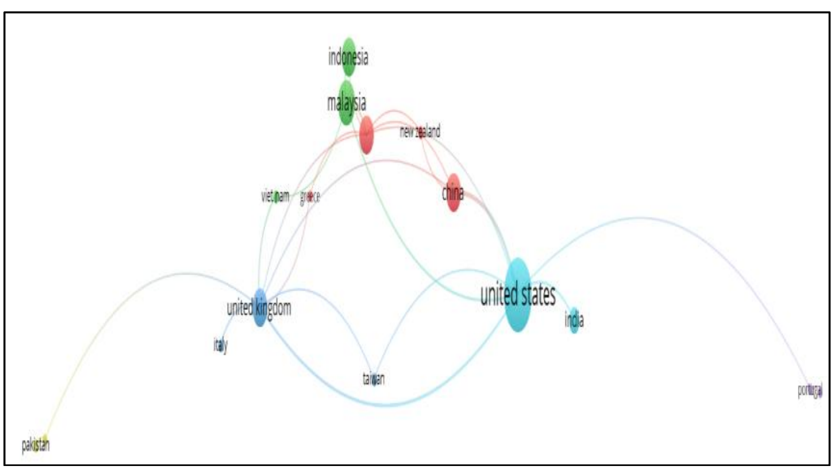

Figure 2: International cooperation, based on the co-authorship between countries.

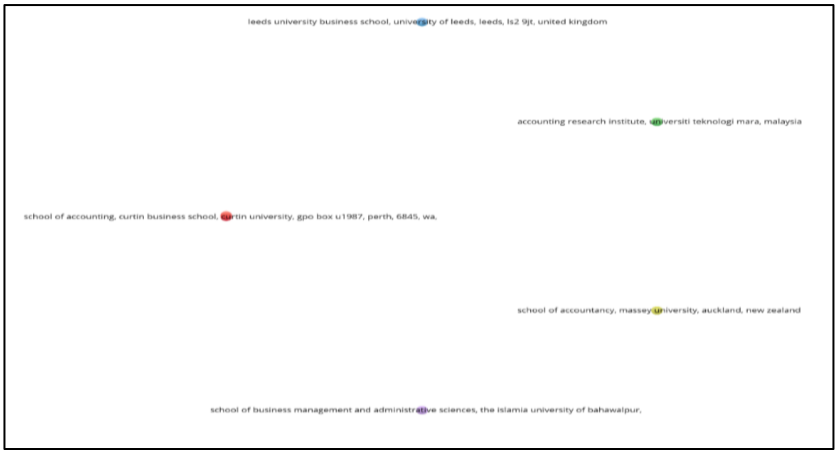

Figure 3: The network of cooperation, based on the co-authorship of the organizations.

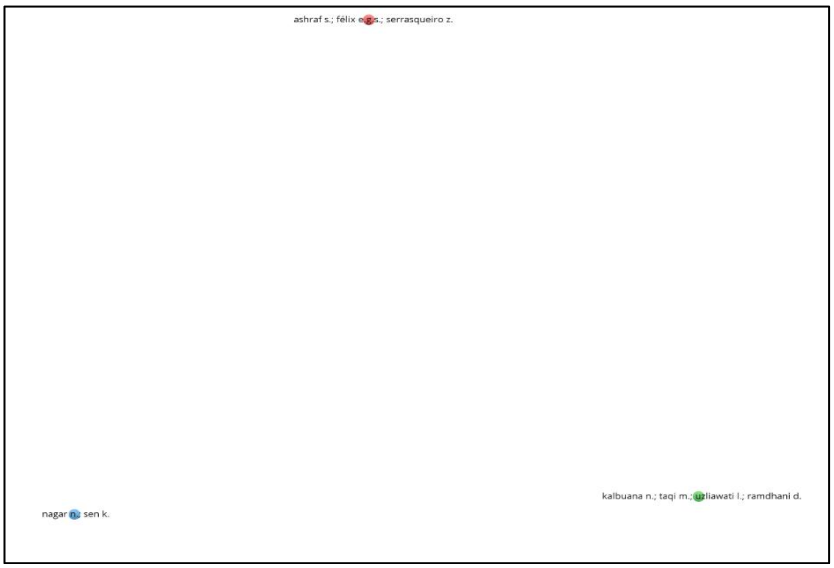

Figure 4: Citations based on authors.

Figure 5: Citations based on countries.