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REVIEW ARTICLE

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Connecting the dots: A systematic review of corporate social responsibility, information asymmetry, and economic implications

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Abstract

This paper conducts a comprehensive review of the theoretical and empirical connections between Corporate Social Responsibility (CSR), Information Asymmetry (IA), and their economic consequences. It employs a bibliometric analysis on 73 Web of Science manuscripts using VOSviewer1.6.18 software, combining this analysis with a literature review. The results reveal four thematic areas categorized into three clusters: CSR and IA, the impact of CSR and IA on internal risk control and corporate performance, and the broader effects of CSR and IA. The systematic literature review finds a prevailing consensus that CSR can alleviate IA issues, leading to positive economic outcomes like increased stock liquidity, enhanced investment efficiency, and reduced cost of capital. This study's uniqueness lies in its integration of bibliometric analysis and systematic literature review to provide a holistic summary of both theoretical frameworks and the economic implications of the CSR-IA relationship. It offers valuable insights and recommendations for future research in this field.

KEYWORDS
corporate performance, corporate social responsibility, information asymmetry, internal risk

1 | INTRODUCTION

The impact of CSR on the economy continues to attract the interest of scholars (Carey et al., 2021; Ho et al., 2021). From the perspective of the "eco-socio-economic" environmental protection and economic development should develop simultaneously (Liu & Tian, 2021; Wong et al., 2015). The Natural Resource-Based View (NRBV) points out that companies should focus on the growing challenges in the natural environment and benefit from maintaining a healthy relationship and healthy development between natural resources and the competitive advantage of the company (Hart & Dowell, 2011; Li et al., 2017). Therefore, driven by this context, it is necessary to highlight the importance of CSR by investigating and summarizing its impact on the economic performance that companies are most concerned about, and uncovering the underlying mechanisms of its influence.

According to previous theoretical and empirical studies, some activities or information disclosures can reflect that CSR can affect a series of corporate economic outcomes to a greater extent by reducing information asymmetry, such as the cost of capital (Dhaliwal et al., 2011; Diamond & Verrecchia, 1991; Zhang et al., 2021) and investment efficiency (Samet & Jarboui, 2017). Agency theory holds that enterprises' investment in information systems can effectively reduce information asymmetry (Eisenhardt, 1989; Jensen et al., 1976). Such an information system may include not only the information provided in the financial statements but also the information provided in the CSR reports (He et al., 2022). Ullmann (1985) pointed out that social responsibility information is not worthless, and this information can reduce the information uncertainty of investors. Therefore, from the perspective of agency theory, CSR, as an information system, can mitigate information risks and improve investment efficiency (Benlemlih & Bitar, 2018). Dhaliwal et al. (2011) also stated that the voluntary disclosure of non-financial information is similar to that of financial statements, which can reduce the cost of equity by mitigating information asymmetry.

CSR may have a negative impact on IA. Agency theory argues that the disclosure and activities of social responsibility can lead to agency costs and may increase the opportunistic behavior of managers, thus depriving enterprises of resources (Benabou & Tirole, 2010; Fama & Jensen, 1983; Jensen et al., 1976). Based on the informed and consensus effect, excessive information disclosure can result in a higher cognitive bias, leading to an increased risk of information asymmetry (Adhikari & Zhou, 2021). The empirical research results of Wang, Liu, and Wu (2021) found that higher participation in social responsibility activities can lead to a sharp drop in share prices. This may be due to the fact that managers use these activities or information to cover up unfavorable information, thereby increasing the likelihood of a significant decline in share prices.

It is also debatable whether CSR can genuinely lead to positive economic consequences by reducing information asymmetry. Previous research in this area has only briefly reviewed and extrapolated the relationship between CSR and information asymmetry, as well as the economic outcomes to be studied in the literature review section. The scope and credibility of the study are therefore limited by the specific focus of the research. Compared with previous systematic literature review studies on CSR, which only focus on famly firms (Mariani et al., 2023), discuss determinants of CSR (Ali et al., 2017), or examine modeling and measurement errors in CSR (Kong et al., 2020), the objective of this study is to comprehensively examine the relationship between CSR and information asymmetry, along with exploring the potential theoretical and empirical implications of this relationship. In other words, this systematic literature review seeks to answer questions about what the literature suggests regarding the relationship between CSR and information asymmetry and what the economic consequences of this relationship are.

To meet the objectives of this study and address the questions raised, we conducted a systematic literature review of 73 peer-reviewed articles collected from the Web of Science (WOS) database, all published before July 2022. These articles examine or reference the relationship between CSR and IA, and the economic outcomes of this relationship. The systematic literature review was based on the results of similarity visualization obtained through the bibliographic coupling method. The four clusters resulting from the similarity visualization results can be categorized into three main topics. This review will focus on these three topics: the first major topic explores the relationship between CSR and IA, the second major topic investigates the impact of CSR and IA on internal risk control and firm performance, and the third major topic delves into the impact of CSR and IA on firms in capital markets.

This systematic literature review makes a threefold contribution. First, unlike previous literature reviews (Ali et al., 2017; Benlemlih, 2017b; Kong et al., 2020), this study combines bibliometric analysis with a systematic literature review to systematically summarize the underlying theories used to explain the relationship between CSR and IA, as well as empirical studies examining this relationship. Second, in contrast to previous more homogeneous literature reviews (Benlemlih, 2017b), this study merges bibliometric analysis with a systematic review to provide a detailed summary and classification of the economic outcomes of CSR and IA. Third, this systematic literature review offers guidance and recommendations for future research on CSR and IA, suggesting that different methodologies, such as meta-analysis, can be employed in literature reviews to explore topics extending from CSR, including greenhouse gas emissions, employee responsibilities, and others. It is important to consider the nonlinear relationships among these factors and to conduct investigations within varying institutional or national contexts.

The article is structured as follows: Section 2 shows the research design, Section 3 describes data collection, Section 4 presents the research methods. Section 5 presents key findings followed by a discussion based on the results of the bibliometric analysis in Section 6. Section 7 provides suggestions, implications, and future research suggestions. Finally, Section 8 concludes the paper.

2 | RESEARCH DESIGN

Following the methodology of prior systematic literature reviews (Widyawati, 2020; Bartolacci et al., 2020; Donthu et al., 2021; Hiebl, 2023; Kong et al., 2020; Mariani et al., 2023; Schaltegger et al., 2022), this study retrieves relevant literature data from the WOS database through keyword searches. Samples for both bibliometric analysis and the systematic literature review are then meticulously chosen based on well-defined inclusion and exclusion criteria. The initial phase of the bibliometric analysis involves conducting a performance analysis of the gathered literature, assessing aspects such as publication year and citation counts. Subsequently, we employ the VOSviewer 1.6.18 bibliometric tool to perform a bibliographic coupling analysis, thereby mapping out the interconnections and similarities within the literature, which informs the systematic literature review process. Detailed explanations of these procedures and a comprehensive discussion on the methodologies and data will be presented in the following sections.

3 | DATA COLLECTION

The first step involves data collection and the selection of an appropriate sample for bibliometric analysis and a systematic literature review based on the inclusion criteria. Drawing from previous systematic literature and empirical reviews of CSR and IA (Ali et al., 2017; Kong et al., 2020; Mariani et al., 2023) and aligning with the objectives and questions of this study, two search strings were generated (see Table 1). Words from Groups 1 and 2 were combined in pairs and used to search in the titles, abstracts, and keywords of articles. This

TABLE 1 Search strings.

Group 1	Group 2
Search keywords to CSR	**Search keywords to IA**
Social disclosure	Information asymmetry
Social performance	Information transparency
CSR	Agency cost
Corporate social responsibility	Adverse selection
Environmental disclosure	Moral hazard
Environmental performance	Free cash flow
CER	Bid-ask spread
Corporate environmental responsibility	Analyst forecast error
Environmental, social and governance	Analyst following
ESG	Share turnover
Social practice	Share price volatility
Environmental practice	Cost of capital
Sustainability	Cost of equity
	Cost of debt

Note: Match the words or phrases from Group 1 with one by one in Group 2 and add the associated word AND, for example: Social Disclosure AND Information asymmetry; Social Disclosure AND Information transparency; etc.

search was conducted in June 2022. Group 1 keywords encompass descriptions of CSR, while Group 2 keywords describe IA, and for completeness, Group 2 also includes descriptions of how IA is quantified.

The search was carried out using the WOS database, which has been widely employed in prior systematic literature review research and citation data analysis (Bartolacci et al., 2020; Mariani et al., 2023; Mongeon & Paul-Hus, 2016; Nguyen, Ntim, & Malagila, 2020; Salzmann et al., 2005; Widyawati, 2020). WOS includes various article types and indexes, all authors, institutional addresses, bibliographies for each article, and other detailed information that enhances the accuracy of bibliometric analysis results (Meho & Yang, 2007; Mongeon & Paul-Hus, 2016).

Table 2 outlines the process of data collection and results. Due to the confusing and uneven quality of the initial data collected, some inclusion criteria were set to select the most appropriate sample based on previous studies. Initially, non-English peer-reviewed articles were excluded, together with papers published in Journals that are unrelated to the fields of accounting, management, business, economics, ethics, finance, environmental/social science. Using the ABS Journal Ranking list, only articles published in journals with 2 stars or more were selected. As shown in Table 2, the number of initial search results was 6884, and after the initial exclusion phase, 4684 articles are excluded. Consistent with previous research (Schaltegger et al., 2022), in order to ensure the quality and reliability of selected articles for the next steps, this study uses SPSS macro created by Hayes and Krippendorff (2007), and calculates Krippendorff α by macro to measure the reliability. All three authors reviewed 30 randomly chosen articles and rated whether these articles should be included in the sample for the next step analysis based on the

TABLE 2 Data collection steps and results.

	Web of science
Step 1	
First scan	6884
• Data cleaning: Removal of duplicates and incorrect entries; exclude non-scientific journal (e.g., proceedings, book chapter, conference)	−4684
• Data cleaning; exclude non-English; Exclude non-peer reviewed; Articles that do not include in the following areas will be excluded based on the research areas provided by WOS: accounting, management, business, economics, ethics, finance, environmental/social sciences or related fields such as technology; According to the journal ranking provided by ABS, only articles published in journals with 2 stars or more are selected.	
Remain	2200
Step 2	
• Removal of articles based on title and abstract	−2096
Remain	104
Step 3	
• Removal of articles based on full text analysis	−31
Remain	73

inclusion criterion given above. The results were discussed to achieve agreement until agreement by all authors was reached at the threshold of Krippendorff α of 0.8 (Guthrie & Mathews, 1985). Next, a total of 2096 articles were removed from the sample by examining the content of the title and abstract to determine whether this article

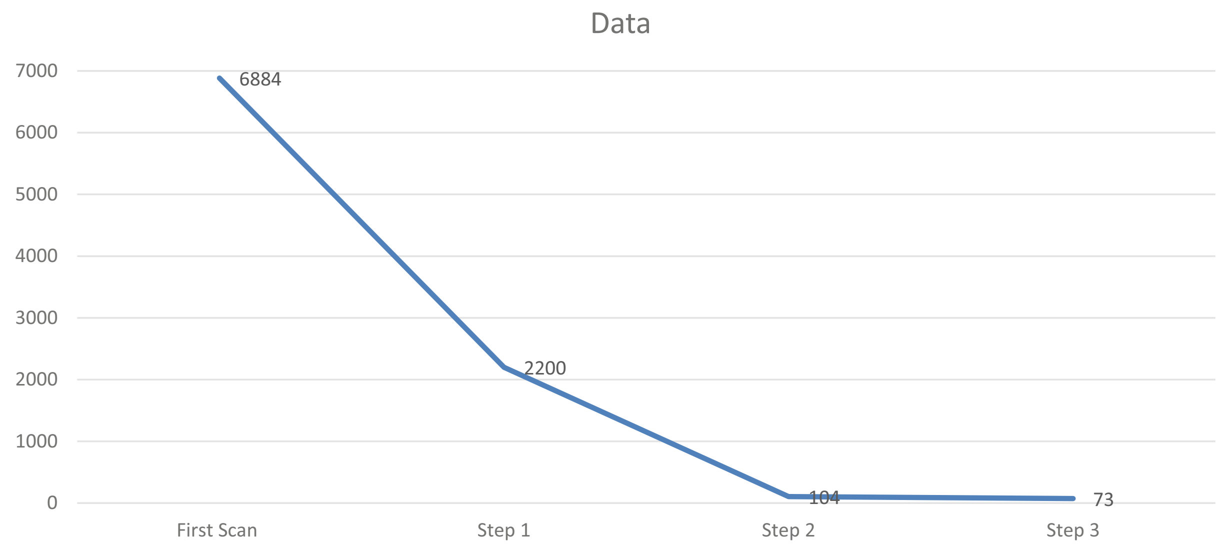

FIGURE 1 Data distribution.

investigated or mention the relationship between CSR and IA, and some economic outcome brought by this relationship. Third, although the titles and abstracts are rigorously reviewed, full-text analysis is needed to ensure that only more relevant articles are included. After full-text review, 31 articles were excluded, finally, 73 articles can be used for bibliometric analysis and systematic literature review. A line figure is created in order to clearly show the data distribution by inclusion and exclusion criterions, as shown in Figure 1.

4 | RESEARCH METHOD

In the second step, the selected samples are used for bibliometric analysis. The purpose of employing bibliometric analysis is to quantitatively assess the knowledge structure of the current research fields related to CSR and IA. Bibliometric analysis primarily comprises two methods: performance analysis and science mapping (Donthu et al., 2021). Performance analysis primarily describes the research components, including the number of citations, authors, countries, and journals in which the articles are published. Science mapping utilizes methods such as citation analysis, co-citation analysis, bibliographic coupling, co-word analysis, and co-authorship analysis to examine the relationships among research components. Combining network analysis techniques like clustering and visualization can better illustrate the structure of the research field.

This systematic literature review primarily relies on the bibliographic coupling method, one of the bibliometric analysis methods provided by the bibliometric tool VOSviewer 1.6.18, to measure the reference similarity between articles (Boyack & Klavans, 2010; Donthu et al., 2021; Kessler, 1963; Weinberg, 1974). Compared to other science mapping methods such as co-citation analysis, which are mainly used to identify foundational knowledge, bibliographic coupling is more suitable for business scholars aiming to uncover current research topics. This is because higher reference similarity indicates that two articles are more likely to study the same topics (Donthu et al., 2021; Vogel & Güttel, 2013). Unlike co-citation analysis, the references of an article remain constant over time, whereas co-citation counts change with time (Vogel & Güttel, 2013).

The VOSviewer 1.6.18 tool constructs a two-dimensional distance-based map through a series of scripts and mathematical algorithm matrices (Van Eck & Waltman, 2010). VOSviewer 1.6.18 calculates the similarity matrix through the co-occurrence matrix, then creates the mapping based on the similarity matrix. Finally, the map is translated, rotated, and reflected (Van Eck & Waltman, 2010). In the map, the distance between articles can be interpreted as the correlation between references, so articles with similar references are closely connected in the map to form clusters. Each cluster is assigned the same color, representing a distinct research topic. The VOSviewer 1.6.18 tool is considered practical because the number of citations does not change over time, and it has been frequently used in previous systematic literature review articles for constructing visualization maps to identify topics and for bibliometric analysis (Bartolacci et al., 2020; Mariani et al., 2023).

The third step involves regrouping the selected articles into clusters and conducting full-text reviews. Subsequently, the research topics of each group are assessed. Finally, a systematic literature review can be carried out based on the articles in each group and their respective topics, aiming to address research questions.

5 | FINDINGS

Samples for the systematic literature review have been obtained, as well as articles data and published information. These data were analyzed based on performance analysis. Figure 2 shows the number of articles published in WOS over time, and it confirms that the number of articles examining the relationship between CSR and IA has been on the rise for over a decade. The findings suggest that there has

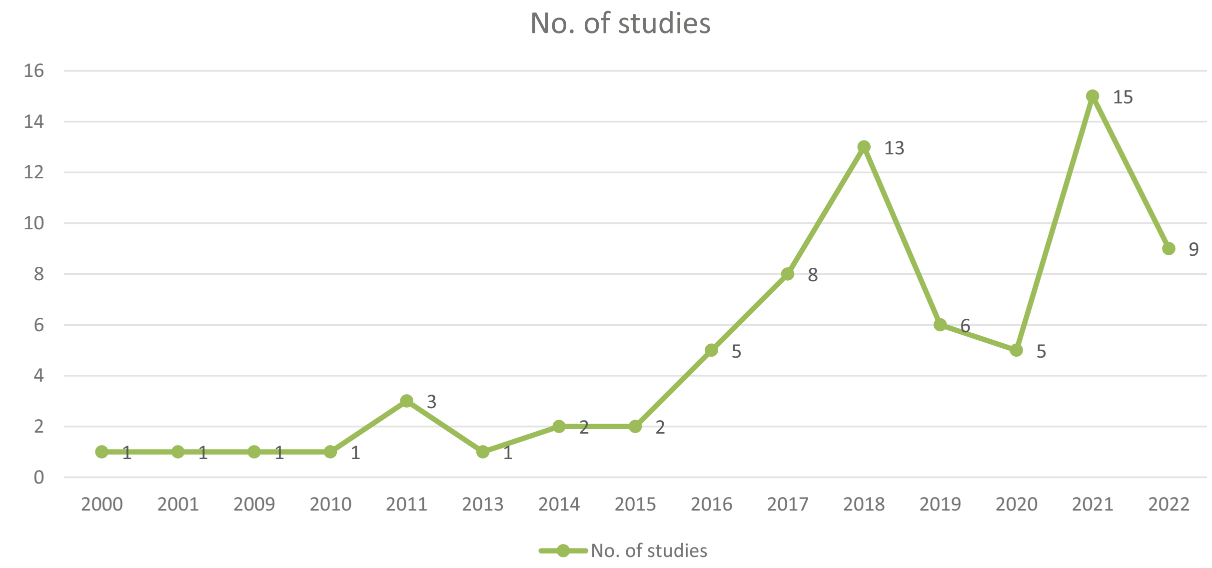

FIGURE 2 Number of studies distributions by year.

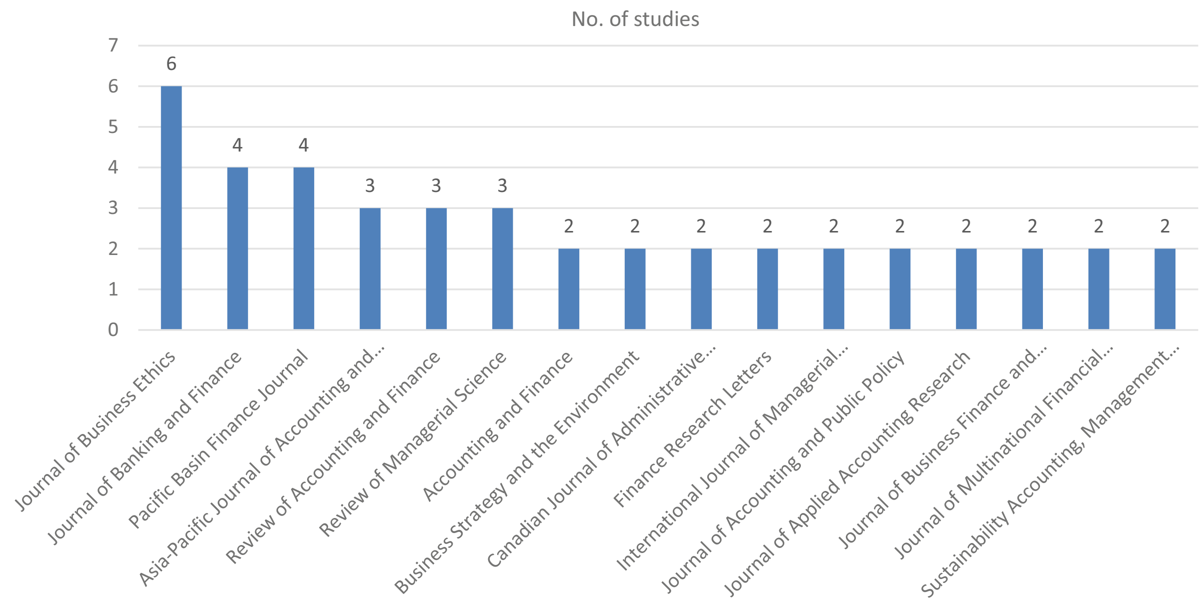

FIGURE 3 Journals containing at least two articles.

been continuous academic attention and a high level of academic interest in this topic. In particular, 86% articles have been published since 2015. Based on the number of articles published in previous years, 2021 was the year in which more articles were published, with 15 published in that year. Although only nine articles were available between the beginning of 2022 and June (the deadline for collecting literature), it would still be expected that the number of articles in 2022 is expected to exceed that of 2021.

Based on the data collected, a total of 73 articles were published in 46 different journals. Figure 3 shows the journals that contained at least two of the 73 articles, with the Journal of Business Ethics containing the largest number of articles with 6 papers (8.2%). This is followed by the Journal of Banking and Finance and the Pacific Basin Finance Journal, both of which have four articles each. The Asia-Pacific Journal of Accounting and Economics, Review of Accounting and Finance and Review of Managerial Science each have 3 articles (4.1%) in the journal. *Finance*, Business Strategy and the Environment, Canadian Journal of Administrative Sciences, Finance Research Letters, International, Journal of Managerial Finance, Journal of Accounting and Public Policy, Journal of Applied Accounting Research, Journal of, Business Finance and Accounting, The Journal of Multinational Financial Management and the Sustainability Accounting, Management and Policy Journal have each included 2 articles (2.7%). It is therefore clear that the Journal of Business Ethics is more welcome to articles on this topic than other journals.

The citation scores for the journals are presented in Figure 4. Citation scores are calculated based on Ibrahim et al. (2022) citations per year, which takes into account the temporal effect of the number

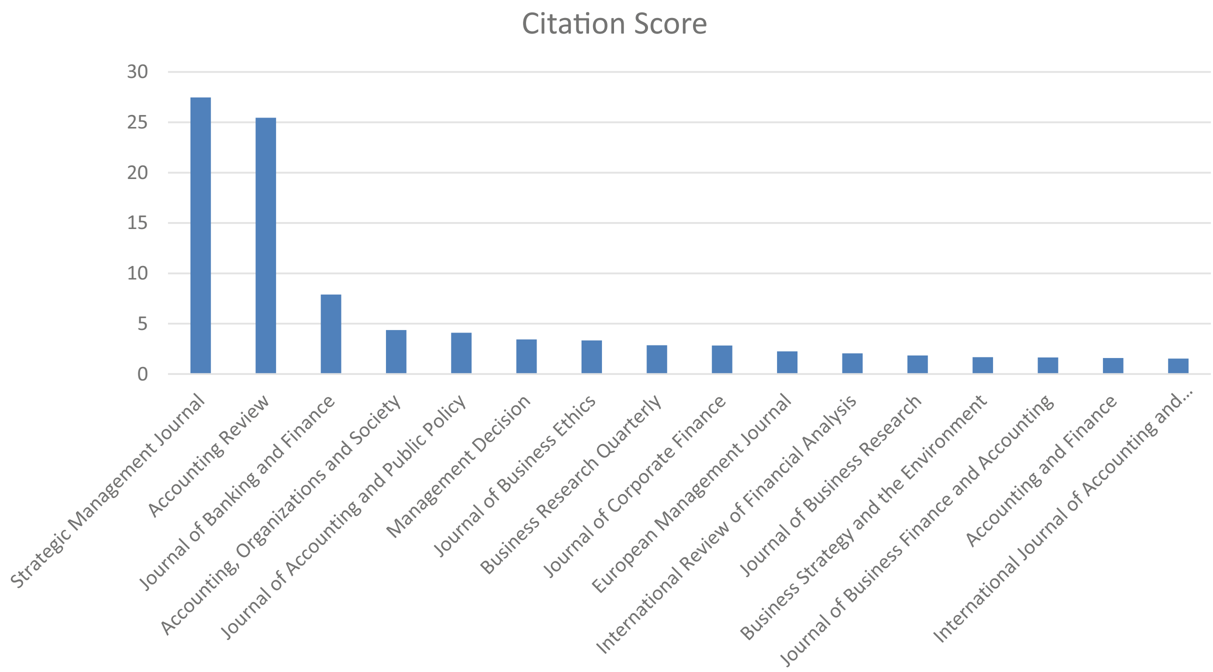

FIGURE 4 Rank of journal citation score.

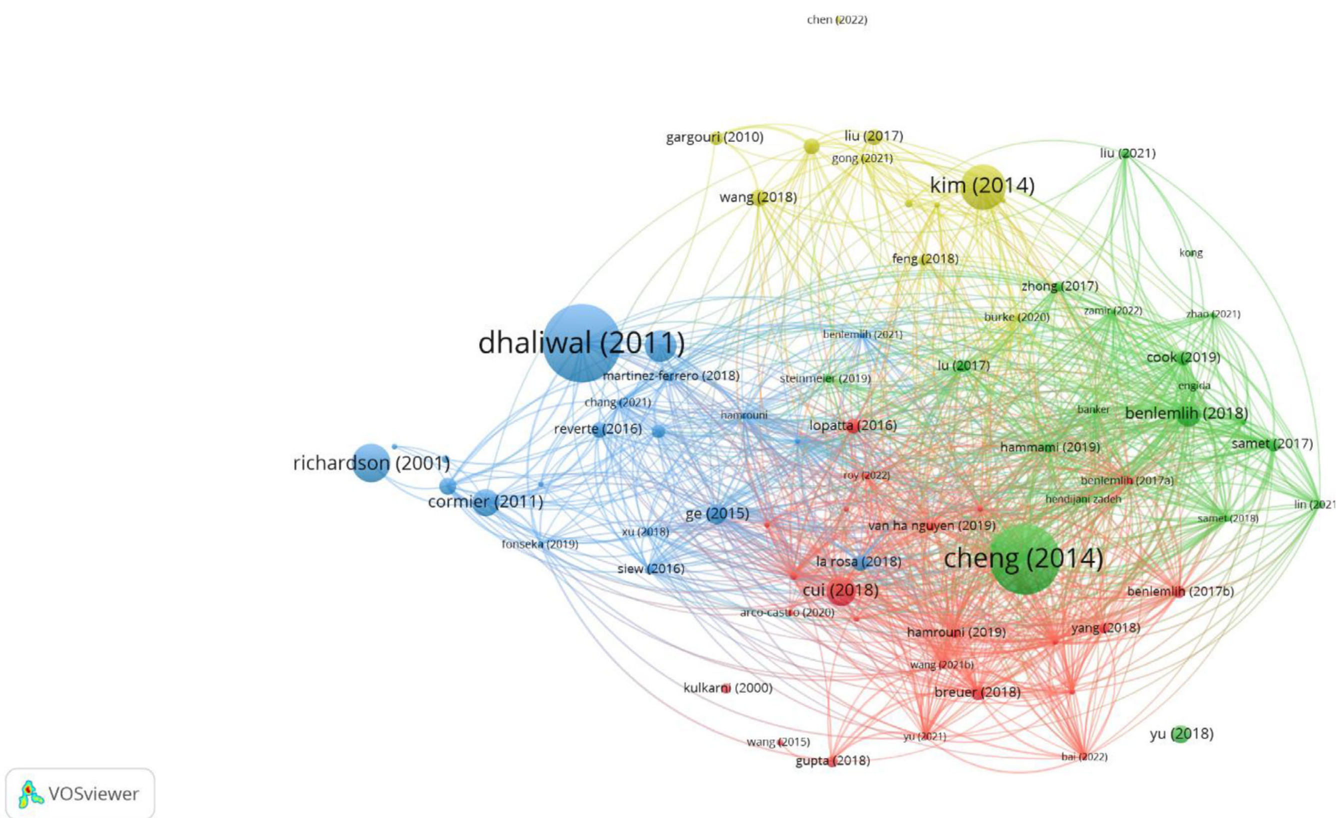

FIGURE 5 Bibliometric coupling resulting.

of citations. As the deadline for collection of literature in this systematic review is June 2022, it is calculated on a monthly basis, unlike Ibrahim et al. (2022), which is calculated on an annual basis. Figure 4 only lists journals with an average number of citations greater than or equal to 2. Figure 4 shows that articles in Strategic Management Journal are cited an average of 27 times per month, followed closely by

TABLE 3 Top 10 articles in each topic.

Topic 1

Article title	Authors	Journal	ABS star	Publication year	Time cited
Corporate social responsibility performance and information asymmetry	Cho, SY; Lee, C; Pfeiffer, RJ	Journal of Accounting and Public Policy	3	2013	582
Does corporate social responsibility affect information asymmetry?	Cui, J; Jo, H; Na, H	Journal of Business Ethics	3	2018	436
Attributes of social and human capital disclosure and information asymmetry between managers and investors	Cormier, D; Aerts, W; Ledoux, MJ; Magnan, M	Canadian Journal of Administrative Sciences	2	2009	218
Mitigating information asymmetry through sustainability assurance: The role of accountants and levels of assurance	Cuadrado-Ballesteros, B; Martinez-Ferrero, J; Garcia-Sanchez, IM	International Business Review	3	2017	91
Environmental ethics and information asymmetry among organizational stakeholders	Kulkarni, SP	Journal of Business Ethics	3	2000	83
The impact of corporate sustainability performance on information asymmetry: the role of institutional differences	Diebecker, J; Sommer, F	Review of Managerial Science	2	2017	46
The impact of ESG disclosures and institutional ownership on market information asymmetry	Siew, RYJ; Balatbat, MCA; Carmichael, DG	Asia-Pacific Journal of Accounting and Economics	2	2016	45
Corporate social responsibility disclosure and information asymmetry: the role of family ownership	Martinez-Ferrero, J; Rodriguez-Ariza, L; Garcia-Sanchez, IM; Cuadrado-Ballesteros, B	Review of Managerial Science	2	2018	41
Does corporate social responsibility reduce information asymmetry? Empirical evidence from Australia	Nguyen, VH; Agbola, FW; Choi, B	Australian Journal of Management	2	2019	36
Corporate social responsibility disclosure and information asymmetry: does boardroom attributes matter?	Hamrouni, A; Bouattour, M; Toumi, NB; Boussaada, R	Journal of Applied Accounting Research	2	2021	4

Topic 2

Article title	Authors	Journal	Star	Publication year	Time cited
Corporate social responsibility and investment efficiency	Benlemlih, M; Bitar, M	Journal of Business Ethics	3	2018	342
Investigating the relationship between corporate social responsibility and earnings management: Evidence from Spain	Gras-Gil, E; Manzano, MP; Fernandez, JH	BRQ Business Research Quarterly	2	2016	223
Environmental, social and governance transparency and firm value	Yu, EPY; Guo, CQ; Luu, BV	Business Strategy and the Environment	3	2018	160
The relationship between corporate social performance and earnings management	Gargouri, RM; Francoeur, C; Shabou, R	Canadian Journal of Administrative Sciences	2	2010	149
Mandatory corporate social responsibility (CSR) reporting and financial reporting quality: Evidence from a Quasi-Natural experiment	Wang, X; Cao, F; Ye, KT	Journal of Business Ethics	3	2018	135
Does family involvement explain why corporate social responsibility affects earnings management?	Liu, MZ; Shi, YL; Wilson, C; Wu, ZY	Journal of Business Research	3	2017	122

TABLE 3 (Continued)

Topic 2					
Article title	**Authors**	**Journal**	**Star**	**Publication year**	**Time cited**
The influence of corporate social responsibility on investment efficiency and innovation	Cook, KA; Romi, AM; Sanchez, D; Sanchez, JM	Journal of Business Finance and Accounting	3	2019	122
How does corporate social responsibility contribute to investment efficiency?	Samet, M; Jarboui, A	Journal of Multinational Financial Management	2	2017	95
Corporate social responsibility disclosure and the value of cash holdings	Lu, LY; Shailer, G; Yu, YX	European Accounting Review	3	2017	80
Does corporate social responsibility disclosure improve firm investment efficiency? Evidence from China	Zhong, M; Gao, L	Review of Accounting and Finance	2	2017	49
Topic 3					
Article title	**Authors**	**Journal**	**Star**	**Publication year**	**Time cited**
Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting	Dhaliwal, DS; Li, OZ; Tsang, A; Yang, YG	Accounting Review	4	2011	3513
Corporate social responsibility and access to finance	Cheng, BT; Ioannou, I; Serafeim, G	Strategic Management Journal	4	2014	2802
Does corporate social responsibility affect the cost of capital?	El Ghous	Journal of Banking and Finance	3	2011	2699
Social disclosure, financial disclosure and the cost of equity capital	Richardson, AJ; Welker, M	Accounting, Organizations and Society	4	2001	1126
Corporate social responsibility and stock price crash risk	Kim, Y; Li, HD; Li, SQ	Journal of Banking and Finance	3	2014	923
The informational contribution of social and environmental disclosures for investors	Cormier, D; Ledoux, MJ; Magnan, M	Management Decision	2	2011	474
Corporate social responsibility and the cost of corporate bonds	Ge, WX; Liu, MZ	Journal of Accounting and Public Policy	3	2015	278
Corporate social responsibility disclosure and market valuation: evidence from Spanish listed firms	Reverte, C	Review of Managerial Science	2	2016	125
The impact of corporate social performance on the cost of debt and access to debt financing for listed European non-financial firms	La Rosa, F; Liberatore, G; Mazzi, F; Terzani, S	European Management Journal	2	2018	122
Corporate social responsibility, investor protection, and cost of equity: A cross-country comparison	Breuer, W; Muller, T; Rosenbach, D; Salzmann, A	Journal of Banking and Finance	3	2018	109

articles in Accounting Review, which are cited 25 times per month. This is followed by articles in the Journal of Banking and Finance, which receive an average of 8 citations per month. This is followed by articles in Accounting, Organizations and Society and the Journal of Accounting and Public Policy, both of which are cited an average of 4 times per month. Articles in Management Decision, Journal of Business Ethics, Business Research Quarterly and Journal of Corporate Finance were cited an average of 3 times per month. Last published in European Management Journal, International Review of Financial Analysis, Journal of Business Research, Business Strategy and the Environment, Journal of Business Finance and Accounting, Accounting and Finance and International Journal of Accounting and Information Management were cited on average 2 times per month. Thus, it can be seen that the articles published in Strategic Management Journal and Accounting Review are more likely to be cited.

By importing 73 articles data from WOS date set into VOSviewer1.6.18, generated bibliometric map shows 4 clusters in Figure 5 indicating 4 potential topics. Based on the bibliographic coupling results provided by VOSviewer1.6.18 and full text review, 73 articles divided into three major topics for systematic literature review. The first major topic discusses the relationship between CSR and IA, with 12 articles. The second major topic discusses the impact of CSR and IA on Enterprise Internal Risk Control and Enterprise performance, with 25 articles. The third major topic discusses the impact of CSR and IA on Enterprises in Capital Market, with 36 articles. The top ten most cited articles on the three main topics are listed in Table 3, along with information about them.

6 | DISCUSSION OF CLUSTER

6.1 | CSR and IA

The 12 articles in the first topic mainly study the relationship between CSR and IA. After reviewing the full text, it is found that the most frequently used theories for constructing the theoretical framework of the 12 articles are agency theory and stakeholder theory. These theories argue that CSR can both weaken and strengthen IA. All 12 articles adopt empirical analyses, and 11 of them show that CSR can weaken IA. Only one article comes to a different conclusion, and it suggests that factors such as institutional investors and family control can impact this correlation.

Previous studies, such as Cormier et al. (2009), Cho et al. (2013), Siew et al. (2016), Cui et al. (2018), Hamrouni et al. (2022), have shown that the most commonly used theories to deduce the relationship between CSR and IA are agency theory and stakeholder theory. The agency theory is established for the ubiquitous agency relationship, which can be regarded as a kind of contract (Eisenhardt, 1989). The principal can require the agent to provide them (the principal) with services that can satisfy their own interests, which will also transfer some decision-making power to the agent (Jensen et al., 1976; Ross, 1973). Agency problem arises when both parties, that is, the principal and agent, pursue their own self-interest, which can be mitigated through various mechanisms, such as regulations and incentives (Alqatan et al., 2019; Bosse & Phillips, 2016; Cohen et al., 2007; Dalton et al., 2007; Healy & Palepu, 2001; Usman et al., 2022).

Moral hazard (MH) and adverse selection (AS), two main agency problems, are referred to as hidden behavior and hidden information, respectively (Arrow, 1984; Biddle et al., 2009; Fazzari et al., 1988). MH refers mainly to the fact that the agent performs some behavior, such as empire building, diligence aversion, risk aversion, and concern for one's career and reputation, that is not perceived by the principal and that this behavior generates value for the agent (Jensen, 1986; Darrough & Stoughton, 1986; Stein, 2003; Roychowdhury, 2006; Biddle et al., 2009; Bosse & Phillips, 2016; Ezeani et al., 2023). AS problem arises mainly because the agent has more information than the principal (Darrough & Stoughton, 1986). Managers will only issue shares when they find that the shares will be overvalued by using private information, but investors will find that the managers have concealed the information, so they will ask for a discount until the managers disclose their private information (Baker et al., 2003; Chen et al., 2017; Dye, 1985; Myers & Majluf, 1984).

In order to expose and monitor the undiscovered behavior of agents (moral hazard and adverse selection), the principal can invest in the enterprise's information system to better expose the agent's behavior and play a regulatory role (Eisenhardt, 1988, 1989; Usman et al., 2022). To a certain extent, the CSR activities or information of an enterprise can provide additional information to the principal and, hence, better monitoring to the agent's behavior. Stakeholder theory indicates that the company should consider all stakeholders when making decisions and formulating strategies (Freeman, 2001). The enterprise can meet the needs of multi-stakeholders through activities relevant to CSR, which have recently witnessed an increase demand by stakeholders (Chen et al., 2022; Chen et al., 2023; Mcwilliams & Siegel, 2000; McWilliams & Siegel, 2001; Preston & O'bannon, 1997; Radu & Smaili, 2021). In addition, enterprises will further undertake CSR or disclose relevant information in order to maintain the competitive advantage brought by managers' reputation, and the stakeholders will also help enterprises further transmit CSR information, thus further enhancing the transparency of enterprise information (Cui et al., 2018; Mcwilliams & Siegel, 2001; Ullmann, 1985). According to Lu et al. (2017) from investor's perspectives, CSR can provide more incremental information to predict and analyze the cost and profitability of an enterprise, and can better supervise the behavior of managers.

However, agency theory also points out that the supervision of the agent by the principal will result in the supervision cost and also the residual loss, which is the so-called agency cost (Fama & Jensen, 1983; Jensen et al., 1976), therefore, CSR activity or information is also equivalent to a cost to a certain extent, which will affect the enterprise's revenue. Moreover, regulation will also affect the agent's enthusiasm, which may also aggravate the agency problem (Cohen et al., 2007). Friedman (2007) stressed that the use of corporate resources by corporate executives to undertake CSR is contrary to the original intention of shareholders to choose managers, operating enterprises to earn profits, and executives may also use CSR as a cover for some bad behavior, and executives may not be able to undertake and perform CSR well because they are not SR professionals. The definition of CSR includes not only the goal of CSR as a long-term benefit, but also CSR as philanthropic activities on behalf of stakeholders and corporate philanthropic activities initiated by internal managers, in the latter two definitions CSR is considered to have some inherent altruism, potential material incentives, and concern for social status and self-esteem (Benabou & Tirole, 2010). CSR may therefore further contribute to IA.

IA may also occur between investors, such as between large and small shareholders (Komal et al., 2023), and between institutional and ordinary investors. Chau and Gray (2010) suggest that family shareholders, compared to non-family shareholders, represent the fact that large shareholders have more information compared to small shareholders. Therefore, as investors who are already well-informed, they may disseminate timely information about the CSR that is already in their possession, which, in turn, increases the liquidity of the market and serves to reduce IA. However, they may also utilize this information to their advantage. Cho et al. (2013) proposed that institutional investors, as investors who have already obtained CSR performance information in advance, may disseminate information to increase market liquidity, according to the theory of information efficiency. They may also use this private information for insider trading to gain excess profits.

Based on the above theory, the relationship between CSR and IA is mixed, so the relationship between CSR and IA is then analyzed from the perspective of empirical analysis. Research by Kulkarni (2000) shows that, in the long term, environmental practices of enterprises may reduce IA because the government and the community will supervise the disclosure by enterprises. The empirical results of Cormier et al. (2009) concluded that social and human capital information disclosure by American companies can reduce IA problem, and quantitative information weakens IA to a greater extent than indicative information. The empirical research results of Cho et al. (2013) indicated that negative CSR performance can reduce IA of American companies, however institutional investors will initially obtain the CSR performance information to improve financial performance and then weaken the reduction of IA by CSR performance. Siew et al. (2016) results show that the disclosure of ESG information can reduce the IA of US companies, however this reduction can be affected by the increase of institutional investors' control rights. Martínez-Ferrero et al. (2016), an empirical study using an international sample of 575 individuals between 2003 and 2009, found a causal effect of sustainable disclosure and IA. Based on an international sample, Cuadrado-Ballesteros et al. (2017) found that only guaranteed sustainability reporting can mitigate information asymmetries, in particular guarantees provided by professional accountants. Diebecker and Sommer (2017) found that corporate sustainability performance can weaken IA of European firms, and this weakening effect is more obvious in countries with free market or strict disclosure requirements. Based on an international sample, Martínez-Ferrero et al. (2018) discovered that CSR disclosure and IA are causally related to each other. However, this two-way relationship will be weakened in the family business, because family members will make use of the advantage of preferential access to information to profit and thus cause adverse selection problem (Martínez-Ferrero et al., 2018). Cui et al. (2018) found that active participation in CSR can reduce IA of U. S. firms, especially for high-risk enterprises, by reducing reputation risk. The empirical research results of Nguyen et al. (2019) demonstrate that CSR has a negative impact on IA of Australian firms. This negative effect is more obvious in large-scale companies and companies with greater product market power, but the negative impact will be weakened in the consensus that the equity risk level is high. The study by Adhikari and Zhou (2021) found that U.S. firms that provide complete information on carbon emissions are more likely to reduce IA than firms that provide incomplete and non-informative information. The research of Kong et al. (2022) found that in the era of big data, digital finance can effectively urge and supervise Chinese enterprises to disclose environmental information, so as to obtain the financing convenience brought by reducing IA. However, Hamrouni et al. (2022) concluded that the impact of disclosure on IA varies between environmental and social information, stating that environmental disclosure can increase IA of French firms, while no relationship identified with social disclosure.

In summary, most of the theoretical arguments and empirical results suggest that CSR can be effective in attenuating IA. And some studies also suggest that the attenuating effect of CSR on IA may be modified by other factors, such as investor ownership, family firms, timeliness, free markets, strict disclosure requirements and firm size.

6.2 | The impact of CSR and IA for enterprise internal risk control and enterprise performance

In the study of CSR and IA on internal risk control and corporate performance, the most frequently occurring theories include agency theory, stakeholder theory, social emotional value theory, good manager theory, information economy theory and legitimacy theory. As mentioned in previous theoretical review, IA is the condition for corporate managers to conduct some risk behavior and opportunity behavior, and therefore is the condition for agency problem (Bosse & Phillips, 2016; Cohen et al., 2007; Dalton et al., 2007; Eisenhardt, 1989; Wang et al., 2018). While CSR provides relevant information to meet the needs of many stakeholders, investors and shareholders can also use CS information to better assess and monitor the behavior of managers. This also leads in reducing IA between investors, shareholders, and managers and their opportunistic behavior (Burke et al., 2020; Cook et al., 2019; Healy & Palepu, 2001). In turn, the internal risk of the firm can be controlled because the manager's opportunistic behavior is limited. Social–emotional wealth theory, as an extension of behavioral agency theory, can be interpreted as the accumulation of social–emotional endowment (Gómez-Mejía et al., 2007). Family-controlled enterprises will reject and limit decisions and behaviors that threaten the accumulation of emotional endowment because avoiding damage to social–emotional endowment takes priority over avoiding financial loss (Berrone et al., 2012; Liu et al., 2017). CSR can be understood as social and emotional accumulation. Family-controlled enterprises, as the dominant party with inside information, similar to informed institutional investors, also actively transmit information to promote market liquidity based on information efficiency theory (Cohen et al., 2007).

From the perspective of the theory of good managers extended from the stakeholder theory and information economy theory, the attention paid by good managers to social responsibility in practice will improve the relationship between an enterprise and its major stakeholders which can ultimately bring better financial performance (Albitar et al., 2020; Alqatan et al., 2019; Preston & O'bannon, 1997; Waddock & Graves, 1997; Wang et al., 2015). Legitimacy theory assumes that an entity's behavior is considered appropriate and acceptable within a system of norms, values, beliefs, and definitions that society construction a manner that meets expected social norms (Gerged et al., 2023; Suchman, 1995). Legitimacy theory holds that companies should conduct economic activities. Legitimacy is a prerequisite for a company to be able to operate and generate performance (Dowling & Pfeffer, 1975; Wang et al., 2015). Companies can engage in CSR to ensure their legitimacy and meet the requirements of legality (Fernando & Lawrence, 2014; Kolsi et al., 2023). Stakeholders also want legitimate companies to actively assume environmental responsibilities (Kolsi et al., 2023; Wang et al., 2015). CSR can therefore ensure that a company is sustainable, riskless and earns performance income.

However, according to Burke et al. (2020) CSR may help managers to cover up opportunistic behavior which may in turn aggravate the opportunity behavior of managers. CSR activities may also erode the resources of enterprises and ultimately adversely affect the performance of enterprises (Preston & O'bannon, 1997). Moreover, the legitimacy theory also believes that poorly performing companies can use information disclosure (especially low-quality, superficial and incomplete information) to cover up to maintain legitimacy and create the image of sustainable development (Hummel & Schlick, 2016). Contrary to previous socio-emotional theories, the argument is made that family shareholders, compared to non-family shareholders, possess more information due to their large share ownership. Thus, being well-informed investors, they might also exploit this information for their benefit, resulting in IA (Chau & Gray, 2010). Similarly, institutional investors, having obtained CSR performance information in advance, might exploit this privileged information for insider trading, aiming for excessive profits (Bushee & Goodman, 2007). Therefore, from the theoretical point of view it is unclear as to whether CSR disclosure or activity affects the internal risk control and performance of the firm. Hence, the following paragraphs looks into the empirical findings and arguments to explore whether a clearer observation can be made.

6.2.1 | The impact of CSR and IA for enterprise internal risk control

Cheng and Kung (2016) found that Chinese companies that actively undertake CSR will have more ethical behavior, and will urge companies to actively comply to accounting conservatism and provide high-quality financial information to reduce IA. However, the empirical results is weaker in state-owned enterprises. The research results of Gras-Gil et al. (2016) also found that CSR can enable Spanish enterprises to curb managers' earnings management behavior. Commitment and fulfillment of CSR also means accountability to stakeholders, and provide stakeholders with a better information environment and high-quality information. The empirical research of Liu et al. (2017) using U.S firm as sample found that in order to maintain reputation, companies with family involvement are more socially responsible and therefore more inclined to provide credible financial reports to reduce IA, and are unlikely to engage in accrual earnings management. However, when family involvement be considered, CSR performance is not related to accrual earnings management or real earnings management, so there is a substitution effect of between CSR and family involvement. The results of Wang et al. (2018) study using Chinese listed companies show that mandatory CSR disclosure can reduce IA between managers and investors, and can better supervise the managers' behavior. This can inhibit managers' earnings management, which is more obvious in companies with fewer analysts. Burke et al. (2020), using a sample of US listed companies, find that CSR performance can substitute for conditional accounting conservatism in information transmission and discourage opportunistic behavior and thus discourage managerial opportunism and reduce the IA of firms in the capital market. This substitution effect is more pronounced in firms with high IA, strong corporate governance and low early realization value of assets. Gong and Ho (2021) also found that mandatory disclosure of CSR information brought about by regulation would reduce IA and thus better regulate managers' short-term opportunistic behavior to curb earnings management in the Chinese context. The research of Chen et al. (2022) shows that environmental regulation can reduce IA and agency cost, and then inhibit Chinese enterprises' real earnings management behavior, but it has no such inhibitory effect in state-owned enterprises. Furthermore, Hendijani Zadeh et al. (2023) concluded that CSR information can enhance the transparency of U.S enterprises, reduce IA, increase the possibility of obtaining cheaper external funds, and ultimately reduce cash holdings. However, in the Canadian context, Gargouri et al. (2010) found that, CSR performance (especially environmental performance and employee performance) will cause managers to lose performance evaluation criteria in order to meet the interests of multiple stakeholders, which in turn will cause managers to manipulate earnings in order to meet their own interests. Mohammadi and Saeidi (2022) found that CSR had no impact on earnings management for Iranian listed companies.

6.2.2 | The impact of CSR and IA for enterprise performance

Wang et al. (2015) study show that the use of environmental labels by Chinese manufacture enterprises can increase the operating performance of enterprises by reducing IA, increasing legitimacy and improving product differentiation. However, such increase effect only exists in small-scale companies and unlisted companies with high degree of IA. Lu et al. (2017) show that the disclosure of CSR information can reduce the IA and help external investors to better supervise and manage the effective use of corporate resources so as to improve the cash holding value for US listed companies with large IA and those without external supervision mechanism. Samet and Jarboui (2017) empirical study suggested that CSR reduces the occurrence of investment inefficiency by reducing IA and agency costs. Their study also confirmed that IA and agency costs contribute to the occurrence of investment inefficiency. Zhong and Gao (2017) show that Chinese listed firms with high levels of CSR reporting have higher levels of investment efficiency than other firms. This is due to that CSR disclosure provides effective incremental information that helps reduce IA and improves investment efficiency, but only to the extent that it mitigates overinvestment. Benlemlih and Bitar (2018) found that higher CSR participation can improve the investment efficiency of US enterprises. They believe that this is due to the low degree of IA enjoyed by high CSR companies and their good management practices. However, their empirical research also shows that extremely high and extremely low CSR disclosure will not have a beneficial impact on investment efficiency. The findings of Yu et al. (2018) based on Chinese listed companies show that ESG information can reduce the IA and agency cost of investors and thus improve the value of enterprises. Furthermore, Cook et al. (2019) suggest that CSR information enhances the information environment of US firms and reduces IA, thus improving investment efficiency, moreover, higher CSR performance can improve corporate performance by promoting investment efficiency and innovation. Hammami and Hendijani Zadeh (2020) show that increasing ESG disclosure and transparency can reduce investment inefficiency by providing more non-financial information and presenting a more precise image of the Canadian company's situation and performance. Zhao (2021) empirical findings suggest that board networks improve the information environment by disclosing CSR and thereby alleviate financing constraints to improve investment efficiency in the Chinese context. The empirical study based on Chinese listed companies by Liu and Tian (2021) shows that the enactment of a mandatory CSR disclosure policy can curb over-investment behavior. This inhibiting effect is more obviously in firms with serious agency problems such as those with a control-ownership wedge, state-owned enterprises and firms with low institutional ownership, thus also suggesting that CSR disclosure is beneficial in addressing agency problems (Liu & Tian, 2021). A research using 12 different Asian pacific countries by Rehman et al. (2021) show that CSR performance plays a key mediating role in national culture and investment efficiency, corporate attention to CSR also means that attention to stakeholders at the same time brings better investment efficiency, and national culture explains why companies have good CSR performance. An empirical study by Engida et al. (2022) using a sample of European listed companies argues that higher CSR performance provides more information, reduces IA, satisfies stakeholder needs and ultimately reduces investment inefficiencies. In addition, Zamir et al. (2022), using a sample of nine Asian countries, suggest that more CSR disclosure can be more effective in reducing underinvestment, as disclosure can reduce IA and financing constraints. However, the results of an empirical study by Lin et al. (2021), using a sample of US listed companies, concluded that higher CSR leads to overinvestment; however, if companies adopt a defensive business strategy, it will help high CSR companies to reduce the overinvestment problem, but this is limited to a moderating effect.

In general, theoretical and empirical findings suggest that CSR information and activities can reduce information asymmetries and strengthen the monitoring of managers and firms, thereby preventing risky behavior or enhancing risk control, such as reducing surplus management, conservative accounting, and reducing cash holdings. CSR can also reduce information asymmetries and thereby improve corporate performance, for example, by improving investment efficiency, operational or corporate performance and firm value.

6.3 | The impact of CSR and IA on enterprises in capital market

The most frequently mentioned role in the discussion of the impact of CSR activity or disclosure and IA on firms in capital markets are investors, and the most frequently addressed problem is IA. Therefore, the most frequently mentioned theories are stakeholder theory and agency theory, but other theories are also mentioned. From the stakeholder and legitimacy point of view, not being socially responsible increases the risk of the firm, such as litigation risk, which leads to uncertainty about the future cash flows of the firm and reduces the ability to pay, so that investors will undervalue the firm, it also increase the perceived risk of the firm, including ethical risk and financial risk (Benlemlih, 2017b; Fonseka et al., 2019; Ge & Liu, 2015; Richardson & Welker, 2001; Yu et al., 2021). CSR can also increase the investor base by reducing the IA between managers and investors, providing investors with more information to help them better understand the company and also help investors save the cost of searching for relevant information and meet investor preferences and satisfy those investors who are socially responsible (Dhaliwal et al., 2011; El Ghoul et al., 2011; Ge & Liu, 2015). Furthermore, CSR can guarantee the ethical standards of companies and managers to a certain extent, ensuring the transparency of information and not hiding some bad news from investors (Kim et al., 2014). According to ethical theory, companies that undertake CSR are more likely to provide transparent financial reports and information, thus alleviating IA between company insiders and external investors (Feng et al., 2018). CSR information can also provide more credible and robust signals of future profitability for shareholders and also for investment stakeholders (Harjoto et al., 2019). However, as also mentioned by Friedman (2007), Jensen et al. (1976), Navarro (1988), and Wang, Kartika, et al. (2021), CSR may not be the primary goal of managers and may also be regarded by managers as an opportunistic behavior for their own profit, which may lead to higher regulatory costs and perceived risks, therefore, CSR is might not conducive to the profit of enterprises in the capital market.

Cormier et al. (2011) findings show that social related information disclosure and environmental related information disclosure can replace each other in reducing IA and ultimately reducing stock price volatility and bid-ask spread. Kim et al. (2014) in the American context show that companies that actively participate in social responsibility activities will promise higher information transparency and therefore are less likely to suffer from stock price slump. Reverte (2016), using Spanish listed companies, show that the disclosure of CSR information provides investors with incremental value-related information, alleviates the IA between managers and investors, reduces the risk of adverse selection, and ultimately improves the market valuation of corporate shares. In addition, Akrout, and ben Othman, H. (2016) in the Arab Middle Eastern and North African context show that disclosing the environmental information in the annual report can reduce the IA and thus increase the liquidity of the stock in the capital market. Feng et al. (2018) show that CSR can reduce the problem of IA between enterprises and external investors, thus enabling enterprises to obtain higher seasoned equity offering (SEO) announcement returns, and can also reduce SEO underpricing behavior, especially when enterprises actively participate in some community and environmental activities. Using Chinese firms, Xu and Liu (2018) study show that the disclosure of CSR information, especially quantitative information, can significantly reduce the IA between company and investor and ultimately reduce the volatility of stock price to improve the liquidity of the stock. Roy et al. (2022) results show that mandatory CSR could reduce IA and then improve stock liquidity in the Indian context. Harjoto et al. (2019), in the other hand, show that CSR can replace the stock split of American companies in order to reduce the IA with investors, and CSR can also convey the long-term development potential of the company. Arco-Castro et al. (2020) reesearch using European companies show that corporate philanthropy and its protection can reduce the IA between managers and investors and thus improve the market value of the company. Furthermore, Benlemlih et al. (2021) show that companies will provide more information to reflect the actual value of the US companies in order to reduce the IA to help pricing when facing the stock market undervalue. Therefore, companies will disclose the CSR information, especially companies with low CSR participation and opaque stock price before. The empirical research results of Deng et al. (2021) indicate that the disclosure of CSR information can be more beneficial for investors to obtain information about the economic, environmental, social and political prospects of the Chinese companies, therefore, the stock premium can be ultimately reduced by reducing the IA. Mohammadi and Saeidi (2022) finds that CSR have significant effect on stock return of Iranian listed companies. The research by Wu et al. (2022) used Chinese listed companies found that ESG certification by enterprises improves stock liquidity and reduces IA, which ultimately improves price efficiency performance. However, the empirical research results of Wang, Liu, and Wu (2021) found that for the banking industry from international background, higher participation in social responsibility activities will lead to a sharp drop in share prices, which may be due to the fact that managers will use CSR information to cover up some bad information and thus increase the possibility of a sharp drop in share prices.

El Ghoul et al. (2011) empirical study on a sample of US companies shows that companies with higher CSR scores have lower cost of equity, especially when they score higher in employee relations, environmental policy and product strategy. Dhaliwal et al. (2011) concluded that the higher cost of equity capital in the previous year will cause US enterprises to disclose more CSR information this year, while the cost of equity capital will be reduced for companies with outstanding CSR performance. Cheng et al. (2014) supports the findings that the disclosure of CSR can increase the participation of stakeholders, reduce the managers' opportunistic behavior and reduce the IA between managers and investors, reduce the perceived risk of investors, and ultimately ease the financing constraints of enterprises. Ge and Liu (2015) show that CSR performance can reduce the potential environmental and litigation risks, provide value relevant information, increase the investor base, and ultimately reduce the cost of debt financing in the North-American context. Benlemlih (2017a) results show that the CSR is inversely proportional to the debt maturity date of the US enterprise. US Companies with better CSR performance will reduce the perceived risk of the enterprise and will also rely on short-term liabilities to increase the supervision of investors, therefore, in order to show their own high-quality level, they will use short-term liabilities, and higher CSR performance will bring less IA problems, therefore, US enterprises will use shareholders' equity capital more. The conclusion of the systematic literature review by Benlemlih (2017b) show that companies with higher CSR involvement will disclose more information and thus reduce IA, and ultimately reduce the cost of equity capital and will also choose equity capital for financing. Breuer et al. (2018) study based on 39 countries confirms that the disclosure of CSR information reduces the cost of equity by increasing the investor base, but only in places with high degree of investor protection. The empirical results of La Rosa et al. (2018) show that corporate social performance can help European listed enterprises to obtain debt capital and reduce the cost of debt capital by reducing the IA of enterprises in the market. Yang et al. (2018) showed that Chinese listed companies adopting CSR strategy can significantly reduce the IA between enterprises and creditors and provide reliable forecasts for creditors, so they will have higher leverage, especially long-term leverage, which reduces the speed of capital structure adjustment. Using 43 countries as sample, the empirical results of Gupta (2018) show that active participation in environmental practices can effectively reduce cost of equity. An empirical study conducted by Samet et al. (2018) with a sample of European listed companies points out that CSR performance alleviates firms' financing constraints by reducing agency conflicts and information asymmetries. Using Chinese energy industry as sample, Fonseka et al. (2019) found that the disclosure of environmental information can reduce the cost of equity capital by reducing agency problems and IA. The empirical research based on French listed firms of Hamrouni et al. (2019) show that the disclosure of CSR provides more information for lenders and reduces the IA, which is beneficial for lenders to better evaluate the enterprise and therefore is more beneficial for debt financing, and companies that fulfill social responsibilities will consider stakeholders more, which also includes lenders. Under Australian context, Nguyen, Choi, and Agbola (2020) found that socially responsible firms have longer debt maturities, especially for firms in the mining industry and firms with higher levels of IA, caused by disclosure more information to investor will reduce unpayable risk. Using 31 countries sample, Ho et al. (2021) found that the sustainable performance of an enterprise increases the information disclosure and earnings quality, improves the transparency of the enterprise, thus reducing the IA, which not only reduces the adjustment cost of Level but also improves the adjustment speed of Level. The results of an empirical study conducted by Yu et al. (2021) in the context of Chinese listed companies show that there is a non-linear relationship between the amount of environmental information disclosed and the upfront cost of equity capital, with a negative relationship until a certain level of information disclosure is reached, as it provides investors with more information, reduces IA, and lowers investors' risk and risk premiums. The empirical research conducted by Carey et al. (2021) under international context show that the voluntary purchase of sustainability guarantee improves the credibility of sustainability report, reduces the IA between enterprises and external capital providers, and ultimately reduces capital constraint and debt cost, and the guarantee provided by accounting firms has a greater impact. Using Chinese listed companies, the empirical research results of Zhang et al. (2021) show that green financing policy reduces the perceived risk of bond issuers by reducing IA and improving bond liquidity, and ultimately reduces the overall cost of capital. An empirical study by Bai and Ho (2022), using a sample of 31 countries, shows that before the COVID epidemic corporate social performance (CSP) could increase the debt level of firms by reducing financing constraints, but after the epidemic this relationship was weakened by agency problems and costs. However, using Canadian listed companies, Richardson and Welker (2001) found that there was a significant positive correlation between social information disclosure level and capital cost. The results of an empirical study by Wang, Kartika, et al. (2021), using a sample of nine East Asian countries, suggest that firms with high CSR performance may incur higher regulatory costs as managers benefit from CSR, increasing investors' perceived risk and thus ultimately leading to higher equity financing costs, and that this relationship is more pronounced in firms with higher agency conflicts.

To sum up, most of the theoretical and empirical research results point out that CSR can reduce financing costs, increase the speed of capital structure adjustment, enhance stock liquidity, reduce stock price volatility, reduce underpricing, reduce stock price crash, reduce stock split, and reduce the possibility of stock being undervalued.

7 | IMPLICATIONS AND FUTURE RESEARCH

This systematic literature review shows that improving information system construction can effectively reduce IA and yield more favorable economic results. Therefore, stakeholder groups, shareholders, and investors should actively urge enterprises to enhance information disclosure. Through this literature review, the author also provides some suggestions for future research. These recommendations focus on investigating CSR, the relationship between CSR and IA, and the economic impact of CSR and IA. The study has three main implications. Firstly, as highlighted by Mariani et al. (2023), a systematic literature review systematically identifies the relationship between CSR and IA in both theoretical and empirical contexts, offering valuable insights for decision-makers, such as managers and stakeholders. Secondly, this systematic literature review can serve as a template for other studies aiming to conduct bibliometric analysis and systematic literature reviews. Thirdly, given the increasing societal importance of CSR and its role as a key indicator of information quality for listed companies, this study underscores the significance of CSR, particularly in reducing information asymmetries and its potential to yield numerous economic benefits for companies, encouraging active engagement in CSR.

First of all, as a systematic literature review does not allow for a definitive relationship to be drawn, but only a systematic summary of previous studies, other methods of literature review can be used in the future to fill this gap, such as meta-analysis. In the future, CSR can be studied in depth and more specifically, which can be divided into environmental responsibility, social responsibility, employee responsibility, etc., and specific parts can also be studied in depth. For example, environmental responsibility can further study carbon emissions, peak carbon dioxide emissions or carbon emissions from options trading, etc. Secondly research can study and compare the differences of CSR information obtained from inside and outside the enterprise and its impact. The internal sources of CSR can be CSR reports or annual reports, while the external sources can be obtained from websites or public surveys, and information obtained from inside and information obtained from outside may complement each other.

There may be not only a linear relationship but also a nonlinear relationship between CSR and IA. As an extension of the Laffer curve, will the positive effect of information disclosure decrease after reaching the peak? Future research can also extend the relationship framework between CSR and IA, even not limited to other variables, by using appropriate methods to study the direction of causality between variables. Furthermore, future research can examine the relationship between CSR and IA and whether its impact on other economic outcomes will change over time. Because the concept, form and content of CSR are constantly improving and changing, for example, from the initial CSR to the present ESG, and from mandatory disclosure to voluntary disclosure, the impact of CSR information on IA may also be gradually upgrading and changing, and the impact on economic results will eventually change. Future research can also examine the relationship between CSR and IA and whether the impact of its relationship on other economic outcomes will be affected by other variables or mechanisms, that is, the moderating or mediating effects of other variables or mechanisms.

More research can be conducted in as different countries or regions as possible, so as to examine different cultures, institutional barriers, degree of protection for investors, the impact of corporate governance systems and legislation on CSR and its extension effect on IA and other economic outcomes. Different countries have different levels of CSR development, different definitions of CSR, and even different motivations for CSR. Under different cultural backgrounds, the mechanism and influencing factors are different and may even be influenced by religion. Most previous studies only focused on large-scale listed companies, so the results of empirical research are difficult to be extended to small-scale companies and some private enterprises. Therefore, future research can expand the sample to small and medium-sized enterprises and private enterprises. Finally, since the previous research methods mainly focus on statistical and econometric methods, which may be strictly hypothetical and subjective, the subsequent research may consider the development of machine learning and artificial intelligence.

8 | CONCLUSION

The aim of this study is to comprehensively summarize and provide detailed insights into the relationship between CSR and IA and its potential economic impacts, both theoretically and empirically. The central question to be addressed is: What insights does the literature offer regarding the relationship between CSR and IA and the resulting economic outcomes? To achieve the study's objectives and address the research questions, this investigation employs bibliometric analysis and a systematic literature review, utilizing a sample of 73 articles. The bibliographic coupling results categorize the 73 articles into four general topics. Following a full-text review and reclassification of the articles, three major topics emerge: CSR and IA, the impact of CSR and IA on internal risk control and corporate performance, and the influence of CSR and IA on the corporate capital market.

The first topic explores the influence of CSR on IA, elucidating the relationship between the two. Many of the papers primarily utilize agency theory and stakeholder theory to deduce this relationship. From a theoretical standpoint, CSR is found to not only reduce IA but also exacerbate information asymmetry (Bosse & Phillips, 2016; Cohen et al., 2007; Dalton et al., 2007; Eisenhardt, 1989; Freeman, 2001; Healy & Palepu, 2001; Jensen et al., 1976; Mcwilliams & Siegel, 2000; McWilliams & Siegel, 2001; Preston & O'bannon, 1997; Ross, 1973). Most of the empirical research findings suggest that active participation in social responsibility activities or the disclosure of social responsibility information by enterprises can effectively mitigate IA (Adhikari & Zhou, 2021; Cho et al., 2013; Cormier et al., 2009; Cuadrado-Ballesteros et al., 2017; Cui et al., 2018; Diebecker & Sommer, 2017; Kong et al., 2022; Kulkarni, 2000; Martínez-Ferrero et al., 2016; Martínez-Ferrero et al., 2018; Nguyen et al., 2019; Siew et al., 2016). However, there is one study that suggests CSR may exacerbate IA (Hamrouni et al., 2022). Additionally, the mitigating effect of CSR on IA may be influenced by other factors such as investor ownership, family businesses, timeliness, free markets, strict disclosure requirements, and firm size (Cho et al., 2013; Diebecker & Sommer, 2017; Kulkarni, 2000; Martínez-Ferrero et al., 2018; Nguyen et al., 2019).

The second topic examines the impact of CSR and IA on internal risk control and corporate performance. The articles in this category delve into the economic consequences for corporations brought about by CSR and IA. Commonly used theories in this topic include agency theory, stakeholder theory, social emotional value theory, good manager theory, information economy theory, and legitimacy theory. From a theoretical standpoint, most theories support the idea that CSR, by reducing IA, can effectively strengthen internal risk control and yield benefits for enterprises. However, some theories, such as legitimacy theory and agency theory, present opposing arguments (Berrone et al., 2012; Burke et al., 2020; Dowling & Pfeffer, 1975; Gómez-Mejía et al., 2007; Preston & O'bannon, 1997; Suchman, 1995; Waddock & Graves, 1997; Wang et al., 2015).

On the empirical front, most studies indicate that CSR reduces IA, leading to a limitation of earnings management, restricted cash holdings, and improved accounting conservatism (Burke et al., 2020; Chen et al., 2022; Cheng & Kung, 2016; Gong & Ho, 2021; Gras-Gil et al., 2016; Hendijani Zadeh et al., 2023; Liu et al., 2017; Wang et al., 2018). Furthermore, many empirical studies demonstrate that CSR reduces IA, resulting in favorable economic outcomes for enterprises, such as improved investment efficiency, increased corporate value, enhanced cash holding value, and improved operating performance (Benlemlih & Bitar, 2018; Cook et al., 2019; Engida et al., 2022; Hammami & Hendijani Zadeh, 2020; Liu & Tian, 2021; Lu et al., 2017; Rehman et al., 2021; Samet & Jarboui, 2017; Wang et al., 2015; Yu et al., 2018; Zamir et al., 2022; Zhao, 2021; Zhong & Gao, 2017). However, the empirical studies conducted by Gargouri et al. (2010), Benlemlih and Bitar (2018) and Lin et al. (2021) provide conflicting results regarding risk control and firm performance, and the empirical study by Mohammadi and Saeidi (2022) finds no significant relationship between CSR and earnings management.

The third topic explores the impact of CSR and IA on the capital market. The articles in this category investigate the potential economic outcomes for enterprises in the capital market influenced by CSR and IA. Frequently employed theories include agency theory, stakeholder theory, ethical theory, and legitimacy theory. From a theoretical perspective, CSR is seen as a means for enterprises to achieve better results in the capital market after reducing IA, although a few theories present opposing viewpoints, such as shareholder theory and agency theory (Benlemlih, 2017b; Fonseka et al., 2019; Ge & Liu, 2015; Jensen et al., 1976; Navarro, 1988; Richardson & Welker, 2001; Roychowdhury et al., 2019; Yu et al., 2021).

Empirical studies demonstrate that CSR reduces IA, resulting in positive outcomes in the capital market, including increased stock liquidity, reduced stock price volatility, enhanced stock returns, especially for seasoned shares, reduced price suppression, prevention of stock splits, lowered capital costs, encompassing debt and equity costs, reduced financing restrictions, increased debt levels, improved speed of asset structure transition, and reduced costs associated with asset structure transition (Dhaliwal et al., 2011; Cormier et al., 2011; Cheng et al., 2014; Kim et al., 2014; Ge & Liu, 2015; Reverte, 2016; Akrout, & ben Othman, H., 2016; Arco-Castro et al., 2020; Benlemlih, 2017a, 2017b; Breuer et al., 2018; Gupta, 2018; Feng et al., 2018; Xu & Liu, 2018; Yang et al., 2018; Samet et al., 2018; La Rosa et al., 2018; Fonseka et al., 2019; Hamrouni et al., 2019; Harjoto et al., 2019; Nguyen, Ntim, & Malagila, 2020; Benlemlih et al., 2021; Carey et al., 2021; Deng et al., 2021; Ho et al., 2021; Yu et al., 2021; Zhang et al., 2021; Wu et al., 2022). Nevertheless, studies by Richardson and Welker (2001), and Bai and Ho (2022) suggest that activities and disclosures related to CSR may not always be conducive to firms' profitability in the capital market, with Bai and Ho (2022) highlighting the potential variability in the profitability of CSR activities in specific circumstances.

In summary, the majority of theoretical assertions and empirical findings suggest that CSR can effectively reduce information asymmetries and, as a result, bring positive economic benefits to firms. Only a small number of theoretical statements and empirical findings provide evidence to the contrary. This systematic literature review makes a threefold contribution. Firstly, unlike previous literature reviews, this study combines bibliometric analysis with a systematic literature review to systematically summarize the underlying theories used to establish the relationship between CSR and IA, along with summarizing the empirical studies that have examined this relationship. Secondly, in contrast to previous more homogeneous literature reviews, this study combines bibliometric analysis with a systematic literature review to provide a comprehensive summary and classification of the economic outcomes associated with CSR and IA. Thirdly, this systematic literature review offers guidance and recommendations for future research on CSR and IA.

This paper has several limitations. Firstly, the reliance on a single database does not account for potential heterogeneity among databases. Future studies should consider using multiple databases to gather a wider range of literature sources. Secondly, the review employed only one bibliometric analysis software, VOSviewer. Future studies might benefit from using multiple software tools to enhance the robustness of the results. Lastly, this systematic literature review provides a summary and listing, and future studies may employ meta-analysis to re-evaluate and assign values to the studies mentioned above, aiming for a more precise conclusion.

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