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Strategic business transformation synergy, corporate sustainability in the energy sector by systematic literature review

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Abstract

This systematic literature review (SLR) aims to identify the key determinants influencing corporate sustainability in the energy sector. The review synthesizes findings from 54 peer-reviewed articles sourced from the Scopus database. The study adopts the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, ensuring a rigorous methodological process through clearly defined inclusion criteria, comprehensive database searches, and systematic screening and selection of relevant studies. The review reveals that corporate sustainability in the energy sector is driven by both external and internal factors. Key external determinants include climate change awareness, regulatory compliance, stakeholder pressure, sustainability reporting quality, risk perception, market and competition dynamics, and government support. Internal factors consist of technology adoption, strong leadership, top management support, business transformation, firm size, human resource management, organizational culture, service delivery, service innovation capability, and dynamic capability. This review contributes to the understanding of corporate sustainability in the energy sector by offering practical implications for industry stakeholders and policymakers, supporting the development of sustainable practices and long-term sustainability strategies.

Keywords: Corporate sustainability, Determinant, Energy, PRISMA, Review, Strategic business, Systematic literature, Transformation synergy.

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1. Introduction

In recent decades, the issue of corporate sustainability has emerged as a central concern in the energy sector. This sector plays a crucial role in global economic development, yet it is simultaneously a major contributor to carbon emissions and environmental degradation. The global pressure to mitigate environmental impacts and meet carbon neutrality targets has driven energy companies to integrate sustainable practices into their operations. Additionally, market demand for clean and renewable energy has been increasing, spurred by heightened consumer awareness and government policies across various countries. This phenomenon signifies a paradigm shift where sustainability performance becomes a key factor in maintaining the competitiveness and reputation of companies within the energy sector.

Although corporate sustainability has gained growing relevance, significant challenges remain in identifying the primary factors influencing its implementation in the energy sector. Some companies face difficulties in responding to external pressures, such as regulatory changes and stakeholder expectations. On the other hand, internal factors, including technology adoption, top management support, and business transformation, also play pivotal roles but are not yet comprehensively understood. The core issue lies in how energy companies can align external and internal factors to achieve long-term, effective sustainability.

Previous studies have identified various determinants of corporate sustainability. However, most of these studies focus on other industrial sectors and fail to adequately address the specific context of the energy sector. Moreover, existing research tends to examine external and internal factors in isolation, resulting in a limited understanding of the interactions and interdependencies among these factors. There is a pressing need for a systematic review that not only identifies the key factors but also analyzes how the combination of these factors influences sustainability strategies and performance within the energy sector.

This study aims to bridge these gaps by conducting a systematic literature review (SLR) to identify and synthesize the external and internal factors influencing corporate sustainability in the energy sector. Specifically, the study seeks to answer the following research question: What are the determinants of corporate sustainability in the energy sector? By understanding the key factors and their interactions, this research is expected to make a significant contribution to the development of sustainable practices in the energy sector. Furthermore, the study aims to support the achievement of sustainable development goals (SDGs) by providing practical insights for industry stakeholders and policymakers in formulating effective sustainability strategies.

2. Methods

This systematic literature review was carried out from November to January 2025, adhering to the PRISMA reporting guidelines. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is a set of evidence-based recommendations designed to guide researchers in reporting systematic reviews and meta-analyses, initially developed to evaluate the effectiveness and risks associated with healthcare interventions. PRISMA emphasizes the importance of clear, comprehensive, and transparent reporting to ensure the replicability of research findings. It replaces the earlier QUOROM standard, offering a more structured approach to systematic reviews. PRISMA is now widely used across various fields, not only in healthcare but also in disciplines such as social sciences, business, and environmental research, due to its robustness in ensuring rigorous review processes.

Following the PRISMA guidelines, the study was carried out in several steps: 1) defining the inclusion criteria, 2) identifying relevant information sources, 3) selecting appropriate studies, and 4) collecting and analyzing data. The steps followed in our systematic review process are illustrated in Figure 1, based on the PRISMA flow diagram. Before defining the criteria, it was essential to formulate a clear research question, which was derived from the research issues discussed in the previous chapter. The research question was defined as:

Research Question (RQ): What are the determinants of corporate sustainability in the energy sector?

2.1. Defining Inclusion Criteria

The following inclusion criteria (IC) were established to guide the review process:

IC1: The paper must be written in English.

IC2: Only studies that provide explicit information on the determinants, factors, drivers, and barriers to corporate sustainability will be included.

IC3: The study must focus specifically on the energy sector or industry.

Only articles published in English (IC1) were selected, as English is the predominant language of scientific communication, ensuring accessibility and consistency across the reviewed literature. IC2 was adopted to directly address the research questions, as it requires studies to examine the key determinants, factors, as well as the underlying drivers and barriers to corporate sustainability, which are essential for understanding the complexities of sustainability within the corporate context. IC3 was applied to ensure that all studies considered are relevant to the energy sector, a crucial area where sustainability efforts have significant implications.

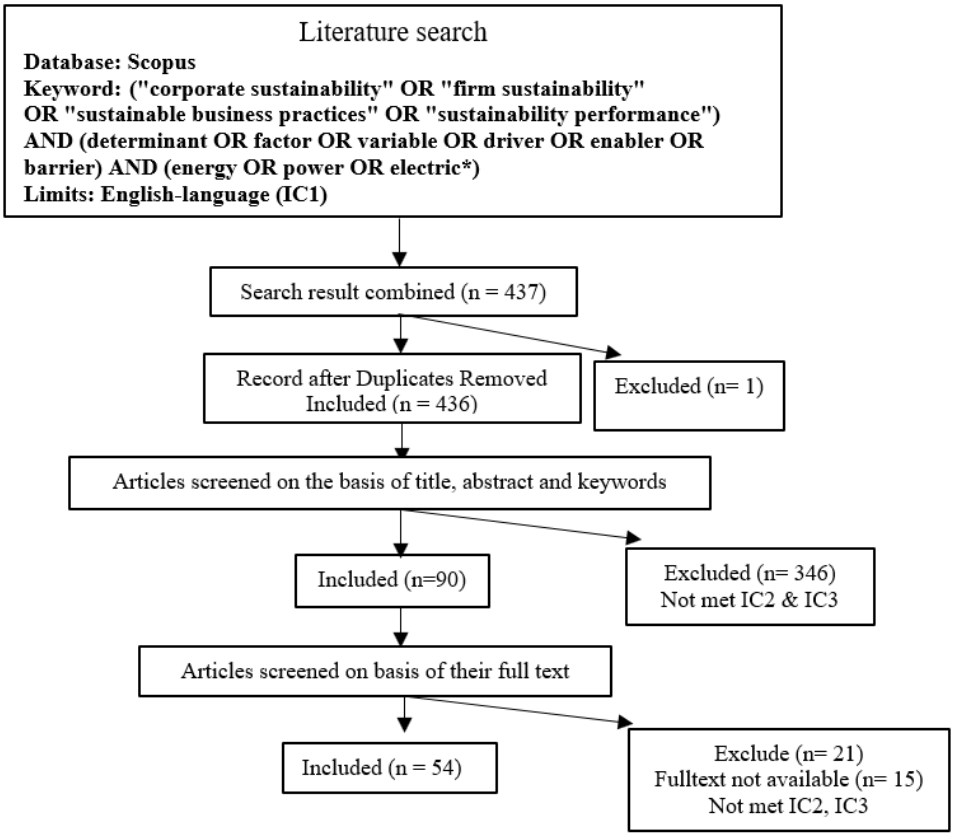

Figure 1.
PRISMA Flow diagram of the search strategy.
Source: Zakaria, et al. [1]

2.2. Defining Relevant Information Source

The Scopus database was selected for this study due to its recognition as one of the largest and most comprehensive academic literature databases globally [2]. It covers a wide range of disciplines, including STEM, social sciences, and the arts Phuong et al. [3] and is widely adopted for bibliometric analyses [4, 5]. Scopus indexes a broad array of peer-reviewed literature, including journals, conference proceedings, books, and patents. Its extensive coverage and rigorous indexing standards make it one of the most reliable and authoritative resources for researchers and academics across diverse fields. Due to its comprehensive scope, Scopus supports in-depth analyses of publication trends and academic impact, making it the preferred resource for systematic literature reviews. Numerous bibliometric studies have leveraged Scopus, including works by Phuong et al. [3], Napitupulu and Hasnawati [6] and Ahmi et al. [7] who used it as their sole database. Given its exceptional indexing capabilities, Scopus remains a vital tool for capturing a detailed and current snapshot of research developments across various academic domains. Thus, we utilize the Scopus database to retrieve relevant articles in this study.

2.3. Study Selection

The study selection process was carried out in three distinct stages to ensure the inclusion of relevant and high-quality articles. In the first stage, a systematic search was conducted using specific keywords aligned with the research objectives. These keywords focused on the determinants, factors, drivers, and barriers to corporate sustainability in the energy sector, or any related terms in similar reports. The search was performed in Scopus using the following query in the TITLE-ABS-KEY field:

TITLE-ABS-KEY("corporate sustainability" OR "firm sustainability" OR "sustainable business practices" OR "sustainability performance") AND TITLE-ABS-KEY(determinant OR factor OR variable OR driver OR enabler OR barrier) AND TITLE-ABS-KEY(energy OR power OR electric) AND LIMIT-TO(LANGUAGE, "English"))

This query ensured that the search was focused on articles related to corporate sustainability in the energy sector while filtering for English-language publications as IC1.

In the second stage, the titles and abstracts of the articles identified in the search were reviewed according to the predefined inclusion criteria (IC2 and IC3). This helped narrow down the pool of articles to those most relevant to the research questions. Finally, in the third stage, the full-text articles that passed the initial selection process were examined in detail to ensure they met all eligibility criteria. This thorough review ensured that only the most pertinent and high-quality studies were included in the final selection for analysis.

2.4. Data Collection Process

The data collection process was carried out in accordance with the PRISMA guidelines, focusing on the systematic gathering and filtering of relevant articles. The filtering process was conducted using the predefined inclusion criteria (IC1,

IC2, IC3) to ensure that only the studies most relevant to answering the research question were included. Through the application of the PRISMA stages of identification, screening, eligibility, and inclusion, only the most pertinent and high-quality studies were retained for analysis, ensuring the integrity and relevance of the data as illustrated in Figure 1.

In the identification stage, a total of 437 articles were initially retrieved from the Scopus database, one of the largest and most comprehensive academic databases. This search was conducted applying IC1 (articles written in English). After removing duplicate articles, 436 articles remained for the next stage. The screening stage involved reviewing the titles, abstracts, and keywords of the 436 articles. During this phase, 346 articles were excluded because they did not meet the inclusion criteria, particularly those related to the energy sector (IC3) or the research topic (IC2). This left 90 articles for further evaluation. In the eligibility stage, the full texts of the 88 remaining articles were examined. From these, 21 articles were excluded because they did not meet the inclusion criteria (IC2 and IC3), and 15 articles were excluded due to accessibility issues, meaning they could not be downloaded or accessed. As a result, 54 articles remained eligible for detailed analysis.

Finally, in the inclusion stage, a comprehensive review of the 52 eligible articles was conducted to ensure they adhered to all the predefined inclusion criteria. Articles that did not provide relevant data or were not directly related to the determinants, factors, drivers, and barriers to corporate sustainability in the energy sector were excluded. The final dataset for analysis consisted of these 52 articles.

3. Results and Discussion

3.1. Study Context and Characteristics

In this section, we conducted a descriptive analysis to examine the trend of ship collision research. The descriptive analysis was performed by representing the demographics of articles and also the research design that consists of about 52 articles already filtered through the PRISMA flow diagram Figure 1.

Based on Table 1, various research designs are employed in studies related to corporate sustainability, with a quantitative approach dominating, as seen in studies by Abbas [8], Arku et al. [9] and Bayomy et al. [10]. Qualitative research, though fewer in number, provides in-depth insights through case studies and interviews, such as those by Accordini et al. [11] and Effendi et al. [12]. Mixed-method approaches are also used in several studies, such as those by Blinova et al. [13] and Correa-Madrid et al. [14], combining both quantitative and qualitative elements. the diverse research designs highlight that corporate sustainability is studied from multiple perspectives and methodologies to capture its complexity holistically. Despite the variety of research designs, there is a gap in the limited attention given to the social and cultural context in quantitative studies, as well as the limitations of qualitative research that cannot be generalized. Furthermore, while mixed methods offer a more holistic view, there are still few studies that fully integrate both approaches. This gap presents an opportunity for future research to more comprehensively integrate various research designs and methodologies to better understand the factors influencing corporate sustainability.

Table 1.
A summary of the study design.

Study design by descending order (based on the number of studies identified)	Quantitative Abreu et al. [15], Asif et al. [16], Cowan [17], Dong et al. [18], Eikelenboom and de Jong [19], Fernando et al. [20], Guo et al. [21], Hutabarat et al. [22], Kumar et al. [23], Nishant et al. [24], Pan, et al. [25], Paraschiv et al. [26], Renukappa and Egbu [27], Celikyay et al. [28], Sueyoshi and Yuan [29], Teguh et al. [30] and Zakaria et al. [1]
	Qualitative Berkhout and Rowlands [31], Busch et al. [32], de Nadae et al. [33], Hermelingmeier and von Wirth [34], Maione [35], Mousavi et al. [36], Muir et al. [37], Rendtorff [38], da Rocha et al. [39], Verrier and Strachan [40], Whiteman et al. [41] and Wüstenhagen [42]
	Mixed-Method Gardas et al. [43], Neri et al. [44], Romasheva and Cherepovitsyna [45] and Suárez-Gómez et al. [46]

Table 2.
A Summary of The Study Contexts (Geographical Location)

Geographical locations (Country or Continent) of the included studies in descending order (based on the number of studies identified)	China Asif et al. [16], Dong et al. [18] and Guo et al. [21]
	Netherland Eikelenboom and de Jong [19], Maione [35], Mousavi et al. [36] and Whiteman et al. [41]
	Indonesia Effendi et al. [12], Hutabarat et al. [22] and Teguh et al. [30]

	United States Cowan [17] and Zakaria et al. [1]
	Italy Accordini et al. [11], Maione [35] and Verrier and Strachan [40]
	Canada Abreu et al. [15], Bayomy et al. [10] and Berkhout and Rowlands [31]
	Malaysia Fernando et al. [20], Teguh et al. [30] and Muir et al. [37]
	Australia Accordini et al. [11] and Verrier and Strachan [40]
	Brazil de Nadae et al. [33]
	Denmark Rendtorff [38] and Wüstenhagen [42]
	India Kumar et al. [23] and Gardas et al. [43]
	England Renukappa and Egbu [27] and Verrier and Strachan [40]
	Germany Busch et al. [32] and Hermelingmeier and von Wirth [34]
	Colombia Correa-Madrid et al. [14] and Suárez-Gómez et al. [46]
	Rusia Blinova et al. [13] and Romasheva and Cherepovitsyna [45]
	Ghana Arku et al. [9]
	Pakistan Abbas [8]
	Rumania Paraschiv et al. [26]
	Singapore Nishant et al. [24]
	Sweden Mousavi et al. [36]
	Turkey Celikyay et al. [28]

Table 2 summarizes the geographical locations of the studies, it is evident that corporate sustainability has been widely researched across diverse regions, with China, the Netherlands, and Indonesia leading in terms of the number of studies. China stands out with numerous studies, such as those by Asif et al. [16] and Dong et al. [18] highlighting the increasing focus on sustainability issues within the country. The Netherlands follows closely, with several studies by authors like Cowan [17] reflecting a strong interest in sustainability within European contexts. This geographic diversity underscores the global relevance of corporate sustainability, with research taking place in both developed and developing nations, each offering unique perspectives influenced by regional economic, cultural, and environmental factors. However, there remains a noticeable gap in research from some regions, such as Africa and the Middle East, presenting an opportunity for future studies to explore corporate sustainability in these areas.

3.2. Content Analysis

This section aims to identify and interpret the main themes, patterns, and relationships that emerge from the literature selected in this systematic review. Content analysis is employed as a systematic approach to classify and evaluate information from the reviewed articles, focusing on the factors influencing corporate sustainability in the energy and electricity sectors. This approach enables an in-depth examination of both internal and external factors contributing to corporate sustainability, as well as the interactions between these factors.

In this analysis, the data are categorized based on a predefined thematic framework, reflecting various key determinants of corporate sustainability. These factors are evaluated according to their relevance and frequency of occurrence in the

literature, as well as potential causal relationships among them. The content analysis also outlines how these themes contribute to a holistic understanding of sustainability strategies and practices in the energy sector. Furthermore, this approach highlights existing research gaps and provides insights for future studies. Thus, content analysis serves as a foundation for developing a comprehensive understanding of the determinants of corporate sustainability, reflecting the challenges and opportunities faced by energy companies in implementing sustainable practices. This section will discuss the key findings of the analysis, specifically the factors influencing corporate sustainability, which are divided into two categories: external factors and internal factors.

3.2.1. External Factors

3.2.1.1. Climate Change Awareness

In the context of corporate sustainability, the awareness of climate change plays a crucial role by encouraging companies to identify and respond to the impacts of climate change on their operations and business strategies. As global awareness of climate change increases, driven by consumers, stakeholders, and regulators, companies are required to adopt more environmentally friendly and sustainable policies. This awareness compels organizations to integrate climate change mitigation initiatives, such as reducing carbon emissions, adopting green technologies, and implementing resource-efficient production practices. Moreover, heightened climate change awareness leads to the creation of more environmentally friendly products and services, which, in turn, can meet the growing market demand for sustainability. Companies that proactively prioritize climate change issues in their policies and operations are generally better positioned to adapt to evolving regulations and gain greater consumer trust, thereby contributing to long-term economic, social, and environmental sustainability.

3.2.2. Regulatory Compliance

Regulatory compliance refers to a company's adherence to applicable regulations and laws, both at national and international levels, that influence its sustainability practices. Compliance with these regulations is essential for maintaining the company's reputation, avoiding legal risks, and ensuring that business operations do not harm the environment or social well-being. Sustainability-related regulations, such as those concerning carbon emissions, waste management, and corporate social responsibility (CSR), drive companies to adopt more environmentally and socially responsible practices. Furthermore, compliance with such regulations opens opportunities to access new markets, as many consumers and investors now prefer companies that adhere to stringent sustainability standards. By meeting regulatory requirements, companies not only mitigate risks but also enhance their competitiveness and create sustainable long-term value across economic, social, and environmental dimensions. Therefore, regulatory compliance serves as a critical pillar in ensuring effective and continuous corporate sustainability.

3.2.3. Stakeholder Pressure

Stakeholder pressure is a significant external factor influencing corporate sustainability. Stakeholders, including consumers, investors, governments, non-governmental organizations, and the broader community, are increasingly demanding that companies operate with consideration for social, environmental, and economic impacts. This pressure compels companies to shift their focus beyond financial profitability, adopting responsible, transparent, and sustainable business practices. Stakeholders who are aware of environmental and social issues, such as climate change, diversity, and business ethics, expect companies to take proactive measures, including reducing carbon emissions, enhancing resource efficiency, and supporting beneficial social initiatives.

Additionally, investors who are increasingly concerned with Environmental, Social, and Governance (ESG) factors play a crucial role in encouraging companies to integrate sustainability into their long-term strategies and operations. This pressure, manifested through expectations, regulations, or direct demands, creates strong incentives for companies to adapt and develop more sustainable business models. Consequently, addressing stakeholder pressure not only helps companies maintain competitiveness but also enhances their reputation and fosters long-term relationships with stakeholders.

3.2.4. Quality of Sustainability Reporting

The quality of sustainability reporting refers to the extent to which a company's sustainability report provides transparent, accurate, and relevant information regarding the social, environmental, and economic impacts of its operations. High-quality sustainability reports not only present comprehensive data that is easily accessible to stakeholders but also demonstrate the company’s commitment to sustainable practices through objective measurements and verifiable policies.

The quality of sustainability reporting significantly influences corporate sustainability by enhancing stakeholder trust and loyalty, particularly among consumers, investors, and regulators who increasingly prioritize corporate social and environmental responsibility. High-quality reports offer clearer insights into how companies manage sustainability-related risks and opportunities, as well as how effectively they achieve their long-term sustainability objectives.

Thus, high-quality sustainability reporting not only improves a company’s image but also serves as a critical tool for informed decision-making regarding resource management, the reduction of negative environmental impacts, and contributions to social well-being. Ultimately, such reporting supports the overall continuity and sustainability of the company by aligning operational practices with broader sustainability goals.

3.2.5. Risk Perception

Risk perception in the context of corporate sustainability refers to how companies and stakeholders assess, understand, and respond to risks that may affect the long-term sustainability of the organization across environmental, social, and economic dimensions. This factor is critical, as perceptions of risk influence strategic decisions related to innovation,

investment, and compliance with sustainability regulations.

Companies may perceive various risks, including the impacts of climate change, regulatory uncertainties, and shifts in consumer behavior toward greater concern for social and environmental issues. The higher the awareness and understanding of these risks, the more likely companies are to develop effective mitigation strategies. Such strategies may include investing in environmentally friendly technologies, adopting more ethical business practices, and managing resources more efficiently.

Therefore, risk perception plays a pivotal role in encouraging companies to proactively adopt appropriate sustainability policies, safeguard their reputations, and mitigate potential losses arising from poorly managed risks. By integrating risk perception into strategic planning, companies can enhance resilience, maintain stakeholder trust, and ensure long-term sustainability.

3.2.6. Market and Competition Influence

The influence of market dynamics and competition plays a critical role in shaping corporate sustainability policies, particularly in the energy sector. Fluctuations in energy prices, intense price competition, and shifting market demand toward environmentally friendly solutions compel companies to adjust their strategies and operations to remain competitive. In addressing the uncertainties of energy pricing and the challenges associated with limited energy supplies, energy companies must develop products and services that are energy-efficient, cost-effective, and environmentally sustainable.

The growing competition to offer sustainable solutions, coupled with heightened consumer awareness of environmental impacts, drives companies to innovate through greener and more sustainable technologies. This competitive landscape requires companies to integrate sustainability considerations into every strategic decision to survive and thrive in markets that are increasingly sensitive to social and environmental issues.

In this context, companies that effectively respond to market changes with policies focused on efficiency and sustainability will gain a significant competitive advantage. Such companies not only reduce risks but also capitalize on emerging opportunities in the evolving energy market, ensuring long-term resilience and sustainability.

3.2.7. Government Support

Government support is an external factor that significantly influences corporate sustainability, particularly in the energy and electricity sectors, which are highly affected by regulations and government policies. This support encompasses various aspects, including the formulation of policies and regulations that promote sustainable practices, the provision of fiscal incentives such as subsidies for environmentally friendly technologies and tax reductions for companies adopting green practices, and the development of infrastructure and resources that facilitate the implementation of sustainability initiatives.

Moreover, the policy stability provided by the government ensures essential market certainty, enabling companies to design long-term strategies focused on sustainability. Government support also strengthens the legitimacy of companies in the eyes of stakeholders, enhances public trust, and fosters strategic partnerships between the public and private sectors through mechanisms such as Public-Private Partnerships (PPP).

Such support not only reduces barriers to adopting sustainable practices but also drives sustainable innovation by creating a conducive business environment. Consequently, government support plays a pivotal role in ensuring that companies achieve not only a competitive advantage but also contribute to broader economic, social, and environmental objectives in a sustainable manner.

3.2.8. Internal Factors

3.2.8.1. Technology Adoption – Digital Technologies

Technology adoption plays a crucial role in corporate sustainability by enabling companies to integrate new technologies that enhance operational efficiency, reduce environmental impact, and create more environmentally friendly products and services. The adoption of sustainability-focused technologies such as renewable energy solutions, energy-efficient technologies, and advanced waste management systems assists companies in lowering their carbon footprint and minimizing resource wastage.

Additionally, the adoption of digital technologies that support data-driven decision-making, automation, and improved business processes provides greater flexibility for companies to adapt to market changes and increasingly stringent sustainability regulations. Companies that successfully adopt sustainable technologies not only strengthen their competitive advantage but also enhance their reputation among consumers and stakeholders who are increasingly concerned with social and environmental impacts.

Thus, technology adoption serves as a key driver for achieving long-term sustainability, encompassing economic, social, and environmental dimensions. By leveraging technological advancements, companies can ensure resilient, efficient, and responsible business operations that align with evolving sustainability expectations.

3.2.9. Strong Leadership

Strong leadership plays a pivotal role in driving corporate sustainability by providing a clear vision and inspiring the necessary changes to achieve long-term objectives. Effective leaders in the context of corporate sustainability possess not only the ability to formulate innovative sustainability strategies but also the capacity to motivate and guide the entire organization toward a commitment to sustainability principles. Transformational leadership influences corporate culture by fostering collective awareness of the importance of sustainability at all organizational levels and promoting decision-making that is socially and environmentally responsible.

Visionary leaders committed to sustainability ensure that social and environmental issues are prioritized in the planning

and implementation of corporate strategies. By building coalitions, overcoming challenges, and effectively communicating the value of sustainability to all stakeholders, strong leadership guarantees the integration of sustainability into core business operations. This integration not only fosters long-term competitive advantage but also enhances the company's reputation among the public, customers, and investors.

3.2.10. Top Management Support

Top management support is a critical factor in ensuring the effective implementation of sustainability initiatives across an organization. This support encompasses a commitment to providing the necessary resources, including financial investments, policies, and infrastructure, to sustain sustainability programs. Moreover, top management plays a pivotal role in articulating a clear sustainability vision, setting long-term goals, and embedding sustainability into the company's core business strategy.

Without strong backing from top management, sustainability initiatives often face obstacles such as resource constraints or a lack of coordination among organizational units. Supportive top management not only motivates the entire organization to innovate and embrace social responsibility but also ensures that sustainability remains a priority in business decision-making. Consequently, this commitment creates positive long-term impacts for the company, society, and the environment, contributing to sustained corporate success and competitiveness.

3.2.11. Business Transformation

Business transformation plays a vital role in driving corporate sustainability within the energy and electricity sectors, particularly in addressing the challenges of the global energy transition. This transformation involves strategic changes in operational models, the adoption of environmentally friendly technologies, and the development of processes and services oriented toward sustainability.

In the context of the energy sector, such transformation includes the integration of renewable energy sources, the implementation of smart technologies for grid management, and the adoption of circular economy business models aimed at reducing waste and maximizing resource utilization. Companies that successfully execute business transformation can enhance operational efficiency, reduce carbon emissions, and strengthen their competitive position in an increasingly sustainability-focused energy market. Through well-planned transformation strategies, organizations can create long-term value for stakeholders while meeting environmental and social sustainability demands. Ultimately, business transformation reinforces the competitive standing of companies within the evolving industries.

3.2.12. Firm Size

Firm size is a significant factor influencing corporate sustainability within the energy and electricity sectors. Larger firms typically possess superior financial resources, technological capabilities, and managerial expertise, enabling them to implement comprehensive sustainability strategies. These firms are generally better positioned to invest in renewable energy, environmentally friendly technologies, and operational efficiency improvements, which directly contribute to carbon emission reductions and the achievement of long-term sustainability goals.

Moreover, larger firms have better access to capital markets, facilitating the financing of sustainability projects and technological innovations. The broader scale of operations also allows for the realization of economies of scale, thereby enabling the implementation of sustainability initiatives at a lower cost per unit.

While smaller firms tend to be more flexible and adaptive in responding to regulatory changes and market demands related to sustainability, they often face resource constraints that limit their ability to pursue extensive sustainability initiatives. Therefore, the impact of firm size on corporate sustainability is influenced by the firm's capacity to allocate and manage resources effectively, respond to external pressures, and integrate sustainability practices into its core business strategies.

3.2.13. Human Resources Management (HRM)

Human Resource Management (HRM) plays a strategic role in promoting corporate sustainability in the energy and electricity sectors, particularly in addressing the demands of energy transition and the adoption of sustainable business practices. HRM encompasses policies, practices, and strategies designed to manage the workforce effectively to support the sustainability objectives of the organization.

Strategic HRM also plays a crucial role in fostering employee engagement and satisfaction, which significantly impacts productivity and operational efficiency. Consequently, HRM serves as a key driver in creating a sustainable competitive advantage, ensuring that companies not only meet environmental and social sustainability standards but also generate long-term value for stakeholders.

3.2.14. Organization Culture

Organizational culture is a critical factor influencing corporate sustainability in the energy and electricity sectors, as a strong, sustainability-oriented culture shapes behaviors, attitudes, and strategic decisions at all levels of the organization. An organizational culture that supports sustainability principles fosters values such as innovation, social responsibility, and environmental stewardship.

Furthermore, a culture that promotes collaboration and continuous learning enables companies to integrate sustainability principles into core business strategies, thereby enhancing competitiveness and creating long-term value for stakeholders. Consequently, organizational culture serves as a foundation that allows companies to internalize sustainability objectives,

drive innovation, and respond effectively to external challenges, ultimately strengthening the company's position within the industry.

3.2.15. Service Delivery

Service delivery plays a significant role in promoting corporate sustainability in the energy and electricity sectors, as the quality and efficiency of services directly affect stakeholder satisfaction and corporate reputation. In this context, optimal service delivery encompasses the provision of reliable energy, prompt responses to customer needs, and the utilization of smart technologies to enhance operational performance. High-quality and timely services also contribute to improved customer experience, which has long-term implications for business sustainability through higher customer retention and increased loyalty.

Companies capable of delivering stable, affordable, and environmentally conscious energy services are more likely to gain customer trust and build long-term relationships with business partners. Service practices that focus on energy efficiency and emission reduction further encourage companies to minimize environmental impacts, thereby creating added value for society and ecosystems.

Therefore, superior and sustainability-oriented service delivery not only enhances operational efficiency and strengthens the company's competitiveness in the energy and electricity industries but also fosters sustainable customer loyalty, serving as a foundation for long-term growth.

3.2.16. Service Innovation Capability

Service innovation capability plays a crucial role in advancing corporate sustainability in the energy and electricity sectors, as a company's ability to develop and implement relevant service innovations determines its competitiveness and business resilience amid the global energy transition. This capability encompasses the creation of new service solutions, the enhancement of existing service processes, and the adoption of advanced technologies such as smart grids, the Internet of Things (IoT), and environmentally friendly digital services.

Service innovation enables companies to respond more effectively to customer needs, offering customized energy products and services while improving operational efficiency. By delivering innovative services focused on sustainability, companies can reduce carbon emissions, optimize the use of renewable energy, and expand access to reliable energy services. This capability also fosters customer loyalty, as customers are more likely to choose service providers that demonstrate innovation and social and environmental responsibility.

Furthermore, service innovation capability strengthens a company's market position by creating a unique value proposition and supporting the achievement of long-term sustainability goals. Consequently, energy and electricity companies with strong service innovation capabilities are better equipped to adapt to regulatory changes, shifting market demands, and technological advancements, thereby enhancing overall corporate sustainability.

3.2.17. Dynamic Capability

The role of dynamic capability in the context of corporate sustainability in the energy sector is crucial in supporting service innovation and the transition to a circular economy. In this sector, companies face the challenge of adapting to market and regulatory changes, particularly in meeting the increasing demand for sustainability and resource efficiency. Dynamic capabilities serve as a mechanism that allows companies to identify opportunities and take proactive actions in responding to these changes, especially in terms of service innovations such as sustainable e-mobility or smart home solutions.

Energy companies can build relationships with external actors, such as charging infrastructure suppliers, fleet managers, and legislative bodies, to create new, more sustainable services. The ability to respond, reconfigure, and leverage external resources, such as government policies or industry standards, is an example of dynamic capabilities that can enhance corporate sustainability in the energy sector. This enables companies to thrive and remain competitive in an ever-evolving ecosystem.

Furthermore, dynamic capabilities are closely linked to accounting practices in the context of a circular economy, which is especially relevant for energy companies transitioning to more sustainable business models. The ability to integrate and reconfigure internal and external resources is essential for implementing environmental accounting practices and corporate social responsibility (CSR) initiatives that support sustainability. In this way, dynamic capabilities not only strengthen service innovation but also improve resource efficiency and environmental responsibility, contributing significantly to corporate sustainability in the energy sector.

4. Conclusion

This systematic literature review (SLR) examined the determinants of corporate sustainability in the energy sector, synthesizing insights from 54 relevant studies. The findings highlight that corporate sustainability in this sector is influenced by a complex interplay of external and internal factors. Externally, climate change awareness, regulatory compliance, stakeholder pressure, the quality of sustainability reporting, risk perception, market and competition dynamics, and government support emerged as key drivers. Internally, factors such as technology adoption, strong leadership, top management support, business transformation, firm size, human resources management, organizational culture, service delivery, service innovation capability, and dynamic capability were identified as critical enablers.

The review underscores that corporate sustainability cannot be achieved without aligning external pressures with robust internal capabilities. For instance, regulatory compliance and stakeholder expectations can only translate into sustainable practices when supported by strong leadership and an effective organizational culture. Additionally, the adoption of advanced

technologies and service innovations further enhances a company's ability to meet sustainability goals.

The review also revealed diverse research designs, with quantitative approaches dominating, offering broad generalizations. Qualitative studies provided in-depth insights, while mixed-method approaches combined both for a comprehensive view. However, there remains a gap in fully integrated studies exploring contextual and cultural nuances. Despite the global nature of sustainability issues, the analysis revealed regional disparities in research, with a concentration of studies in countries such as China and the Netherlands. Although several studies have addressed the determinants of corporate sustainability in Indonesia, the existing research remains relatively limited, especially highlighting the need for further exploration in this context.

This review is subject to certain limitations. First, the study exclusively utilized the Scopus database, which, despite its comprehensiveness, may have led to the exclusion of relevant studies indexed in other databases. Additionally, only English-language articles were included, potentially omitting significant research published in other languages. The focus on peer-reviewed journal articles may have overlooked valuable insights from industry reports, conference proceedings, and grey literature.

Future research should address these limitations by incorporating multiple databases, such as Web of Science and IEEE Xplore, and considering non-English publications to capture a more diverse set of perspectives. Comparative studies across different regions, particularly in underrepresented areas like Africa and the Middle East, including Indonesia, are necessary to gain a broader understanding of regional sustainability challenges, especially in the energy and electricity sectors. Moreover, longitudinal studies exploring how determinants of corporate sustainability evolve over time would provide valuable insights into dynamic industry trends. Future research should also focus on exploring the causal pathways between identified determinants through mixed-method approaches, offering deeper contextual understanding and practical recommendations for industry stakeholders.

In conclusion, achieving corporate sustainability in the energy sector requires a holistic approach that integrates external demands with internal strengths. Companies that effectively balance these factors are better positioned to navigate the complexities of the energy transition, maintain a competitive advantage, and contribute meaningfully to global sustainability objectives.

References

[1] R. Zakaria, A. Ahmi, A. H. Ahmad, and Z. Othman, "Worldwide melatonin research: a bibliometric analysis of the published literature between 2015 and 2019," *Chronobiology International*, vol. 38, no. 1, pp. 27-37, 2021. https://doi.org/10.1080/07420528.2020.1838534

[2] M. Mansour, H. Al Amosh, A. Y. Alodat, S. F. Khatib, and M. W. Saleh, "The relationship between corporate governance quality and firm performance: The moderating role of capital structure," *Sustainability*, vol. 14, no. 17, p. 10525, 2022. https://doi.org/10.3390/su141710525

[3] T. T. T. Phuong *et al.*, "Digital transformation in education: A bibliometric analysis using Scopus," *European Science Editing*, vol. 49, p. e107138, 2023. https://doi.org/10.3897/ese.2023.e107138

[4] H. Abuhassna *et al.*, "Trends on using the technology acceptance model (TAM) for online learning: A bibliometric and content analysis," *International Journal of Information and Education Technology*, vol. 13, no. 1, pp. 131-142, 2023. https://doi.org/10.18178/ijiet.2023.13.1.1788

[5] I. J. Akpan and I. C. Ezeume, "Four decades bibliometric analysis, science mapping, and visualization of the consequences of marital union dissolution on parents and children," *Journal of Divorce & Remarriage*, vol. 63, no. 1, pp. 1-34, 2022. https://doi.org/10.1080/10502556.2021.1993009

[6] L. M. Napitupulu and S. Hasnawati, "The influence of managerial ownership, company growth and profitability on dividend policy in lq45 companies 2019-2021," *Jurnal Ekonomi, Manajemen, dan Akuntansi*, vol. 10, no. 2, pp. 1040-1047, 2024. https://doi.org/10.35870/jemsi.v10i2.2194

[7] A. Ahmi, A. Tapa, and A. H. Hamzah, "Mapping of financial technology (FinTech) research: A bibliometric analysis," *Globalization*, vol. 2, p. 2008, 2020.

[8] J. Abbas, "Impact of total quality management on corporate sustainability through the mediating effect of knowledge management," *Journal of Cleaner Production*, vol. 244, p. 118806, 2020. https://doi.org/10.1016/j.jclepro.2019.118806

[9] J. K. Arku, Y. Shao, and S. T. Ankrah, "Building a hierarchical enablers framework for service business model innovation for sustainable performance: Evidence from ghana's electricity sector," *Sustainability*, vol. 16, no. 8, p. 3191, 2024. https://doi.org/10.3390/su16083191

[10] H. M. Bayomy, E. S. Alamri, B. M. Alharbi, S. H. Foudah, E. A. Genaidy, and A. K. Atteya, "Response of Moringa oleifera trees to salinity stress conditions in Tabuk region, Kingdom of Saudi Arabia," *Saudi Journal of Biological Sciences*, vol. 30, no. 10, p. 103810, 2023. https://doi.org/10.1016/j.sjbs.2023.103810

[11] S. Accordini *et al.*, "Prenatal and prepubertal exposures to tobacco smoke in men may cause lower lung function in future offspring: A three-generation study using a causal modelling approach," *European Respiratory Journal*, vol. 58, no. 4, p. 2002791, 2021. https://doi.org/10.1183/13993003.02791-2020

[12] M. Effendi, M. Faqy, I. Santoso, R. Astuti, and W. F. Mahmudy, "Identification of arabica coffee post-harvest processing using a convolutional neural network," presented at the In BIO Web of Conferences (Vol. 90, p. 03003). EDP Sciences, 2024.

[13] V. G. Blinova *et al.*, "Modulation of suppressive activity and proliferation of human regulatory T cells by splice-switching oligonucleotides targeting FoxP3 pre-mRNA," *Cells*, vol. 13, no. 1, p. 77, 2023. https://doi.org/10.3390/cells13010077

[14] M. C. Correa-Madrid, I. C. Carmona-Garcés, and L. I. González Zapata, "Abordaje periodístico de la obesidad en la prensa colombiana durante los años 2008-2013," *Universidad y Salud*, vol. 18, no. 3, pp. 566-575, 2016. https://doi.org/10.22267/rus.161803.62

[15] H. Abreu *et al.*, "First neutrino interaction candidates at the LHC," *Physical Review D*, vol. 104, no. 9, p. L091101, 2021. https://doi.org/10.1103/PhysRevD.104.L091101

[16] M. Asif *et al.*, "Environmental sustainability in BRICS economies: The nexus of technology innovation, economic growth, financial development, and renewable energy consumption," *Sustainability*, vol. 16, no. 16, p. 6934, 2024. https://doi.org/10.3390/su16166934
[17] N. Cowan, "The magical mystery four: How is working memory capacity limited, and why?," *Current Directions in Psychological Science*, vol. 19, no. 1, pp. 51-57, 2010. https://doi.org/10.1177/0963721409359277
[18] J. Dong *et al.*, "How to continually adapt text-to-image diffusion models for flexible customization?," *Advances in Neural Information Processing Systems*, vol. 37, pp. 130057-130083, 2024.
[19] M. Eikelenboom and G. de Jong, "The impact of dynamic capabilities on the sustainability performance of SMEs," *Journal of Cleaner Production*, vol. 235, pp. 1360-1370, 2019. https://doi.org/10.1016/j.jclepro.2019.06.285
[20] Y. Fernando, C. J. C. Jabbour, and W.-X. Wah, "Pursuing green growth in technology firms through the connections between environmental innovation and sustainable business performance: Does service capability matter?," *Resources, Conservation and Recycling*, vol. 141, pp. 8-20, 2019. https://doi.org/10.1016/j.resconrec.2018.09.031
[21] T. Guo *et al.*, "Large language model based multi-agents: A survey of progress and challenges," *arXiv preprint arXiv:2402.01680*, 2024. https://doi.org/10.48550/arXiv.2402.01680
[22] C. Hutabarat, S. Suharyono, H. N. Utami, and A. Prasetya, "Servant leadership, business transformation, and corporate competitiveness," *The Journal of Asian Finance, Economics and Business*, vol. 8, no. 2, pp. 1091-1099, 2021.
[23] A. Kumar *et al.*, "Wuhan to world: The COVID-19 pandemic," *Frontiers in Cellular and Infection Microbiology*, vol. 11, p. 596201, 2021. https://doi.org/10.3389/fcimb.2021.596201
[24] R. Nishant, T. S. Teo, and M. Goh, "Do shareholders value green information technology announcements?," *Journal of the Association for Information Systems*, vol. 18, no. 8, p. 3, 2017.
[25] P. Pan *et al.*, "SARS-CoV-2 N protein promotes NLRP3 inflammasome activation to induce hyperinflammation," *Nature Communications*, vol. 12, no. 1, p. 4664, 2021. https://doi.org/10.1038/s41467-021-25015-6
[26] D. M. Paraschiv, E. L. Nemoianu, C. A. Langă, and T. Szabó, "Eco-innovation, responsible leadership and organizational change for corporate sustainability," *Amfiteatru Economic Journal*, vol. 14, no. 32, pp. 404-419, 2012.
[27] S. Renukappa and C. Egbu, "Drivers for implementing sustainability initiatives: An empirical study," presented at the In CME 25 Conference Construction Management and Economics (p. 909), 2007.
[28] M. Celikyay, F. S. Cakir, and Z. Adiguzel, "Analysis of innovation and performance relationships of companies serving in the information and communication sector," *Revista Perspectiva Empresarial*, 2023.
[29] T. Sueyoshi and Y. Yuan, "China's regional sustainability and diversified resource allocation: DEA environmental assessment on economic development and air pollution," *Energy Economics*, pp. 239-256, 2015.
[30] S. Teguh, P. Hartiwi, B. I. Ridho, S. H. BACHTIAR, A. S. SYNTHIA, and H. A. Noor, "Innovation capability and sustainable competitive advantage: An entrepreneurial marketing perspective," *The Journal of Asian Finance, Economics and Business*, vol. 8, no. 5, pp. 127-134, 2021. https://doi.org/10.13106/jafeb.2021.vol8.no5.0127
[31] T. Berkhout and I. H. Rowlands, "The voluntary adoption of green electricity by Ontario-based companies: The importance of organizational values and organizational context," *Organization & Environment*, vol. 20, no. 3, pp. 281-303, 2007.
[32] I. M. Busch, F. Moretti, M. Purgato, C. Barbui, A. W. Wu, and M. Rimondini, "Psychological and psychosomatic symptoms of second victims of adverse events: a systematic review and meta-analysis," *Journal of Patient Safety*, vol. 16, no. 2, pp. e61-e74, 2020. https://doi.org/10.1097/PTS.0000000000000273
[33] J. de Nadae, M. M. Carvalho, and D. R. Vieira, "Integrated management systems as a driver of sustainability performance: exploring evidence from multiple-case studies," *International Journal of Quality & Reliability Management*, vol. 38, no. 3, pp. 800-821, 2021. https://doi.org/10.1108/IJQRM-01-2020-0037
[34] V. Hermelingmeier and T. von Wirth, "The nexus of business sustainability and organizational learning: A systematic literature review to identify key learning principles for business transformation," *Business Strategy and the Environment*, vol. 30, no. 4, pp. 1839-1851, 2021. https://doi.org/10.1002/bse.2702
[35] G. Maione, "An energy company's journey toward standardized sustainability reporting: addressing governance challenges," *Transforming Government: People, Process and Policy*, vol. 17, no. 3, pp. 356-371, 2023. https://doi.org/10.1108/TG-05-2023-0062
[36] S. Mousavi, S. Bereswill, and M. M. Heimesaat, "Immunomodulatory and antimicrobial effects of vitamin C," *European Journal of Microbiology and Immunology*, vol. 9, no. 3, pp. 73-79, 2019. https://doi.org/10.1556/1886.2019.00009
[37] E. Muir *et al.*, "Matrix metalloproteases and their inhibitors are produced by overlapping populations of activated astrocytes," *Molecular Brain Research*, vol. 100, no. 1-2, pp. 103-117, 2002. https://doi.org/10.1016/S0169-328X(02)00199-0
[38] J. D. Rendtorff, "Sustainable development goals and progressive business models for economic transformation," *Local Economy*, vol. 34, no. 6, pp. 510-524, 2019. https://doi.org/10.1177/0269094219881411
[39] A. B. T. da Rocha, K. B. de Oliveira, M. Espuny, J. S. da Motta Reis, and O. J. Oliveira, "Business transformation through sustainability based on Industry 4.0," *Heliyon*, vol. 8, no. 8, 2022. https://doi.org/10.1016/j.heliyon.2022.e09935
[40] B. Verrier and N. Strachan, "Sunset and sunrise business strategies shaping national energy transitions," *Renewable and Sustainable Energy Reviews*, vol. 195, p. 114330, 2024. https://doi.org/10.1016/j.rser.2023.114330
[41] D. C. Whiteman, W. J. Pavan, and B. C. Bastian, "The melanomas: a synthesis of epidemiological, clinical, histopathological, genetic, and biological aspects, supporting distinct subtypes, causal pathways, and cells of origin," *Pigment cell & Melanoma Research*, vol. 24, no. 5, pp. 879-897, 2011. https://doi.org/10.1111/j.1755-148X.2011.00880.x
[42] A. Wüstenhagen, "Die Vereinten Nationen und der internationale Terrorismus—Versuch einer Chronologie," *Praxishandbuch UNO: Die Vereinten Nationen im Lichte Globaler Herausforderungen*, pp. 101-144, 2003.
[43] B. B. Gardas, R. D. Raut, and B. Narkhede, "Determinants of sustainable supply chain management: A case study from the oil and gas supply chain," *Sustainable Production and Consumption*, vol. 17, pp. 241-253, 2019. https://doi.org/10.1016/j.spc.2018.12.003
[44] A. L. Neri *et al.*, "Fatores associados à qualidade de vida percebida em adultos mais velhos: ELSI-Brasil," *Revista de Saúde Pública*, vol. 52, p. 16s, 2018. https://doi.org/10.11606/s1518-8787.2018052000613
[45] N. Romasheva and A. Cherepovitsyna, "Renewable energy sources in decarbonization: the case of foreign and Russian oil and gas companies," *Sustainability*, vol. 15, no. 9, p. 7416, 2023. https://doi.org/10.3390/su15097416

[46] J. D. Suárez-Gómez, J.-A. Polanco, and M. Escobar-Sierra, "Understanding the role of territorial factors in the large-scale hydropower business sustainability: A systematic literature review," *Energy Reports*, vol. 7, pp. 3249-3266, 2021. https://doi.org/10.1016/j.egyr.2021.07.035