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An exploration of sustainability and supply chain management practises in the oil and gas industry: A systematic review of practises and implications

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ABSTRACT

This study is motivated by the growing global concerns about environmental impacts and the need for responsible resource management within the oil and gas industry. A systematic review was conducted to examine sustainability and supply chain management (SCM) practices in this sector. The empirical methodology involved a comprehensive literature search across major databases, identifying key studies that address sustainability measures, SCM practices, and the institutional pressures influencing these initiatives. The main findings reveal that while some organisations within the oil and gas industry have begun integrating sustainability principles into their SCM strategies, the approaches are diverse and often fragmented. The review highlights significant gaps in the current literature and areas that warrant further research and exploration, particularly the lack of comprehensive frameworks that address the interconnectedness of environmental, social, and economic sustainability dimensions within supply chains. Policy implications of these findings underscore the need for more robust regulatory frameworks and industry standards that can guide oil and gas companies in implementing effective and consistent sustainability practices. Additionally, the study suggests that future research should focus on developing integrated models that incorporate all dimensions of sustainability, offering a more holistic approach to sustainable supply chain management in the oil and gas sector. This will contribute to the theoretical understanding and provide practical insights for policymakers and industry practitioners striving for a more sustainable future in this critical industry.

1. Introduction

The imperative for businesses to demonstrate comprehensive accountability in their operations, particularly in environmental, social, and ethical dimensions, has significantly elevated the role of supply chain management (SCM) as a strategic focus area (Kumari and Kamboj, 2023a; Singh, 2023). The evolving dynamics of global competition, frequently framed as supply chain versus supply chain, underscore the strategic importance of SCM (Tiwari et al., 2023). Effective SCM is indispensable for achieving corporate sustainability objectives in today's heightened awareness and scrutiny, especially in environmentally sensitive sectors like the oil and gas industry (Kumari and Kamboj, 2023b; Zhang et al., 2023). The urgency of addressing the significant sustainability challenges in the oil and gas industry, such as land degradation, oil spills, hazardous waste production, and greenhouse gas emissions, cannot be overstated (Mahapatra et al., 2023a,b; Sinha et al., 2023a). These challenges are crucial for the industry's sustainability and for mitigating broader global environmental challenges (Mahapatra et al., 2023a,b; Choudhary and Kumari, 2023). Effective SCM can help address these concerns, emphasising its strategic importance in achieving sustainable corporate objectives (Kumari and Kamboj, 2023a; Singh, 2023).

Despite the critical importance of integrating sustainability into SCM, existing literature reveals a significant gap, particularly regarding comprehensive, systematic reviews that explore the interplay between sustainability practices and SCM in the oil and gas sector (Mahapatra et al., 2023a,b). Previous studies have often focused on isolated aspects of sustainability or SCM without adequately capturing the complex, multidimensional pressures that influence these practices (Kumari and Kamboj, 2023a; Zhang et al., 2023). Notably, there is a conspicuous lack of coherence in identifying and analysing the sustainability measures, SCM practices, and the various institutional pressures—coercive, normative, and mimetic—that shape these practices within the industry (Kumari and Kamboj, 2023b; Tiwari et al., 2023; DiMaggio and Powell, 1983). Previous studies, such as those by Raut et al. (2017) and Silvestre (2015), provide insights but fail to offer comprehensive systematic reviews of the sector. This scholarly void necessitates further examination of the recent trends and pressures influencing sustainability and SCM

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practices in the oil and gas industry (Sinha et al., 2023b; Singh, 2023). Moreover, much of the extant research has predominantly centred on environmental sustainability, often neglecting the equally critical social and economic dimensions. This narrow focus results in an incomplete understanding of the broader sustainability challenges faced by the oil and gas sector (Kumari and Kamboj, 2023a; Mahapatra et al., 2023a,b; Sinha et al., 2023b). The gaps are further exacerbated by the limited exploration of how institutional pressures influence SCM practices and sustainability outcomes in this industry, particularly from an integrated perspective that considers all relevant dimensions (Kumari and Kamboj, 2023b; Tiwari et al., 2023; DiMaggio and Powell, 1983).

This study aims to fill these gaps by conducting a systematic literature review that evaluates current research trends, identifies critical gaps, and proposes directions for future inquiries. By adopting comprehensive definitions of sustainability from Hassini, Surti, and Searcy (2012)defined as "the ability to conduct business with a long-term goal of maintaining the well-being of the economy, environment, and society," the definition of SCM practices from Li et al. (2005a,b) defined as "the set of activities undertaken in an organisation to promote effective management of its supply chain," and institutional pressures definition from Morali and Searcy (2013) defined as "internal and external pressures that companies feel from stakeholders," this review seeks to provide a holistic understanding of sustainability and SCM in the oil and gas industry. The study contributes to the literature by offering integrated insights into the multidimensional pressures driving sustainability and SCM practices, guiding academic research and industry practices (Kumari and Kamboj, 2023a; Singh, 2023). The goal is to comprehensively analyse the key trends, issues, and gaps in the sustainability and SCM practices within the oil and gas industry, thereby contributing to developing more effective and integrated SCM strategies that align with global sustainability objectives. This endeavour advances academic knowledge and offers practical insights for industry practitioners and policymakers striving to enhance sustainability in one of the world's most critical and impactful industries (Mahapatra et al., 2023a, b; Kumari and Kamboj, 2023b).

The novelty of this study lies in its comprehensive approach to analysing the sustainability challenges in the oil and gas industry, with a particular emphasis on the role of institutional pressures. The findings of this review have significant policy implications, suggesting the need for stronger regulatory frameworks and industry standards to guide sustainable practices in this critical sector (Tiwari et al., 2023; Choudhary and Kumari, 2023). The systematic literature review methodology ensures a robust and exhaustive examination of existing research, providing a solid foundation for future studies (Kumari and Kamboj, 2023a; Sinha et al., 2023b). The comprehensive nature of this study ensures that no aspect of the sustainability challenges in the oil and gas industry is overlooked. However, the study has limitations; relying on existing literature may overlook emerging trends that have not yet been extensively documented (Kumar, 2019; Zhang et al., 2023). Future research should address these limitations by incorporating more empirical data and exploring the dynamic nature of sustainability practices as they evolve in response to global environmental and social pressures (Thompson and Jones, 2023).

Following the introduction, we will conduct a systematic literature review in subsequent sections to analyse sustainability and supply chain management (SCM) practices in the oil and gas industry. We will outline our methodology, including the databases used, search strings, and inclusion/exclusion criteria. The findings section presents a descriptive analysis of the collected articles and discusses various perspectives on sustainability and SCM practices. We follow that up by identifying emerging themes, assessing major similarities and differences among the evaluated papers, and delving into the dimensions of sustainability—environmental, social, and economic—as they relate to the industry. Furthermore, we integrate findings from existing literature, focusing on key SCM practices and the influence of institutional pressures. The study also explores the role of normative, mimetic, and coercive institutional pressures in shaping sustainability and SCM practices in the oil and gas sector. Finally, we identify areas requiring further research, emphasising the need for integrated studies on the intersection of sustainability, SCM practices, and institutional pressures in the context of the oil and gas industry.

2. Setting UP the literature review

Conducting a comprehensive literature review requires a clear and structured approach to identifying, selecting, and analysing relevant literature and defining the study's limits. (Ashby et al., 2012). This process typically involves three steps: planning, conducting, and reporting, which are guided by the research questions and objectives developed during the planning stage. (Tranfield et al., 2003). Systematic literature reviews are particularly useful in demonstrating the objectivity of a comprehensive literature review by identifying key themes and potential areas for future research. (Ashby et al., 2012; Seuring and Gold, 2012). Furthermore, a systematic literature review goes beyond analysing the content of the literature by also focusing on its underlying structure to identify gaps in knowledge, methodological inconsistencies and similarities, and any discrepancies that could be resolved through further research. (Tranfield et al., 2003; Ashby et al., 2012).

Upon deciding to comprehensively examine the literature on Supply Chain Management Practices (SCMP) and sustainability in the oil and gas industry, the researcher selected two search engines that provided access to a wide range of relevant literature within a specific time frame. The researcher chose the databases SCOPUS and Web of Science, which have been widely recognised as reliable sources of peer-reviewed articles related to the research topic (Tseng et al., 2019). To identify literature on the intersection of sustainability and SCMP in the oil and gas industry, the researcher reviewed common keywords and used the definitions of sustainability and SCMP adopted in this study to compile a list of terminologies, as shown in Table 1. This list was used to identify articles that met the research criteria.

The researcher systematically explored the databases using search strings that amalgamated relevant terminologies to identify contributions germane to the study. These search strings were employed to search for article titles, abstracts, and keywords in Scopus and all fields in Web of Science. Although utilising a limited number of databases may be perceived as a limitation, the search strings enabled the researcher to access many scholarly papers. Nonetheless, utilising these databases led to some duplication; thus, the researcher implemented rigorous procedures (outlined and discussed below) to verify the search results from each database to ensure accurate reporting of the outputs.

2.1. The identification stage

To identify relevant articles, a first search was conducted on July 13, 2022, using the search strings in Table 2 on Scopus and Web of Science and limiting the search to "titles," abstracts," and "keywords" on Scopus and "all fields" on Web of Science. The search produced 1399 and 153

Table 1
Terminologies used in literature search.

Terms Connected by OR	AND	Terms Connected by OR	AND	Terms Connected by OR
Sustainability		Supply chain management practices		Oil and gas
Sustainable		Supply chain management		Oil and gas industry
Social		Supply chain management activities		Oil and gas sector
Economic Environmental		Supply chain		Oil companies Petroleum Crude Oil

Table 2
Search Protocol for selected literature.

S/No	Database	Article Part Searched	Fields Searched	Search Strings	Time Span	Initial Search Result	Records Retrieved
1	Scopus	Title, Abstract and Keywords	Articles, reviews, short surveys, business, management and accounting, social sciences, economics, econometrics and finance, English	(Sustainability OR sustainable OR social OR economic OR environmental) AND (supply chain management practices OR supply chain management activities OR supply chain OR supply chain management) AND (oil and gas OR oil and gas sector OR oil and gas industry OR oil companies OR petroleum OR crude oil)	2003 to 2022	153	41
2	Web of Science	All fields	Article, review article, book chapters, editorial material, early access, data paper, management, economics, operations research management science, business, business finance, social science mathematical methods, English	(Sustainability OR sustainable OR social OR economic OR environmental) AND (supply chain management practices OR supply chain management activities OR supply chain OR supply chain management) AND (oil and gas OR oil and gas sector OR oil and gas industry OR oil companies OR petroleum OR crude oil)	2003 to 2022	1339	198

Table 3
Database-specific search queries.

Database	Search Fields	Query	Filters
Scopus	Title, Abstract, Keywords	(Sustainability OR sustainable OR social OR economic OR environmental) AND (supply chain management practices OR supply chain management activities OR supply chain OR supply chain management) AND (oil and gas OR oil and gas sector OR oil and gas industry OR oil companies OR petroleum OR crude oil)	Articles, reviews, short surveys; Business, Management, Accounting, Social Sciences, Economics, Econometrics, and Finance; English language
Web of Science	All fields	(Sustainability OR sustainable OR social OR economic OR environmental) AND (supply chain management practices OR supply chain management activities OR supply chain OR supply chain management) AND (oil and gas OR oil and gas sector OR oil and gas industry OR oil companies OR petroleum OR crude oil)	Articles, review articles, book chapters, editorial material, early access, data paper; Management, Economics, Operations Research Management Science, Business, Business Finance, Social Science Mathematical Methods; English language.

papers, respectively. No timeframe was specified in the search. However, the search output covered papers published between 2003 and 2022. Table 2 (column 7) presents the result of the initial search (see Table 3).

2.2. The screening stage

The initial search of Scopus and Web of Science (WOS) was limited to articles, reviews, and short surveys in English within the domain of Business, Management, Accounting, Social Sciences, Economics, Econometrics, and Finance in the Scopus database, reducing the number of articles from 153 to 41. Similarly, the WOS search was limited to articles, review articles, book chapters, editorial material, data papers, and early access in English within the fields of Management, Economics, Operations Research, Business, Social Science, and Mathematical Methods, reducing the number of papers from 1339 to 198. Non-English articles and conference papers were excluded, resulting in 230 papers after duplicate removal. These papers were further screened for full-text eligibility.

2.3. The eligibility stage

For eligibility, this study considered papers on sustainability or supply chain management (SCM) practices in the oil and gas industry. The titles and abstracts of the 230 articles from the refined search in Scopus and Web of Science were reviewed, excluding 140 articles that were not mainly linked to sustainability and SCM practices. An additional 26 articles were excluded after the review of the abstracts suggested that the publication did not fit within sustainability and SCM practices. This narrowed the remaining papers to 64, where an individual evaluation of each paper was feasible. The full text of the 64 articles was read and considered for inclusion. 13 full-text articles were further excluded due to lack of relevance or repetition, reducing the remaining articles to 51. The literature review and scoping strategy adopted for this study are depicted in Fig. 1.

2.4. The inclusion stage

This study included papers intersecting sustainability or supply chain management (SCM) practices in the oil and gas industry. The sustainability aspect addressed could be social, economic, or environmental, while the SCM practices aspects could be practices or activities. The articles whose titles, abstracts, and contents met these criteria were included, and articles not within this scope were excluded. After reading the full texts of the eligible papers, 51 papers were included in this systematic literature review of sustainability and SCM practices in the oil and gas industry. The search process was refined and meticulous to ensure only relevant and high-quality publications were considered; however, a few studies on sustainability and SCM practices may have inadvertently been left out due to the unique search criteria employed.

3. Data extraction and analysis

This section presents the findings of the systematic literature review. The key features of the collected articles are analysed and presented in a descriptive analysis to provide background information. The publication date, journal, citations, geographical emphasis, industry categorisation, methodology, data analysis approach, and theoretical viewpoint were considered. The publication dates, journals, citations, geographic emphasis, and industry categories were analysed to determine trends and the distribution of publications over the period under consideration. The methodology used in the publications was evaluated regarding research approaches, such as whether a qualitative, quantitative, or

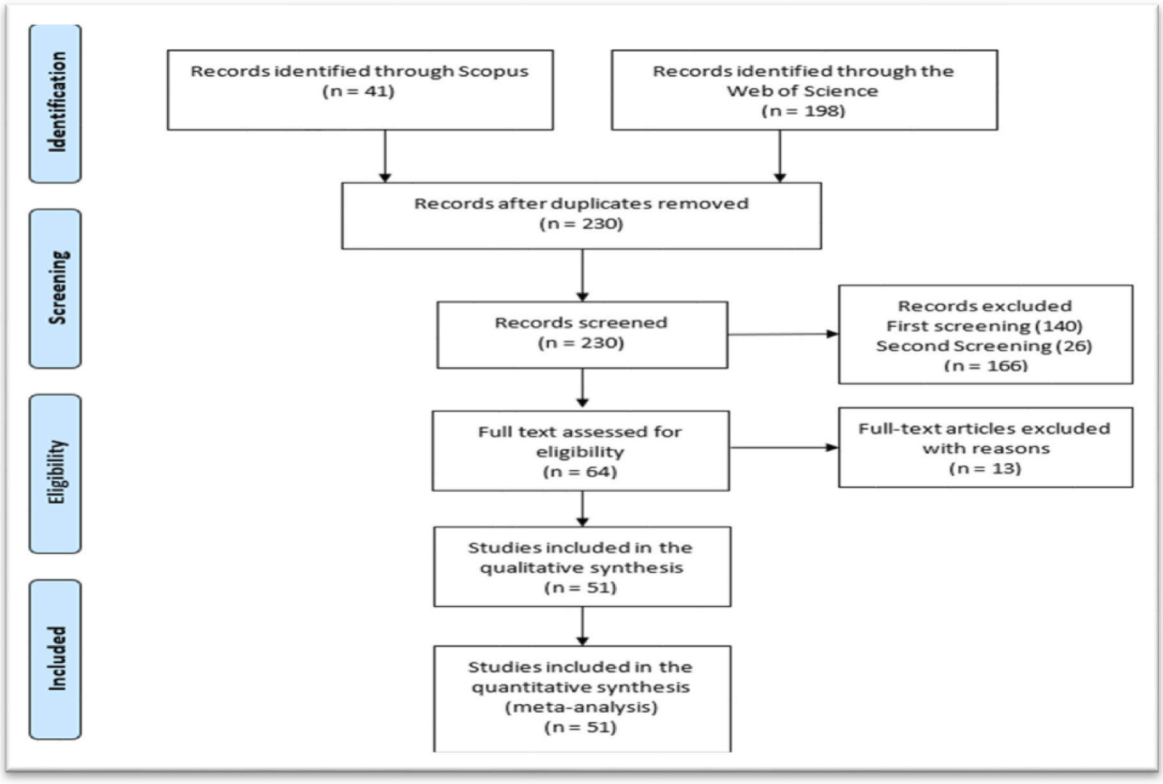


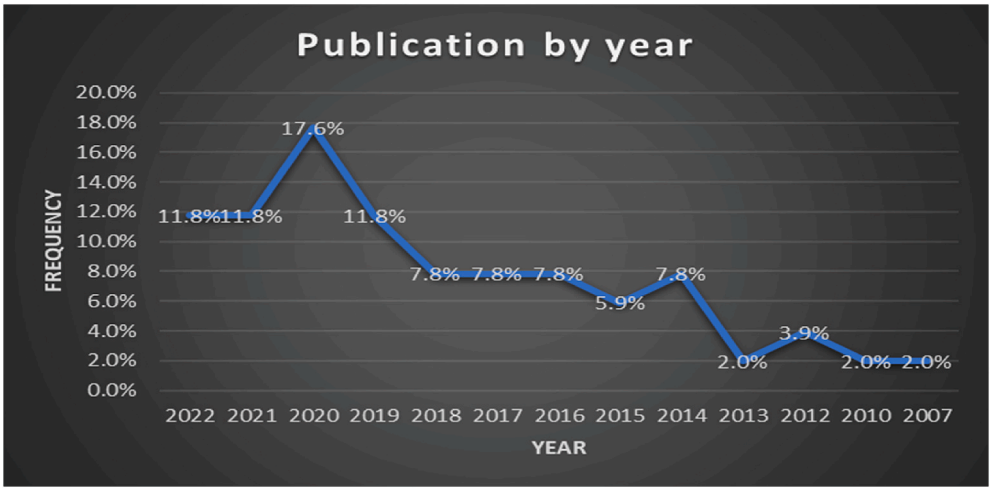
Fig. 1. Literature review and scoping strategy.

mixed method was used, as well as data sources and techniques used in data analysis. Each article's theoretical lens was analysed to understand better the many perspectives through which sustainability and SCM practices have been researched.

3.1. Yearly classification of reviewed articles

The trajectory of the literature on sustainability and SCM practices within the oil and gas sectors, starting in 2007. The initial emergence of relevant studies in 2007 marked the beginning of a growing academic interest, which saw significant growth until 2012. However, this momentum experienced a notable decline in 2013, only to witness a substantial resurgence in 2014. The growth rate remained steady from 2016 to 2018, with a modest increase of 7.8%. However, the period from 2018 to 2020 saw an exponential increase in publications, reflecting a heightened focus on these critical issues within academic and industry circles (Kumari and Kamboj, 2023a; Tiwari et al., 2023). This surge in publications during 2018–2020 indicates the rising global awareness and urgency surrounding environmental and social responsibilities in high-impact sectors like oil and gas (Singh, 2023; Choudhary and Kumari, 2023). The importance of lity and effective SCM practices has been amplified by the decreasing regulatory and market pressures, which demand greater co countability and transparency (Zhang et al., 2023). Nevertheless, despite this increased attention, the trend did not persist, with the publication rate decreasing from 2021 to 2022.

The overall trend line, however, still points to increasing interest, as 53% of the total papers were published between 2019 and 2022,



significantly surpassing the 47% from previous years combined. This pattern underscores a growing recognition of the critical importance of sustainability and SCM practices in the oil and gas industry, likely driven by rising environmental and social awareness across various sectors (Kumari and Kamboj, 2023b; Mahapatra et al., 2023a,b). Only 51 studies were published between 2007 and 2022, highlighting a significant research gap. Despite the growing awareness and interest, the integration of sustainability and SCM practices in the oil and gas sector remains underexplored, reflecting an empirical lacuna that demands further investigation (Sinha et al., 2023a; Thompson and Jones, 2023). This gap is particularly concerning given the critical role that institutional pressures play in shaping sustainable practices within organisations, as highlighted by Kumari and Kamboj (2023b) and Kumar (2019). The limited number of studies suggests that while the importance of these practices is recognised, their practical implementation and the challenges therein are not fully understood or addressed in the existing literature.

Future studies must aim to fill this gap by exploring the intricate interactions between sustainability initiatives and SCM practices in the oil and gas sector to advance this field. This necessitates extensive empirical research and a critical examination of existing frameworks and methodologies, emphasising adapting them to this industry's specific challenges and opportunities (Tiwari et al., 2023; Sinha et al., 2023b). Addressing this research lag is essential for advancing academic knowledge and practical applications, ultimately contributing to more sustainable and efficient supply chain management in the oil and gas sector (Mahapatra et al., 2023a,b). Focusing on these areas, future research can provide valuable insights into the development of more robust and adaptive SCM strategies that align with the global sustainability agenda, thereby ensuring that the oil and gas industry can meet current and future challenges responsibly and effectively (Kumari and Kamboj, 2023a; Choudhary and Kumari, 2023).

3.2. Classification by publishers

The analysis reveals significant disparities in disseminating research on sustainability and SCM practices within the oil and gas sector, highlighting the dominance of certain publishers. Emerald Group Publishing Ltd emerges as the leading publisher, responsible for 19 journals, which account for approximately 37% of the articles reviewed. This dominance is further supported by the high citation rates of its journals, positioning Emerald as a key player in shaping academic discourse on sustainability and SCM practices (Kumari and Kamboj, 2023a). The substantial volume of articles and the prominence of Emerald's publications in citation metrics underscore its pivotal role in this field. Elsevier Sci Ltd, contributing around 29% of the journals, ranks as the second most influential publisher. Notably, Elsevier's journals are the most frequently referenced, indicating the significant impact and relevance of the research it disseminates (Singh, 2023). This suggests that Elsevier's publications are particularly valued for their rigour and contribution to sustainability and SCM, further reinforcing the publisher's influence.

Despite their lower volume, Springer and Taylor & Francis Ltd, each responsible for 8% of the assessed journals, also play critical roles. Their articles' high citation rates reflect their substantial impact and the quality of research they support (Tiwari et al., 2023). These publishers and Wiley collectively account for 82% of the journals reviewed. This concentration of influential publications among a few key publishers illustrates the centralised dissemination of knowledge within this research domain (Kumari and Kamboj, 2023b). The predominance of these publishers raises critical questions about the diversity and accessibility of research in this area. While their significant roles ensure a consistent platform for high-impact research, they also suggest potential gatekeeping, which could influence the breadth of perspectives and innovative approaches within the field (Zhang et al., 2023). This centralisation of influence necessitates critically examining publishing practices and encourages broader dissemination to foster a more inclusive and diverse academic environment (Mahapatra et al., 2023a,b). Encouraging the inclusion of diverse publishers and perspectives may help address this imbalance, ensuring a more comprehensive exploration of sustainability and SCM practices across different contexts and regions.

3.3. Classification by citation

The citation analysis undertaken provides a critical lens on the pivotal contributions to the literature on sustainability and SCM practices in the oil and gas sector (see Table 4). Table 5, which lists the top ten most-cited articles as of July 13, 2022, underscores the influence of these works in shaping the academic discourse. Matos and Hall's (2007) seminal paper stands out with 421 citations, indicating its foundational impact. Following this, Govindan et al. (2017) have accrued 291 citations, further underscoring the ongoing relevance of their research. Other significant contributions include de Sousa Jabbour et al. (2011), with 257 citations; Raut et al. (2017), with 229 citations; Ahmad et al. (2017b), with 150 citations; and Hall and Matos (2010), with 122 citations. These authors have been cited approximately 1761 times, affirming their status as leading scholars in this domain. The prominence of these articles, as reflected in their high citation counts, highlights their critical role in advancing understanding and practice in sustainability and SCM within the oil and gas industry. The extensive referencing of Matos and Hall (2007) exemplifies its enduring influence, while the significant citations of works by Govindan et al. (2017) and Silvestre (2015) demonstrate their substantial contributions to contemporary research agendas. These citation metrics signal the high impact of these studies and reflect their methodological rigour and the robustness of their findings. Moreover, the publication avenues of these highly cited articles—namely, the Journal of Operations Research, the European Journal of Operational Research, and the International Journal of Production Economics—are among the most prestigious in the field. This affiliation with top-tier journals further validates the quality and importance of these studies, as these journals are known for their stringent peer-review processes and high academic standards (Tseng et al., 2019). However, while the citation analysis identifies these authors as leading figures, it also points to a broader issue: the concentration of influential work among a relatively small group of scholars. This concentration suggests a potential gatekeeping effect, where a limited number of perspectives dominate the discourse, potentially stifling diversity and innovation in research approaches. Future studies should strive to broaden the scope of inquiry and include a wider array of voices to enrich the field's intellectual diversity and resilience (Ashby et al., 2012; Tranfield et al., 2003).

3.4. Sectoral classification of reviewed articles

The overview of research on sustainability and supply chain

Table 4
Top Publishers of Journals in sustainability and SCM practices in the oil and gas industry.

Publisher	No. Of Journals	Percentage
Emerald Group Publishing Ltd	19	37%
Elsevier Sci Ltd	15	29%
Springer	4	8%
Taylor and Francis Ltd.	4	8%
John Wiley and Sons Ltd	3	6%
Inderscience Publishers	2	4%
Excelingtech	1	2%
MDPI	1	2%
Primrose Hall Publishing Group	1	2%
Routledge	1	2%
	51	**100%**

Table 5
Top Ten influential authors and Journals in the reviewed articles.

No.	Author	Journal	No. Of citations
1	Matos and Hall (2007)	Journal of Operations Management	349
2	GovindanFattahi and Keyvanshokooh (2017)	European Journal of Operational Research	291
3	Silvestre (2015)	International Journal of Production Economics	246
4	Raut et al. (2017)	Renewable & Sustainable Energy Reviews	229
5	Ahmad et al. (2017)	Journal of Cleaner Production	190
6	Hall and Matos (2010)	International Journal of Physical Distribution & Logistics Management	122
7	Hoejmose et al. (2014)	International Journal of Production Research	111
8	Hall et al. (2012)	International Journal of Production Research	96
9	Yusuf et al. (2013)	International Journal of Production Economics	74
10	Sueyoshi and Wang (2014)	Energy Economics	72

management (SCM) practices in the oil and gas sector reveals significant variability across different segments based on the analysis of the studies used in this review. SCM strategies critical for one segment may not be as applicable to another. The petroleum industry's supply chain, comprising interconnected upstream, midstream, and downstream sectors, is the basis for this categorisation. This segmentation allows for a more precise understanding of how sustainability and SCM practices are implemented and optimised across different parts of the industry. Of the 51 reviewed papers, a mere 5.9% (3) did not specify their sectorial focus within the oil and gas supply chain, underscoring a general awareness of the importance of sector-specific analysis. The majority of the reviewed literature, 43.1%, concentrated on the upstream sector, which includes exploration and production activities. This focus is likely due to the significant environmental impacts of upstream activities, such as drilling and extraction, which necessitate robust sustainability practices (Zhu et al., 2013). The downstream sector, encompassing refining and distribution, was the focus of 23.5% of the studies. This sector's emphasis on refining efficiency and emissions reduction highlights its critical role in the supply chain (Seuring and Gold, 2012). Additionally, 9.8% of the studies addressed all three sectors—upstream, midstream, and downstream—indicating a holistic approach to SCM and sustainability practices. These comprehensive studies are particularly valuable as they provide integrated insights to inform cross-sectoral strategies (Govindan et al., 2017). Furthermore, 17.6% of the research focused on the upstream and downstream sectors, reflecting an understanding of the interconnected nature of these phases and their combined impact on the supply chain's sustainability (Matos and Hall, 2007). The sectorial distribution of the research indicates a predominant focus on upstream activities, which may suggest an imbalance in the literature that needs to be addressed. Future research should balance this by increasing the focus on midstream and downstream activities, ensuring a more comprehensive understanding of SCM practices across the entire petroleum supply chain. This balanced approach will enable the development of more effective and tailored sustainability strategies that address each sector's specific challenges and opportunities (Raut et al., 2017).

3.5. The geographical focus of reviewed articles

The findings of the studied publications reveal a geographical concentration in the research on sustainability and SCM practices within the oil and gas industry. India is the predominant focus, comprising 16% of the examined publications. This is followed by Iran, the USA, and Brazil, each accounting for 8%. The United Kingdom, Oman, and Canada each contribute 6% of the research, while Qatar and global studies represent 4%. The remaining countries are each represented by 2% of the publications. Notably, developing nations such as India, Brazil, Iran, Oman, and Qatar are at the forefront of research in this field, reflecting a significant interest in addressing sustainability and SCM challenges in these regions. This focus is likely due to these countries' acute sustainability issues, exacerbated by their substantial oil and gas industries (Abdalla and Siti-Nabiha, 2015). In contrast, developed nations like the United States, Canada, and the United Kingdom, despite their smaller representation in percentage terms, still produce a significant volume of research, underscoring the global relevance of these issues. 41% of the reviewed papers concentrate on developing countries, while 59% focus on developed nations. This distribution indicates a relative underrepresentation of research dedicated to underdeveloped nations despite their pressing need for sustainable practices in the oil and gas sector. The limited research in African countries, evidenced by only two studies conducted in Sudan and Libya, highlights a significant gap. This disparity underscores the need for increased scholarly attention to oil-producing developing nations' sustainability and SCM challenges, particularly in Africa. The gap in research can be attributed to the more severe sustainability and SCM challenges prevalent in the supply chains of oil and gas industries in developing countries. These nations often experience more unsustainable practices than their developed counterparts, necessitating a focused research agenda to address these critical issues (Abdalla and Siti-Nabiha, 2015).

3.6. The theoretical classification of reviewed articles

The systematic literature review analysis reveals that more than half (55%) of the reviewed papers employed a theoretical perspective, while 45% did not incorporate any theoretical framework. This finding contrasts with Touboulic and Walker's (2015) study, which noted that most sustainability and supply chain management research lacked theoretical grounding due to the field's relative immaturity. The fact that 45% of the analysed studies adopted an a-theoretical approach highlights a significant opportunity for further theoretical development in this area. Among the 55% of papers that utilised a theoretical perspective, the institutional theory of DiMaggio and Powell (1983) was predominant, featuring in 16% of the reviewed articles (Hoejmose et al., 2014; Abdalla and Siti-Nabiha, 2015; Tammela et al., 2016; Wan Ahmad et al., 2016; Wan Ahmad et al., 2017b; Haderi and Siam, 2019a; Narimissa, Kangarani-Farahani, & Molla-Alizadeh-Zavardehi, 2019; Jain et al., 2020; Rentizelas et al., 2020a,b). Institutional theory posits that organisations strive to maintain or enhance their legitimacy by aligning with the expectations of surrounding institutions and stakeholders. DiMaggio and Powell (1983) argue that three mechanisms—coercive, normative, and mimetic isomorphism—substantially influence organisational decisions, thereby shaping and propagating organisational practices. Stakeholder theory was the second most cited, appearing in 8% of the reviewed articles (Nunes et al., 2020; Mittal et al., 2018; Matos and Hall, 2007; Jagoda and Wojcik, 2019). According to stakeholder theory, a company's actions impact internal and external parties, making corporate social responsibility a firm's obligation to meet the expectations of its various stakeholders (Freeman, 2010). By integrating a wide network of actors into their strategy, firms can ensure long-term survival and maintain operational licenses.

Other theories referenced in the publications included contingency theory, regret theory, set theory, graph theory, complexity theory, network theory, evolutionary theory, ability-motivation-opportunity theory, systems theory, cluster theory, and shareholder theory, each accounting for 2% of the total. Despite the substantial use of institutional theory, its application to comprehensively capture the myriad influences on sustainability and SCM practices in the oil and gas industry remains limited. Most research utilising this theory has focused primarily on performance metrics, supplier selection, and contextual factors affecting

sustainability. Notably, only Ahmad (2016)identified contextual factors influencing sustainability goals in the oil and gas industry, with scant research detailing a coherent set of institutional pressures affecting SCM practices and their impact on sustainability (Silvestre, 2015; Raut et al., 2017). Rentizelas et al. (2020a,b) stand out as one of the few studies assessing the role of institutional pressure in supplier selection within the sector, particularly concerning social sustainability. This indicates a significant gap in the literature: a pressing need for research that develops a comprehensive framework integrating institutional pressures on SCM practices and their implications for sustainability. Future studies should investigate the potential impact of SCM practices on sustainability, focusing on how firms experience, interpret, and manage institutional pressures and how these pressures influence supply chain practices. There is a critical need for empirical investigations in this domain to bridge the gap between theoretical constructs and practical applications. Addressing this gap will enhance the understanding of how institutional pressures shape SCM and sustainability practices in the oil and gas industry, providing a robust foundation for academic inquiry and practical implementation.

3.7. Methodological classification of reviewed articles

The methodology employed in the reviewed literature is systematically categorised in Table 6, classifying the studies into qualitative, quantitative, and mixed methods. The table provides a detailed account of study designs, data sources, and data analysis procedures, revealing that quantitative research designs dominate the field, constituting 49% of the reviewed studies. Qualitative research, though significant, was utilised in 43% of the studies, while mixed-method approaches were notably scarce, employed in only 8% of the research (Kumar and Barua, 2022; Modarress et al., 2016; Perdeli Demirkan et al., 2021; Zubairu et al., 2021). This indicates a clear preference for single-method research designs over the potentially richer mixed-method approaches. The limited use of mixed methods represents a significant gap in the literature, as integrating both qualitative and quantitative approaches could substantially enhance the depth and breadth of understanding regarding the influence of institutional factors on SCM practices and their impact on sustainability. Saunders et al. (2012) argue that mixed methods facilitate a more comprehensive examination by allowing for multifaceted analysis, thereby mitigating the limitations inherent in relying solely on one methodological approach (see Table 7).

Surveys/questionnaires emerged as the predominant data collection method, utilised in 49% of the studies. Interviews were the second most common approach, employed in 29% of the reviewed research. A small proportion of studies (9%) relied on peer-reviewed articles, while only 2% employed multiple data collection techniques, such as combining surveys with interviews and documentary analysis (Yusuf et al., 2013) or incorporating surveys and expert opinions (Raut et al., 2018). The reliance on secondary data sources, including financial reports, corporate social responsibility reports, sustainability reports, online platforms, and the NYSE energy index, was limited to 19% of the studies. Chowdhury et al. (2019) was the only study to utilise annual reports from oil and gas companies, highlighting a marked preference for primary data collection methods over integrating secondary sources. Data analysis methods varied across the reviewed literature, encompassing PLS-SEM, systematic literature review, case study analysis, exploratory factor analysis, confirmatory factor analysis, regression, best-worst method, descriptive analysis, content analysis, and data envelopment analysis. Content analysis was particularly underutilised, with only a few studies (Evangelinos et al., 2018; Rentizelas et al., 2020a,b; Ahmad et al., 2016) employing this method. This suggests a predominant reliance on single-method data analysis techniques, with limited adoption of mixed analysis approaches.

The current methodological landscape underscores the need for more integrated research designs combining various data sources and analytical techniques. A mixed-method approach that synthesises data from questionnaires, interviews, and company annual reports, alongside diverse analysis methods, could yield a more nuanced and robust understanding of institutional pressures, sustainability, and SCM practices in the oil and gas industry. Such an approach would address the existing methodological limitations and contribute to a more holistic and comprehensive body of knowledge in this critical research area (Tseng et al., 2019; Touboulic and Walker, 2015).

3.8. Institutional pressures in the oil and gas industry

DiMaggio and Powell (1983) conceptualised institutional pressures as comprising mimetic, normative, and coercive forces exerted on organisations by stakeholders. These pressures compel companies to align with sustainability standards to achieve social legitimacy, gain competitive advantage, and enhance performance. This study examined how these institutional pressures manifest within the oil and gas industry, particularly regarding sustainability and supply chain management (SCM) practices. The analysis revealed that only 23.5% of the reviewed articles (12 out of 51) directly addressed institutional pressures within sustainability and SCM. Coercive pressure was the most extensively studied, appearing in all 12 papers. Coercive pressures, which include regulations, financial penalties, and legal sanctions, are imposed by governmental and professional regulatory bodies. These findings align with existing literature, emphasising regulatory frameworks' critical role in driving organisational compliance and sustainability initiatives (Kumari and Kamboj, 2023a; Choudhary and Kumari, 2023). In contrast, mimetic pressure—related to competitive dynamics and the imitation of successful practices—was examined in 42% of the 12 papers. This type of pressure reflects how organisations often emulate the practices of their more successful peers to enhance their legitimacy and market position (Singh, 2023). Normative pressures linked to societal expectations and stakeholder demands were addressed in 58% of the reviewed articles. These pressures underscore the influence of market forces, social interactions, NGOs, local communities, and investors on organisational behaviour and sustainability efforts (Tiwari et al., 2023; Sinha et al., 2023).

The review highlights a significant gap in the literature concerning the comprehensive examination of institutional pressures in the oil and gas industry. The disproportionate focus on coercive pressure suggests a narrow understanding of institutional influences, often neglecting the complex interplay of mimetic and normative pressures that also shape organisational practices (Kumari and Kamboj, 2023b). This aligns with the broader literature, which calls for a more balanced exploration of how these pressures interact and collectively influence sustainability and SCM practices (Mahapatra et al., 2023a,b; Thompson and Jones, 2023). Future research should aim to provide a more holistic understanding of these institutional pressures by equally considering coercive, mimetic, and normative forces. Such an approach will enrich the theoretical and empirical landscape, offering deeper insights into the mechanisms driving sustainability in the oil and gas sector. Expanding the scope of research in this way is essential for developing more effective strategies for sustainable supply chain management in this critical industry (Meyer and Rowan, 1977; Tolbert and Zucker, 1996).

3.9. Dimensions of sustainability

The Triple Bottom Line (TBL) framework was employed to evaluate the reviewed articles, specifically assessing their focus on sustainability's social, economic, and environmental dimensions. This approach thoroughly examined how these sustainability elements are integrated into the oil and gas industry's operations and research. Table 8 delineates the specific sustainability dimensions highlighted in the literature. Among the 51 reviewed articles, only 37 explicitly addressed at least one aspect of sustainability. Of these, 55% focused on at least one dimension, while the remaining 45% discussed sustainability in general terms without specific reference to any particular

Table 6
Methodological focus of the reviewed literature.

Citation	Research method			Source of data					Method of Analysis
	Qualitative	Quantitative	Mixed method	Survey	Experts Opinion	Peer Reviewed Article	Secondary data	Interview	
Kumar and Barua (2022)			/	/				/	PLS SEM
Abdussalam et al. (2021)	/					/			SLR
Rentizelas et al. (2020)	/			/					Content analysis
Haderi and Siam (2019a)		/		/					CFA and hierarchical regression
OmarAli and Jaharadak (2019)		/		/					PLS SEM
Gardas et al. (2019)		/		/					ISM & SEM
Silvestre (2015)	/							/	case study analysis
Sueyoshi and Wang (2014)		/					/		Data Envelopment Analysis (DEA)
Hall et al. (2012)	/							/	Case study analysis
Zailani et al. (2020)		/		/					PLS
Yusuf et al. (2013)		/		/			/	/	Descriptive analysis and Chi-Square
Raut et al. (2018)		/		/	/				ISM
Kumar and Barua (2021b)	/							/	Case study analysis
Beiranvand Firouzabadi and Dorniani (2021)		/		/					EFA and CFA
Sarrakh et al. (2022)	/							/	Thematic Analysis
Kumar and Barua (2021a)		/		/					Case analysis
Matos and Hall (2007)	/							/	Case analysis
Jain et al. (2020)		/		/					SEM
Modarress et al. (2016)			/	/				/	Descriptive Analysis
Abdalla and Siti-Nabiha (2015)	/							/	Case study analysis
Wan Ahmad et al. (2017a)	/					/			Conceptual model
Raut et al. (2017)		/		/					ISM
Wan Ahmad et al. (2016)		/		/					CFA
Wan Ahmad et al. (2017b)		/		/					Best Worst Method (BWM)
Wan Ahmadde Sousa Jabbour et al. (2011)		/		/					Content Analysis
Abdussalam et al. (2021)		/					/		Optimisation model analysis
Al-Josaiman and Faisal (2021)	/					/			Systematic literature review
Amin et al. (2021)		/		/					Partial Least Square
Atris and Goto (2019)		/					/		Data Envelopment Analysis (DEA)
Chowdhury et al. (2019)	/						/		Fixed effect panel regression
Bhatti et al. (2022)		/		/					SEM
Hoejmose et al. (2014)		/		/					Regression Analysis
Silvestre et al. (2020)	/							/	Multiple case study analysis
Burgherr et al. (2012)	/						/		Comparative Risk Analysis
Evangelinos et al. (2018)	/						/		Content analysis
Fazli et al. (2015)		/		/					Decision-making trial and evaluation laboratory (DEMATEL)
GovindanFattahi and Keyvanshokooh (2017)	/					/			Systematic literature review
Hall and Matos (2010)	/							/	Case study analysis
Jagoda and Wojcik (2019)	/							/	Case study analysis
Kaviani et al. (2020)	/							/	Grey Delphi approach - EDAS (evaluation based on distance from the average solution
Kumar et al. (2022)		/		/					Sensitivity analysis
Mittal et al. (2018)	/							/	Illustrative case study
Narimissa et al. (2019)	/					/			Descriptive analysis
Nunes et al. (2020)		/		/					ANOVA
Perdeli Demirkan et al. (2021)			/				/		Content analysis and ANOVA
Shqairat and Sundarakani (2018)		/		/					Regression
Tammela et al. (2016)	/			/					Index analysis
Valencia and Cardona (2014)		/					/		Waste Algorithm reduction
Yusuf et al. (2014)		/		/					ANOVA

(*continued on next page*)

Table 6 (*continued*)

Citation	Research method			Source of data					Method of Analysis
	Qualitative	Quantitative	Mixed method	Survey	Experts Opinion	Peer Reviewed Article	Secondary data	Interview	
ZhuBalakrishnan and da Silveira (2020)	/							/	Multiple case study analysis
Zubairu et al. (2021)			/		/				Template analysis and AHP

Table 7
Reviewed papers that addressed institutional pressures in the oil and gas industry.

Citation	Pressure Category		
	Coercive	Mimetic	Normative
Rentizelas A., de Sousa Jabbour A.B.L., Al Balushi A.D., Tuni A.	✓		
Haderi S.M.A., Siam M.R.A.	✓		✓
Gardas B.B., Raut R.D., Narkhede B.	✓	✓	
Hall J., Matos S., Silvestre B.	✓		✓
Jain, NK; Panda, A; Choudhary, P	✓	✓	✓
Modarress, B; Al Ansari; Thies, E	✓		
Abdalla, YA; Siti-Nabiha, AK	✓		✓
Raut, RD; Narkhede, B; Gardas, BB	✓	✓	✓
Ahmad, WNKW; Rezaei, J; de Brito, MP; Tavasszy, LA	✓	✓	✓
Ahmad, WNKW; Rezaei, J; Sadaghiani, S; Tavasszy, LA	✓	✓	✓
Abdussalam, O; Fello, N; Chaabane, A	✓		
Hoejmose, SU; Grosvold, J; Millington, A	✓	✓	

element. This analysis emphasises the environmental dimension in the literature. Specifically, 81% of the 37 sustainability articles incorporated environmental considerations into their studies. In contrast, social sustainability was mentioned in 57% of the articles, with only six studies (Amin et al., 2021; Bhatti et al., 2022a,b; Evangelinos et al., 2018; Hall and Matos, 2010; P. Kumar et al., 2022; Rentizelas et al., 2020a,b) exploring this dimension in depth. Remarkably, only one article (Rentizelas et al., 2020a,b) focused solely on social sustainability as the primary research topic (see Table 9).

Economic sustainability was the least represented in only 32% of the reviewed papers. Notably, no articles focused exclusively on economic sustainability, highlighting a significant imbalance. This finding is consistent with Seuring and Müller (2008), who observed that scholarly outputs on sustainability are often fragmented and predominantly one-dimensional, with a strong bias towards environmental aspects. The review also reveals a lack of integrated sustainability research within the oil and gas sector. Few studies (Raut et al., 2017; Silvestre, 2015; Ahmad et al., 2017; Rentizelas et al., 2020a,b; Silvestre et al., 2017a,b) have attempted to address both sustainability and supply chain management practices, and even these were limited by their focus on a single aspect of sustainability. The absence of a comprehensive approach incorporating all three TBL dimensions—environmental, social, and economic—results in a fragmented understanding that overlooks the interconnections and implications across these sustainability aspects. This critical gap highlights the need for more holistic research frameworks that integrate all three sustainability dimensions to provide a balanced and thorough understanding of sustainability practices in the oil and gas industry. Such an approach would enhance the theoretical robustness of sustainability studies and offer practical insights that better inform policy and strategic decision-making within the industry (Elkington, 1997; Lozano, 2018).

3.10. Supply chain management practices focus

The reviewed studies were systematically categorised based on their focus on supply chain management (SCM) practices. Table 8 reveals that only 17.6% (9 out of 51) of the reviewed papers explicitly addressed SCM practices. Li et al. (2006a) define SCM practices as "the set of activities undertaken by an organisation to promote effective management of its supply chain." However, no consensus exists on a standardised set of constructs in the SCM field. Some authors broadly view SCM practices (Raut et al., 2017), while others maintain a more restricted perspective (Al Haderi & Siam, 2019). Li et al. (2005a,b) developed a measurement tool for SCM practices, dividing them into six categories: strategic supplier partnerships, customer relationships, information sharing, information quality, internal lean practices, and postponement. Raut et al. (2017) outlined six aspects of SCM practices: internal environmental management, customer relationship management, logistics and distribution, green purchasing, supplier relationship management, and cooperation and information sharing with suppliers and customers for joint action. Similarly, Kumar and Barua (2022) employed a broad construct of SCM practices, encompassing internal environmental management, customer relationship management, information sharing, and logistics and distribution in their study of green SCM practices in the Indian petroleum sector. Gardas et al. (2019) classified SCM practices into information sharing, supplier relationship management, logistics and distribution, and green purchasing and production management in their study of the Indian oil and gas industry. Silvestre (2015) included internal environmental management, logistics and distribution, and green purchasing and production management in their list of SCM practices. Zailani et al. (2020a,b) identified SCM practices as supply chain integration, customer relationship management, internal environmental management, and supplier relationship management, while Wan Ahmad et al. (2017a) identified logistics and distribution, production management, supplier relationship management, and product stewardship as key SCM concepts.

The implementation of SCM practices can vary significantly across different countries. For instance, in India, Kumar and Barua (2022) focused on internal environmental management, customer relationship management, information sharing, and logistics and distribution. In contrast, Zailani et al. (2020a,b) in the U.S. concentrated on supply chain integration, customer relationship management, and supplier relationship management. This variation suggests that different countries may adopt distinct SCM practices tailored to their specific contexts and needs. Institutional and contextual variables, such as industry type, firm size, supply chain position, length, type of supply chain, and working conditions, can significantly impact SCM practices. Various sectors may adopt SCM practices based on their unique constraints and work environments (Li et al., 2006b). Different industries' diverse operations, working methods, and environments necessitate distinct SCM practices. Therefore, it is crucial to research to determine a specific set of SCM practices within the oil and gas sector to understand the impact of institutional pressures on SCM practices within this industry. Previous research on SCM practices has predominantly focused on developed countries, with limited attention given to developing countries, particularly from an African perspective. This oversight highlights the need for further research from an African viewpoint to advance the maturity of the SCM field and provide a clear African focus and theoretical framework. Such research could significantly benefit from the application of institutional theory. Investigating SCM practices in Africa would make a valuable contribution to the existing literature on supply chain management, addressing a critical gap and enhancing the global

Table 8
Literature review indicating the sustainability dimensions in some of the reviewed papers.

Authors	Country	Environmental	Social	Economic
Kumar and Barua (2021a)	India	/		
Abdussalam et al. (2021)		/	/	/
Rentizelas et al. (2020)	Oman		/	
Al Haderi and Siamb (2019)	Saudi Arabia	/		
OmarAli and Jaharadak (2019)	Oman	/	/	
Gardas et al. (2019)	India	/	/	/
Silvestre (2015)	Brazil	/		
Sueyoshi and Wang (2014)	USA	/		/
Hall et al. (2012)	Brazil			
Yusuf et al. (2013)	UK	/	/	
Raut et al. (2018)	India			
Kumar and Barua (2022)	India	/	/	
Beiranvand Firouzabadi and Dorniani (2021)	Iran	/		/
Kumar and Barua (2021b)	India	/		
Matos and Hall (2007)	Brazil, Canada, China, Netherlands, USA, UK	/	/	
Jain et al. (2020)	India	/		
Modarress et al. (2016)	Persian Gulf	/	/	
Abdalla and Siti-Nabiha (2015)	Sudan	/	/	
Wan Ahmad et al. (2017a)	N/A	/	/	/
Raut et al. (2017)	India	/		/
Wan Ahmad et al. (2016)	Worldwide	/	/	/
Wan Ahmad et al. (2017b)	American and European Universitites	/	/	
Wan Ahmadde Sousa Jabbour et al. (2011)	Global	/	/	
Abdussalam et al. (2021)	Libya	/		/
Atris and Goto (2019)	USA	/		
Chowdhury et al. (2019)	Canada	/	/	
Bhatti et al. (2022)	Pakistan		/	
Hoejmose et al. (2014)	UK	/		
Silvestre (2015)	Brazil	/	/	
Evangelinos et al. (2018)	Global		/	
Jagoda and Wojcik (2019)	Canada	/	/	/
Kumar and Barua (2021b)	USA		/	
Narimissa et al. (2019)	Iran	/	/	/
Nunes et al. (2020)	USA	/	/	/
Perdeli Demirkan et al. (2021)	Canada			/
Shqairat and Sundarakani (2018)	UAE	/		
Valencia and Cardona (2014)	Colombia	/		

understanding of SCM practices in the oil and gas sector (Seuring and Müller, 2008; Touboulic and Walker, 2015).

Internal integration (IN), Eco design (ED), Internal environmental management (IEM), Customer relationship Mgt/Cooperation (CRM/Coop), Information Sharing (IS), Logistics & Distribution (L&D), Green Purchasing (GP), Production Mgt, (PM), Sustainable production (SP), Green purchasing and production management (GPPM), Internal Lean Practices (ILP), Supplier Relationship Management (SRM), Co-operation and Information sharing with Supplier and Customer for joint action (CCJA), Product stewardship (PS).

3.11. Contents analysis of the reviewed articles

After descriptively analysing the examined articles, content analysis and research synthesis were carried out in this section to summarise and integrate various studies on the selected research topic. This aided in identifying emerging themes and assessing major similarities and differences in the evaluated papers, which provided better explanations for the research area. To achieve this, the analysis will focus on the SCM practices, sustainability aspects and institutional pressure aspects that will form the bedrock of this study.

3.12. Sustainability and the oil and gas industry

Sustainability in the oil and gas industry is complex beyond mere resource extraction. It involves the responsible and efficient production and supply of oil and gas to meet global demand while minimising environmental impact until viable alternatives are developed (Sarrakh et al., 2022; Wan Ahmad et al., 2017a). This is crucial given the finite nature of oil and gas resources and the anticipated increase in energy demand, which suggests that fossil fuels will still comprise nearly 81% of the total energy supply by 2035 (Wan Ahmad et al., 2017a). Sustainable practices in this sector are essential for maintaining economic viability, ensuring energy security, and reducing negative environmental and social impacts.

Traditionally, the primary goal of the oil and gas industry has been to meet society's energy demands reliably and cost-effectively. However, this focus has come under intense scrutiny due to high-profile disasters, such as oil spills and extensive pollution, which have exacerbated the sector's environmental footprint. The industry is now under significant pressure to mitigate its environmental impact, particularly concerning greenhouse gas emissions, which are substantial. The oil and gas sector is the second-largest contributor to global greenhouse gas emissions, with over 3 million metric tonnes of methane—a gas with a global warming potential 28–36 times greater than CO2—emitted annually (Sueyoshi and Wang, 2014; Choudhary and Kumari, 2023). Moreover, the health implications of fossil fuel-related air pollution are severe, contributing to respiratory and cardiovascular diseases and accounting for over 13% of deaths among Americans aged 14 and older (Burgherr et al., 2012). Additionally, toxic substances released during fossil fuel processing can contaminate soil and water, leading to serious health issues such as cancer, congenital disabilities, and liver damage (Mahapatra et al., 2023a,b). Despite these significant concerns, there is a surprising lack of literature evaluating the industry's sustainability focus.

Most existing research has centred on the broader concepts of corporate social and environmental responsibility, often neglecting to identify the specific sustainability issues prioritised by oil and gas companies (Kumari and Kamboj, 2023b; Sinha et al., 2023). Studies like those by Wan Ahmad et al. (2017a) and Perdeli Demirkan et al. (2021) have provided some insight, particularly in examining corporate reporting practices. Still, they do not fully address which sustainability concerns are most critical to the industry. This gap is significant, as understanding these priorities is crucial for assessing the industry's approach to sustainability. Therefore, in-depth analyses of corporate sustainability reports are necessary to identify the specific sustainability

Table 9
Excerpts of literature that discussed SCM practices in the reviewed papers.

Authors	Title	Country	IN	ED	IEM	CRM	IS	L&D	PM	GP	SP	GPPM	SRM	CCJA	PS
Kumar and Barua (2022)	A modeling framework of green practices to explore their interrelations as a conduit to policy	India			/	/	/	/							
Al Haderi and Siamb (2019)	Does the institutional pressure in KSA affect the application of the green supply chain business model?	Saudi Arabia	/										/		
Gardas et al. (2019)	Determinants of sustainable supply chain management: A case study from the oil and gas supply chain	India					/	/				/	/		
Silvestre (2015)	Sustainable supply chain management in emerging economies: Environmental turbulence, institutional voids and sustainability trajectories	Brasil			/			/				/			
Zailani et al. (2020)	Effects of supply chain practices, integration and closed-loop supply chain activities on cost-containment of biodiesel	USA, Brazil, Germany, Indonesia, France, Thailand, Spain	/		/	/							/		
Wan Ahmad et al. (2017a)	An integrative framework for sustainable supply chain management practices in the oil and gas industry	N/A						/	/				/		/
Raut et al. (2017)	To identify the critical success factors of sustainable supply chain management practices in the context of oil and gas industries: ISM approach	India			/	/		/		/			/	/	
Tammela et al. (2016)	Green supply chain management performance: A study of Brazilian oil and gas companies	Brasil		/				/		/	/	/			
ZhuBalakrishnan and da Silveira (2020)	Bullwhip effect in the oil and gas supply chain: A multiple-case study	North america					/								

issues that oil and gas companies emphasise. Such research would offer valuable insights into the industry's sustainability practices, helping to address its significant environmental and social challenges (Singh, 2023; Tiwari et al., 2023). Addressing these gaps in the literature is essential for developing more effective strategies to manage the complex sustainability issues inherent in the oil and gas supply chain (Kumar, 2019; Zhang et al., 2023).

3.12.1. *Environmental sustainability dimensions*

The term "environmental sustainability" in the oil and gas industry encompasses how companies manage their energy and resource use and the impact of their activities on the natural environment (Gimenez et al., 2012). It is commonly linked to reducing waste, pollution, and emissions, enhancing energy efficiency, minimising the use of hazardous materials, and decreasing environmental accidents (Gimenez et al., 2012). This literature review highlights diverse criteria used to address environmental sustainability. For instance, Yusuf et al. (2013) emphasise reducing energy consumption, effective waste management, minimising resource use, cutting down carbon footprints, and reducing air pollution. Similarly, Gardas et al. (2019), in their case study of the Indian oil and gas supply chain, identified cleaner production, pollution reduction, waste minimisation, and carbon reduction as key elements of environmental sustainability. Beiranvand Firouzabadi and Dorniani (2021) focused on ecological protection, preserving natural resources, and minimising energy consumption, while Tammela, Canen, and Paganelli (2016) used criteria such as greenhouse gas emissions, carbon footprint reduction, and adherence to environmental standards.

The operations of oil and gas companies are widely regarded as significant threats to ecological systems and the natural environment. Consequently, these companies are under pressure and public scrutiny to enhance their environmental sustainability practices across all operational aspects (Wan Ahmad et al., 2016). The increasing importance of environmental concerns among diverse stakeholders—including customers, shareholders, investors, creditors, regulators, workers, and the general public—necessitates a stronger focus on environmental sustainability. This demand has elevated environmental sustainability to a strategic corporate priority, prompting businesses to adopt various environmental management solutions (Wan Ahmad et al., 2016). Organisations might deprioritise environmental sustainability without institutional pressures, risking consumer loss and financial setbacks. By integrating environmental sustainability dimensions into their operations, oil and gas companies can play a crucial role in addressing substantial global environmental challenges (Narimissa, Kangarani-Farahani, & Molla-Alizadeh-Zavardehi, 2019). Such integration meets regulatory and public demands, fosters long-term business viability, and contributes to the broader goal of environmental protection. Therefore, the focus on environmental sustainability within the oil and gas sector is not merely a response to external pressures but a strategic imperative that aligns with broader ecological goals and enhances corporate resilience and reputation.

3.12.2. *Social sustainability dimensions*

According to Rentizelas et al. (2020a,b), evaluating social sustainability in the literature typically employs two primary criteria: internal and external. "Internal social criteria" pertain to a company's behaviour towards its employees, focusing on hiring practices and worker health and safety. In contrast, "external social criteria" relate to the company's responsibilities to external parties, including contractors, local communities, and other stakeholders. For instance, Hall and Matos (2010) examined social sustainability by assessing the impact on local

communities, adherence to health and safety standards, employment practices, and the influence on contractual stakeholders. Kumar and Barua (2021b) evaluated the social sustainability performance of organisations and their operations in the Iranian oil and gas sector, considering factors such as local environmental impacts, human rights, labour practices, social responsibility, health and safety, ethics, and transparency. Similarly, Beiranvand Firouzabadi and Dorniani (2021) explored service supply chain sustainability using human resources, health and safety, ethics, and community participation criteria.

In the context of oil and gas companies, key social sustainability factors include human rights, worker health and safety, diversity, and social justice. These criteria are critical when assessing these firms' social sustainability and SCM practices. The focus on these aspects ensures that companies comply with regulatory standards and contribute positively to the well-being of their employees and the communities in which they operate (Rentizelas et al., 2020a,b). Given the high-risk nature of the oil and gas industry, human rights and worker health and safety are particularly paramount. Ensuring fair labour practices, promoting diversity and inclusion, and maintaining ethical standards are essential to a comprehensive social sustainability strategy. These efforts enhance the social license to operate and improve organisational performance and stakeholder relations (Hall and Matos, 2010; Kumar and Barua, 2021b).

3.12.3. Economic sustainability dimensions

The economic aspect of sustainability involves achieving economic development while safeguarding the environment and its inhabitants (Yusuf et al., 2013). This balance between social elements and the natural environment is crucial for the long-term survival of organisations and nations, leading to sustainable economic development (Yusuf et al., 2013). Economic sustainability also refers to the efficient use of resources to generate long-term positive impacts while minimising negative repercussions. For organisations, this means utilising resources to ensure longevity and profitability without causing environmental or social harm (Yusuf et al., 2013).

Effective economic sustainability practices include reducing solid waste, air emissions, effluent waste, and the consumption of hazardous materials. These practices lower production and waste management costs and reduce fines for regulatory non-compliance, thereby improving financial performance (Yusuf et al., 2013). However, the future sustainability of investments in oil and gas is uncertain due to potential carbon pricing, which could render current investments stranded assets. To address these concerns, oil and gas companies are increasingly adopting strategies to adapt to the energy transition, maintaining business viability in a rapidly evolving energy sector. Failure to adapt could result in diminished market share, profitability, and presence (Raut et al., 2018).

Despite the critical importance of economic sustainability, the reviewed literature predominantly focuses on environmental and social sustainability. This indicates a significant gap in the discussion of economic sustainability, which is essential for the comprehensive understanding and practice of sustainable development in the oil and gas industry. Therefore, future research should balance the discourse by incorporating economic sustainability more prominently, ensuring a holistic approach to sustainability that encompasses environmental, social, and economic dimensions.

3.13. Supply chain management practices in the oil and gas industry

This section provides a critical analysis of supply chain management (SCM) practices in the oil and gas industry, comparing the findings of this study with existing literature. The study integrates six key SCM practices and examines the influence of institutional pressures on these practices, a perspective often overlooked in previous research, which primarily focuses on the direct impact of these practices on sustainable performance. The practices examined include strategic supplier relationships, customer relationships, internal lean practices, information sharing, internal environmental management, and distribution and logistics. These practices encompass upstream (strategic supplier relationships), downstream (customer relationship management), midstream (internal lean practices), and distribution logistics segments. Unlike previous studies (Silvestre, 2015; Wan Ahmad et al., 2017; Raut et al., 2017), this focus focuses on upstream or downstream segments. These practices are further discussed below.

3.13.1. Customer relationship management

Customer Relationship Management (CRM) is a crucial component of supply chain management (SCM) that focuses on handling customer complaints, fostering relationships, and enhancing customer satisfaction (Li et al., 2005a,b). Previous studies highlight the pivotal role of consumers in driving green practices, showing a clear preference for businesses that demonstrate a commitment to sustainability (Mittal et al., 2018). Integrating consumer needs boosts sustainability efforts and positively influences overall business performance (Omar, Ali & Jaharadak, 2019). Effective CRM requires close collaboration with customers to meet their needs, a critical factor for successful SCM and sustainability (Zailani et al., 2020a,b). Existing literature consistently supports the importance of CRM in enhancing both sustainability and business performance. Mittal et al. (2018) emphasise that consumer preferences significantly drive companies to adopt sustainable practices. Similarly, Omar et al. (2019) demonstrate that integrating consumer feedback into business processes can improve sustainability outcomes and performance metrics.

However, a significant gap in the literature is the limited exploration of how institutional pressures—such as regulatory requirements, market dynamics, and socio-political factors—affect CRM and sustainability in the oil and gas industry. Most existing studies, including those by Zailani et al. (2020a,b), focus primarily on the internal aspects of CRM without adequately considering the external pressures that shape these practices. This study demonstrates that understanding the impact of these pressures is essential for developing effective CRM strategies that enhance sustainability. For example, regulatory requirements and market expectations can significantly influence how companies manage customer relationships and incorporate sustainability into their operations. This study extends CRM's theoretical framework by integrating institutional pressures. This integration offers a more comprehensive understanding of the factors that drive effective CRM and sustainability practices, particularly in industries subject to stringent regulations and environmental standards.

3.13.2. Strategic Supplier Relationship Management

Strategic Supplier Relationship Management (SRM) fosters long-term relationships between organisations and suppliers. It aims to leverage all involved parties' strategic and operational capabilities to achieve significant ongoing benefits (Zailani et al., 2020a,b). This concept underscores the importance of internal cross-functional integration and external integration with suppliers to enhance sustainability performance through supply chain management (SCM) practices. Existing literature consistently supports the view that companies with robust supplier integration experience notable improvements in their financial performance (Zailani et al., 2020a,b). This suggests that for a company to cultivate a sustainable supply chain, a strong focus on SRM is imperative. However, this study diverges from previous research by emphasising the role of institutional pressures on SRM, particularly within the oil and gas industry. This perspective is notably underrepresented in the literature, especially concerning African nations' unique challenges.

Previous studies, such as Silvestre (2015) and Wan Ahmad et al. (2017), primarily focus on the direct impact of SRM on sustainability outcomes and financial performance. These studies highlight that companies with high levels of supplier integration can achieve better sustainability metrics and improved economic results. However, they

often overlook the influence of external institutional pressures, such as regulatory requirements, market expectations, and socio-political factors. This study contributes new insights by demonstrating that the sustainability of supply chains in the oil and gas industry cannot be fully understood without considering the external pressures that influence corporate strategies and supplier relationships. For instance, regulatory demands and market pressures can compel companies to adopt more sustainable practices, influencing their SRM approach.

The key value lies in the comprehensive approach to understanding SRM within the context of institutional pressures. By incorporating this dimension, the research provides a more holistic view of the factors that drive sustainable supply chain practices. Highlighting the critical role of external forces in shaping supplier relationships and underscores the necessity of adapting SRM practices to meet these demands. This provides a better understanding of SRM, particularly in the complex and highly regulated oil and gas sector. Emphasising the importance of developing adaptive SRM strategies that focus on internal efficiencies and supplier collaborations and respond proactively to external institutio . This approach can help companies achieve sustainable dolphin choir objectives and improve their competitive advantage.

3.13.3. Logistics and distribution

Logistics, defined as "the activities to obtain incoming materials and distribute finished products to the proper place, at the desired time, and in the optimal quantities" (Markley and Davis, 2007), is a critical component of supply chain management (SCM). It integrates all supply chain operations, playing a crucial role in the low-carbon economy, particularly in sectors like oil and gas, which are significant greenhouse gas (GHG) emitters (Wan Ahmad et al., 2017a). The importance of logistics in reducing pollution and enhancing operational efficiency is well-documented in the literature. Studies such as those by Wan Ahmad et al. (2017a) emphasise the necessity of logistics pollution reduction due to the substantial distances involved in oil and gas production and distribution. Logistics collaboration can save money, improve safety and quality, and enhance operational efficiencies through economies of scale and long-term contracts. However, a critical gap exists in the current body of research regarding how institutional constraints specifically impact logistics within SCM and sustainability efforts. Wan Ahmad et al. (2016) highlights this deficiency, noting that the logistics and supply chain literature often overlooks the need to adapt logistical procedures to institutional demands. This adaptation is crucial for the success of sustainability efforts. There is, therefore, the need to rethink logistics at the operational level as a strategic tool for sustainability. Logistics facilitates the movement of goods and plays a vital role in waste management, storage, resource-sharing, and procurement. By rethinking logistics through the lens of sustainability, firms can better adapt their logistical procedures to meet institutional demands, which include regulatory, market, and socio-political pressures.

3.13.4. Information sharing

Information sharing is a critical component of supply chain management (SCM), involving exchanging sensitive and strategic data between supply chain partners. This includes information on logistics, market conditions, and customer needs, which can be strategic or tactical (Li et al., 2005a,b). Effective information sharing ensures a smooth supply chain by making accurate and up-to-date marketing data accessible at every point, enhancing overall supply chain performance (Li et al., 2006). The importance of information sharing in SCM is well-established in the literature. Zailani et al. (2020a,b) emphasised that collaboration and exchanging information among supply chain members lead to improved understanding of client demands and quicker response times, thus providing a competitive edge. However, challenges persist in the oil and gas industry, particularly due to the nature of its commodity market and supply-driven exploration and production segments. Zhu, Balakrishnan, and da Silveira (2020) highlight that sharing downstream demand information in this sector is difficult, often resulting in the bullwhip effect, where small fluctuations in demand at the retail level cause progressively larger fluctuations up the supply chain. Kumar and Barua (2022) further assert that oil and gas companies require a green information system to gather and disseminate environmental sustainability data. Such a system would improve information flow and enhance sustainability by ensuring all stakeholders know about green practices.

This underscores the need for integrating green information systems, which facilitate the collection and dissemination of environmental data. This integration is vital for improving the sustainability performance of oil and gas firms, as they struggle to maintain sustainability without comprehensive awareness of their own and their supply chain partners' green practices (Raut et al., 2017). Theoretically, this highlights the necessity of extending traditional SCM frameworks to include environmental sustainability considerations. This study suggests that future research should focus on developing green information systems tailored to the unique challenges of the oil and gas industry. This approach would enhance the theoretical understanding of information sharing in SCM by incorporating sustainability as a core element.

3.13.5. Internal environmental management

The oil and gas industry's reliance on fossil fuels has led to numerous environmental issues, including high pollutant output, waste mismanagement, and inefficient refining processes (Zailani et al., 2020a,b). Historical and recent environmental catastrophes and human rights violations have exacerbated public outrage against the industry (Perdeli Demirkan et al., 2021). These challenges underscore the critical importance of internal environmental management within the sector. The literature supports the necessity of robust internal environmental management. Kumar and Barua (2022) emphasise that a company's environmental performance improves significantly when strategic environmental objectives are formulated with the support of both senior and middle management. This alignment ensures that environmental sustainability becomes an integral part of corporate strategy rather than a peripheral concern.

Silvestre et al. (2017) point out that oil and gas companies are increasingly scrutinised for their health, safety, and environmental standards. This scrutiny has led to greater accountability and the implementation of more rigorous environmental management systems. Despite past criticisms and failures in corporate social responsibility, the sector is making strides in addressing these inadequacies. Chowdhury et al. (2019) highlight that many companies are now adopting environmental management systems to enhance operational quality, reduce costs, lower carbon footprints, and improve social legitimacy. Adopting environmental management systems is not merely a reactive measure to external pressures but a proactive strategy to enhance sustainability and operational efficiency. Internal environmental management systems (EMS) are crucial for oil and gas companies to navigate the complex landscape of environmental regulations and stakeholder expectations. Jain et al. (2020) support this by showing how EMS implementation can bolster reputational capital and social legitimacy, which is essential for maintaining a competitive edge in a heavily scrutinised industry. This suggests that environmental sustainability should be embedded within organisations' core strategic objectives, a notion that extends beyond the traditional boundaries of corporate social responsibility, underscoring the importance of top-down support for environmental initiatives and highlighting that successful environmental management requires commitment from all organisational levels.

3.13.6. Green procurement and production management

Green procurement involves acquiring goods and services with minimal to no adverse environmental impacts (Kumar and Barua, 2022). This practice entails making procurement decisions based on the potential effects on human life and the environment. Integrating green procurement strategies enhances resource efficiency and market competitiveness and reduces overall costs and waste (Kumar and Barua,

2022). Similarly, green production emphasises incorporating environmental considerations throughout the product life cycle, reducing waste and increasing operational efficiency (Kumar and Barua, 2022). The findings of this study align with existing research that underscores the importance of environmentally friendly operational procedures. Wan Ahmad et al. (2017a) highlights the necessity for oil and gas companies to continuously assess, monitor, and communicate the health and environmental risks associated with their products and manufacturing processes. This continuous assessment is critical for advancing sustainability within the industry. Furthermore, Wan Ahmad et al. (2017a) emphasise that manufacturing processes that utilise specific resources efficiently, eliminate waste, and incorporate reusable or remanufactured components can significantly mitigate the environmental impact of production activities.

Green procurement and production are not just about compliance with environmental regulations but are strategic tools for achieving competitive advantage. These practices can enhance operational efficiency, reduce costs, and improve market positioning. This perspective is particularly relevant in the oil and gas industry, where product differentiation is minimal, and operational efficiency can be a key competitive differentiator. This research introduces new insights into how green procurement and production can be leveraged to enhance sustainability. It extends the discourse by showing that these practices are integral to a company's strategic operations rather than peripheral activities. This integration of green practices into core business strategies can lead to significant improvements in sustainability performance and corporate reputation. It suggests that these practices should be considered strategic initiatives central to achieving long-term sustainability goals. This shifts the focus from a purely operational perspective to a strategic one, providing a more comprehensive understanding of sustainability in the supply chain and emphasising the importance of integrating these practices into the company's overall strategy.

3.14. Pressures on sustainability and SCM practices

Institutional pressure (IP) shapes a company's supply chain management (SCM) practices. According to Hoejmose et al. (2014a,b) and Zeng et al. (2017), companies must navigate institutional demands to meet the expectations of regulators, customers, and the public. The influence of IP on sustainability and SCM practices has been extensively discussed in the literature (de Sousa Jabbour et al., 2011; Haderi and Siam, 2019a; Zeng et al., 2017; Wan Ahmad et al., 2017). IP is defined as the internal and external pressures exerted by stakeholders which drive companies toward sustainability (Abdalla and Siti-Nabiha, 2015). The literature identifies three primary forms of institutional pressures: normative (stakeholder), mimetic (competitive), and coercive (legislative) pressures (DiMaggio and Powell, 1983). Companies often comply with these pressures to gain social legitimacy, competitive advantage, and improved performance, thereby addressing social, economic, and environmental demands (Abdalla and Siti-Nabiha, 2015).

Despite the recognised importance of IP, there is a notable lack of research specifically examining its impact on the sustainability and SCM practices of oil and gas companies. Existing studies have predominantly focused on the influence of institutional pressures on company performance and have often been limited to survey-based analyses centred on environmental sustainability (Abdalla and Siti-Nabiha, 2015). Consequently, the nuanced impact of IP on SCM practices and their effect on overall sustainability remains underexplored. Abdalla and Siti-Nabiha (2015a,b) emphasise the necessity of considering various institutional pressures when making decisions related to sustainability and SCM practices in the oil and gas industry. Companies' responses to these pressures are critical in addressing sustainability issues and enhancing SCM practices. Organisational responses to institutional environmental pressures vary based on numerous factors, including resources, production and economic environments, institutional characteristics, company size, and how these pressures are perceived and interpreted. These institutional variables significantly shape corporate policies, perceptions, pressures, and the selection of SCM practices. Therefore, understanding the role of institutional pressures in shaping SCM practices is crucial for developing effective sustainability strategies in the oil and gas sector. Future research should aim to fill this gap by examining the complex interactions between institutional pressures and SCM practices, thereby providing a comprehensive understanding of how these dynamics influence sustainability outcomes (DiMaggio and Powell, 1983; Abdalla and Siti-Nabiha, 2015; Hoejmose et al., 2014a,b; Zeng et al., 2017).

3.15. Identified research gaps

Based on the literature review, this section identifies critical research areas and outlines a future research agenda for institutional pressures, SCM practices, and sustainability in the oil and gas industry. The focus is on addressing the grey areas and unanswered questions regarding how firms can develop more efficient SCM practices to enhance economic, environmental, and social sustainability in the oil and gas sector. The oil and gas industry is known for its significant negative environmental and social impacts, including land clearance, oil spills, waste production, and hazardous emissions (Abdallah, 2015). Despite its essential role in sustaining the global economy, the industry is also a primary contributor to many sustainability challenges we face today (Wan Ahmed, 2016). Historical industrial disasters, such as the Amoco Cadiz oil spill (1978), the Bhopal Gas tragedy (1984), the Exxon Valdez oil spill (1989), and the Shell oil spill (2016), underscore the critical failures in sustainability and SCM practices within the sector. These failures have subjected the industry to intense scrutiny and pressure to align its sustainability efforts and SCM practices with the demands of governments, consumers, and non-governmental organisations (OmarAli and Jaharadak, 2019). Despite these pressures, the reviewed articles do not indicate which sustainability issues the oil and gas industry prioritises in their supply chains, revealing a significant research gap.

An analysis of publication trends shows increased research on sustainability and SCM, with a predominant focus on environmental issues. This indicates a bias towards the environmental dimension of sustainability despite the need for a more integrated approach that includes social and economic aspects. Institutional pressures are frequently emphasised in the literature, yet there is limited discussion on how these pressures can be leveraged to improve sustainability and SCM practices. Future research should delve deeper into understanding the influence of institutional pressures on sustainability and SCM, extending the application of institutional theory to provide more predictive and explanatory power in this context. Institutional theory is the most frequently employed framework to explain the influence of institutional pressures on SCM practices and sustainability. However, its application has limitations. While the theory accounts for the persistence of business heterogeneity due to differences in institutional environments, it does not adequately explain why companies within the same institutional field respond differently to similar pressures. For instance, it fails to clarify why some firms prioritise certain SCM practices over others despite operating in the same regulatory environment (Hoejmose et al., 2014; Rentizelas et al., 2020a,b). Therefore, future research should explore how firms interpret and manage institutional pressures and how these pressures impact SCM practices and sustainability outcomes in the oil and gas industry (Touboulic and Walker, 2015; Abdalla and Siti-Nabiha, 2015; Silvestre, 2015).

Previous studies focusing on institutional theory and SCM have provided valuable insights. Still, they are constrained by their focus on single aspects of sustainability—whether economic (Perdeli Demirkan et al., 2021), social (Rentizelas et al., 2020a,b), or environmental (Raut et al., 2017). This narrow focus overlooks the interconnected implications of these dimensions. Additionally, most research has not adequately examined the influence of institutional pressures on SCM practices and sustainability within the oil and gas sector, leaving

significant gaps between theoretical constructs and empirical findings (Wan Ahmad et al., 2017; Silvestre, Gimenes, & e Silva Neto, 2017). The contextual variability of different countries, including cultural, legal, ethical, and political factors, adds new dimensions to investigating institutional pressures, sustainability, and SCM practices (Ansari and Kant, 2017). Much of the literature has concentrated on European and Asian contexts, with limited application in African settings. Understanding how oil and gas companies in Africa respond to specific institutional pressures xtending institutional theory and providing tailored reccomendation s for policymakers and executives.

Methodologica ominated by quantitative research and questionnaire-based data collection, with limited use of mixed methods. Future research should employ triangulation, integrating quantitative and qualitative methods to provide a more nuanced examination of institutional pressures and their impact on SCM practices and sustainability (Rentizelas et al., 2020a,b; Hoejmose et al., 2014a,b; Raut et al., 2018). This diversified approach will enhance the robustness of findings and provide a comprehensive understanding of the issues that oil and gas companies prioritise in their supply chains. Broadening the unit of analysis to include midstream activities and examining the relative influence of normative, coercive, and mimetic pressures across different sectors will provide deeper insights into the impact of institutional pressures on SCM practices and sustainability in the oil and gas industry. Future research should aim to fill these gaps, enhancing theoretical understanding and practical implementation of sustainable SCM practices in the industry.

3.16. Conclusion and implications

The systematic literature review conducted in this study uncovers significant insights and critical gaps in the research on sustainability and supply chain management (SCM) practices within the oil and gas industry. The analysis reveals a growing interest in these topics, particularly between 2018 and 2020, reflecting the sector's increasing recognition of the need to address its environmental and social impacts. However, despite this surge in interest, the field remains underexplored, with only 51 studies published over 15 years, indicating a substantial research gap. A key finding is the overwhelming focus on environmental sustainability in the literature, which often overlooks the equally important social and economic dimensions. This narrow focus results in a fragmented understanding of the broader sustainability challenges in the oil and gas sector. Existing studies, such as those by Raut et al. (2017), Silvestre (2015), and Ahmad et al. (2017), primarily emphasise environmental concerns, aligning with the observations of Seuring and Müller (2008), who highlighted a similar trend in sustainability research. This bias underscores the need for a more integrated approach that considers all three pillars of sustainability.

The review also highlights the limited application of institutional theory, particularly regarding the influence of coercive, mimetic, and normative pressures on SCM practices. While institutional pressures have been recognised as significant drivers of organisational behaviour (DiMaggio and Powell, 1983), most studies have focused narrowly on performance impacts and supplier selection without fully exploring how these pressures shape sustainability outcomes in the oil and gas industry (Kumari and Kamboj, 2023a; Tiwari et al., 2023). This gap indicates the need for more comprehensive frameworks integrating these institutional forces into analysing SCM practices and sustainability. Methodologically, the field is dominated by quantitative research and survey-based data collection, with limited use of mixed methods. This reliance on single-method approaches, as seen in studies by Kumar and Barua (2022) and Modarress et al. (2016), restricts the depth of understanding that could be achieved through a more nuanced examination of institutional pressures and their impact on sustainability. Saunders et al. (2012) advocate for mixed methods to provide a more comprehensive and robust analysis, crucial for capturing the complex dynamics at play.

These findings highlight several areas where future research can significantly contribute to the body of knowledge on sustainability and supply chain management (SCM) practices within the oil and gas industry. First, there is a need for more empirical studies that examine the integration of environmental, social, and economic dimensions of sustainability, particularly within the context of developing countries. This research could explore how oil and gas companies in these regions adapt their SCM practices in response to local challenges and global sustainability pressures. Second, future research should delve deeper into the role of institutional pressures—coercive, mimetic, and normative—in shaping sustainability outcomes in the oil and gas sector. While the current literature has begun to explore these dynamics, there remains a gap in understanding how these pressures interact and influence long-term sustainability strategies across different geographical regions. Additionally, the limited use of mixed methods approaches in the existing literature suggests an opportunity for future studies to adopt more diverse methodological frameworks. Incorporating qualitative insights with quantitative data could provide a more nuanced understanding of the complexities of implementing sustainable SCM practices in the oil and gas industry. Lastly, research is needed focusing on the midstream sector of the oil and gas industry, which has been relatively underexplored compared to the upstream and downstream segments. Investigating sustainability and SCM practices in this supply chain could yield valuable insights and help develop more comprehensive sustainability strategies.

Though comprehensive, this study's systematic review approach has some limitations that should be acknowledged. Firstly, the reliance on two databases, SCOPUS and Web of Science, may have limited the scope of the literature reviewed. Although comprehensive, these databases may not capture all relevant studies, particularly those published in less prominent journals or non-English languages. Secondly, the focus on peer-reviewed articles excludes other potentially valuable sources of information, such as industry reports, conference proceedings, and government publications, which could provide additional insights into sustainability and SCM practices in the oil and gas sector. Moreover, the study's exclusion of non-English literature could result in a language bias, potentially overlooking important research conducted in non-English speaking regions. This limitation is particularly relevant given the global nature of the oil and gas industry.

Despite these limitations, this study contributes to the literature by highlighting the need for a more balanced and integrated approach to researching sustainability and SCM practices in the oil and gas industry. The novelty of this study lies in its emphasis on the underexplored dimensions of social and economic sustainability and its call for a broader application of institutional theory to understand the drivers of sustainability practices. By addressing these gaps, future research can significantly advance the theoretical and practical understanding of sustainability in this sector, ultimately leading to more effective SCM strategies that align with global sustainability goals. This comprehensive approach is essential for enhancing the resilience and sustainability of the oil and gas industry, contributing to both academic knowledge and policy development (Singh, 2023; Choudhary and Kumari, 2023).

CRediT authorship contribution statement

Augustine Okeke: Writing – review & editing, Writing – original draft, Visualization, Methodology, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.indic.2024.100462.

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