



TECHNIUM
SOCIAL SCIENCES JOURNAL

www.techniumscience.com



Vol. 69/2025
A New Decade for Social Changes

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COMMUNICATION P



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Communication & PR

Mapping the Knowledge Domain of Earnings Conference Calls: A Bibliometric Study

Zhang Changye¹, Chen Fang^{1,2*}, Liao Jinhao¹, Wang Anyue¹

¹School of Foreign Languages, Hangzhou City University, 51 Huzhou Street, Hangzhou Zhejiang, China, ²Hangzhou Collaborative Innovation Institute of Language Services, Hangzhou Zhejiang, China

amanda-cf@163.com

Abstract. This study uses a bibliometric approach to conduct a critical review of research on earnings conference calls. The goal of the study is to assess the development of the field, identify key research trends and issues, and highlight gaps in the existing literature. This study takes the Web of Science (WOS) academic journal database as the source of literature. It utilizes software such as COOC, DIKW, VOSviewer, and Vimap for bibliometric analysis, mathematical statistics, and knowledge graph drawing. The study constructs knowledge graphs for the research field of earnings conference calls from 2000 to 2025. It covers aspects such as publication volume, research institutions, authors, and keywords, and deeply analyzes their distribution patterns and evolutionary trends to comprehensively trace the research trajectory of this field. The results show that: (1) the publication volume in the field of earnings conference calls presents a linear, year-by-year increase in research papers in this field, indicating that the research on earnings conference calls is in a stage of rapid development. (2) The cooperation intensity among authors is robust, extensive, and tightly knit, indicating the formation of a well-developed collaborative network. In the research field of earnings conference calls, the USA, China, and Canada are the top three contributing countries, with the USA accounting for nearly half of the contributions. (3) Co-occurrence analysis of these keywords reveals a close relationship among them, indicating strong thematic connections within the research domain. (4) The evolution of keywords reveals a notable shift in scholarly focus from traditional economic perspectives to more interdisciplinary approaches, incorporating linguistic and machine-learning perspectives. This trend reflects an increasing emphasis on analyzing financial phenomena through diverse disciplinary lenses. This study underscores the need for more focused research in these perspectives, offering important implications for sustainable earnings conference calls release management. It also underscores the potential for collaborative opportunities within academia to better understand future trends.

Keywords. earnings conference calls; COOC; DIKW; VOSviewer; bibliometric analysis; co-word visualization analysis

1 Introduction

Advances in Information and Communication Technology (ICT) have had a strong impact on how members of the global financial community interact. In particular, communications for purposes of financial disclosure have evolved from traditional written

reports or oral presentations to new ICT-driven forms. An earnings conference call (henceforth referred to as ECC) is a meeting conducted through a teleconferencing service for financial disclosure (Pang & Chen, 2018). More specifically, the executives present their periodic financial results to analysts from all over the world who then have the opportunities to ask them questions about the company's economic results and the financial overview reported in the call. As a technology-mediated form of communication, earnings call may deprive interlocutors of some benefits of face-to-face meetings, but it is undoubtedly more cost-effective, flexible and far-reaching (Du-Babcock, 2004), and is thus highly attractive to business organizations.

In the WOS (Web of Science) academic journal database, 401 articles on the theme of earnings conference calls from 2000 to 2025 can be retrieved. However, the bibliometric research on this theme is relatively scarce, with only one article by Srivastava and Anand published in 2024. It is necessary to conduct a profound reflection on the intellectual composition of the literature on earnings conference calls. Based on the perspective of digital humanities and using quantitative methods, the author has conducted a statistical analysis of important information related to the theme of earnings conference calls in the database of WOS, including publication years, authors, research institutions, keywords, and journals. A co-occurrence network model has been constructed. Through bibliometric quantitative analysis, this study purports to provide a comprehensive overview of the growth, trends and emerging themes of a research field, aiding scholars in mapping the intellectual landscape, identifying key research directions, pinpoint research gaps and guiding future studies, thus provides a reference for further scientific research in the field of earnings conference calls.

In order to reveal current insights and future research directions, we address the following research questions:

- (1) What are the publication trends and patterns in the field of earnings conference calls literature?
- (2) Who are the key authors and countries contributing to this field, and what are their collaborative relationships?
- (3) What are the main research hotspots and themes identified through keyword analysis?
- (4) How has the focus of research in this field evolved over time, and what are the emerging trends?

2 Methodology

2.1. Data source

This paper takes the Web of Science (WOS) database as the source of literature and employs the research methods of digital humanities. With the aid of bibliometric and visualization tools such as COOC (Co-Occurrence), DIKW (Data-Information-Knowledge-Wisdom), VOSviewer, and Vismap, this study comprehensively maps out the research trajectory of the knowledge domain of earnings conference call financial reporting. The study uses "earnings conference call" as the search term to retrieve academic papers published in the WOS academic journal database, obtaining a total of 401 papers. Using COOC software, the literature exported in plain-text format was merged, deduplicated, cleaned and, extracted. Ultimately, 395 relevant papers were selected as the data source for this study.

2.2. Research method

Bibliometrics focuses on the external characteristics of scientific literature, employing mathematical and statistical methods to describe, evaluate, and predict the current status and development trends of science and technology (Qiu & Wang, 2008). Bibliometric analysis can overcome the shortcomings of researchers' subjective evaluations of the progress in their fields (Jin & Lin, 2016), and it leverages modern information technology to transform the ways in which humanistic knowledge is acquired, annotated, compared, sampled, interpreted, presented, and disseminated.

In this study, the author used the COOC software to extract information such as publication years, authors, institutions, keywords, and journals from the literature data. The data were then imported into the DIKW software for statistical analysis. Subsequently, visualizations were created using COOC, VOSviewer, and Vimap, with representative analyses conducted on institutions, authors, and high-frequency keywords with higher publication volumes. The specific parameter settings are as follows: keyword threshold=10, author threshold=5, institution threshold=5, and journal threshold=5. A clustering matrix of high-frequency keywords was established to form a keyword clustering map. First, descriptive and visual analyses were performed on the publication year patterns, authors, and institutions to clarify the research trajectory in the field of earnings conference call financial reporting. Second, analyses of keyword co-occurrence, keyword clustering, and keyword word clouds were conducted to explore the research hotspots in this field. Finally, a keyword evolution trend map was created to predict the future development trends in the field of earnings conference calls.

3 Current Research Status in the Field of Earnings Conference Calls

3.1 Evolution of Research Volume in the Field of Earnings Conference Calls

As carriers of scientific knowledge, the changes in the number of journal articles are a direct reflection of the development of a discipline. Bibliometric studies can reveal the characteristics and patterns of the development of a knowledge domain, predict the growth trends of literature, and determine the stages of scientific development. The temporal distribution of the number of publications in the field of earnings conference calls is detailed in Figure 1. This figure illustrates a linear, year-by-year increase in research papers in this field, indicating that the research on earnings conference calls is in a stage of rapid development. The academic community has shown a strong interest in and intensive research efforts on this topic. It is still in its infancy. Judging from this trend, more scholars are expected to engage in research on earnings conference call financial reporting in the future. This, in turn, reflects that the field still has a broad scope for research, awaiting further exploration and expansion.

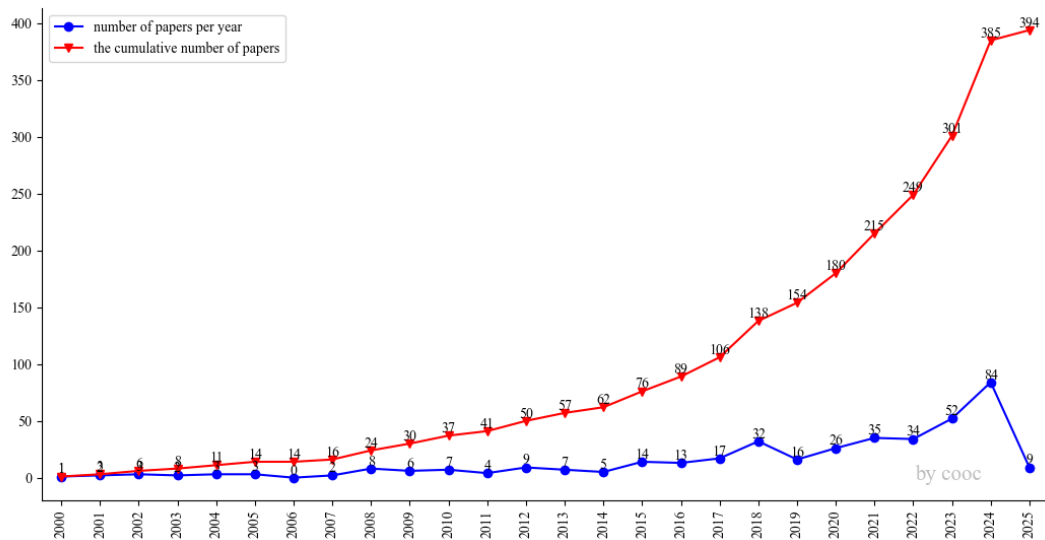


Figure 1: Temporal Distribution of the Number of Publications in the Field of Earnings Conference Calls

3.2 Current Status of Authors and Institutions in the Field of Earnings Conference Calls

The high-frequency authors and research institutions in a discipline reflect the core research forces in the field of earnings conference calls. Figure 2 shows that the top 12 authors in terms of publication volume are William J Mayew(USA), S Mckay Price(USA), Nathan Y Sharp(USA), Pornsit Jiraporn(USA), Andrew C Call(USA), Chuong Do(USA), Kate Suslava(USA), Joshua Lee(USA), Jared Jennings(USA), Mohan Venkatachalam(USA), Pattanaporn Chatjuthamard(Thailand), Michael J Jung(USA).

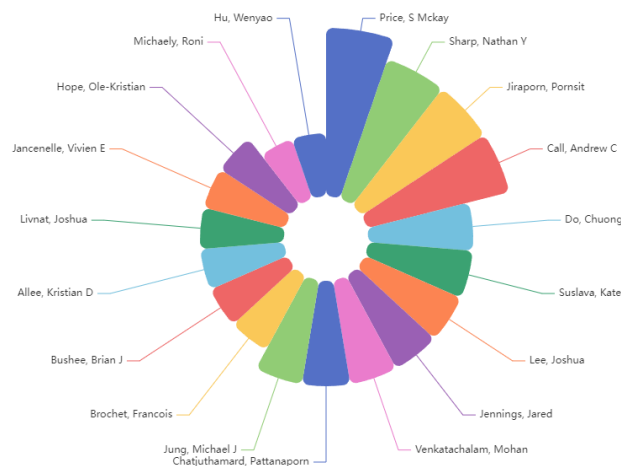


Figure 2 Ranking of Authors in the Field of Earnings conference calls

Author collaboration study is a bibliometric research approach that analyzes patterns of author collaboration in academic publications to reveal trends, impact, and dynamics within a research field. By mapping author relationships based on co-authorship, collaborative patterns

within a research field can be identified. In this study, a total of 1,692 authors were identified, with a cumulative frequency of 1,897. To better understand the collaborative landscape in this field, a co-authorship network map (Figure 3) was created to identify collaborative groups and high-impact authors.

According to Price's Law, the minimum number of publications for core authors is calculated as $M_p = 0.749 \sqrt{n_{pmax}}$, while n_{pmax} is the the most prolific author's publication volume. When the cumulative publications of core authors account for 50% of the total literature, a core author group is considered to have formed. In this study, the most prolific author published 9 papers, and the integer value of M is 2. 132 most prolific authors co-authored 350 papers. This amount accounts for 87.2% of the total literature, which is above the 50% threshold set by Price's Law. We could tentatively draw the conclusion that a core author group has emerged in the field of earnings conference calls. The rising prevalence of multi-author papers often signals an increase in research complexity and a greater emphasis on interdisciplinary collaboration. These trends are generally associated with positive outcomes for research quality, including enhanced innovation, improved citation impact, and increased productivity.

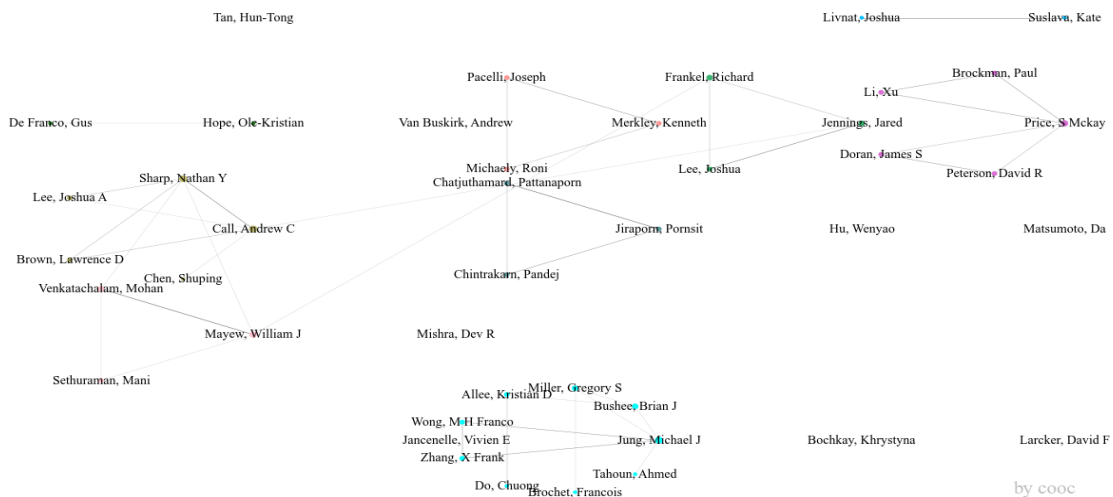


Figure 3: Author Co-occurrence Clustering Map

Upon further investigation, it was discovered that among the top 12 authors, only one is from a country other than the USA. To further illustrate this point, we extracted the institutions of earnings conference calls and generated a polar area diagram (Figure 4). The number of articles from a country indicates the country's active involvement in and contributions to research in a specific field, reflecting its scientific output and influence(Srivastava &Anand, 2024). It was discovered that the country with the highest publication volume is USA, which accounts for 46.4% of the institutions. China ranks the second with a percentage of 14.2%, while Canada ranks the third with a percentage of 7%.

management from both the financial and the linguistic perspectives. This analysis comprehensively reflects that as research in the field of earnings conference calls, the research perspectives have become richer and more diverse. Studies in the fields of machine learning, textual analysis continue to be intensified, providing multi-dimensional theoretical support for the future development of this field.

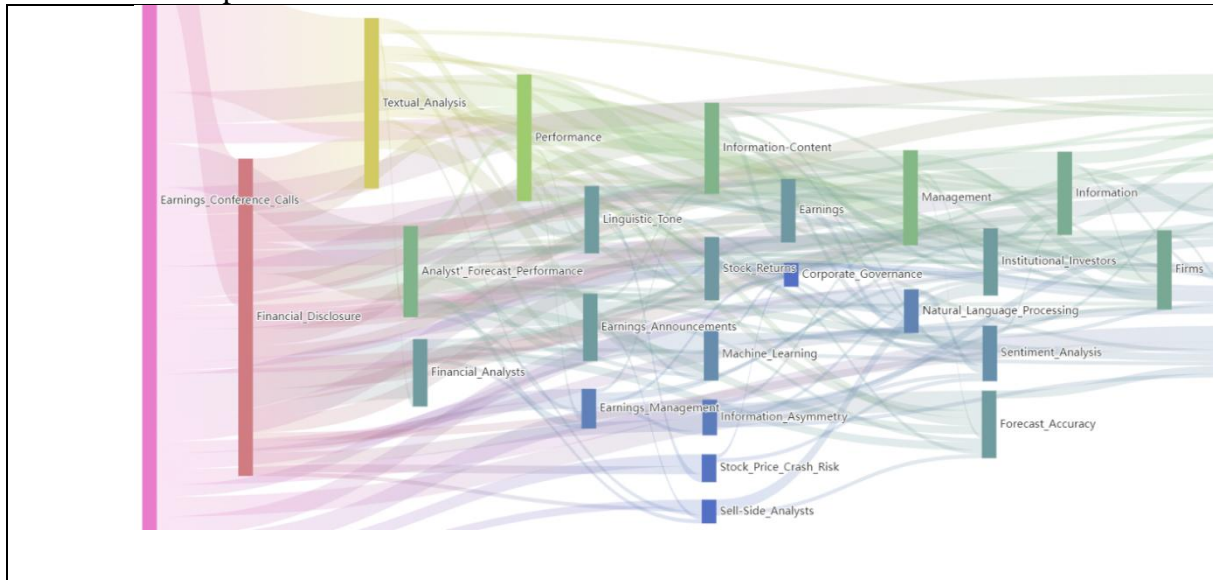


Figure 6 Sankey Diagram of Keywords

4 Prediction of Evolutionary Trends in the Field of Earnings Conference Calls

Burst terms refer to terms whose frequency of use increases significantly within a specific period or emerges suddenly over a short time. By analyzing the temporal distribution and trends of these terms' frequencies, burst terms can be precisely identified from a large number of literature keywords. This method helps to clearly analyze and understand the research frontiers and development trends in a particular discipline. Figure 7 illustrates the cumulative evolutionary path of keywords in the field of earnings conference call financial reporting. Mapping this path helps track the cutting-edge dynamics of the discipline and enables scholars in the field to better grasp the development trends and future research directions.

Before 2018, research in the field of earnings conference calls primarily focused on the effective management of financial earnings releases and forecasts. In 2018, terms such as “forecast accuracy” and “information content” attracted widespread attention from scholars. Meanwhile, concepts like “linguistic tone”, “sentiment analysis”, and “textual analysis” emerged as key research focuses(e.g., Fuoli, 2018; Pang & Chen, 2018; Lee, 2020; Fei & Zhang, 2023; Amicis & Tastan, 2021; Luo, 2024). In 2021 and 2024, “natural language processing” and “machine learning” respectively entered the academic discourse(Soto, 2021; Frankel & Lee, 2022; Majzoubi, 2022; Huang & Yang, 2023; Owen, 2024). This shift highlights that scholars have increasingly turned their attention to the linguistic aspects of earnings conference calls, approaching the topic from diverse disciplinary perspectives.

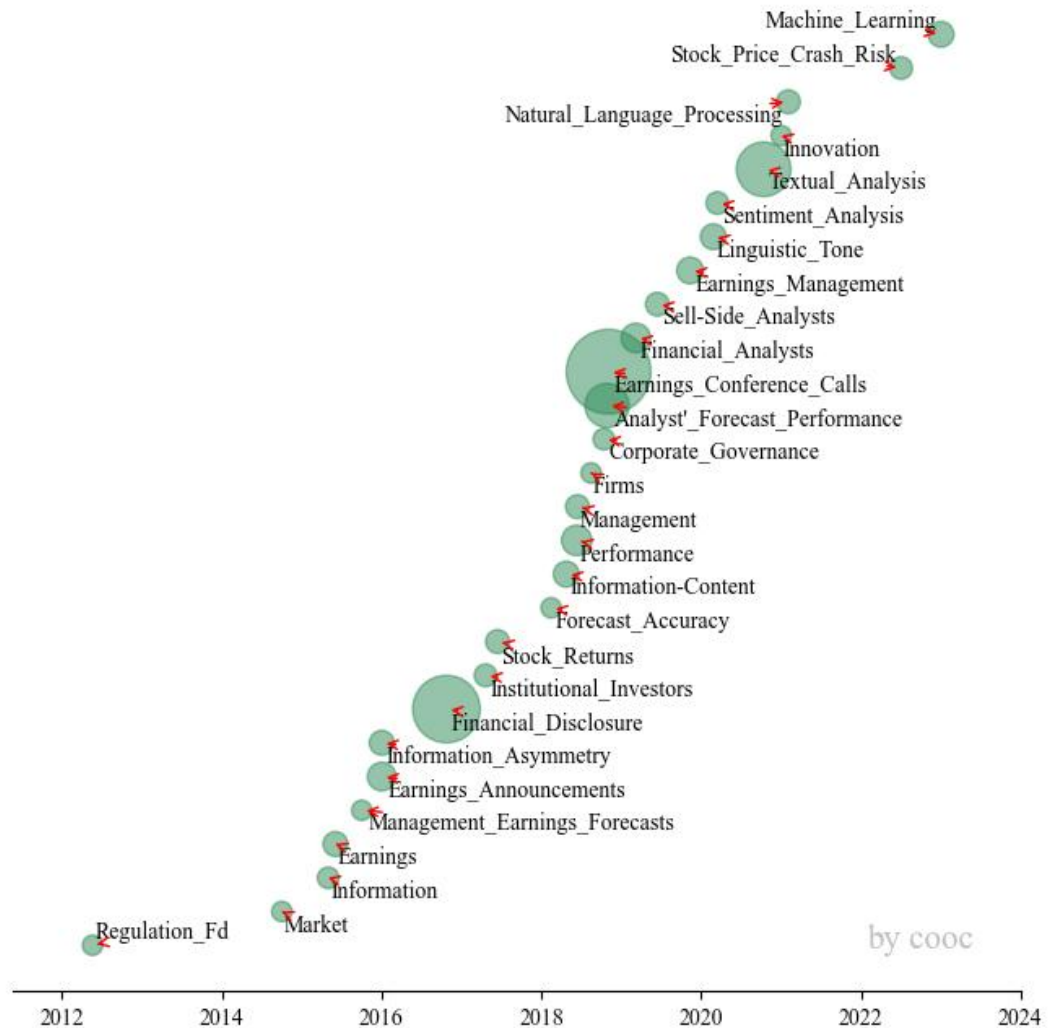


Figure 7 Evolutionary Path of Accumulated Keywords in the Field of Earnings Conference Calls

5 Conclusion

This study draws upon the Web of Science(WOS) academic journal database as its source of literature. Utilizing bibliometric analysis and supported by mathematical statistics and knowledge graph visualization software, it maps the knowledge landscape of the field of earnings conference calls. The study deeply analyzes the distribution patterns and evolutionary trends of the relevant literature, comprehensively tracing the research trajectory in this domain. The results indicate the following:

(1) the publication volume in the field of earnings conference calls presents a linear, year-by-year increase in research papers in this field, indicating that the research on earnings conference calls is in a stage of rapid development. This trend is driven by the growing importance of analyzing corporate disclosures through both traditional and innovative methods, which not only reflects the global interest in this area but also highlights the interdisciplinary nature of the research. For instance, studies have increasingly integrated machine learning and natural language processing techniques to analyze vocal delivery quality and detect deceptive cues in earnings calls. Additionally,

researchers are leveraging semantic similarity between earnings call transcripts and AI research papers to measure firm-level AI R&D and its market impact. These advancements underscore the importance of international collaboration in driving innovation and expanding the research frontiers in this field.

(2) The cooperation intensity among authors is robust, extensive, and tightly knit, indicating the formation of a well-developed collaborative network. In the research field of earnings conference calls, the USA, China, and Canada are the top three contributing countries, with the USA accounting for nearly half of the contributions. This leadership is evident in the USA's significant contributions to both foundational and applied research in earnings conference calls. For example, recent studies have focused on leveraging advanced AI and machine learning techniques to analyze earnings call transcripts and vocal cues, aiming to predict stock price movements. Additionally, the USA has been at the forefront of developing new models for fraud detection and earnings prediction, integrating linguistic and semantic analysis. These advancements highlight the interdisciplinary nature of the field and the USA's leading role in driving innovation.

(3) "earnings conference calls", "financial Disclosure", "textual analysis", "analyst' forecast performance", "performance", "financial analysts", "earnings announcements", "earnings management", "machine learning", "linguistic tone", "information asymmetry", "sell-side analysts", "natural language processing", "information content", and "sentiment analysis" all appeared more than 10 times. Co-occurrence analysis of these keywords reveals a close relationship among them, indicating strong thematic connections within the research domain.

(4) The evolution of keywords in financial research underscores a significant shift in scholars' focus from traditional economic perspectives to more diverse disciplinary approaches, including linguistic and machine-learning perspectives. This trend is evident in the increasing application of Natural Language Processing (NLP) and machine learning techniques to analyze financial data, such as earnings announcements, financial disclosures, and investor sentiment. For instance, NLP has been used to extract insights from unstructured financial texts, including earnings conference calls and financial reports, to enhance predictive analytics and risk management. Additionally, the growing emphasis on linguistic tone and sentiment analysis reflects a deeper integration of qualitative data into financial research. This shift allows researchers to better understand market dynamics and investor behavior by examining textual information, such as analysts' reports and social media sentiment. Furthermore, the increasing use of machine learning algorithms has improved the accuracy of financial forecasting and the identification of accounting-based anomalies. Overall, the convergence of economic, linguistic, and machine-learning perspectives in financial research highlights a multidisciplinary approach that enriches the understanding of financial markets and supports more informed decision-making.

This study uses a bibliometric approach to review research on earnings conference calls from 2000 to 2025, analyzing publication trends, author collaboration, and keyword co-occurrence. Results show a linear increase in publications, indicating rapid development in the field. The USA, China, and Canada are the top contributors, with strong author collaboration networks. The study highlights a shift towards interdisciplinary approaches, incorporating linguistic and machine-learning perspectives. It calls for focused research to enhance sustainable earnings release management and underscores collaborative opportunities for future trend analysis.

References

- [1] Academic Insights, Bibliometrics. Pyramid (Data-Information-Knowledge-Wisdom, DIKW): A software for data mining [CP/OL]. [2025-02-02]. <https://github.com/2088904822>
- [2] Chiara, A., et al. (2021). Sentiment Analysis and Gender Differences in Earnings Conference Calls. *Journal of Corporate Finance*, 71. <https://doi.org/10.1016/j.jcorpfin.2020.101809>
- [3] Du-Babcock, B. (2004). An Analysis of a Video-conferencing Project: Intercultural Communication, Administration and Student Reactions. *Paper presented at the 6th Association for Business Communication European Convention*, 2004.
- [4] Fei, X. Y., Xu, H. K. & Zhang, J. R. (2023). Linguistic Attributes and Trade Credit: Evidence from Textual Analysis of Earnings Conference Calls. *Journal of Corporate Accounting & Finance*, 34(1). <https://doi.org/10.1002/jcaf.22585>
- [5] Frankel, R., Jennings, J., & Lee, J. (2022). Disclosure Sentiment: Machine Learning vs. Dictionary Methods. *Management Science*. 68(7). <https://doi.org/10.1287/mnsc.2021.4156>
- [6] Fuoli, M. (2018). Building a Trustworthy Corporate Identity: A Corpus-Based Analysis of Stance in Annual and Corporate Social Responsibility Reports. *Applied Linguistics*, 39(6). <https://doi.org/10.1093/applin/amw058>
- [7] Huang, A. H., Wang, H. & Yang, Y. (2023). FinBERT: A Large Language Model for Extracting Information from Financial Text. *Contemporary Accounting Research*, 40(2). <https://doi.org/10.1111/1911-3846.12832>
- [8] Lee, W. W. L. (2020). Impression Management through Hedging and Boosting: A Cross-Cultural Investigation of the Messages of U.S. and Chinese Corporate Leaders. *Lingua*, 242. <https://doi.org/10.1016/j.lingua.2020.102872>
- [9] Luo, S., & Li, Y. H. (2024). The Tone of Earnings Communication Conferences and Trade Credit Financing of Listed Companies. *Finance Research Letters*, 70. <https://doi.org/10.1016/j.frl.2024.106354>
- [10] Majzoubi, M., & Zhao, E. Y. (2023). Going beyond optimal distinctiveness: Strategic positioning for gaining an audience composition premium. *Strategic Management Journal*, 44 (3). <https://doi.org/10.1002/smj.3460>
- [11] Owen, S. R. (2024) Stock Price Reaction to Impromptu Managerial Soft Information in Conference Calls. *Journal of Behavioral Finance*, 25 (4). <https://doi.org/10.1080/15427560.2023.2214262>
- [12] Pang, J. X., & Chen, F. (2018). Evaluation in English Earnings Conference Calls: A Corpus-Assisted Contrastive Study. *Text & Talk*, 38(4). <https://doi.org/10.1515/text-2018-0008>
- [13] Qiu J. P., & Wang, R. F. (2008). *Bibliometric Content Analysis Method*. Beijing: National Library Press, 2008.
- [14] Srivastava, A. & Anand (2024), Six decades of corporate disclosure research: a bibliometric review, *Managerial Finance*, 50(4). 768-790. <https://doi.org/10.1108/MF-01-2023-0020>
- [15] Zong Shuping. Core Author Evaluation Based on Price's Law and Comprehensive Index Method: A Case Study of Chinese Journal of Scientific and Technical Periodicals [J]. *Chinese Journal of Scientific and Technical Periodicals*, 2016, 27(12): 1310-1314.

Funding Project: This paper is a research achievement of the National College Students' Innovation and Entrepreneurship Training Program: A Comparative Study of Promotional Strategies in English Financial Reports from the Perspective of Digital Humanities (202313021038), and the Research Projects of the Zhejiang Provincial Social Science Federation: A Multidimensional Perspective on Promotional Strategies in English Financial Reporting Discourse (2023N108).