

Chalissery, Neenu; Tabash, Mosab I.; T, Mohamed Nishad; Al-Faryan, Mamdouh Abdulaziz Saleh

Article

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*Corresponding author: Neenu Chalissery, Department of Commerce and Management Studies, Farook College (Autonomous) Kozhikode, 673 632, Kozhikode, India
E-mail: neenu030595@gmail.com

Reviewing editor:
Collins G. Ntim, Accounting,
University of Southampton,
Southampton, United Kingdom

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | REVIEW ARTICLE

A bibliometric analysis of socially responsible investment based on thematic clustering

Neenu Chalissery^{1*}, Mosab I. Tabash², Mohamed Nishad T¹ and
Mamdouh Abdulaziz Saleh Al-Faryan³

Abstract: Recently, scholarly interest in *Socially Responsible Investment* has increased significantly, and it is now regarded as one of the most important fields in business and strategy literature. The growth of socially conscious investors is a key component of the continuous quest for enhanced corporate social responsibility. The bibliometric analysis of 540 publications extracted from the Scopus database exhibits multi-folded growth in socially responsible investment literature from 1991 through 2021. The mapping of bibliographic data based on citation, co-authorship, and co-occurrence revealed the logical framework and connections among the contributing journals, countries, and articles. Further, the study used bibliographic coupling and statistical analysis such as factor analysis, correlation, and regression to evaluate the thematic cluster of documents and factors influencing the total citation of research articles. Even though the trend of publication in this field of research has been increasing over the years, most of the research on the topic was undertaken in developed countries like USA and U.K. The studies were few in the case of developing and emerging nations, especially in India. Developed countries concentrate more on sustainable practices. But it is equally important for developing and emerging economies. The regression analysis disclosed that the length of the article ($\beta = 0.42$) and thematic clusters ($\beta = 0.29, 0.46$, and 0.44) have a significant positive relation with total citation. Most of the studies have concentrated on evaluating the socially responsible investment from the perspective of the corporate, investor, performance evaluation, and political, social, and environmental perspectives.

Subjects: Corporate Social Responsibility & Business Ethics; Corporate Social Responsibility; Business Ethics

Keywords: Socially responsible investment; bibliometric analysis; thematic clustering; correlation; ordinary least square regression

1. Introduction

The “doing good while doing well” perspective indicates a relation between the social and financial aspects of an investment. Investments in socially conscious companies, usually referred to as ethical or sustainable companies have grown in popularity recently (Renneboog et al., 2008a). To help investors possibly enhance long-run returns, it blends fundamental financial analysis with a consideration of Environmental, Social, and Governance factors while also considering social issues by influencing corporate behavior (Barroso & Araújo, 2020). In today’s financial markets,

there appears to be a way for ethical investment funds to reduce the conflict between making a profit and moral considerations of social duty. Investors consider social, environmental, and ethical elements together when making socially responsible investment decisions (Renneboog et al., 2008a). It incorporates ecological, social, corporate governance, and ethical criteria for investment.

The way capital is now allocated to corporate activity via the financial markets is detrimental to sustainable development. In fact, the main engine of a global equitable and green economy should be the capital markets (Waygood, 2011). Long-term investment portfolios' absolute value may be decreased by a sustainable investment since it offers immediate rewards but incurs high long-term costs. The two main categories of socially conscious investors are value-driven investors and responsible profit-seekers. Investors in the first group are only interested in the non-financial benefits that come with Socially Responsible Investments, and they are willing to tolerate a decline in economic outcome in return for those rewards. The second category of investors seeks to focus on reputable businesses while also choosing a portfolio that will yield financial gains (Auer, 2016). Investors are enticed to make socially responsible investments for a variety of reasons. Social investors prioritize maximizing their social influence on sustainable development, while sustainable investors place a larger priority on the social impacts of their investments (Chatzitheodorou et al., 2019). Additionally, investor attitudes regarding SRI are significantly influenced by personal beliefs like collectivism, materialism, environmental consciousness, and ethical behavior (Singh et al., 2021).

Due to the emergence of socially conscious financial markets, the argument over investors' financial requirements and the effects of investing on society are seen as crucial research areas. There has been an increase in ethical investments over the past few years that bring social, environmental, and ethical factors into account when making investment decisions. Socially Responsible Investment links an investor's "social, ethical, ecological, and economic concerns" by combining financial return with enhanced social and environmental benefit. When making investing decisions, socially conscious investors balance their financial goals with their concerns about social, environmental, ethical, and/or corporate governance issues. However, maximizing the projected rate of return on their investment portfolios is the primary goal of both private and institutional investors. Globally, SRI totals €7,594 billion, with the U.S. and European markets accounting for the majority of that amount (\$3,069 billion and €4,986 billion, respectively; Binmahfouz & Kabir Hassan, 2013). Conventional institutional investors currently control a significant portion of the SRI market, accounting for 92 and 75 percent of it, respectively, in Europe and the United States.

Similarly, The European SRI market grew by nearly 87% over the course of two years, from €2.7 trillion in 2007 to €5 trillion at the end of 2009 (Escrig-Olmedo et al., 2013). Companies and investors understand that investing in accordance with sustainability principles can provide long-term benefits. Nevertheless, they still require more precise information about social, environmental, and corporate governance behavior in order to invest in socially responsible businesses and reform some of them. This study contributes to the literature on socially responsible investing and sustainable development by examining the trend and current status of SRI, which enable investors, academicians, and policymakers to uplift their knowledge regarding the same.

Previous evaluations of socially responsible investment literature have only offered a fragmentary qualitative and/or quantitative viewpoint of their respective fields, failing to meet the requirement for a comprehensive analysis of the existing literal corpus. Additionally, there is a paucity of empirical evidence about the specific factors influencing the expansion of literature in this rapidly changing academic field. For instance, a recent bibliometric analysis study by Rahman et al. (2020) extensively explored and clustered the Socially Responsible Investment Sukuk literature. However, they have limited their research to responsible investment in Sukuk literature. Further, Losse and Geissdoerfer (2021) map social investment's scholarly output using the Web of Science and Scopus database. Their

main areas of research interest, however, are locating the most important works and mapping the multiple facets of Socially Responsible Investment, demonstrating the structure and pattern of the academic domain via network analysis, and locating the areas for future research. They don't adequately define the national collaboration, group the major topics, or quantify the factors that influence publication citation in their analysis. Similarly, prior studies that included socially responsible investment literature tended to concentrate on socially responsible investment generally (Camilleri, 2020), (Capelle-Blancard & Monjon, 2012), (Junkus & Berry, 2015) or in particular aspects of socially responsible investment, like socially responsible investment fund (Van Dijk-de Groot & Nijhof, 2015), Ethical aspects (Von Wallis & Klein, 2015) and developing a conceptual framework (Mehta et al., 2020), (Sparkes & Cowton, 2004).

This study uses bibliometric approaches, including citation, co-occurrence, collaboration structure, and thematic clustering, to map the development and current structure of socially responsible investment literature. In addition to bibliometric tools, the study used statistical tools like factor analysis, correlation, and regression to quantify the factors influencing the total citation of articles in this field. In light of these overarching challenges, the evolution and expansion of the body of socially responsible investment research across disciplines emphasize the necessity for a quantitative examination to create a summary, discover significant research areas, determine the variable's driving citation, and develop future research paths. Although previous researchers pioneered bibliometric analysis in the area of socially responsible investment, no studies have tried to incorporate the use of statistical tools such as factor analysis, correlation, and regression to evaluate the thematic factors and determinants of document citation in addition to bibliometric analysis to the best of the authors' knowledge. As a result, this work contributes to the knowledge structure in this field of study in multiple ways: (1) it is one of the first to use a combination of qualitative and quantitative tools to develop the intellectual structure of socially responsible investment; (2) the use of cluster analysis has outlined the main themes of socially responsible investment literature; and (3) it analyzes the factors influencing citation of an article in socially responsible investment literature through regression, and (4) it identifies significant research gaps and provides insight for future research.

2. Background of the study

The socially responsible investment movement, like many other modern social trends, arose in Europe in the 1960s to describe the formation of new social movements (Arjaliès, 2010). Socially responsible investment, often referred to as ethical investing, is the practise of incorporating environmental, social, and corporate governance factors into the investment. While the phrases socially responsible investment and ethical investment are sometimes used interchangeably, there are times when a differentiation between the two is necessary (Sparkes & Cowton, 2004). The advent of socially responsible investors is a significant aspect of the continuous push for increased corporate social responsibility (Rosen et al., 1991). They put their money into companies whose behaviors support the investor's desired social goals. The goal of socially responsible investment is to get firms to comply with laws, give back to the community, and follow moral and ethical norms. Recently, the focus has been placed on the connection between corporate social responsibility and economic performance (Hill et al., 2007). Corporate social responsibility (CSR) refers to a company's ethical, moral, and social decisions that influence the life quality of key stakeholders, primarily investors. Investments that strive to represent society's moral ideals are founded on the logic of adding sustainable business practices and long-term wealth creation for shareholders. The consolidation of socially responsible investment in the stock market has been aided by the establishment of sustainability stock indexes in different nations (Barroso & Araújo, 2020). The first was the Dow Jones Sustainability Indexes, established by the New York Stock Exchange in 1999. It is an endeavor to steer businesses toward the goal of complying with regulations and moral and ethical standards (Rosen et al., 1991).

Due to the sustainable transformation of the financial markets, socially responsible investment is seen as an essential research issue. On the one hand, business behavior is becoming more

sustainable as a result of investors taking environmental factors into account when making investment decisions (Escrig-Olmedo et al., 2013). By including environmental, social, governance, and ethical considerations in investment decisions, companies' sustainability, and financial performance may improve. SRI incorporates moral principles, environmental conservation, better social conditions, and good governance into conventional financial decision-making. Investment decisions, and institutional investor choices, in particular, are partially justified by incorporating ESG criteria into SRI strategies. Institutional investors play a crucial role in the shift toward more responsible and sustainable finance at the micro-level and toward more sustainable development at the macro-level. This integration is made possible, in part, by the increasing weight investors are giving to environmental, social, and governance (ESG) considerations. This integration highlights the direct relationship between the spread of SRI, a more sustainable economy, and, consequently, sustainable development (Sciarelli et al., 2021). The movement toward sustainable development presupposes quick reorientation and restructuring of national and international institutions toward better governance with a greater emphasis on global issues in economic governance. There are different forms of activities that are unethical, socially and environmentally harmful, and restrict sustainable development growth. For sustainable economic development, the regulatory bodies should take action from a basic level of production to a higher level of investment.

The contamination of the environment caused by growing carbon emissions is one of the dangers that restrict the attainment of sustainable development and is one of the most obvious hurdles (Alvarado et al., 2022). The discussion on this should start from the basic level, the production, or specifically from the person behind the actual production; the farmers. There are two major issues that farmers around the world must contend with: the rapid urbanization process and the decline in soil productivity (Dagar et al., 2021). The crucial factors determining agricultural productivity are climate and soil quality. It has been noted recently that the number of farmer protests and farmer suicides in India is rising daily. The constant or minimal rise in total agricultural output over the past three decades, from 1990 to 2020, is one of the primary causes of both of the aforementioned occurrences. Reduced agricultural output is mostly caused by climate change, and one of the main factors contributing to this is energy-based CO₂ emission (Dagar et al., 2022). Since all kinds of energy consumption have an impact on the environment, including the air, water, and land, they are a significant contributor to climate change (Irfan et al., 2022). The alarming worldwide population growth rate and the rise in demand for fuel, food, fiber, and other forestry resources may be mostly due to deforestation and hastening forest mortality (Xie et al., 2022).

The enactment of the Kyoto Protocol, the Paris Agreement, and the Sustainable Development Goals of the United Nations have all been adopted to reduce the release of greenhouse gases into the environment. Many of the Sustainable Development Goals of the United Nations center on energy. To create a strong foundation for prosperity and competitiveness, nations should strike a balance among the three key aspects of the global energy trilemma: energy affordability and access, energy security, and environmental sustainability (Khan et al., 2022). They look into how the global energy trilemma and transformative energy developments have an impact on the economic development and environmental sustainability of the top ten and nearly the bottom ten countries. Further, (Zakari et al., 2021) examined how the manufacturing sector affected Nigeria's degree of inefficient energy usage, and he proposed that energy efficiency is related to per capita income from overall. Overall, economic growth and environmental sustainability are both boosted by the energy trilemma and revolutionary energy innovations.

Similarly, natural resources are an inevitable part of economic development. The export of raw materials benefits from the availability of natural resources. Governments also gain from exporting primary goods made from natural resources since it gives them a competitive edge and helps with tax collection (Tang et al., 2022). It is obvious that nations with plenty of natural resources have higher wealth sources and, consequently, higher economic growth (Xie et al., 2022). By dividing the natural resources into the following two categories: forest and water, the study looked at the

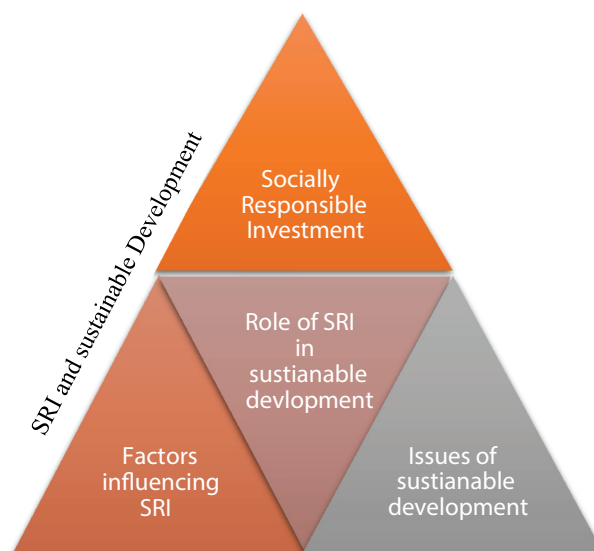
relationship between economic performance and resource volatility in both the forest and mining sectors. They provided a strong connection between economic performance and natural resource volatility. However, the use of natural resources as a component in development is carried out through financial channels that have recently drawn a lot of attention.

There is no doubt that human activities have had an impact on the environment. The ecological footprint is a detailed indicator of environmental degradation since it evaluates the consequences of all human activity on nature (Alvarado et al., 2021). Environmental impact of information and communication technology has been studied by (Zhang et al., 2022). By regulating the role of globalization, income, and financial growth for developing nations, he specifically examines the relationship between ICT and education and environmental quality. He discovers that ICT improves environmental quality by reducing emissions. (Shahzad et al., 2022) examined how structural change influences developed economies' capacity for sustainable growth. The result suggests that the total structural change and transition in an economy is represented by economic complexity, export product quality, and institutional indices. Additionally, (Alvarado et al., 2022), evaluated how the convergence of per capita biocapacity was affected by the urban primacy index, economic growth, and financial globalization index. From all the above studies, it is clear that the Sustainable Development Goals (SDG), which serve as the foundation for developing development policies, were created with consideration for the environment because economic progress requires environmental sustainability. To achieve increased efficiency in energy, afforestation, clean cities, and sustainable growth by 2030, people worldwide, including common individuals, companies, investors, and regulatory bodies, should take necessary actions to evaluate sustainable practices and avoid unsustainable ones. To do this, researchers' action is unavoidable, as they try to address the issues and explore the solution for the same.

According to traditional theories of investor behavior, investors make all their investment decisions to maximize financial returns after adjusting for risk over a specific time frame. According to socially responsible investment, environmental, ethical, and social factors may be just as important as financial rewards. In the past few decades, more and more stakeholders have started to consider non-monetary factors, such as ethical, social, and environmental, when making investment decisions (Wagemans et al., 2013). In the United States, more than 11% of all equities and fund holdings are in socially responsible investment funds, while 78 percent of all pension assets in the United Kingdom have included social issues into their investing strategy (Williams, 2007). Although socially conscious investors prioritize financial gains, they also satisfy the following two requirements: first, they care unconditionally about the firm's external social costs, and second, they work in concert to internalize the impact of their investments on production decisions. The fast expansion of socially responsible investment has not gone unnoticed in intellectual circles. The majority of socially responsible investment studies are based on empirical research and concentrate on socially responsible investment management and monetary success (Wagemans et al., 2013). Figure 1 depicts the main research areas that previous researchers have focused on. In addition to different aspects of SRI, some studies focus on factors influencing SRI, the role of SRI in sustainable development, and Issues in sustainable development.

Figure 1 depicts the main literature on socially responsible investments. The main works are divided into four; they include those studies that deal with different aspects of SRI, Factors influencing SRI, the Role of SRI in sustainable development, and lastly, issues of sustainable development. Both academics and practitioners are concerned when a research stream exhibits changing trends. Literature reviews assist in pinpointing the precise areas that need future study focus and also help practitioners comprehensively understand a research area. An in-depth analysis of the larger research field and its subfields of socially responsible investment literature is presented in this study, which also identifies the most significant academic institutions and thinkers while revealing the logical (dis)associations between them through the use of intellectual clustering. In order to suggest some future study directions, we also locate the thematic clusters in this academic literature. Additionally, we determine the factors affecting the total citation by using

Figure 1. Main literature on socially responsible investment.



a statistical tool like correlation and regression. The primary areas of research interest are identifying the most significant journals, documents, countries, and prolific authors, mapping the structure of country collaboration, factors affecting citation of publication, clustering of main themes in socially responsible investment, and synthesizing areas for further study.

The structure of the paper is as follows. The next section outlines the review methodology; the third part presents the results obtained through bibliometric, cluster, and regression analysis; the following part sums up the study's main findings, limitations, and future scope.

3. Data and methodology

This study aims to outline the body of knowledge on socially responsible investment. Unlike traditional systematic literature reviews, it has the ability to give data across fields with vast amounts of bibliometric and bibliographic data. We employ a bibliometric approach to analyze bibliometric and bibliographic data, which includes the use of quantitative tools. The evolution of a particular field can be better understood using bibliometric techniques like performance analysis and network mapping (Jain et al., 2021). These techniques can spot publication patterns, identify forward-thinking subjects, and create a visual representation of thematic development. Bibliometric and literature analysis not only Enhance the credibility of the study that is undertaken but also help to scientifically evaluate the growth and prospect in the field of research. Further, the study broadened its focus by using correlation and regression to assess the factors influencing the citation of publications in socially responsible investment literature. The primary goals of this study and the methodology we employed to achieve them are depicted in Table 1. We used bibliometric tools like citation, co-authorship, co-occurrence, and clustering to present socially responsible investment literature's historical and current structure. Additionally, statistical methods, including correlation and regression, were applied to determine the variables affecting the citation of publications in this field. These bibliometric and statistical methods enable us to evaluate socially responsible investment material in both qualitative and quantitative ways. The below table presents the study's research objectives and methodology used to address the same.

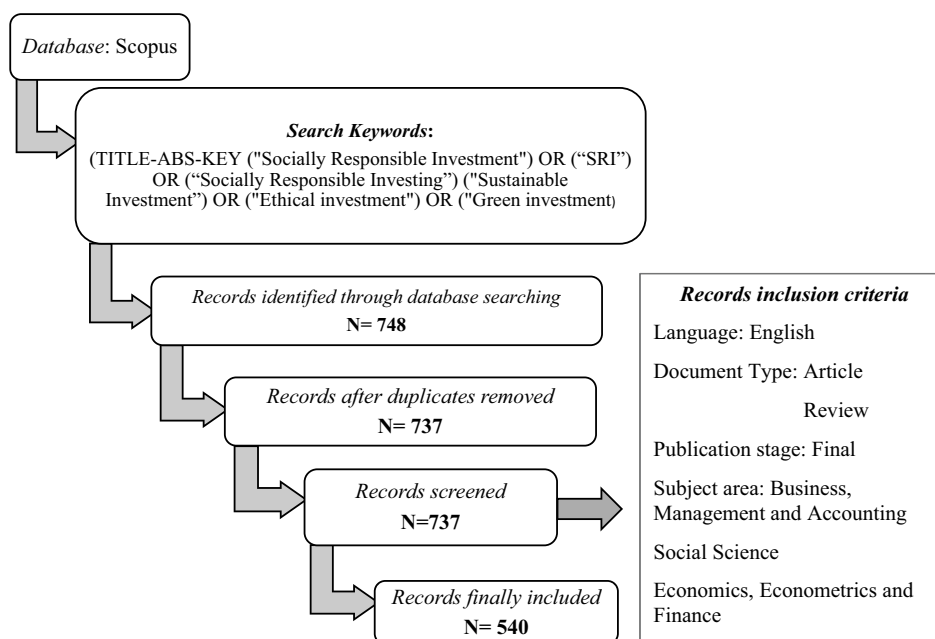
3.1. Database, search, and inclusion criteria

The study chose publications on socially responsible investing from 1991 to 2021 that were published in journals listed in the Scopus database (Due to the incompleteness of the papers in this field of study, we excluded the year 2022). The Scopus database was chosen because it is the

Table 1. Overview of research objectives and methodology

	Research Objectives	Research Methodology
1	Evaluating SRI literature's development and trends	Annual publication trend
2	Determine the top nations, prolific authors, articles, and journals	Citation analysis
3	Determine the thematic structure of keywords	Co-occurrence of author keyword
4	Analyze the composition and trends of international cooperation in this field of study.	Co-authorship of countries
5	An examination of thematic factors in SRI literature	Principal Component Analysis
6	Variables affecting the overall number of citations in SRI literature	Pearson Correlation Ordinary Least Square regression

Figure 2. Selection criteria of papers.



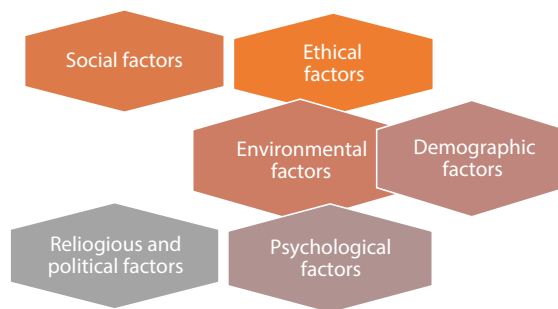
largest collection of citation and abstract data (Mugomeri et al., 2017), and has a high update frequency, and offers flexibility in data acquisition and diagnostics (Borrett et al., 2018).

While reviewing the socially responsible investment literature, we employed keywords to find pertinent publications. The dataset was collected on 17 June 2022, and includes 748 documents. Exclusion criteria were used to remove 208 of these. This produced a final data set for the bibliometric analysis of 540 documents. The methodical approach we take to generate a final corpus of 540 articles is depicted in Figure 2.

3.2. Social benefits of the study

Standard theories of investor behavior are predicated on the idea that investors seek to maximize risk-adjusted financial returns over a specific time horizon and that their investment decisions will be nearly entirely influenced by this purpose. When making investments, responsible investors make an effort to take environmental, social, governance, and ethical considerations into account. The ethical investment decision seems to be more influenced by psychological and behavioral

Figure 3. Determinants of socially responsible investment.



factors (Scholtens, 2014). The likelihood that ethical and environmental considerations will have an impact on an investor's choice of investments is higher for those who give greater or equal weight to social issues (Williams, 2007). For SRI investors, psychological incentives, values, or norms are just as important as the risk-return component (Gutsche et al., 2019). Mainly the following factors (Figure 3) influence investors while making a socially responsible investment.

Most investors, especially individual investors, are unaware of responsible investing. When the investors become more aware of sustainability and sustainable practices and the importance and role of socially responsible investment in sustainable development, it will enhance sustainable capital allocation and consequently help attain sustainable development of nations. Investors should accept environmental, ethical, and social concerns along with economic concerns. This study will contribute to society by enhancing investors' awareness of socially responsible investment and how it can contribute to sustainable development.

4. Bibliometric analysis and discussions

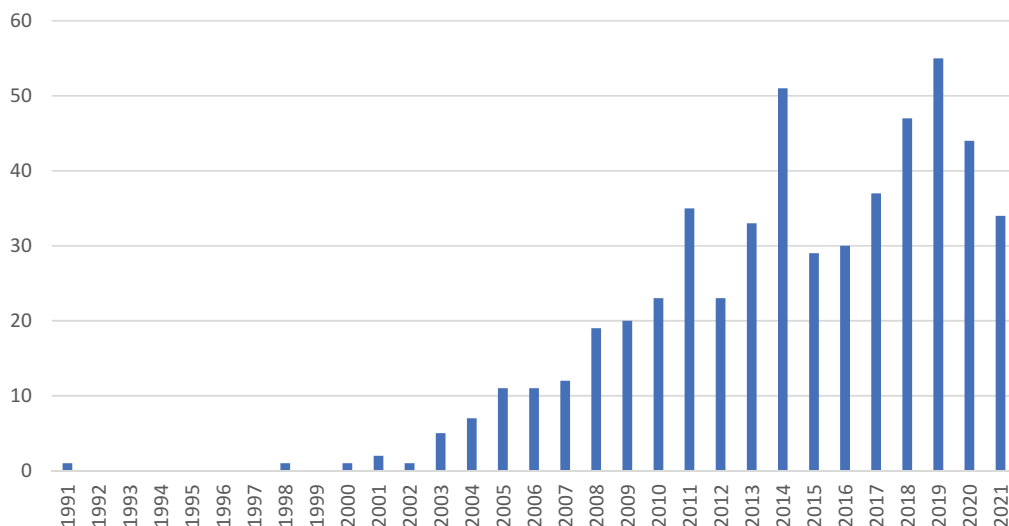
4.1. Performance evaluation of socially responsible investment

4.1.1. Chronological publication trend

Figure 4 displays the yearly publication trend of the studies on socially responsible investment from 1991 to 2021. The publication in socially responsible investment literature started to gain attention in 1991. In 1991, "Social Issues and Socially Responsible Investment Behavior: A Preliminary Empirical Investigation" by (Rosen et al., 1991) investigated the identities, attitudes, and behavior of socially responsible investment. The research in this area was not particularly

Figure 4. Publishing trend in the area of socially responsible investment.

Source: Compiled by authors using information gathered from Scopus



noteworthy until 2010. In 2010, 23 papers were published on this theme. There has been a significant increase in publications during this period. The highest number of articles were published from 2008 onwards. This growth indicates the rising popularity of socially responsible investing among financial academicians. In the first 17 years, the publication on this topic was considerably fewer. After that, until 2021, the growth is remarkable. In 2019, 55 papers were published in this field of research.

4.1.2. Journal quality analysis

The top 10 journals contributing to the literature on socially responsible investment are shown in Figure 5, along with some of their most important attributes. Scientific journals are essential for disseminating research findings, inventions, and instructions for upcoming research topics. The peer-reviewed journal articles can be consulted for future research directions and to understand how knowledge has evolved in a particular field of study. One can easily observe from the table that the Journal of Business Ethics leads in total publication and citations. Followed by the Journal of Banking and Finance (1306). Other impactful journals in socially responsible investing are the Journal of Cleaner Production, Corporate Social Responsibility and Environmental Management, Journal of Sustainable Finance and Investment, Business Strategy and The Environment, Corporate Governance: An International Review, Sustainability (Switzerland), Journal of the Operational Research Society and International Journal of Bank Marketing.

In addition, we calculated the journals' rankings by counting the total publications, total citations, citations per publication, ABDC rating, and H-index. Table 2 lists the 15 best journals based on the number of citations. The highest H-index journals include the Journal of Business Ethics, Journal of Banking and Finance, and Journal of Cleaner Production. The Journal of Business Ethics is the journal that contributes more than 32% of publications in the area during the sample period. Similarly, the Journal of Sustainable Finance and Investment, Sustainability (Switzerland), has more than 10% contribution to publication in socially responsible investment literature in total publications. The Journal of Cleaner Production and Corporate Social Responsibility and Environmental Management is also a significant contributor to the entire publication until 2021. Journal of Banking and Finance, which has the fewest publications (10), has the most citations for those papers, placing it first in terms of total citations per publication (C/P = 130.6).

The below Table ranks the top journals in the area of Socially Responsible Investments in terms of total citations till the year 2021, TPN = Total Publication, PR (%) = Proportion in percentage,

Figure 5. Citation analysis of top journals.

Source: Compiled by authors using information gathered from Scopus

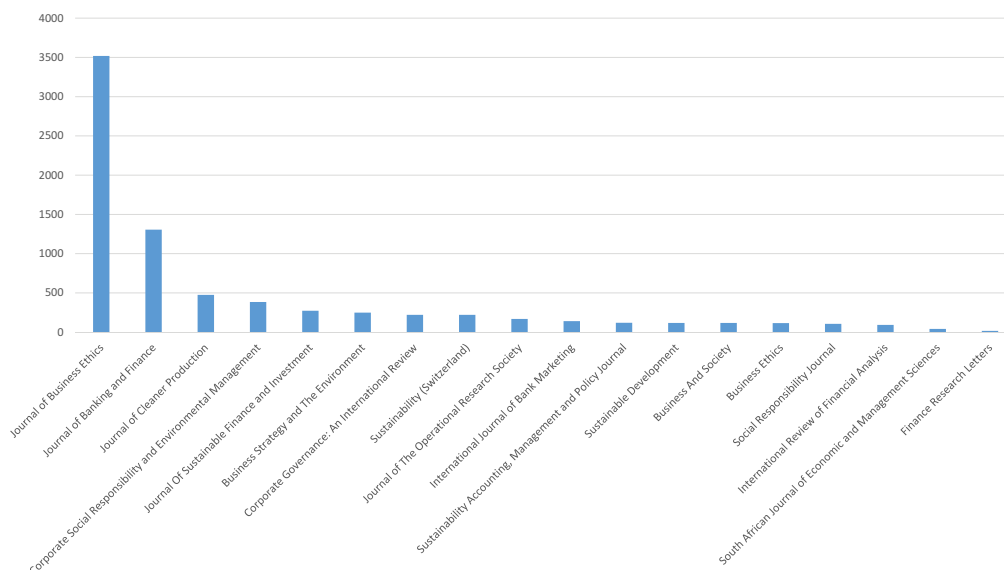


Table 2. Top journals in the area of socially responsible investment

Sl.No	Source	TPN	PR (%)	TCN	C/P	ABDC ranking	H Index (SJRI)
1	Journal of Business Ethics	68	32.2	3519	51.75	A	208
2	Journal of Banking and Finance	10	4.73	1306	130.6	A	172
3	Journal of Cleaner Production	13	6.16	475	36.53	A	232
4	Corporate Social Responsibility and Environmental Management	14	6.63	384	27.42	C	82
5	Journal of Sustainable Finance and Investment	26	12.32	273	10.5	N/A	20
6	Business Strategy and The Environment	9	4.26	249	27.66	A	115
7	Corporate Governance: An International Review	6	2.84	221	36.83	A	91
8	Sustainability (Switzerland)	28	13.27	221	7.89	N/A	109
9	Journal of the Operational Research Society	4	1.89	169	42.25	A	115
10	International Journal of Bank Marketing	4	1.89	140	35	A	87
11	Sustainability Accounting, Management and Policy Journal	6	2.84	120	20	B	34

(Continued)

Table 2. (Continued)

Sl.No	Source	TPN	PR (%)	TCN	C/P	ABDC ranking	H Index (SJRI)
12	Sustainable Development	5	2.36	118	23.6	C	70
13	Business and Society	5	2.36	117	23.4	A	81
14	Business Ethics	4	1.89	115	28.75	N/A	39
15	Social Responsibility Journal	9	4.26	106	11.77	A	37

Source: Own estimation

TCN = Total citation, C/P = Citation per publication, ABDC = ABDC ranking, SJR = Scimago Journal Ranking, N/A = Not Applicable.

4.1.3. Leading countries and organizations

Figure 4 depicts the leading countries driving on socially responsible investment. The figure discloses that the USA, the United Kingdom, and Spain are the most influential countries in socially responsible investing. Followed by the United States, Canada, Australia, and France are also significantly contributing to this literature. The contribution of India is very less. In terms of productivity, the United States contributed 81 publications on socially responsible investment during these 11 years. It is followed by 75 papers by the United Kingdom and 64 by Spain. In terms of citations, the United Kingdom has the highest number of citations (3366), followed by the USA (3116).

Additionally, Table 3 depicts the major organizations contributing to the field of socially responsible investing. Even though the UQ Business School, University of Queensland, Brisbane, Australia, is the most productive institution in this investing theme, the Center, Tilburg University, the Netherlands, has the topmost citation of 461. Other contributing institutions/organizations in this investment theme are the Department of Finance, University of Groningen, Netherlands, Umeå School of Business, Umeå University, Sweden, and Boston College, United States. Further network visualization of productive nations (Figure 6) illustrates each nation's contribution as a network of nodes. Greater node size resembles greater country contribution. In the network, primary clusters are represented by various colors.

4.1.4. Top documents

Table 4 depicts the top documents in the field of socially responsible investing. "Socially responsible investments: Institutional aspects, performance, and investor behavior" by Renneboog et al. (2008a) is the top document having a citation of 639. Followed by the document titled "How well do social ratings actually measure corporate social responsibility?" by Chatterji et al. (2011). Renneboog et al. (2008b) revealed that, with few exceptions like France, Japan, and Sweden, there is no significant difference between the risk-adjusted returns of SRI and those of traditional funds. Galema et al. (2008) links socially responsible performance to U.S. portfolio returns, book-to-market values, and excess stock returns. They found that rather than generating positive alphas, socially responsible investment has an impact on stock returns by reducing the book-to-market ratio. Steurer (2010) first completes the current, frequently ad hoc assessments of how governments approach Corporate Social Responsibility by methodically characterizing governmental policy on Corporate Social Responsibility across Europe. Additionally, it moves the subject closer to political science. They identified four thematic areas of action and five different types of policy instruments, which include legal, economic, informational, partnership, and hybrid, as the thematic area of action and the raise awareness, improve transparency, foster socially responsible investment, and lead by example as types of policy instruments.

Considering this comprehensive analysis of Corporate Social Responsibility actions, the research investigates what Corporate Social Responsibility and associated public policies signify for business-government relations and evolving regulatory trends. It concludes that while Corporate Social Responsibility initially served as a neoliberal idea that reduced government regulation, it has since developed into a more progressive strategy for societal co-regulation. In addition, Cox et al. (2004) conducts an empirical investigation of institutional investor attitudes towards corporate social performance, looking at the structure of institutional shareholding in the U.K. and its connection to corporate social responsibility in a sample of over 500 UK companies. Among those who have made contributions to this area of study are Makni et al. (2009), Heal (2005), and Guay et al. (2004).

4.1.5. Country collaboration

This section presents the country's collaboration in socially responsible investment literature through co-authorship analysis (Table 5). It identifies the total number of publications authored

Table 3. Contribution of countries and organizations to sustainable investing

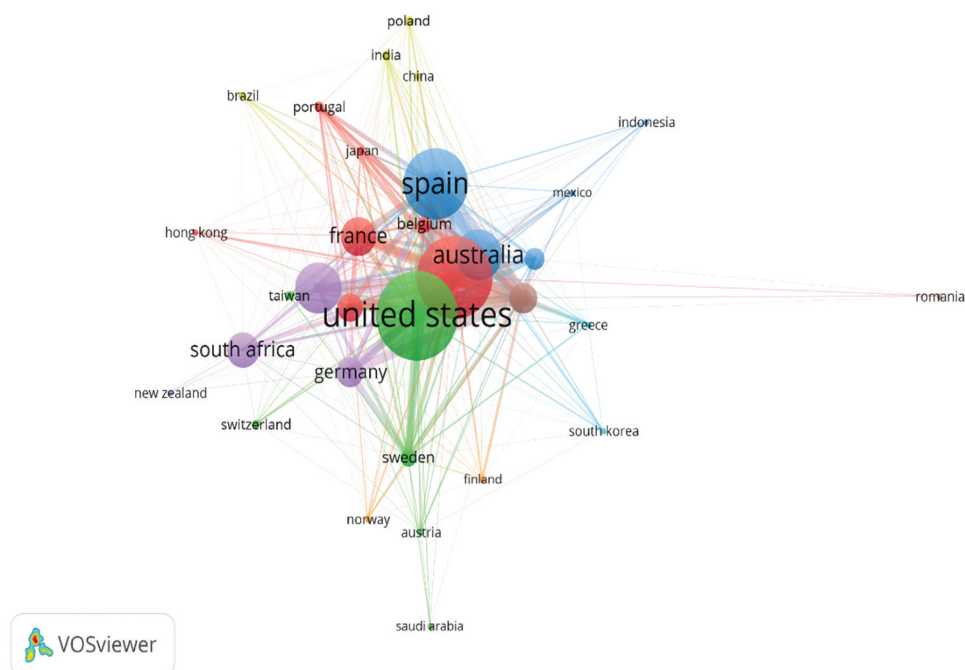
Country	Documents	Citations	Organization	Documents	Citations
United States	81	3116	Department Of Finance, University of Groningen, Netherlands	2	319
United Kingdom	75	3366	Centre, Tilburg University, Netherlands	2	461
Spain	64	1145	UQ Business School, University of Queensland, Brisbane, Australia	3	121
Canada	46	1280	Boston College, United States	2	127
Australia	46	1008	Department Of Psychology, University of Gothenburg, Sweden	2	82
France	35	1128	Universitat Jaume I And Ivie, Spain	2	114
Netherlands	28	2296	Umeå School of Business, Umeå University, Sweden	2	237
Germany	27	535	Nipe—School of Economics and Management, University of Minho, Portugal	2	37
Sweden	16	671	Graduate School of Environmental Studies, Tohoku University, Japan	2	59
Belgium	15	470	School Of Management, Polytechnic Institute of Cávado And Ave, Portugal	2	37
Austria	7	448	Graduate School of Business, South Africa	2	36

Source: Compiled by authors using information gathered from Scopus

This table shows the top countries and organizations in the field of socially responsible investment, along with the total number of documents and citations received for the sample period.

in conjunction with authors from other countries. Countries were ranked according to the total link strength. The U.K. has a top network link with other countries in collaborating research in this field. The USA, Canada, Australia, South Africa, France, Germany, and Spain are the major countries cooperating with the United Kingdom. Similarly, the United States contributed significantly to this literature by collaborating with authors from the UK, Canada, Australia, France, South Africa, and Italy.

Figure 6. Network visualization of top countries.



4.1.6. The most prolific and influential themes

The frequently used author keywords in the paper's title and abstract have been found using co-occurrence analysis. Table 6 provides a summary of the top 10 keywords. The top keyword appears to be "Investment," with 88 occurrences, followed by "Sustainability," with 32 occurrences, and "Sustainable development" with 26 occurrences. Figure 7 replicates the co-occurrence network of author keywords. Colors represent the clusters, and nodes represent different keywords. The size of the node indicates the frequency of occurrence of each keyword, where the higher the size of the node, the higher the keyword occurred.

The table shows the frequency of author keywords used in research articles in the field of socially responsible investment, along with total link strength. Total link strength shows the strength of association between keywords.

Further the keyword analysis explored the word growth and recent trend in the topics of socially responsible investment. The Figure 8 depicts the growth in the keywords over years. It is understood from the figure that, over years the studies in the field of sustainable development have combined with investment practices, and by 2020, most of the researches has focused on environment economics, investment and decision making. It demonstrates the relevance of responsible investment in sustainable development. Additionally, the hot topics in this field of research is represented by Figure 9. It shows that over past few years, researchers put their effort to address the issues of sustainability, sustainable development, corporate social responsibility with the practices of financial markets.

4.2. Factor analysis revealing the socially responsible investment themes

The study further conducted a factor analysis to reveal the important themes in socially responsible investing. We used statistical software to evaluate the thematic variables that covered 38 initial themes and were mentioned in at least five works on socially responsible investing, as advised by (Pattnaik et al., 2020). The correlation matrix from socially responsible investment was subjected to Principal Component Analysis. The results highlight the effectiveness of exploratory factor analysis in terms of significant KMO statistics and Bartlett's test of sphericity.

Table 4. Top documents in socially responsible investment						
Document	Paper title	Journal	TCN	AL	NCA	AT
Renneboog et al. (2008a)	Socially responsible investments: Institutional aspects, performance, and investor behavior	Journal of Banking and Finance	639	15	3	2
Chatterji et al. (2011)	How well do social ratings actually measure corporate social responsibility?	Journal of Economics and Management Strategy	576	44	3	2
Renneboog et al. (2008b)	The price of ethics and stakeholder governance: The performance of socially responsible mutual funds	Journal of Corporate Finance	315	20	3	2
Galema et al. (2008)	The stocks at stake: Return and risk in socially responsible investment	Journal of Banking and Finance	297	8	3	2
Steurer (2010)	The role of governments in corporate social responsibility: Characterising public policies on CSR in Europe	Policy Sciences	211	23	1	1
Cox et al. (2004)	An empirical examination of institutional investor preferences for corporate social performance	Journal of Business Ethics	206	16	3	2

(Continued)

Table 4. (Continued)						
Document	Paper title	Journal	TCN	AL	NCA	AT
Guay et al. (2004)	Non-governmental organizations, shareholder activism, and socially responsible investments: Ethical, strategic, and governance implications	Journal of Business Ethics	206	14	3	2
Heal (2005)	Corporate social responsibility: An economic and financial framework	Geneva Papers on Risk and Insurance: Issues and Practice	202	22	1	1
Makni et al. (2009)	Causality between corporate social performance and financial performance: Evidence from Canadian firms	Journal of Business Ethics	201	13	3	2
(Kotchen, 2006)	Green markets and private provision of public goods	Journal of Political Economy	192	18	1	1
(Borghesi et al., 2014)	Corporate socially responsible investments: CEO altruism, reputation, and shareholder interests	Journal of Corporate Finance	177	17	3	2
(Scholtens, 2006)	Finance as a driver of corporate social responsibility	Journal of Business Ethics	166	14	1	1
(Déjean et al., 2004)	Measuring the unmeasured: An institutional entrepreneur strategy in an emerging industry	Human Relations	163	23	3	2

(Continued)

Table 4. (Continued)						
Document	Paper title	Journal	TCN	AL	NCA	AT
(Nilsson, 2008)	Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior	Journal of Business Ethics	154	18	1	1
(Riedl & Smeets, 2017)	Why Do Investors Hold Socially Responsible Mutual Funds?	Journal of Finance	151	45	2	2

Source: Compiled by authors using information gathered from Scopus
The table depicts the top 15 documents with the highest citation in Socially Responsible Investment until 2021. TCN = Total citation, AL = Article length, NCA = Number of contributing authors, AT = Article type (1 = single-authored, 2 = Co-authored).

Table 5. Co-authorship of countries

Country	TPN	TCN	TLS
United Kingdom	75	3366	41
United States	81	3116	33
Canada	46	1280	22
Netherlands	28	2296	20
France	35	1128	19
Spain	64	1145	19
Australia	46	1008	14
Italy	26	361	12
Malaysia	20	198	12
South Africa	32	423	9

Source: Compiled by authors using information gathered from Scopus.

This table presents the country's collaboration in the field of socially responsible investment along with the total number of publications (TPN), total citation (TCN), and total link strength (TLS).

Table 6. Co-occurrence analysis of authors' keywords

Keyword	Occurrences	Total link strength
Investment	88	193
Sustainability	32	84
Sustainable development	26	56
Stock market	16	32
CSR	12	32
Corporate Social Performance	10	32
ESG	10	33
Ethical Investing	9	26
Business Ethics	8	25
Corporate Responsibility	8	15

Source: Compiled by authors using information gathered from Scopus

With the help of Varimax rotation and Kaiser normalization, the initial evaluation found seven themes, accounting for about 97.07% of the variance in themes. We can suppress the small coefficients and avoid cross-loadings by increasing the absolute value below to 40. The communalities and factor loading of the theme elements are shown in Tables 7 and 8, respectively. The total number of elements was divided into four factors. The first factor examines the major theme of socially responsible investment from a corporate viewpoint, including 11 components such as corporate governance, corporate strategy, equity, market circumstances, etc. The second component, labeled "investor perspective," consists of nine components, including ESG, ethical investing, responsible investing, and other synonyms. The third component addresses the issue of socially responsible investment performance evaluation, while the last component covers the theme of socially responsible investment in various financial markets.

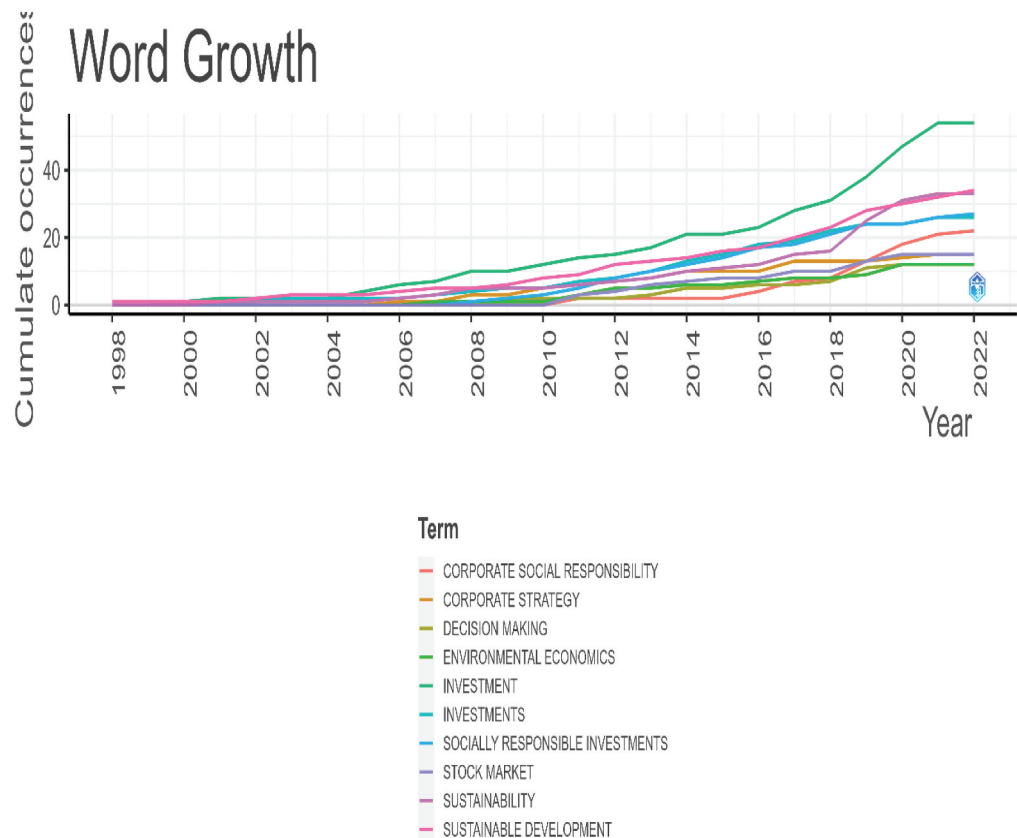
4.3. Thematic clustering of documents

Bibliographic coupling helps in a grouping of similar articles when two articles use one another as a reference (Phoong et al., 2022). The socially responsible investment publications were grouped into four main clusters as shown in Table 9 and Figure 10. Figure 10 presents the network visualization of document coupling, where different colors represent different clusters. Blue color

Figure 7. Network visualization of author keywords.



Figure 8. Development of keywords.

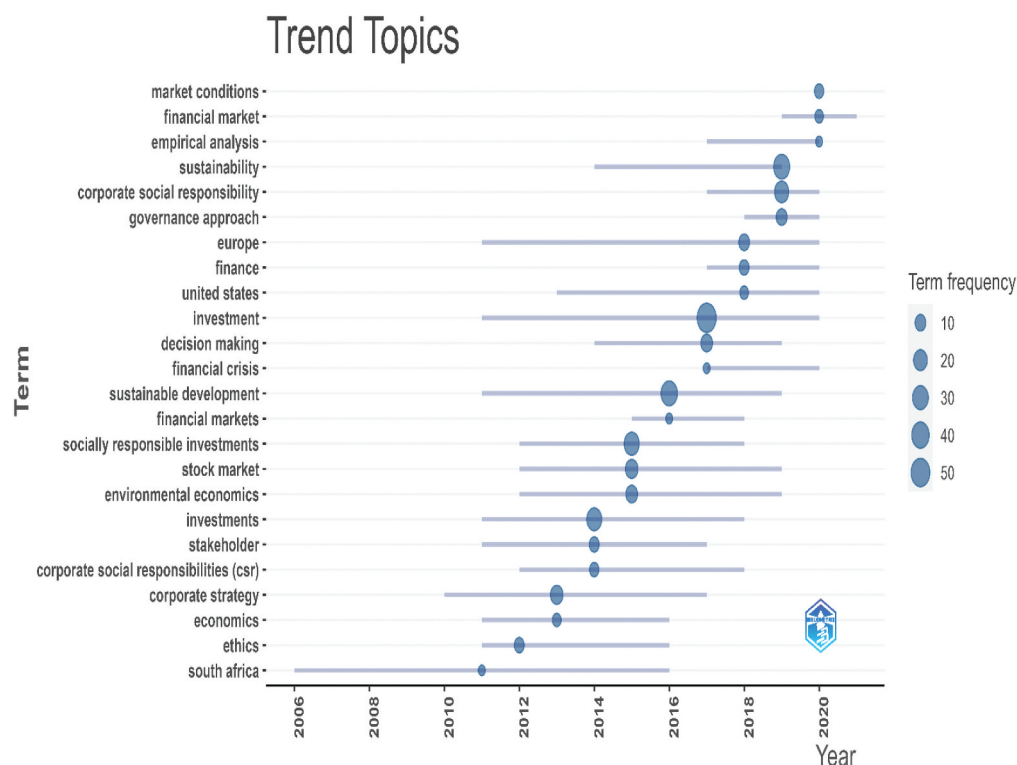


represents cluster one, Green represents cluster two, and cluster three is represented by red color. The content analysis of highly cited papers in each cluster is presented in Table 5.

4.3.1. Cluster 1: socially responsible investment: corporate perspective

Documents in cluster one discuss the Socially Responsible Investment from the corporates' perspective. The highly cited papers in this cluster include: (Cox et al., 2004), (Scholtens, 2006),

Figure 9. Trend of topics in the field of socially responsible investment.



(Friedman & Miles, 2001), (Sandberg et al., 2009), and (Diouf & Boiral, 2017). All these studies discussed different aspects of socially responsible investment from the corporates' perspective. The impact of CSP on the institutional investment pattern in the U.K. was measured by (Cox et al., 2004), and it was discovered that there is no significant correlation between CSP and the percentage of charitable ownership in businesses. Furthermore, (Scholtens, 2006) explored the link between finance and sustainability and proposed that there are several indirect relationships between these two rather than a direct connection between them. Similar studies have been done on the association between corporate social and environmental reporting and socially responsible investment firms by Friedman and Miles (2001), and the impact socially responsible investment practitioners perceived the level of sustainability reports using the Global Reporting Initiative framework by (Diouf & Boiral, 2017).

4.3.2. Cluster 2: socially responsible investment: investor perspective

Cluster two includes those studies discussing socially responsible investment from investors' perspectives. (Renneboog et al., 2008a) attempted to address the issue of whether socially conscious investors earn higher returns or incur additional costs. They specifically looked into the performance theories for all socially responsible investment funds worldwide. Investigating how socially responsible investments (SRI) impact stock returns, (Galema et al., 2008) hypothesized that socially responsible investment impacts stock returns by lowering the book-to-market ratio rather than by raising the alphas of the linear regression model. Additionally, (Kotchen, 2006) created a comprehensive model to research the advantageous and normative effects of green markets. Further research and comparison between traditional and socially responsible investing (SRI) funds were done by Nilsson (2008).

4.3.3. Cluster 3: socially responsible investment: evaluation of performance

Cluster three includes those studies which measure the financial performance of the socially responsible investment. Using the social and environmental performance of several enterprises from various countries, (Chatterji et al., 2011) assessed the relationship between Corporate Socially

Table 7. Communalities of socially responsible investment themes						
Communalities						
SI		Initial	Extraction	SI		Extraction
1	Corporate governance	1.000	.819	20	Governance approach	1.000 .954
2	Corporate Social Responsibility	1.000	.836	21	Investment	1.000 .880
3	Asset pricing	1.000	.918	22	Responsible investing	1.000 .992
4	United States	1.000	.965	23	Event study	1.000 .814
5	Europe	1.000	.936	24	Asia	1.000 .968
6	Financial Performance	1.000	.856	25	Environmental	1.000 .999
7	CSR	1.000	.873	26	Socially Responsible Investing	1.000 .985
8	Corporate strategy	1.000	.987	27	Socially Responsible Investment	1.000 .937
9	Financial system	1.000	.991	28	France	1.000 .993
10	ESG	1.000	.863	29	Green Investing	1.000 .991
11	Portfolio management	1.000	.994	30	Risk assessment	1.000 .993
(Continued)						

Table 7. (Continued)

Communalities						
SI		Initial	Extraction	SI	Initial	Extraction
12	Equity	1.000	.983	31	Performance evaluation	1.000 .997
13	Market condition	1.000	.952	32	Stock holders	1.000 .994
14	Firm value	1.000	.956	33	Market value	1.000 .994
15	Stock market	1.000	.967	34	Performance assessment	1.000 .951
16	Risk	1.000	.932	35	Mutual fund	1.000 .901
17	Ethical investment	1.000	.939	36	Decision Making	1.000 .992
18	Stake holders	1.000	.959	37	Business Ethics	1.000 .958
19	ESG investing	1.000	.890	38	Social	1.000 .919

Source: Authors' Own estimations.

Responsible and sustainable supply chains. In line with this (Hill et al., 2007) studied corporate social responsibility by contrasting socially conscious investments with the larger stock markets in the U.S., Europe, and Asia. According to their findings, a company's ability to "do well while doing well" may be positively impacted over time by investors' perceptions of its social responsibility. Further, (Charlo et al., 2015), (Renneboog et al., 2011), and (Heal, 2005) empirically examine the financial performance of S.R. investment. The potential discrepancies between the financial characteristics of companies thought to be socially responsible are identified by (Charlo et al., 2015). While (Renneboog et al., 2011) examined the international money flows into and out of socially responsible investment funds, the results showed that socially conscious businesses generate larger profits for a given level of systematic risk and exhibit stronger responsiveness to changes in the market, leverage levels, and business size. They suggest that socially responsible investment fund investors might focus more on ethical or social issues than fund performance. Consequently, there is a lower correlation between socially responsible investment money flows and historical fund results. In this line, (Steurer, 2010), (Guay et al., 2004), (Heal, 2005), (Makni et al., 2009), (Rosen et al., 1991), and (Mill, 2006) discussed the performance of the socially responsible investment in economic and financial perspective.

4.3.4. Cluster 4: socially responsible investment: political, ethical, and environmental perspective

Studies grouped in cluster four evaluate socially responsible investment's political, social, and environmental aspects. (Guay et al., 2004) explored the impact of non-governmental organizations in the field of socially responsible investment by focusing on ethical and economic viewpoints. (Abdelsalam et al., 2014a) analyzed the performance tenacity of Islamic and socially responsible investment mutual funds. The findings show that performance persistence does exist for both types of funds. Similarly, (Abdelsalam et al., 2014b) provided a detailed examination of the relative performance of Islamic and socially responsible investment (SRI) mutual funds. Using a two-stage analysis, they found that socially responsible investment funds with a social conscience have somewhat higher average efficiency than Islamic funds. The growth of individual and institutional investors who make investments in businesses that promote social goals is a significant component of the current trend toward increased corporate social responsibility (Rosen et al., 1991).

Further, Figure 11 represent the development of research themes in this area over years. The themes were divided in four. Major themes, basic themes, niche themes and emerging themes. Sustainable development is the basic theme in this field of research. Major themes in this field of research are: socially responsible investment, corporate social responsibility and sustainable investment. The least explored themes are climate change, carbon footprint and role of globalisation in sustainable development. Finally, corporate sustainability and corporate behaviour are the declining themes in this field. This analysis not only help to evaluate the trend and development of research themes in this field, but also it will help to analyse the unexplored areas of research. Here, the role of climate change and carbon footprint in sustainable development is the least explored area of research. In future researchers should make effort incorporate these themes of research to address the issue of sustainable development.

4.4. Factors affecting citation of publication: correlation and regression

The study also performed Pearson correlation and Ordinary Least Square regression to identify the main factors influencing total citation of publication (Pattnaik et al., 2020). The summary of the parameters under evaluation is provided in Table 10, their correlation matrix is shown in Table 11, and their estimated coefficients under regression are given in Table 12.

By analyzing the descriptive statistics table, overall citations, the dependent variable, has an average of 25.96 (SD: 54.09), indicating that all articles selected for the regression have an average of 26 citations. The average number of contributing authors to the selected papers is 2.45 (SD:0.95), and the average length of an article is 15.80 (SD: 8.18).

Table 8. Rotated component matrix and factor loadings of thematic components of socially responsible investment

	Factors			
	Corporate perspective	Investor perspective	Performance evaluation	Political, Social, and Environmental perspectives
Corporate Governance	.994			
Corporate Strategy	.994			
Equity	.994			
Business Ethics	.994			
Stake holders	.994			
Market condition	.994			
Stock holders	.984			
Governance approach	.985			
Firm value	.955			
Market value	.954			
Corporate Social Responsibility	.951			
CSR	.948			
Investment		.947		
ESG		.947		
Ethical investment		.943		
Responsible investment		.941		
Socially Responsible Investing		.941		
Green investing		.940		
Socially Responsible Investment		.885		
ESG investing		.880		
Asset pricing			.957	
Financial performance			.957	
Portfolio Management			.954	
Risk			.951	
Event study			.950	
Risk assessment			.949	
Performance evaluation			.945	
Performance assessment			.894	
Decision making			.890	
United State				.995
Europe				.995
Financial system				.995
Stock market				.995

(Continued)

	Factors			
	Corporate perspective	Investor perspective	Performance evaluation	Political, Social, and Environmental perspectives
Asia				.987
Environmental				.978
France				.971
Mutual Fund				.969
Social				.957

Source: Authors' Own estimations.

The correlation matrix (Table 11) shows the pattern of the association among observed and explanatory factors. According to the table, every independent variable has a strong positive connection with the dependent variable. The article length and thematic clustering (TC1, TC2, and TC3) have a significant positive relation with the observed variable, total citation. Regression analysis (Table 12) not only presents collinearity statistics like tolerance and variance inflation factors of the regressors but also reports the standardized value estimates of the explanatory variables affecting the citation of documents

Further, Figure 12 shows the graphical presentation of main research findings. It shows the main focus of the study along with major research findings.

4.5. Discussion

The study aimed at evaluating the trend and pattern of publication in the area of socially responsible investment through bibliometric analysis. The main focus is to explore the pattern of publication, the main research themes, and the determinants affecting the total citation of documents. By doing bibliometric analysis like citation analysis, co-occurrence analysis, and thematic clustering along with statistical analysis like factor analysis, correlation, and regression, the study found that the area of socially responsible investment is an emerging and most significant field of research. Over the past few years, many researchers have tried to address different aspects of socially responsible investment. By conducting factor analysis and clustering, the study found that most of the research works in this area were done with respect to corporate perspective, investor perspective, and performance evaluation of socially responsible investment, and few studies were concentrated on the implication of socially responsible investment on the environment and society. Developed countries like the USA and the U.K. contribute more to this field of research by conducting more scientific studies in this domain. So far, the contribution of developing and emerging countries is very limited. SRI is a crucial tool for capital allocation in the quest to accomplish sustainable development goals. As we are in the era of sustainability and sustainable development and researchers try to address the gap in this area, developing and emerging countries should give more importance to research in this domain as developed countries give it. Recent research provides more proof of the significance of the SRI framework and additional knowledge on the topic of SRI's effect on financial performance. This analysis shows that the two primary frameworks for conceptualizing SRI are ethical and financial aspects. The ethical paradigm considers SRI as a mechanism to pressure businesses to reform their rules and transact in a more morally and sustainable manner.

Table 9. Thematic clustering of documents

Cluster 1: SRI: Corporate Perspective

Document	Citation	Title	year	Journal	Major research focus
(Cox et al., 2004)	206	An empirical examination of institutional investor preferences for corporate social performance	2004	Journal of Business Ethics	Relation between institutional shareholding patterns and corporate social responsibility
(Scholtens, 2006)	166	Finance as a driver of corporate social responsibility	2006	Journal of Business Ethics	The link between corporate sustainability and finance
(Friedman & Miles, 2001)	149	Socially responsible investment and corporate social and environmental reporting in the U.K.: An exploratory study	2001	British Accounting Review	Relationships between the socially responsible investing market and corporate social and environmental reporting.
(Sandberg et al., 2009)	144	The heterogeneity of socially responsible investment	2009	Journal of Business Ethics	Issue of the heterogeneity of SRI.
(Diouf & Boiral, 2017)	130	The quality of sustainability reports and impression management: A stakeholder perspective	2017	Accounting, Auditing and Accountability Journal	Attitude of SRI practitioners

Cluster 2: SRI: Investor perspective

Document	Citation	Title	Year	Journal	Major research focus
(Renneboog et al., 2008a)	315	The price of ethics and stakeholder governance: The performance of socially responsible mutual funds	2008	Journal of Corporate Finance	Performance of SRI mutual funds
(Galema et al., 2008)	297	The stocks at stake: Return and risk in socially responsible investment	2008	Journal of Banking and Finance	Portfolio returns, book-to-market values, and excess stock returns of SRI
(Kotchen, 2006)	192	Green markets and private provision of public goods	2006	Journal of Political Economy	Positive and normative consequences of "green markets."

(Continued)

Cluster 2: SRI: Investor perspective					
Document	Citation	Title	Year	Journal	Major research focus
(Riedl & Smeets, 2017)	151	Why Do Investors Hold Socially Responsible Mutual Funds?	2017	Journal of Finance	Attitude of investors towards SRI mutual fund
(Renneboog et al., 2011)	146	Is ethical money financially smart? Nonfinancial attributes and money flows of socially responsible investment funds	2011	Journal of Financial Intermediation	Performance of SRI
Cluster 3: SRI: Evaluation of performance					
Author	Citation	Title	Year	Journal	Major research focus
(Chatterji et al., 2011)	576	How well do social ratings actually measure corporate social responsibility?	2009	Journal of Economics and Management Strategy	Relationship between CSR and a sustainable supply chain
(Heal, 2005)	202	corporate social responsibility: An economic and financial framework	2005	Geneva Papers on Risk and Insurance: Issues and Practice	Relation between corporate social responsibility (CSR) and financial markets from a financial perspective.
(Makni et al., 2009)	201	Causality between corporate social performance and financial performance: Evidence from Canadian firms	2009	Journal of Business Ethics	Association between CSR practices of Canadian firms and their financial performance.
(Hill et al., 2007)	141	Corporate social responsibility and socially responsible investing: A global perspective	2007	Journal of Business Ethics	The connection between CSR actions and the value of companies
(Orsato et al., 2015)	55	Sustainability indexes: Why join in? A study of the 'corporate sustainability index (ISE)' in Brazil	2015	Journal of Cleaner Production	Relation between sustainable practices of companies in Brazil and their market value

(Continued)

Table 9. (Continued)

Cluster 3: SRI: Evaluation of performance

Author	Citation	Title	Year	Journal	Major research focus
(Charlo et al., 2015)	51	Sustainable development and corporate financial performance: A study based on the FTSE4Good IBEX index	2015	Business Strategy and the Environment	Financial variables determining a firm's social responsibility actions

Cluster 4: SRI: Political, social, and environmental perspective

Author	Citation	Title	Year	Journal	Major research focus
(Guay et al., 2004)	206	Non-governmental organizations, shareholder activism, and socially responsible investments: Ethical, strategic, and governance implications	2004	Journal of Business Ethics	Role of non-governmental organizations on the ethical and social aspects of socially responsible investing.
(Rosen et al., 1991)	133	Social Issues and Socially Responsible Investment Behavior: A Preliminary Empirical Investigation	1991	Journal of Consumer Affairs	Social issues related to SRI
(Abdelsalam et al., 2014a)	64	Do ethics imply persistence? The case of Islamic and socially responsible funds	2014	Journal of Banking and Finance	Performance persistence of Islamic and SRI mutual funds.
(Girerd-Potin et al., 2014)	60	Which Dimensions of Social Responsibility Concern Financial Investors?	2014	Journal of Business Ethics	Dimensions of SRI reflecting firms' attitude toward social issues.
(Abdelsalam et al., 2014b)	51	On the comparative performance of socially responsible and Islamic mutual funds	2014	Journal of Economic Behavior and Organization	Performance of SRI and Islamic mutual funds

Source: Compiled by authors using information gathered from Scopus.

Figure 10. Bibliographic coupling of documents.

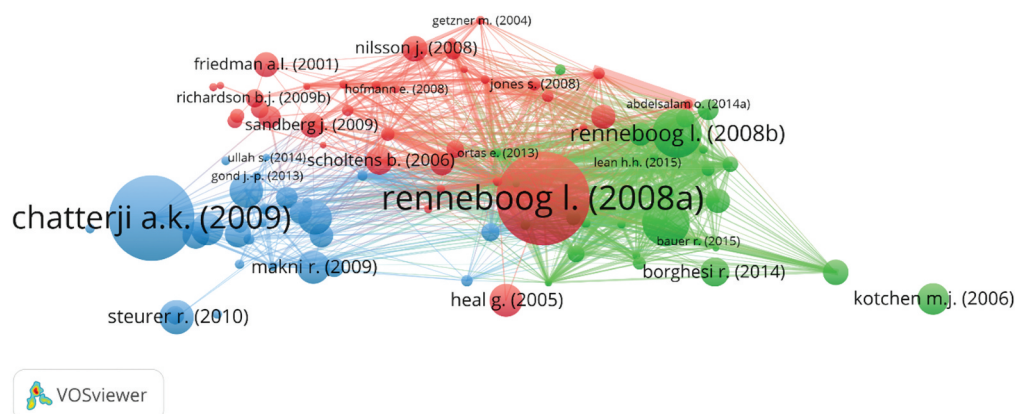
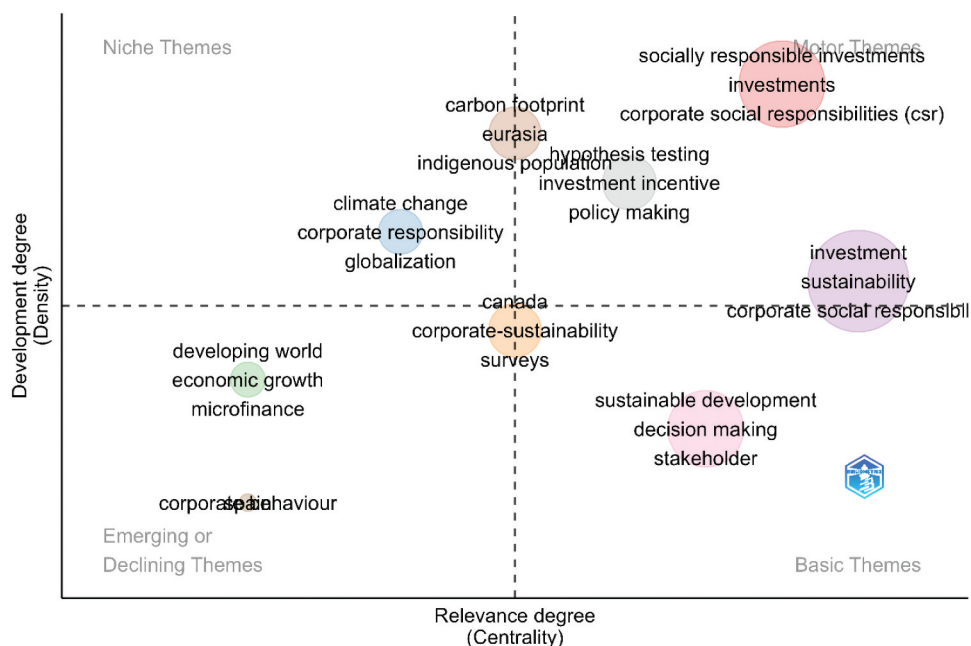


Figure 11. Development of research themes and its categorization in to major, basic, declining and niche themes.



The financial paradigm assumes that SRI retains features of conventional financial products since it considers SRI a new financial service given to particular investor groups. This review presents three related findings and four important research themes. First, investigations of SRI performance predominate in the literature on SRI. This evaluation shows that, in terms of both influential and recently published articles, considerably more SRI performance studies have been published than other issues. Secondly, most studies evaluate the SRI's performance from the perspective of investors and corporates. Studies that deal with the application and significance of SRI in terms of sustainable development of nations should be conducted in the future so that many of the sustainable and environmental issues. Beyond incorporating personal values into portfolio investment choices, S.R. investing has evolved to include concepts like impact investing, social entrepreneurship, and shareholder activism.

4.6. A research agenda for socially responsible investment research

Although the themes of investors' perceptions of socially responsible investment, its components, and its applicability are covered in the majority of socially responsible investment literature, the dimensions of socially responsible investment are not well defined and studied. Without considering portfolios from various global markets, many authors generalize that there are no statistically

Table 10. Summary statistics of variables

Variables	Mean	SD	N
TCN	25.96	54.09	540
AL	15.80	8.18	540
NCA	2.45	0.95	540
TC1	0.04	0.05	540
TC2	0.04	0.05	540
TC3	0.05	0.08	540
TC4	0.02	0.05	540

Source: Authors' Own estimation

Note: The descriptive data in the above table shows the possible factors that could affect the number of citations for SRI publications up until 2021. Here, SD = standard deviation, N = number of articles, TCN = Total citation, AL = Article length, NCA = Total number of contributing authors, TC1, TC2, TC3, and TC4 are the thematic clusters of the SRI articles.

Table 11. Correlation matrix of the factors

	TCN	AL	NCA	AT	SA	TC1	TC2	TC3	TC4
TCN	1								
AL	0.62**	1							
NCA	-0.61	-0.23**	1						
AT	-0.63	-0.32*	0.23**	1					
SA	-0.62	0.33	0.24	-0.45	1				
TC1	0.64**	-0.33**	-0.21	-0.26*	0.31**	1			
TC2	0.62**	0.35**	0.28*	0.30**	-0.35**	0.38	1		
TC3	0.65**	0.34*	-0.29**	-0.26	0.34	-0.32**	0.28**	1	
TC4	-0.68	0.60**	0.47	0.42	0.37**	0.44**	-0.30**	0.41**	1

Source: Authors' own estimations.

** Correlation is significant at the 0.01 level (2-tailed),

* Correlation is significant at the 0.05 level (2-tailed).

significant distinctions in the performance of ethical funds compared to conventional funds. To generalize it, more evidence from socially responsible investment portfolios from various markets is required.

The absence of a theoretical justification to explain why the performance of social investment indices is the same as that of conventional indices is a major concern in the current socially responsible investment literature. Is that a result of corporate sustainability practices or investor attitudes toward socially responsible investing? A few studies highlight the significance of investors' attitudes toward socially responsible investments and suggest that many investors prefer to invest in green shares due to both financial considerations and environmental and social standards. No studies have been published to date that adequately fill this gap by considering investor sentiments toward going green and corporate sustainability practices. Further, studies focused on the importance of socially responsible investment on corporate performance do not answer the relation between Corporate Social Responsibility practices of corporates and the growth of the Socially responsible investment.

Finally, the most critical study gap that has to be filled in the future is an understanding of the impact of socially responsible investment in improving the stock market performance. Recently, interest in socially responsible investment has increased significantly, and its role in helping companies improve their environmental, social, and governance performance. Attention has

Table 12. Regression analysis

	Standardized Coefficients			Collinearity statistics	
	β	t statistics	Sig.	T	VIF
(Constant)		-2.98	0.00	0.81	1.23
AL	0.42	1.50	0.00	0.73	1.36
NCA	0.00	1.61	0.06	0.58	1.71
AT	0.00	1.60	0.07	0.78	1.28
SA	0.02	1.35	0.09	0.77	1.30
TC1	0.29	5.61	0.00	0.78	1.28
TC2	0.46	2.81	0.00	0.91	1.09
TC3	0.44	10.01	0.00	0.83	1.20
TC4	0.01	-0.71	0.08	0.76	1.31

Source: Authors calculation.

Confidence interval 95%, P value ≤ 0.05 .

Note: The above table presents the Ordinary Least Square (OLS) regression outcome. T = Tolerance, VIF = Variance Inflation Factor, AL = Article length, NCA = Number of contributing authors, AT = Authorship type (Single authored or co-authored), SA = Number of single-authored articles, TC1, TC2, TC3, and TC4 are the thematic clusters of the socially responsible investment articles.

been devoted to situations where the corporates who adopt Corporate Social Responsibility practices assist in promoting the Environmental, social and governance practices to gain a competitive edge by improving socially responsible investment.

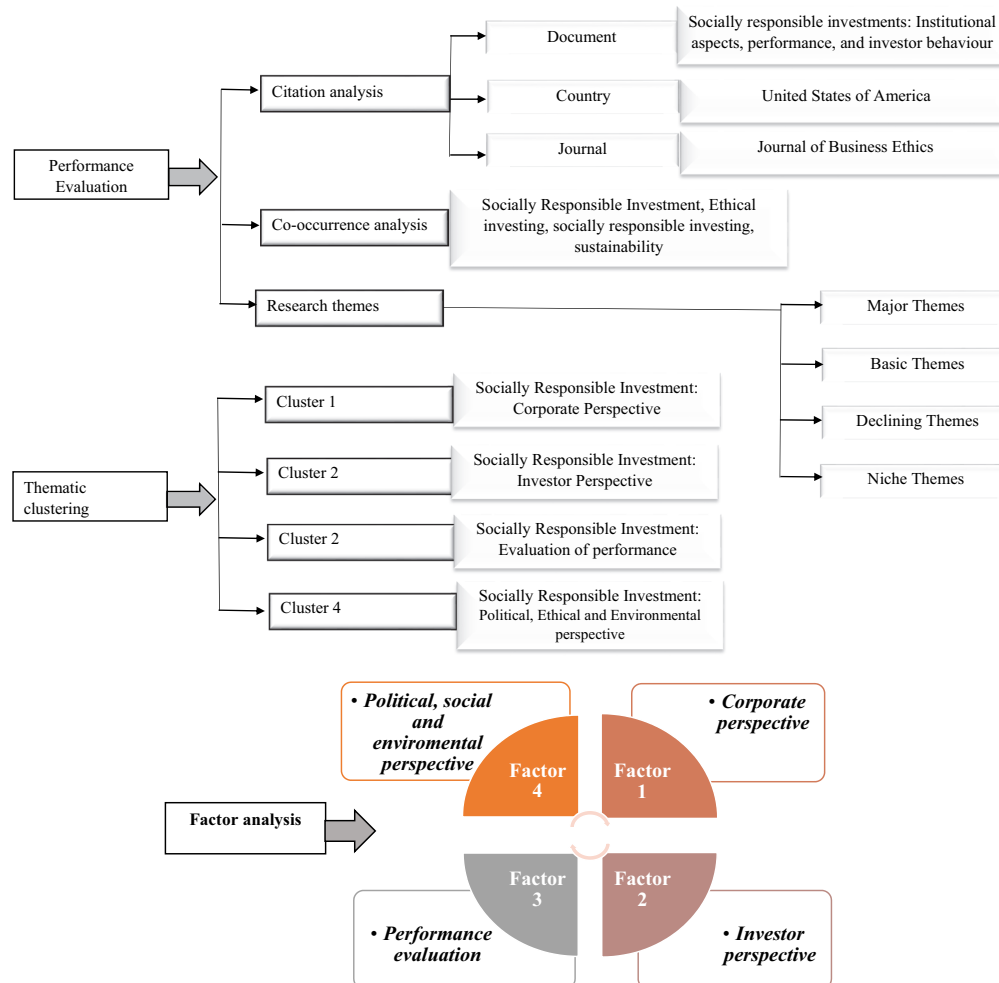
4.7. Policy suggestions

Socially responsible investing has gained popularity in the last few years among investors, researchers and academicians. Particularly institutional investors employ one or more ethical investment techniques. The desire to manage risk is one factor that motivates this. The macro economy, society, and investment earnings appear to have little effect on responsible investing thus far. This is partly caused by the absence of appropriate measurements or indicators of ethical investing. Investors frequently state that they make responsible investments, which alone seems adequate. This study is intended to create a comprehensive and systematic analysis of the literature on socially responsible investment through bibliometric analysis. Development of socially responsible investment has been remarkable over the past few years as investors give importance to ethical, social, and environmental aspects of investment along with financial concern. As the emergence of SRI is found in developed countries and still makes a great effort to link SRI to sustainable development, emerging and developing countries lack contribution to this area. The study concludes that a fair evaluation of the value of responsible investment to the investor, the companies, society and the economy is hampered by the lack of a good definition of responsible investment and of appropriate metrics for estimating its scale. SRI is still a limited business operating in a financial sector that is unwilling to address social and environmental restrictions and a regulatory structure that does not favor social control over capital allocation, making SRI governance mechanisms incapable of attaining sustainability. In the future, more attention is needed by emerging and developing economies to achieve sustainable development through socially responsible investment. Regulatory bodies should insist on the need for uplifting responsible investment among companies and investors so that economies can attain sustainable development through effective and efficient capital allocation.

5. Conclusion

The major goal of this research is to thoroughly evaluate papers published in the field of socially responsible investment. The study examined 540 articles and review papers that appeared in scholarly publications from 1991 to 2021 that were included in the Scopus database. The study focuses on two primary areas; firstly, identifying a trend or pattern of knowledge development in

Figure 12. Graphical summary of research findings.



this field, influential and impactful papers, authors, and journals, productive countries in this topic, and a gap in the existing literature and secondly examine the factors influencing total citation of publication in this field of study. When examining the growth of this issue, it is discovered that since 1991 there has been a noticeable rise in the number of articles written about socially conscious investing. The study lists key contributors, including publications, countries, and institutions. Researchers also discovered three clusters, namely Socially responsible investment from the perspective of corporates, investors, the performance of SRI, and political, social, and environmental perspectives. According to this quantitative and extensive analysis, most studies on this topic are undertaken in industrialized nations such as the USA and Australia. There is a gap across developed and emerging markets, especially in the case of India, which is a developing country. However, as the discipline develops, researchers are looking into diverse aspects of socially responsible investment and the role of businesses in supporting S.R. investment. Statistical methods like regression and correlation broaden this study's scope by highlighting the variables influencing publication citation. By examining the thematic structure, growth of author keywords and trends of topics in this field of research, it is found that, during past years, the focus were given to sustainable development, but over past few years, researchers give focus to the role of investment (responsible investment) and role of corporates in sustainable development. In this perspective, over past few years, most of researches has combined the sustainable development along with financial markets and investment practices. It impliedly points outs that socially responsible investment is an unavoidable aspect of sustainable development.

To our knowledge, there hasn't been a single study that has used both quantitative and qualitative methodologies to connect influential works in the field of socially responsible investment. Using a combination of bibliometric analysis and statistical techniques like correlation and regression, this study examined the structure of the socially responsible investment. Therefore, the current findings on co-authorship, co-occurrence of author keywords, and document cluster analysis with descriptive statistics of general bibliographic information provide credible results in examining research trends on socially responsible investment. Additionally, the use of statistical techniques uncovers the factors influencing the citation of publications, which will aid researchers in undertaking future studies with a greater focus on subject areas that have not been thoroughly studied by other researchers in order to increase citations. In this sense, the review study considerably contributes to the socially responsible investment literature together with the management application. Although this is a comprehensive study, it has certain limitations. A study used a single database, and all works on socially responsible investment may not be included. Thus, using multiple databases (Web of Science) along with Scopus can help access more work and thus make the result more accurate.

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Author details

Neenu Chalissery¹
 E-mail: neenu030595@gmail.com
 Mosab I. Tabash²
 Mohamed Nishad T¹

Mamdouh Abdulaziz Saleh Al-Faryan³

¹ Department of Commerce and Management Studies, Farook College (Autonomous) Kozhikode, 673 632, Kozhikode, India.

² Department of Business Administration, College of Business, Al Ain University, Al Ain, United Arab Emirates.

³ School of Accounting, Economics and Finance, Faculty of Business and Law, University of Portsmouth, UK & Consultant in Economics and Finance, Riyadh, Saudi Arabia.

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