

## **A BIBLIOMETRIC ANALYSIS OF SDGS IN BUSINESS STUDIES: AN EXAMINATION OF TRENDS**

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### **ABSTRACT**

**Background and Purpose:** In recent years, governments and corporations have increasingly recognised the importance of sustainable development. This study examines research on the Sustainable Development Goals (SDGs) in business studies to reveal current trends, leading contributors, highly cited documents, and the primary themes in this SDGs and business research.

**Methodology:** A bibliometric analysis was conducted on 448 publications in Scopus-indexed journals between 2016 and 2024, using Bibliomagika, OpenRefine, Microsoft Excel, and VOSviewer.

**Findings:** The study revealed an increasing trend of SDG in business research publications from 2016 to 2023. The study also revealed statistics on the top 20 prolific contributors to SDGs and business studies, highlighting key authors, institutions, countries, and source titles. The study proposed six primary themes based on the similarity in author keywords. This includes corporate sustainability strategies, stakeholder engagement, SDG compass and Global Reporting Initiative (GRI) Framework, innovation and circular business models, the synergy between SDGs, Corporate Social Responsibility (CSR), financial performance, and private sector contributions to Agenda 2030. The study also discovered that the emerging research topic trends were related to SDG reporting, disclosure, stakeholders, circular economy, and financial performance.

**Contributions:** This study contributes to the SDG-business field, assisting scholars in identifying key trends, contributors, and thematic areas for further investigation. Additionally, this finding offers guidance for the ongoing development of SDGs and business-related research.

**Keywords:** SDGs, business, bibliometric analysis, VOSviewer, Scopus.

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## 1.0 INTRODUCTION

The worldwide challenges, including the repercussions of weather, legislation, and consumer demand for environmentally friendly goods, have raised significant doubts concerning the effectiveness of existing business sustainability policies (Dhanda & Shrotryia, 2021). In recent years, governments and corporations have increasingly recognised sustainable development as an essential strategic objective (Arora et al., 2024; Jasni et al., 2020). Notably, the primary institutions worldwide have signed a pledge to stop this downward trend. In 2015, the United Nations (UN) further emphasised this trend by introducing the Sustainable Development Goals (SDGs) (Department of Economic and Social Affairs). These goals aim to address global issues through the framework of the "5Ps," which are prosperity, planet, peace, people, and partnerships.

Even though the government has been entrusted with achieving the SDGs, the objective is unattainable without the participation of other organisations, including the private sector. According to Arora et al. (2024), the UN acknowledges companies' significant role in achieving the SDGs on a global and local scale. Hence, the private sector's involvement is essential to attain the objective by 2030. Heras-Saizarbitoria et al. (2022) characterised the integration of SDGs at the corporate level as the incorporation of business practices that align with the company's sustainability strategy and facilitate the achievement of the SDGs. A significant challenge in advancing the sustainable development agenda is shifting corporate mindsets toward adopting new sustainability practices, technologies, and business models (Welford, 1998). Moreover, Rizzato et al. (2024) noted increased SDG initiatives. However, their implementation remains limited. This is partly because some companies perceive SDGs as irrelevant to their business operations. Therefore, further empirical research is required to

enhance the existing understanding of SDGs and to promote greater business engagement with these goals.

This study seeks to perform a bibliometric analysis by mapping research on the SDGs within business studies, utilising journals indexed in the Scopus database. The study covers several aspects, including the trend of publications related to SDGs and business, the productivity of publications in producing SDG-related research, and the identification of the most frequently cited documents. This study also covers the visualisation of networks and overlays based on authors' keywords, and the visualisation of the networks based on the title and abstract terms related to SDGs and business studies. This study explores the following Research Questions (RQs): RQ1: What is the current trend of research on SDGs and business? RQ2: Who are the leading contributors to SDGs and business-related research? RQ3: Which documents are the most frequently cited within SDGs and business research? RQ4: What are the main themes emerging in SDGs and business studies?

To fulfil the research objectives, the study is organised as follows: Section 2 provides an overview of SDGs and business corporations. Section 3 includes research designs. Section 4 presents the analysis and discussion of findings. Finally, Section 5 concludes the study and outlines potential directions for future research.

## **2.0 LITERATURE REVIEW**

### **2.1 SDGs and Business Corporations**

The SDGs call for worldwide cooperation among governments, businesses, and civil society organisations to attain inclusive and sustainable prosperity (Khaled et al., 2021). The SDGs are on a significant scale, demanding the collective commitment of several stakeholders rather than relying just on one party. Hence, companies must consider how to engage with the SDGs and incorporate them into their strategy (Calabrese et al., 2021; Santos & Silva Bastos, 2021; Van Zanten & Van Tulder, 2021). In addition, Lopez (2020) argued that some companies implement a Corporate Social Responsibility (CSR) approach to improve their image and reputation. Costa et al. (2025) revealed that, while companies report a wide range of SDG-related indicators, that does not necessarily mean a significant commitment to the SDGs, revealing the existence of symbolic approaches and potential for SDG washing. Khaled et al. (2021) proposed the need to investigate possible models that might assist companies in aligning their objectives while effectively measuring and communicating their impact on the SDGs. Figure 1 shows the 17 SDGs.

The Global Reporting Initiative (GRI), the UN Global Compact (UNGC), and the World Business Council for Sustainable Development (WBCSD) have collaborated and jointly created a document called the SDG Compass to help companies integrate the SDGs into their strategies (Garcia-Sanchez et al., 2020). The SDG Compass outline five steps: understanding the SDGs, defining priorities, setting goals, integrating, and reporting. These guides provide companies with direction on incorporating the SDGs into their strategic plans and effectively communicating this information to their stakeholders (Garcia-Sanchez et al., 2020).

The IFRS Foundation Trustees created the International Sustainability Standards Board (ISSB) on 3 November 2021 at COP26 in Glasgow. The ISSB is responsible for developing IFRS Sustainability Disclosure Standards, to provide a global baseline of sustainability disclosures and further inform economic and investment decisions. In June 2023, the ISSB established IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures. Companies that highlight environmentally responsible practices can benefit in terms of brand image, consumer loyalty, and employee morale, reduce production costs, and positively impact companies' financial performance (Jones et al., 2025; Saha et al., 2024).



Figure 1: The 17 goals

Source: United Nations in 2015

### **3.0 RESEARCH DESIGN**

#### **3.1 Data Collection**

The metadata used in this study was selected from Scopus due to its extensive multidisciplinary scope and status as an established resource for bibliometric analysis (Chin & Chew, 2021). Data from the Scopus research database has been employed in several bibliometric studies across different fields (Akpan & Ezeume, 2022; Kudaibergenova et al., 2022). In addition, Scopus encompasses a variety of research about this subject matter, more indexed journals than the Web of Science, and frequently forces bibliometric studies (Mio et al., 2020).

Concurrently, a comprehensive search was conducted on research articles about the SDGs and business studies as of February 8, 2024. This research examines the period from 2016 to 2024, after establishing the UN's SDGs in 2015. The subsequent query was used to achieve this objective: TITLE ("Sustainable Development Goals" OR "SDG" OR "SDGs" OR "2030 Agenda" OR "Agenda 2030") AND ("Business" OR "Busi-nesses" OR "Company" OR "Companies" OR "Firm" OR "Firms" OR "Corporate" OR "Corpo-ration" OR "Organi\*ation").

The query yielded a total of 533 articles. Once these results were obtained, the abstracts of each article were reviewed to ensure that they genuinely addressed the subject of this investigation. In this stage, articles were primarily business-related; therefore, research from academic institutions and the World Health Organisation was removed. Following this, 85 articles were non-SDGs and business-related articles. Ultimately, a total of 448 articles remain for further analysis. The flow diagram in Figure 2 guided the data collection process in this study.

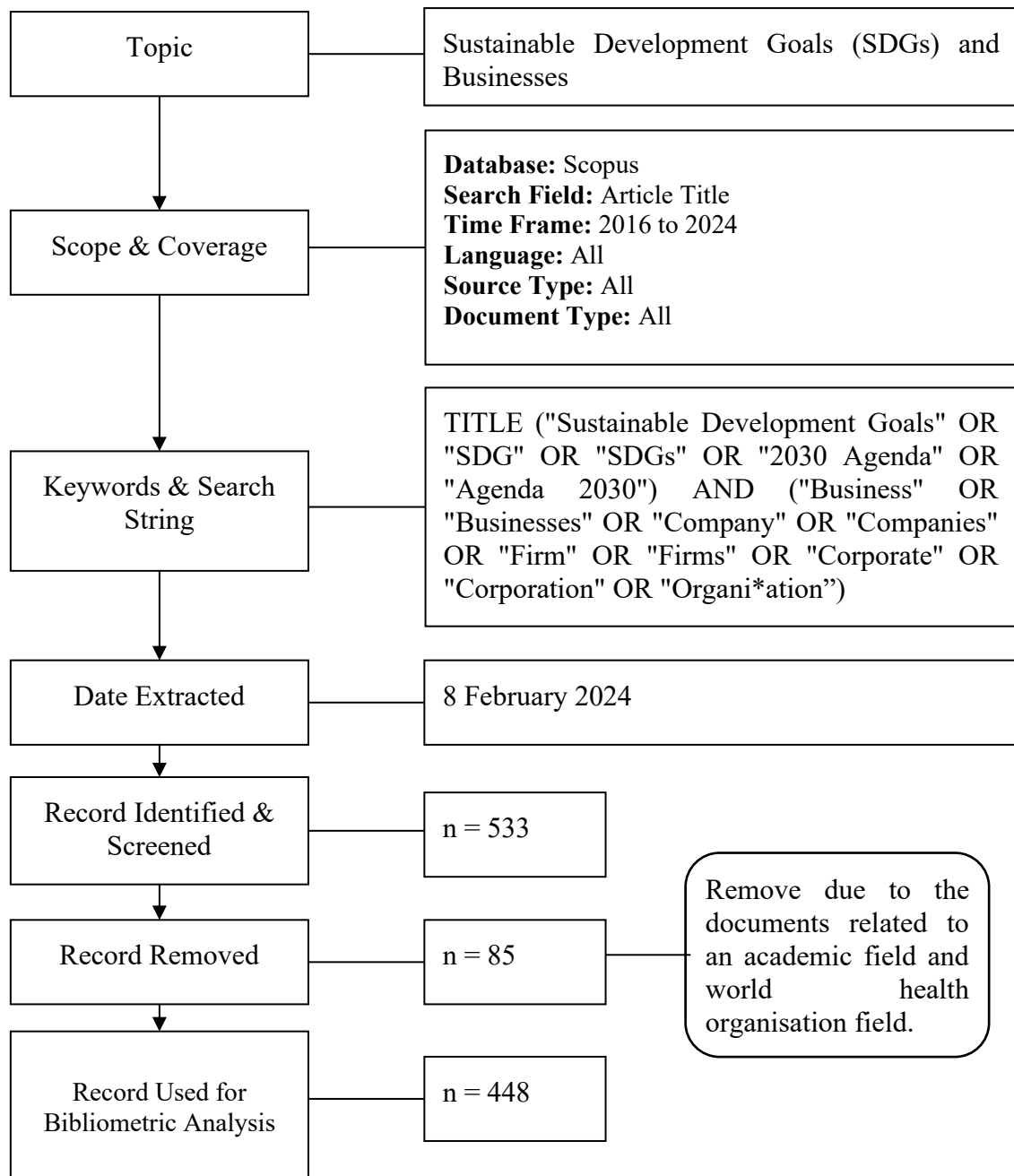


Figure 2: Flow diagram of the search strategy

Source: Alam et al. (2023); Mansour et al. (2022)

### 3.2 Analysis Tools

Bibliometric analysis can be defined as the structured process of describing all documents that have been published in a specific field of science in terms of the number, connection, productivity, quality, citations and evaluating the intellectual development of the scientific field (Khatib et al., 2022). Notably, researchers use bibliometric analysis for several purposes. This includes investigating the theoretical structure of a particular field within the literature,

visualising patterns of research collaboration, and identifying a developing trend in document performance (Alam et al., 2023).

Accordingly, the bibliometric analysis in this study was conducted using Bibliomagika 2.5 (Zhang et al., 2025), OpenRefine, Microsoft Excel, and VOSviewer (Romus et al., 2020). These tools were employed for statistical analysis and bibliometric network mapping. BiblioMagika is a comprehensive tool that enables the seamless transformation of Scopus data into a diverse range of significant metrics, such as citation counts, h-index, g-index, and several others (Zhang et al., 2025). This BiblioMagika simplifies complex calculations, making bibliometric analysis more manageable and accessible (Zhang et al., 2025).

In addition, this research verified the manual cleaning using the data cleaning tool OpenRefine. OpenRefine is a data quality application that can analyse messy data, cleanse data, and transform data from one format to another. The clean dataset was analysed using the software VOSviewer, specifically version 1.6.20. It was developed to create maps based on network data, visualising and exploring them (Romus et al., 2020). Correspondingly, VOSviewer would turn the data into an interconnected map (Al Husaeni & Nandiyanto, 2022).

#### **4.0 ANALYSIS AND DISCUSSION**

The data extracted from BiblioMagika encompassed publications by year, the top 20 prolific authors, the top 20 most active source titles, and the top 20 highly cited documents. Meanwhile, data extracted from Scopus were the top 20 most prolific institutions, and the top 20 most active countries. On the other hand, the visualisation of networks and overlays based on authors' keywords, and the visualisation of networks based on title and abstract terms were analysed using VOSviewer software. Most of the information is reported in terms of frequency and percentage format.

##### **4.1 Current Trend of Research on SDGs and Business**

The study analysed the publication trend in SDG and business research. This finding is to answer RQ1, which is the current trend of research on SDGs and business. Consequently, this analysis included examining the number of publications and citations annually. Figure 3 illustrates the annual trend of total publications and citations.

The data reveals that between 2016 and February 2024, 2023 had the most significant volume of publications on Scopus, with 141 research articles. Furthermore, this publication surge can be attributed to the historic UN Summit in September 2015, during which world leaders endorsed the 17 SDGs at the United Nations 2015. Subsequently, the SDGs have gained

significant attention. Scheyvens et al. (2016) wrote the first publication, "The Private Sector and The SDGs: The Need to Move Beyond 'Business as Usual'." This article was published on March 30, 2016.

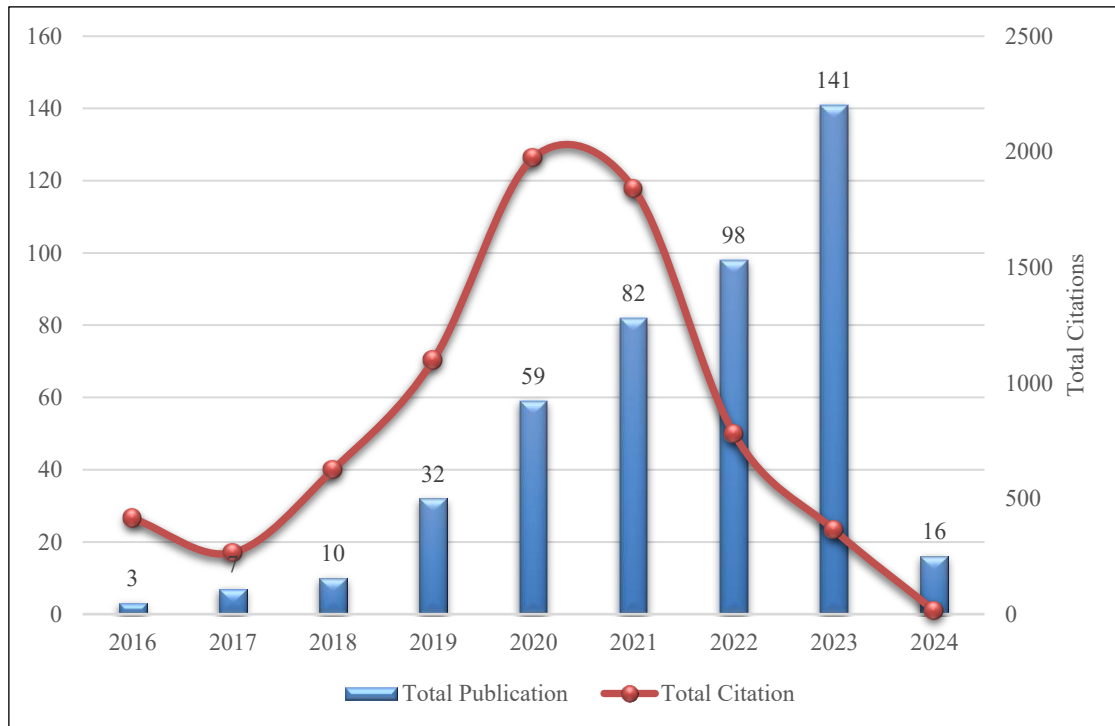


Figure 3: Total publications by year

Table 1 summarises the performance of citations from documents discussing SDGs and business research over the years. The number of citations increased steadily from 2017 to 2020 but declined starting from 2021. The highest total citations were recorded in 2020 (1,975 total citations), while the lowest were in 2024 (15 total citations). Accordingly, a positive relationship exists between the growth of citations and the total publications from 2017 to 2020.

Table 1: Total publications and citations

Year	TP	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>
2016	3	1	414	138.0	414.0	1	3
2017	7	7	266	38.0	38.0	5	7
2018	10	10	625	62.5	62.5	6	10
2019	32	28	1099	34.3	39.3	16	32
2020	59	53	1975	33.5	37.3	18	44
2021	82	76	1841	22.5	24.2	25	40
2022	98	73	780	8.0	10.7	14	24
2023	141	74	364	2.6	5.0	10	13
2024	16	4	15	1.0	3.8	2	3
Total	448						

*Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.*

## 4.2 Leading Contributors

This section addresses RQ2 by presenting the leading contributors to SDGs and business-related research as authors, institutions, countries, and source titles. Specifically, this study presents the statistics of the top 20 most prolific authors, the top 20 most prolific institutions, the top 20 most active countries, and the top 20 most active source titles.

### 4.2.1 Publications by Authors

As depicted in Table 2, it has been revealed that four (4) authors had published the most significant number of research works, with five (5) publications. They were Verónica Ribeiro, Parvez Alam Khan, Rob Van Tulder and Sónia Monteiro. Notably, two (2) are from Portugal, one (1) is from Malaysia, and the other is from the Netherlands. These authors dominate SDG publications, reflecting their experience in the field and the continued discussion of the SDGs in their research publications. For example, Verónica Ribeiro has published journals and book chapters on SDGs and companies, focusing on Portuguese companies. Her latest research document is a book chapter titled "Exploring The SDGs In The Non-Financial Reporting Practices By The Largest Portuguese Companies: A Longitudinal Analysis Since The 2030 Agenda Approval," published in 2023.

Table 2: Top 20 most prolific authors

Author's Name	Affiliation	Country	TP	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>
Ribeiro, Verónica	Polytechnic Institute of Cávado and Ave	Portugal	5	4	10	2.0	2.5	2	3
Khan, Parvez Alam	Universiti Teknologi PETRONAS	Malaysia	5	5	141	28.2	28.2	4	5
Van Tulder, Rob	Rotterdam School of Management, Erasmus University	Netherlands	5	5	422	84.4	84.4	4	5
Monteiro, Sónia	Instituto Politécnico do Cávado e do Ave	Portugal	5	4	10	2.0	2.5	2	3
Masli, Eryadi K.	Swinburne Business School	Australia	4	4	151	37.8	37.8	2	4
Topple, Cheree	Swinburne Business School	Australia	4	4	151	37.8	37.8	2	4
Aibar-Guzmán, Beatriz	Universidad de Santiago de Compostela	Spain	4	3	185	46.3	61.7	3	4
Lemos, Kátia	Polytechnic Institute of Cávado and Ave	Portugal	4	4	10	2.5	2.5	2	3
Biermann, Frank	Universiteit Utrecht	Netherlands	4	4	46	11.5	11.5	4	4
Di Vaio, Assunta	Parthenope University of Naples	Italy	4	4	410	102.5	102.5	4	4
Donovan, Jerome D.	Swinburne Business School	Australia	4	4	151	37.8	37.8	2	4
Pimonenko, Tetyana	Summy State University	Ukraine	4	3	99	24.8	33.0	2	4
Leal Filho, Walter	Manchester Metropolitan University	United Kingdom	3	2	24	8.0	12.0	2	3
Rendtorff, Jacob D	Roskilde Universitet	Denmark	3	2	49	16.3	24.5	1	3
Fuentes-Moraleda, Laura	Universidad Rey Juan Carlos	Spain	3	3	45	15.0	15.0	3	3
Calabrese-Muiña, F.E.	Universidad Rey Juan Carlos	Spain	3	3	45	15.0	15.0	3	3
Aibar-Guzmán, Cristina	Universidad de Santiago de Compostela	Spain	3	2	177	59.0	88.5	2	3

Nicolò, Giuseppe	Università degli Studi di Salerno	Italy	3	3	22	7.3	7.33	1	3
Stubbs, Wendy	Monash University	Australia	3	3	32	10.7	10.7	2	3
Rubio-Mozos, Ernestina	Universidad Rey Juan Carlos	Spain	3	3	45	15.0	15.0	3	3

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.

#### 4.2.2 Publications by Institutions

Table 3 provides an overview of the institution's distribution of publications on SDGs and business studies. The University of Waterloo has been ranked first with six publications. This distribution reflects the University of Waterloo's reputation as Canada's top comprehensive research university for the past 16 years.

Table 3: Top 20 most prolific institutions

Institution	TP
University of Waterloo	6
Sumy State University	6
Parthenope University of Naples	6
Universidad de Santiago de Compostela	6
Rotterdam School of Management, Erasmus University	6
Università degli Studi di Salerno	5
Universidad Rey Juan Carlos	5
University of Portsmouth	5
Università degli Studi di Roma Tor Vergata	5
Universitas Indonesia	5
Bina Nusantara University	5
Fakultas Ekonomi dan Bisnis, Universitas Indonesia	5
Universiti Teknologi PETRONAS	4
Universidade Federal Fluminense	4
Universidad de Oviedo	4
Universiteit Utrecht	4
Technical University of Denmark	4
Copernicus Institute of Sustainable Development	4
Syddansk Universitet	4
Monash University	4

Notes: TP=total number of publications

### 4.2.3 Publications by Countries

The SDGs and business research documents were also analysed according to the authors' country of affiliation. Table 4 presents the top 20 most active countries. Spain dominated SDG research and business with 12.5% (56 documents). The ranking was followed by Italy (49 documents), India (36 documents), the United Kingdom and the United States, with 35 documents published, and Australia (29 documents).

Table 4: Top 20 most active countries

Country	TP	%
Spain	56	12.5%
Italy	49	10.9%
India	36	8.0%
United Kingdom	35	7.8%
United States	35	7.8%
Australia	29	6.5%
Malaysia	22	4.9%
Netherlands	22	4.9%
Indonesia	21	4.7%
China	20	4.5%
Brazil	19	4.2%
Denmark	18	4.0%
Russian Federation	17	3.8%
Germany	16	3.6%
Poland	15	3.4%
Canada	13	2.9%
Sweden	12	2.7%
France	11	2.5%
Japan	10	2.2%
Portugal	10	2.2%

Notes: TP = total number of publications

It is also observed that developed nations, particularly European countries such as Spain and Italy, have contributed the most articles on this topic. This suggests that these countries are actively involved in SDG compliance, and their businesses are increasingly adopting sustainable business strategies. Furthermore, several authors from Spain have published

articles since 2019 regarding the role played by companies in reaching the SDGs. The most prolific author in Spain is Beatriz Aibar-Guzmán from the University of Santiago de Compostela, Spain.

#### 4.2.4 Publications by Source Titles

Table 5 presents the most active source titles related to SDGs and business studies. In particular, sustainability (Switzerland) leads with the most publications, with 59 publications and 1,021 citations. Journal of Cleaner Production is second in the list of most active source titles, with 16 articles and 783 citations. Surprisingly, although the Journal of Business Research has many citations, it has only four publications. The article "Artificial Intelligence and Business Models in The Sustainable Development Goals Perspective: A Systematic Literature Review" had the highest citation among the four publications. Note that this article has 397 citations. Sjögårde and Didegah (2022) noted that articles in fast-growing topics obtain more citations than those in slowly growing or declining fields. Thus, it can be assumed that most articles produced in the Journal of Business Research are related to evolving areas.

Table 5: Top 20 most active source titles

Source Title	TP	TC	Publisher	Cite Score	SJR 2020	SNIP 2020
Sustainability (Switzerland)	59	1021	Multidisciplinary Digital Publishing Institute (MDPI)	5.8	0.664	1.198
Journal of Cleaner Production	16	783	Elsevier	18.5	1.981	2.379
Business Strategy and the Environment	15	753	Wiley-Blackwell	17.8	2.87	2.754
Corporate Social Responsibility and Environmental Management	15	773	Wiley-Blackwell	15.6	2.134	2.393
IOP Conference Series: Earth and Environmental Science	10	12	N/A	N/A	N/A	N/A
Sustainable Development	9	552	Wiley-Blackwell	15.2	2.035	2.408
Corporate Governance (Bingley)	6	86	Emerald Publishing	9	1.349	1.901
Business Strategy and Development	6	68	Wiley-Blackwell	5	0.674	0.889
CSR, Sustainability, Ethics and Governance	5	19	Springer Nature	0.7	N/A	N/A
E3S Web of Conferences	5	0	N/A	N/A	N/A	N/A

Source Title	TP	TC	Publisher	Cite Score	SJR 2020	SNIP 2020
The Elgar Companion to Corporate Social Responsibility and the Sustainable Development Goals	5	0	N/A	N/A	N/A	N/A
Australasian Accounting, Business and Finance Journal	5	40	University of Wollongong	3.4	0.414	1.024
Economic Research-Ekonomska Istrazivanja	5	81	N/A	N/A	N/A	N/A
Handbook of Business Legitimacy: Responsibility, Ethics and Society	4	2	N/A	N/A	N/A	N/A
Journal of Business Research	4	417	Elsevier	16	2.895	3.238
Environmental Science and Pollution Research	4	5	Springer Nature	7.9	0.944	1.214
Advances in Science, Technology and Innovation	4	0	Springer Nature	0.6	0.132	0.142
The Role of Multinational Enterprises in Supporting the United Nations' SDGs	3	1	N/A	N/A	N/A	N/A
Sustainability Accounting, Management and Policy Journal	3	30	Emerald Publishing	7	0.943	1.332
Critical Perspectives on International Business	3	23	Emerald Publishing	3.5	0.682	0.856

*Notes: TP=total number of publications; TC=total citations; CiteScore = average citations received per document published in the source title; SJR = SCImago Journal Rank measures weighted citations received by the source title; SNIP = source normalised impact per article measures actual citations received relative to citations expected for the source title's subject field.*

### 4.3 Highly Cited Documents

This section presents the most frequently cited documents within SDGs and business research, which are used to answer RQ3. Accordingly, citations per publication assessed the relative impact on the whole field (Mio et al., 2020). A citation indicates the number of times an article is referenced by all documents in the database (Kazemian et al., 2022). Table 6 presents the top 20 highly cited documents. The most cited document was "The Private Sector and The SDGs: The Need to Move Beyond 'Business as Usual'" by (Scheyvens et al., 2016). The article has the highest number of citations, with 414 citations, averaging 46 citations per year, and was published in 2016.

The study by Scheyvens et al. (2016) received the highest number of citations primarily due to its ranking in the first quartile of the publisher's journal in the Scopus database. Moreover, a positive correlation exists between a journal's quartile rank in Scopus and its reputation and attention from academics and authors. According to Mas-Bleda and Thelwall (2018), the influence of journal publishers' popularity and quality on generating citations is significant. Additionally, the limited number of articles published in 2016 may have contributed to this study's higher citation count.

Scheyvens et al. (2016) conducted a study to examine various developmental strategies proposed for the private sector and assessed their potential impact on social, economic, and environmental progress. Notably, this document studied the differing expectations among businesses, governments, and civil society organisations, particularly regarding profit motives. In addition, this study explored the challenges the private sector faces as a critical factor in sustainable development, highlighting conflicts between short-term financial goals and broader social, economic, and environmental objectives. The study also discussed how some industry managers and executives perceive that significant organisational changes often occur in response to external pressures rather than intrinsic demands for corporate accountability.

Di Vaio et al. (2020) investigated the connection between Artificial Intelligence (AI) and Sustainable Business Models (SBMs), focusing on how AI influences production and consumption patterns to promote sustainable resource management, as outlined in the UN 2030 Agenda. The study highlighted the potential role of Knowledge Management Systems (KMS) in leveraging AI for SBMs. Additionally, this bibliometric study analysed a database of 73 articles from 1990 to 2019. The findings underscored the multifaceted impact of ethical, social, legal, and economic factors on the innovation landscape of AI. In line with this, the study also revealed a close relationship between SDG 12 (Responsible consumption and production) of the 2030 Agenda and the developmental prospects of AI. Overall, the article offers a comprehensive overview of research on AI and SDGs, with a particular emphasis on SDG 12.

Table 6: Top 20 highly cited documents

	<b>Authors</b>	<b>Title</b>	<b>Cites</b>	<b>Cites per Year</b>
1	Scheyvens et al. (2016)	The Private Sector and the SDGs: The Need to Move Beyond 'Business as Usual'	414	46
2	Di Vaio et al. (2020)	Artificial intelligence and business models in the sustainable development goals perspective: A systematic literature review	325	65
3	Van Zanten and Van Tulder (2018)	Multinational enterprises and the Sustainable Development Goals: An institutional approach to corporate engagement	300	43
4	Tsalis et al. (2020)	New challenges for corporate sustainability reporting: United Nations' 2030 Agenda for sustainable development and the sustainable development goals	251	50
5	Rosati and Faria (2019)	Business contribution to the Sustainable Development Agenda: Organizational factors related to early adoption of SDG reporting	227	38
6	Mio et al. (2020)	Sustainable development goals and the strategic role of business: A systematic literature review	179	36
7	van der Waal and Thijssens (2020)	Corporate involvement in Sustainable Development Goals: Exploring the territory	173	35
8	Pizzi et al. (2021)	The determinants of business contribution to the 2030 Agenda: Introducing the SDG Reporting Score	156	39
9	Pedersen (2018)	The UN Sustainable Development Goals (SDGs) are a Great Gift to Business!	130	19
10	Filho et al. (2024)	Do institutional investors drive corporate transparency regarding business contribution to the sustainable development goals?	119	24
11	Erum et al. (2024)	Business participation in implementation of socially oriented sustainable development goals in countries of central Asia and the Caucasus region	117	17
12	Moldavska and Welo (2019)	A Holistic approach to corporate sustainability assessment: Incorporating sustainable development goals into sustainable manufacturing performance evaluation	108	18

	<b>Authors</b>	<b>Title</b>	<b>Cites</b>	<b>Cites per Year</b>
13	Grover et al. (2019)	Impact of corporate social responsibility on reputation—Insights from tweets on sustainable development goals by CEOs	104	17
14	Heras-Saizarbitoria et al. (2022)	Organizations' engagement with sustainable development goals: From cherry-picking to SDG-washing?	102	34
15	Silva (2021)	Corporate contributions to the Sustainable Development Goals: An empirical analysis informed by legitimacy theory	101	25
16	Khaled et al. (2021)	The Sustainable Development Goals and corporate sustainability performance: Mapping, extent and determinants	96	24
17	Muff et al. (2017)	The Gap Frame - Translating the SDGs into relevant national grand challenges for strategic business opportunities	95	12
18	ElAlfy et al. (2020)	Scoping the evolution of corporate social responsibility (CSR) research in the sustainable development goals (SDGS) era	93	19
19	Selahudin et al. (2014)	Implementing the United Nations' Sustainable Development Goals in international business	90	23
20	Aziz et al. (2024)	Green brand of companies and greenwashing under sustainable development goals	88	18

#### **4.4 Themes in SDG and Business Studies**

This study presents the main themes emerging in SDGs and business studies to answer RQ4. It shows the visualisation of the networks and overlays based on the author's keywords and based on the title and abstract terms.

##### **4.4.1 Author's Keyword Analysis**

The scholar used author keywords to find the research trends. Figure 4 shows the visualisation of the networks based on the author's keywords. A five-keyword threshold was used on the dataset, consisting of 448 documents, and it produced 41 applicable keywords from 1,064 authors' keywords. VOSviewer was employed for mapping analysis, and this software maps the appearance of each of the keywords collectively. It shows how the font size, the node's colour, or the connecting lines' width were utilised to represent the author's keywords related

to other keywords. Ultimately, the analysis results led to the development of six (6) different clusters in this study. Based on the similarity of keywords in each cluster, the study proposed themes relevant to the study area.

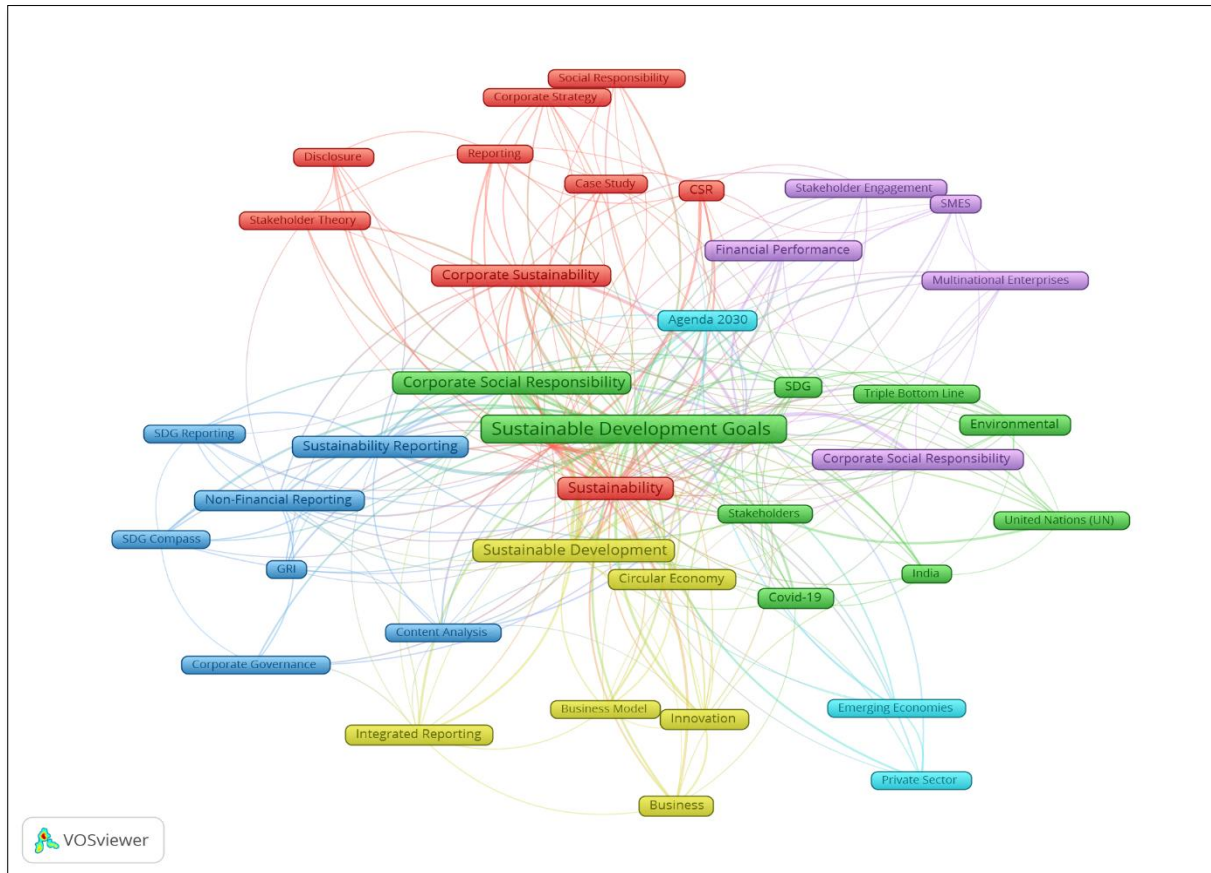


Figure 4: The visualisation of the networks based on the author's keywords

The clusters are classified into six themes: Integrating SDGs with corporate sustainability strategies (red - 9 items); stakeholder engagement for sustainable development (green - 9 items); using the SDG compass and GRI Framework for reporting alignment (blue - 7 items); driving sustainable development through innovation and circular business models (yellow - 6 items); synergy between SDGs, CSR, and financial performance (purple - 5 items); and private sector contributions to agenda 2030 (turquoise - 3 items). Table 7 shows the proposed main themes based on the author's keywords.

The first theme is "integrating SDGs with corporate sustainability strategy." This theme involves converging SDGs, corporate sustainability, CSR, and corporate strategy. Companies address worldwide problems such as inequality, climate change, and corruption by embedding the SDGs into their core strategies. Concurrently, businesses aligning their sustainability

strategies with the SDGs can reduce risks, enhance reputation, and open new market opportunities, thus creating long-term value.

The second theme is "stakeholder engagement for sustainable development." Stakeholders, including investors, suppliers, employees, customers, communities, and governments, play a vital role in a company's sustainability journey. As such, engaging with stakeholders helps businesses enhance transparency and build trust. Building on this, companies can identify and engage with critical stakeholders influencing or affecting their business operations. The engagement can be conducted through meetings and reports, and by incorporating their feedback into sustainability planning and decision-making. Furthermore, companies can also partner with external stakeholders like government entities, industry peers, or Non-Governmental Organisations (NGOs) to collaborate on sustainability initiatives. Corporate philanthropy, encompassing corporate giving, donations, and charitable activities (Aziz et al., 2024), serves as an effective strategy for engaging stakeholders. Many stakeholders consider corporate philanthropy essential to a company's success in fulfilling its CSR commitments (Aziz et al., 2024).

The third theme involves "using the SDG Compass and GRI Framework for reporting alignment." The SDG Compass and GRI assist companies in aligning their reporting practices with the SDGs. Thus, by utilising them, companies can ensure that they are working towards SDG targets, promoting transparency and accountability to stakeholders. The GRI Standards enable the reporting of non-financial information, such as environmental and social impacts, which enhances corporate responsibility and facilitates sustainable decision-making.

The fourth theme is "driving sustainable development through innovation and circular business models." This theme emphasises the importance of innovation and circular economy ideas in promoting sustainable growth within companies. It also underscores the significance of integrating sustainability considerations into business models and advocates for transparent reporting through integrated reporting approaches. Notably, this issue offers significant insights into supporting sustainable business practices by investigating how companies innovate and implement circular economy concepts. This is in addition to aligning with sustainable development objectives.

The fifth theme concerns "synergy between SDGs, CSR, and financial performance." The relationship between SDGs and CSR is interconnected and evolving, reflecting the growing emphasis on responsible business practices, which can often lead to improved financial performance. CSR initiatives focusing on social and environmental objectives can enhance business profitability by building consumer trust and loyalty, lowering costs, and

increasing operational efficiency. Thus, corporate SDG efforts serve as an effective means for companies to communicate key information about their status, which can shape investor perceptions and lead to improved financial outcomes. Existing research indicates that both CSR and SDG activities have a positive effect on economic performance. For example, Musa et al. (2025) investigated the link between CSR disclosure and the financial performance of 233 global banks from 2013 to 2018, finding that CSR disclosures significantly and positively influence financial results. Similarly, Saha et al. (2024) demonstrated that environmental SDGs have a meaningful and positive impact on companies' financial performance.

The sixth theme is "private sector contributions to Agenda 2030". This theme emphasises the critical role of the private sector in advancing sustainable development in emerging economies. Note that SDG highlights the role of partnerships and collaboration in achieving collective action, as well as aligning diverse actors' contributions towards a better future (Filho et al., 2024). Hence, collaboration and cooperation between different sectors and backgrounds could help strengthen relationships and create partnerships. Ultimately, the private sector can contribute resources, innovation, and efficiency in job creation, clean energy, and infrastructure development to scale solutions that address global challenges and contribute to the SDGs.

Table 7: Main themes based on the author's keywords

Keywords	Cluster	Occurrences	Total link strength	Theme
SDGS	1	71	60	Theme 1:
Sustainability	1	55	54	Integrating SDGs with Corporate Sustainability Strategies
Corporate Sustainability	1	26	26	
CSR	1	11	11	
Reporting	1	7	7	
Disclosure	1	6	6	
Case Study	1	5	5	
Corporate Strategy	1	5	5	
Social Responsibility	1	6	5	
Stakeholder Theory	1	5	5	
Sustainable Development Goals	2	154	123	Theme 2:
Corporate Social Responsibility	2	46	44	Stakeholder Engagement for Sustainable Development
SDG	2	16	14	
Covid-19	2	9	8	
Environmental	2	9	8	
United Nations (UN)	2	8	7	
India	2	6	6	
Triple Bottom Line	2	6	6	
Stakeholders	2	5	5	

Keywords	Cluster	Occurrences	Total link strength	Theme
Sustainability Reporting	3	27	25	Theme 3: Using the SDG Compass and GRI Framework for Reporting Alignment
Non-Financial Reporting	3	13	13	
Content Analysis	3	8	8	
SDG Compass	3	8	8	
Corporate Governance	3	7	5	
GRI	3	5	5	
SDG Reporting	3	6	5	
Sustainable Development	4	54	46	Theme 4: Driving Sustainable Development through Innovation and Circular Business Models
Innovation	4	13	12	
Business	4	12	11	
Circular Economy	4	10	9	
Integrated Reporting	4	9	9	
Business Model	4	6	6	
Sustainable Development Goals (SDGs)	5	64	50	Theme 5: Synergy Between SDGs, CSR, and Financial Performance
Corporate Social Responsibility (CSR)	5	12	11	
Financial Performance	5	11	10	
Multinational Enterprises	5	5	5	
SMES	5	5	5	
Stakeholder Engagement	5	5	5	
Agenda 2030	6	18	18	Theme 6: Private Sector Contributions to Agenda 2030
Private Sector	6	6	6	
Emerging Economies	6	5	5	

Figure 5 displays the visualisation of the overlays based on the author's keywords, which can serve as a tool to detect the concentration of research subjects. Keywords were aggregated by year. Subsequently, the analysis was divided into two periods. Period I was for 2021, and period II was for 2022. In the period I (2021), emerging research topic trends were related to CSR, sustainability, reporting, corporate governance, stakeholder engagement, and business models. Meanwhile, in period II (2022), the emerging research topic trends were related to SDG reporting, Agenda 2030, COVID-19, and financial performance.

The world focused on achieving the SDGs by 2030, and it has put pressure on businesses to demonstrate how they contributed to sustainable development, making SDG reporting an emerging trend. This reflects a shift from traditional CSR to a more goal-oriented framework. There was also a new emphasis on the connection between SDG reporting and financial performance, and it became more pronounced as stakeholders sought to understand how the SDG initiative could drive economic success.



related to the sustainability reporting produced by the company, and characteristics like governance affect the quality of sustainability reporting. The terms that exist in other clusters are as follows:

**Reporting:** Words related to "reporting" are quality, effect, influence, governance, characteristics, and determinants.

**Nation:** Words related to "nation" are economy, market, government, economic growth, progress, and opportunity.

**Management:** Words related to "management" are risk, case study, partnership, operation, sustainability practice, corporate strategy, and guideline.

**Model:** The word "model" is related to several things, namely organisation, commitment, communication, case, project, field, and awareness.

**Performance:** Words related to "performance" are innovation, factor, indicator, greenwashing, compliance, and GRI.

**Change:** Words related to "change" are chapter, entrepreneurship, solution, concept, principle, scope, ESG, and future.

**Sustainability report:** Words related to "sustainability report" are climate change, publication, service, UN SDGS, business activity, sustainability practice and digitalisation.



to explore connections between keywords and identify the research focus from the previous literature.

In addition, based on the overlay visualisation of the co-occurrence of the author's keywords, it has been discovered that the emerging research topic trends were related to SDG reporting, disclosure, stakeholders, circular economy, and financial performance. Thus, this study can provide a direction for the future development of SDGs and business studies. Identifying these topics will help future researchers understand where SDG and business studies are heading. Accordingly, they can utilise this insight to shape future research agendas by aligning business strategies with global sustainability goals or improving reporting frameworks to ensure broader SDG coverage in business activities.

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