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# Strategic approaches to sustainability in multinational corporations: A comprehensive review

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#### **Abstract**

This paper provides a comprehensive review of strategic approaches to sustainability within multinational corporations (MNCs), examining the frameworks, practices, and challenges faced by these global entities in their pursuit of sustainable development. With increasing pressures from stakeholders, regulatory bodies, and consumers, MNCs are increasingly integrating sustainability into their core strategies. This review explores key sustainability strategies, including environmental management systems, corporate social responsibility (CSR) initiatives, and sustainable supply chain management. Additionally, the paper addresses the role of innovation and technology in driving sustainable practices, the importance of aligning sustainability with corporate governance, and the challenges of implementing consistent sustainability standards across diverse geographic regions. The findings indicate that while MNCs have made significant strides in adopting sustainability practices, they face ongoing challenges in achieving uniformity across operations, balancing economic and environmental objectives, and responding to evolving regulatory and market demands. The review concludes by highlighting the need for continuous adaptation and the development of robust, scalable strategies that can support long-term sustainability goals across all levels of the corporation.

**Keywords:** Sustainability; Multinational corporations; Corporate social responsibility; Sustainable supply chain management; Environmental management; Innovation; Corporate governance

#### 1 Introduction

Sustainability has become a critical focus for multinational corporations (MNCs) as they navigate an increasingly complex global landscape characterized by environmental challenges, social demands, and economic pressures (Adegbola, et. al., 2024, Akinsulire, et. al., 2024, Oriji & Joel, 2024, Ucha, Ajayi & Olawale, 2024). The integration of sustainability into corporate strategies is no longer a peripheral concern but a central aspect of business operations and long-term viability. Multinational corporations, with their extensive reach and significant impact on global resources, are uniquely positioned to drive systemic changes towards more sustainable practices (Luken & Stares, 2021, Olaleye, et. al., 2024, Schaltegger & Wagner, 2017).

Sustainability in the context of MNCs encompasses a broad range of practices and strategies aimed at reducing environmental footprints, promoting social responsibility, and ensuring economic sustainability. This involves not only compliance with regulatory requirements but also proactive measures to enhance resource efficiency, minimize waste, and foster ethical business practices (Elkington, 2018; Lozano, 2020, Odonkor, et. al., 2024). The integration of

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sustainability into corporate strategy requires a comprehensive approach that aligns environmental and social goals with business objectives, often necessitating significant shifts in organizational culture and operational processes (Aguinis & Glavas, 2019; Matten & Moon, 2020).

The purpose of this review is to provide a comprehensive analysis of strategic approaches to sustainability within multinational corporations. It aims to explore how MNCs are embedding sustainability into their corporate strategies, the challenges they face, and the best practices that have emerged. The review will cover various aspects of sustainability integration, including strategic frameworks, implementation challenges, and case studies of successful initiatives (Anozie, et. al., 2024, Ige, Kupa & Ilori, 2024, Oluokun, Idemudia & Iyelolu, 2024). By examining these elements, the review seeks to offer valuable insights into effective strategies for enhancing sustainability performance and achieving long-term corporate sustainability (Waddock & Bodwell, 2021; Lozano & Huisingh, 2022).

#### 2 Theoretical Foundations of Sustainability in MNCs

Sustainability has emerged as a fundamental concept in the strategic management of multinational corporations (MNCs), reflecting an integration of environmental, social, and economic concerns into corporate governance. At its core, sustainability is defined as the capacity to meet the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland, 1987, Odonkor, et. al., 2024). This definition, established by the Brundtland Commission, underpins the broad and evolving nature of sustainability, which encompasses not only environmental stewardship but also social equity and economic viability (Ajayi & Udeh, 2024, Babalola, et. al., 2023, Obeng, et. al., 2024, Toromade, et. al., 2024).

Key frameworks and models have been developed to guide sustainable practices within MNCs, providing structured approaches to integrating sustainability into corporate strategies. One such framework is the Triple Bottom Line (TBL) concept, introduced by Elkington (1997), which emphasizes the need for corporations to focus on three dimensions: social, environmental, and economic performance (Akinsanya, Ekechi & Okeke, 2024, Kedi, et. al., 2024, Raji, Ijomah & Eyieyien, 2024). The TBL framework advocates that companies should measure their success not just by financial profits but also by their impact on people and the planet. This holistic approach encourages MNCs to consider a broader range of stakeholders and to account for the environmental and social implications of their operations.

Another influential model is the Corporate Social Responsibility (CSR) framework, which has evolved significantly over the past few decades. CSR initially focused on philanthropic activities and compliance with legal standards (Bello, Idemudia & Iyelolu, 2024, Iyelolu, et. al., 2024, Seyi-Lande, et. al., 2024). However, contemporary CSR practices, as articulated by Carroll (1999), now encompass ethical responsibilities and proactive engagement with stakeholders to address social and environmental challenges. This evolution reflects a growing recognition that sustainability should be embedded in core business strategies rather than treated as a peripheral concern.

The evolution of sustainability in corporate governance reflects a shift from voluntary, often symbolic actions towards more integrated and strategic approaches. The concept of Corporate Sustainability (CS) has gained prominence, emphasizing the need for MNCs to align their sustainability strategies with long-term business goals and stakeholder expectations (Elkington, 2018). This shift is evident in the adoption of frameworks such as the Global Reporting Initiative (GRI) standards and the United Nations Sustainable Development Goals (SDGs), which provide guidelines for reporting and integrating sustainability into corporate strategies (UN Global Compact, 2020).

The development and application of these frameworks have been instrumental in shaping the strategic approaches of MNCs towards sustainability. For instance, the GRI standards offer a comprehensive set of indicators for measuring and reporting sustainability performance, enabling companies to disclose their impacts and progress transparently (KPMG, 2021). Similarly, the SDGs provide a universal agenda for sustainable development, encouraging MNCs to contribute to global sustainability goals through their business activities (UN, 2015).

In summary, the theoretical foundations of sustainability in MNCs are anchored in a well-established understanding of sustainability, supported by various frameworks and models that guide the integration of sustainable practices into corporate strategies (Akinsulire, et. al., 2024, Idemudia, et. al., 2024, Paul & Iyelolu, 2024, Udeh, et. al., 2024). The evolution of these frameworks reflects a broader recognition of the importance of sustainability in achieving long-term corporate success and addressing global challenges. As MNCs continue to navigate the complexities of global markets, the theoretical underpinnings of sustainability will remain crucial in shaping effective and strategic approaches to corporate governance.

#### 3 Strategic Approaches to Sustainability

Strategic approaches to sustainability in multinational corporations (MNCs) encompass a range of practices aimed at integrating environmental, social, and economic considerations into corporate strategies. These approaches are crucial for MNCs seeking to manage their global operations responsibly and sustainably (Adeusi, et. al., 2024, Benjamin & Adeusi, 2024, Oladayo, et. al., 2023, Toromade, et. al., 2024). Key areas of focus include Environmental Management Systems (EMS), Corporate Social Responsibility (CSR) initiatives, and Sustainable Supply Chain Management.

Environmental Management Systems (EMS) are foundational to implementing sustainability strategies in MNCs. Standards such as ISO 14001 provide a structured approach for organizations to manage their environmental responsibilities systematically. ISO 14001 outlines requirements for an EMS that helps organizations reduce their environmental impact through systematic monitoring and improvement processes (ISO, 2015). The standard emphasizes a continuous improvement cycle, including planning, implementation, checking, and acting, to manage environmental performance effectively (Abdul-Azeez, Ihechere & Idemudia, 2024, Nwosu, Babatunde & Ijomah, 2024, Ucha, Ajayi & Olawale, 2024). The adoption of ISO 14001 has been linked to significant reductions in waste generation, energy consumption, and emissions, demonstrating its effectiveness in enhancing environmental stewardship (Zeng et al., 2010).

In addition to certification, environmental audits and impact assessments play a critical role in assessing and improving sustainability practices. Environmental audits provide an in-depth evaluation of an organization's environmental performance, helping identify areas for improvement and ensure compliance with environmental regulations (Kolk, 2003). Impact assessments, such as Environmental Impact Assessments (EIAs), are used to evaluate the potential environmental effects of proposed projects or activities, allowing for informed decision-making and mitigation planning (Glasson et al., 2013). Both tools are integral to maintaining transparency and accountability in environmental management, enabling MNCs to address environmental concerns proactively (Chukwurah, Okeke & Ekechi, 2024, Iyelolu & Paul, 2024, Oriji, et. al., 2023, Udeh, et. al., 2024).

Corporate Social Responsibility (CSR) initiatives represent another crucial component of strategic sustainability. CSR involves the development and implementation of policies that reflect an organization's commitment to ethical behavior and social impact (Carroll, 1999). Effective CSR policies address a wide range of issues, including labor practices, community development, and human rights (Adesina, Iyelolu & Paul, 2024, Ige, Kupa & Ilori, 2024, Osundare & Ige, 2024). MNCs often engage in various CSR activities, such as charitable donations, volunteer programs, and partnerships with non-governmental organizations (NGOs) to contribute positively to society (Porter & Kramer, 2006). The effectiveness of CSR initiatives is enhanced through stakeholder engagement and community involvement. By actively involving stakeholders, including employees, customers, and local communities, MNCs can better understand their concerns and expectations, leading to more impactful and relevant CSR efforts (Freeman, 1984).

Sustainable Supply Chain Management (SSCM) is essential for MNCs operating in diverse and complex global markets. SSCM strategies focus on minimizing the environmental and social impacts of supply chain activities (Ameyaw, Idemudia & Iyelolu, 2024, Ige, Kupa & Ilori, 2024, Raji, Ijomah & Eyieyien, 2024). This includes efforts to reduce energy consumption, waste, and emissions throughout the supply chain, as well as ensuring fair labor practices and ethical sourcing (Seuring & Müller, 2008). Key strategies for greening the supply chain include adopting eco-friendly materials, optimizing logistics and transportation, and working closely with suppliers to promote sustainability (Carter & Rogers, 2008). However, implementing these strategies presents challenges, such as ensuring consistent sustainability practices across different regions and navigating varying regulatory environments (Pagell & Wu, 2009). MNCs must address these challenges by developing robust supplier management programs and fostering collaboration with stakeholders to achieve supply chain sustainability goals (Bai & Sarkis, 2010).

In conclusion, strategic approaches to sustainability in MNCs involve a comprehensive range of practices aimed at integrating environmental, social, and economic considerations into corporate strategies. The implementation of Environmental Management Systems, the development and execution of CSR initiatives, and the management of sustainable supply chains are critical components of these strategies (Adegbola, et. al., 2024, Bello, Ige & Ameyaw, 2024, Olawale, et. al., 2024). By adopting international standards, engaging with stakeholders, and addressing challenges in global supply chains, MNCs can effectively enhance their sustainability performance and contribute positively to global sustainability goals.

#### 4 Role of Innovation and Technology in Sustainability

Innovation and technology play crucial roles in advancing sustainability within multinational corporations (MNCs), driving the shift towards more sustainable practices and contributing to global sustainability goals (Ajayi & Udeh, 2024, Akinsanya, Ekechi & Okeke, 2024, Okatta, Ajayi & Olawale, 2024c). Leveraging technology for sustainable development, examining case studies of innovation-driven sustainability initiatives, and understanding the impact of digital transformation on sustainable practices are essential aspects of this dynamic intersection.

Leveraging technology for sustainable development involves adopting and integrating advanced technological solutions to enhance environmental performance, optimize resource use, and reduce negative impacts (Ekechi, et. al., 2024, Hassan, et. al., 2023, Kedi, et. al., 2024, Toromade, et. al., 2024). Technologies such as artificial intelligence (AI), big data analytics, and the Internet of Things (IoT) are increasingly utilized to support sustainability efforts. AI and machine learning algorithms can predict environmental impacts, optimize energy consumption, and improve waste management systems (Barton & Court, 2012). For example, AI-driven energy management systems help MNCs minimize energy consumption in real-time by analyzing data from various sources and making adjustments to reduce waste (Zhou et al., 2018). Similarly, big data analytics enables corporations to gain insights into environmental performance, identify inefficiencies, and make data-driven decisions to enhance sustainability (George et al., 2014).

The Internet of Things (IoT) also plays a significant role in sustainability by providing real-time monitoring and control of environmental parameters. IoT sensors can track energy use, water consumption, and emissions across various facilities, allowing MNCs to implement more effective sustainability strategies and ensure compliance with environmental regulations (Xu et al., 2014). By leveraging these technologies, MNCs can achieve greater efficiency, reduce their environmental footprint, and contribute to sustainable development (Benjamin, et. al., 2024, Eziamaka, Odonkor & Akinsulire, 2024, Amajuoyi & Adeusi, 2024).

Case studies of innovation-driven sustainability initiatives provide valuable insights into the practical application of technology and innovation in achieving corporate sustainability goals. One notable example is Unilever's Sustainable Living Plan, which aims to reduce the company's environmental impact while increasing positive social contributions (Akinsulire, et. al., 2024, Amajuoyi, Benjamin & Adeusi, 2024, Oluokun, Ige & Ameyaw, 2024). Through technological innovations, such as improved supply chain transparency and the development of sustainable product formulations, Unilever has successfully reduced its greenhouse gas emissions and water usage (Unilever, 2019). The company's use of advanced analytics to monitor and manage its environmental performance has been instrumental in achieving these goals.

Another example is Tesla's approach to sustainability through electric vehicles and renewable energy solutions. Tesla's innovative technologies, including its electric vehicle batteries and solar energy products, are designed to reduce reliance on fossil fuels and promote cleaner energy sources (Hawkins et al., 2013). By pioneering advancements in electric mobility and energy storage, Tesla has demonstrated how technological innovation can drive significant improvements in sustainability and contribute to the transition to a low-carbon economy (Abitoye, et. al., 2023, Akinsulire, et. al., 2024, Odonkor, Eziamaka & Akinsulire, 2024).

The impact of digital transformation on sustainable practices is profound, as it enables MNCs to integrate sustainability into their core operations and decision-making processes. Digital transformation encompasses the adoption of digital technologies and the reengineering of business processes to enhance efficiency, improve performance, and drive innovation (Bharadwaj et al., 2013). In the context of sustainability, digital transformation facilitates the development and implementation of advanced solutions that support environmental and social objectives.

For instance, digital platforms and tools enable MNCs to enhance transparency and traceability in their supply chains, ensuring that sustainability standards are met across global operations (Gualandris et al., 2015). Blockchain technology, for example, provides a decentralized and immutable ledger that can be used to verify and track sustainable practices throughout the supply chain, from raw material sourcing to product delivery (Kshetri, 2018). By improving supply chain transparency, MNCs can better manage risks, ensure ethical sourcing, and demonstrate their commitment to sustainability.

Moreover, digital transformation allows for more effective stakeholder engagement and collaboration. Social media and digital communication tools enable MNCs to interact with stakeholders, share information about sustainability initiatives, and gather feedback to inform their strategies (Gómez-Suárez et al., 2016). This increased connectivity and transparency help build trust with stakeholders and enhance the overall impact of sustainability efforts.

In conclusion, innovation and technology are integral to advancing sustainability in multinational corporations. By leveraging technologies such as AI, big data analytics, and IoT, MNCs can enhance their environmental performance, optimize resource use, and reduce their carbon footprint (Abdul-Azeez, Ihechere & Idemudia, 2024, Ijomah, et. al., 2024, Raji, Ijomah & Eyieyien, 2024). Case studies of successful innovation-driven sustainability initiatives demonstrate the practical benefits of these technologies in achieving corporate sustainability goals. Additionally, digital transformation plays a critical role in integrating sustainability into business operations and decision-making processes. As MNCs continue to embrace technological advancements and digital solutions, they will be better equipped to drive sustainable development and contribute to a more sustainable future.

#### 5 Challenges in Implementing Sustainability Strategies

Implementing sustainability strategies in multinational corporations (MNCs) presents a range of complex challenges due to geographic and cultural diversity, balancing economic and environmental objectives, and compliance with regulatory pressures (Bello, Idemudia & Iyelolu, 2024, Eyieyien, et. al., 2024, Olawale, et. al., 2024). These challenges are deeply interconnected and require nuanced strategies to address effectively. Geographic and cultural diversity significantly impacts the implementation of sustainability strategies. Variations in regulatory environments across regions necessitate a tailored approach to compliance. Different countries and regions have distinct environmental regulations, standards, and expectations, which can complicate the uniform application of sustainability initiatives across a global organization (Gereffi, 2018). For instance, European Union regulations on carbon emissions and waste management are often more stringent compared to those in other regions, such as parts of Southeast Asia (WTO, 2018). MNCs must navigate these diverse regulatory landscapes while ensuring adherence to local laws and practices, which can be resource-intensive and complex.

Adapting sustainability strategies to local contexts further compounds these challenges. What works in one region may not be effective or culturally appropriate in another. Local cultural norms, economic conditions, and infrastructure capabilities can influence the feasibility and effectiveness of sustainability initiatives (Rugman & Verbeke, 2008). For example, water conservation strategies that are successful in arid regions might not be as relevant in areas with abundant water resources (Adesina, Iyelolu & Paul, 2024, Esan, Ajayi & Olawale, 2024, Okatta, Ajayi & Olawale, 2024). MNCs must therefore customize their sustainability strategies to align with local realities while maintaining a coherent global approach (Brannen & Doz, 2010). Balancing economic and environmental objectives is another significant challenge. Maintaining profitability while pursuing sustainability often involves trade-offs. Sustainable practices can lead to increased operational costs in the short term, such as investments in energy-efficient technologies or higher costs associated with sustainable materials (Hart & Milstein, 1999). These costs can strain financial resources and impact short-term profitability. For instance, transitioning to renewable energy sources may require substantial initial capital investments, though it can yield long-term savings and environmental benefits (Porter & Kramer, 2006). Addressing the trade-offs between short-term costs and long-term benefits is critical. While sustainability initiatives may enhance long-term value through improved efficiency, brand reputation, and risk management, the immediate financial impact can be challenging to manage (Adepoju, Sanusi & Toromade Adekunle, 2018, Ajayi & Udeh, 2024, Osundare & Ige, 2024). MNCs must develop strategies that balance these competing demands, often requiring a shift in perspective from short-term financial metrics to long-term value creation (Eccles et al., 2014).

Compliance and regulatory pressures add another layer of complexity. The international sustainability regulatory landscape is vast and continually evolving. MNCs must navigate a complex array of regulations, standards, and expectations that vary by country and industry (Bertels et al., 2010). This complexity is compounded by the rapid pace of regulatory changes, which can make it difficult for companies to stay compliant and anticipate future requirements (Abdul-Azeez, Ihechere & Idemudia, 2024, Kedi, et. al., 2024, Oriji, et. al., 2023, Udeh, et. al., 2024). Responding to evolving standards and expectations further challenges MNCs. As societal expectations and regulatory frameworks shift towards more stringent sustainability criteria, companies must continuously adapt their strategies to remain compliant and meet stakeholder demands (Delmas & Toffel, 2008). This ongoing adaptation requires significant resources and agility, often placing additional strain on organizational capabilities.

In summary, the challenges associated with implementing sustainability strategies in MNCs are multifaceted and require careful management. Geographic and cultural diversity necessitates localized approaches to regulatory compliance and strategic adaptation. Balancing economic and environmental objectives involves managing trade-offs between short-term costs and long-term benefits (Adegbola, et. al., 2024, Akinsulire, et. al., 2024, Obeng, et. al., 2024, Udeh, et. al., 2024). Compliance with evolving regulations demands ongoing vigilance and flexibility. Addressing these challenges effectively requires a comprehensive and adaptable strategy that integrates local considerations, balances competing demands, and remains responsive to regulatory changes.

#### 6 Case Studies of Sustainability in MNCs

Case studies of sustainability in multinational corporations (MNCs) offer valuable insights into the effectiveness of various strategies and highlight both successes and challenges faced by companies in integrating sustainability into their operations (Abdul-Azeez, Ihechere & Idemudia, 2024, Iyelolu, et. al., 2024, Okatta, Ajayi & Olawale, 2024b). Examining these case studies provides a comprehensive understanding of how MNCs can achieve sustainability goals and the pitfalls they might encounter. One notable example of a successful sustainability strategy is Unilever, a leading multinational consumer goods company. Unilever's Sustainable Living Plan, launched in 2010, aims to decouple the company's growth from its environmental footprint while increasing its positive social impact (Unilever, 2021). The plan includes ambitious targets such as reducing greenhouse gas emissions, improving water efficiency, and enhancing the livelihoods of millions of people (Akinsanya, Ekechi & Okeke, 2024, Benjamin, Amajuoyi & Adeusi, 2024, Olawale, et. al., 2024). Unilever has achieved significant milestones, such as reducing CO2 emissions from energy by 65% per tonne of production since 2008 and ensuring that 100% of its agricultural raw materials are sustainably sourced (Unilever, 2021). The company's success is attributed to its comprehensive approach, which integrates sustainability into core business processes and emphasizes stakeholder engagement and transparent reporting (Kiron et al., 2013).

Another example is IKEA, which has made substantial progress in sustainability through its People & Planet Positive strategy. IKEA focuses on renewable energy, sustainable sourcing, and improving the social impact of its supply chain (Ajayi & Udeh, 2024, Akinsulire, et. al., 2024, Ijomah, et. al., 2024, Udeh, et. al., 2024). The company has committed to using 100% renewable energy in its operations and has invested heavily in wind and solar energy projects (IKEA, 2021). Additionally, IKEA's commitment to sourcing 100% of its cotton from sustainable sources and its goal to create a circular business model further demonstrate its dedication to environmental and social responsibility (IKEA, 2021). The success of IKEA's strategy is largely due to its integrated approach, which involves setting clear goals, investing in innovation, and collaborating with suppliers and stakeholders to drive systemic change (Lacy et al., 2014).

Conversely, some MNCs have faced challenges and failures in their sustainability efforts. For instance, BP's "Beyond Petroleum" campaign, launched in the early 2000s, was initially perceived as a bold move towards sustainability (Agu, et. al., 2024, Akinsulire, 2012, Bello, Idemudia & Iyelolu, 2024, Toromade, Chiekezie & Udo, 2024). However, the initiative was marred by the company's continued investment in fossil fuels and environmental controversies, such as the Deepwater Horizon oil spill in 2010 (Hoffman, 2012). The gap between BP's stated sustainability goals and its operational practices led to criticism and undermined the credibility of its sustainability strategy. This case highlights the importance of aligning corporate actions with sustainability commitments and maintaining transparency and accountability (Gunningham, 2015).

A comparative analysis of different approaches across industries reveals varying degrees of success and effectiveness. For example, technology companies like Google and Microsoft have adopted aggressive sustainability goals, focusing on achieving carbon neutrality and investing in renewable energy projects (Google, 2021; Microsoft, 2021). These companies have leveraged their technological expertise to develop innovative solutions, such as energy-efficient data centers and advanced carbon offsetting initiatives (Abitoye, et. al., 2023, Akinsanya, Ekechi & Okeke, 2024, Olawale, et. al., 2024). In contrast, industries such as mining and oil and gas face inherent sustainability challenges due to the nature of their operations. While some companies in these sectors have made strides in improving environmental performance, achieving substantial sustainability outcomes remains complex and requires significant industry-wide changes (Schwartz & Carroll, 2008).

In summary, case studies of MNCs illustrate that successful sustainability strategies are characterized by comprehensive approaches that integrate sustainability into core business operations, set clear goals, and involve stakeholder engagement. Companies like Unilever and IKEA demonstrate the effectiveness of aligning business practices with sustainability objectives and investing in innovation (Bello, Ige & Ameyaw, 2024, Ekechi, Okeke & Adama, 2024, Okatta, Ajayi & Olawale, 2024). Conversely, failures such as BP's "Beyond Petroleum" campaign underscore the importance of ensuring that sustainability commitments are matched by genuine operational practices and transparency. A comparative analysis across industries reveals that while progress is achievable, the effectiveness of sustainability strategies varies depending on the industry context and the extent of systemic change required.

#### **7** Recommendations for MNCs

In the evolving landscape of corporate responsibility, multinational corporations (MNCs) are increasingly recognizing the critical importance of embedding sustainability into their core strategies. Effective sustainability practices not only enhance corporate reputation but also drive long-term operational efficiency and competitive advantage (Abdul-Azeez,

Ihechere & Idemudia, 2024, Ige, Kupa & Ilori, 2024, Amajuoyi & Adeusi, 2024). Based on an extensive review of current practices and challenges, several recommendations emerge for MNCs aiming to refine their sustainability approaches. To begin with, developing scalable and adaptable sustainability strategies is essential for MNCs operating in diverse and dynamic global markets. Scalability ensures that sustainability initiatives can be effectively implemented across various regions and business units, while adaptability allows strategies to be modified in response to changing conditions and emerging issues. According to a study by Gjølberg (2009), the successful integration of sustainability into corporate strategies requires an approach that balances global consistency with local relevance (Akinsulire, et. al., 2024, Amajuoyi, Nwobodo & Adegbola, 2024, Osundare & Ige, 2024). MNCs should adopt a framework that provides a unified vision for sustainability while allowing for regional adaptations to address specific environmental, social, and regulatory contexts (Zhu & Sarkis, 2004). This dual approach helps in managing the complexities associated with diverse geographic and cultural environments, thereby enhancing the effectiveness and acceptability of sustainability initiatives.

Enhancing stakeholder collaboration and communication is another crucial aspect for MNCs striving to improve their sustainability performance. Effective stakeholder engagement helps in identifying key concerns, expectations, and opportunities related to sustainability. Freeman's (1984) stakeholder theory highlights the importance of considering various stakeholder interests in decision-making processes (Adeusi, Amajuoyi & Benjami, 2024, Eziamaka, Odonkor & Akinsulire, 2024, Udeh, et. al., 2024). MNCs should develop comprehensive stakeholder engagement strategies that include regular dialogues with customers, suppliers, regulators, and local communities. Transparent communication about sustainability goals, progress, and challenges fosters trust and can lead to more robust support from stakeholders (Harrison & Wicks, 2013). Furthermore, employing advanced communication tools and platforms can facilitate real-time feedback and enhance stakeholder relationships, making it easier to address concerns and adapt strategies as needed (Agle et al., 2008).

Investing in innovation and continuous improvement is crucial for maintaining long-term sustainability. MNCs must prioritize research and development to explore new technologies and processes that contribute to environmental and social sustainability (Adepoju, Oladeebo & Toromade, 2019, Ajayi & Udeh, 2024, Okatta, Ajayi & Olawale, 2024a). According to Porter and Kramer (2006), innovation in sustainability not only improves operational efficiency but also creates new business opportunities and competitive advantages. Investment in sustainable technologies, such as renewable energy systems and resource-efficient manufacturing processes, can significantly reduce environmental impacts and operational costs (Abdul-Azeez, Ihechere & Idemudia, 2024, Bello, Idemudia & Iyelolu, 2024). Additionally, continuous improvement practices, such as those outlined in the Total Quality Management (TQM) framework, should be integrated into sustainability strategies to ensure that practices evolve in line with emerging trends and standards (Deming, 1986). Regular assessment and refinement of sustainability initiatives based on performance data and stakeholder feedback ensure that MNCs remain at the forefront of sustainable development.

In conclusion, MNCs seeking to enhance their sustainability strategies should focus on developing scalable and adaptable approaches, enhancing stakeholder collaboration and communication, and investing in innovation and continuous improvement (Abdul-Azeez, Ihechere & Idemudia, 2024, Ige, Kupa & Ilori, 2024, Toromade, et. al., 2024). By adopting these recommendations, MNCs can achieve significant progress in their sustainability efforts, contributing to both corporate success and broader environmental and social benefits.

#### 8 Future Directions in Sustainability for MNCs

The future directions in sustainability for multinational corporations (MNCs) are shaped by a confluence of emerging trends, evolving market dynamics, and shifting regulatory landscapes. As the global focus on sustainability intensifies, MNCs must navigate these changes to stay competitive and align with societal expectations (Akinsanya, Ekechi & Okeke, 2024, Esan, Ajayi & Olawale, 2024, Amajuoyi & Adeusi, 2024). This discussion delves into emerging trends and challenges, the role of emerging markets, and the need to anticipate regulatory changes in shaping future sustainability strategies. Emerging trends in global sustainability are driving significant shifts in how MNCs approach their environmental and social responsibilities. One of the most significant trends is the increasing emphasis on circular economy principles, which focus on reducing waste and maximizing resource efficiency (Geissdoerfer et al., 2017). The transition from a linear to a circular economy requires MNCs to rethink product design, production processes, and endof-life management. This shift is further accelerated by technological advancements, such as digital platforms and Internet of Things (IoT) applications, which enable better tracking and management of resources throughout the product lifecycle (Kumar et al., 2021). Additionally, there is a growing focus on integrating sustainability into corporate governance frameworks, with increased demands for transparency and accountability in sustainability reporting (Sullivan & Mackenzie, 2021). MNCs are expected to adopt more comprehensive sustainability metrics and disclose their environmental, social, and governance (ESG) performance to meet stakeholder expectations (Bello, Idemudia & Iyelolu, 2024, Ekechi, et. al., 2024, Olawale, et. al., 2024).

Emerging markets are increasingly influential in shaping the future of global sustainability strategies. These markets, characterized by rapid economic growth and industrialization, present both opportunities and challenges for MNCs (Bello, Idemudia & Iyelolu, 2024, Benjamin, Amajuoyi & Adeusi, 2024, Scott, Amajuoyi & Adeusi, 2024). On one hand, emerging markets offer significant growth potential and new consumer segments that are increasingly demanding sustainable products and practices (Chen et al., 2016). On the other hand, MNCs face challenges related to varying regulatory environments, infrastructure limitations, and different cultural attitudes towards sustainability (Jung et al., 2021). To effectively engage with these markets, MNCs must develop context-specific sustainability strategies that address local needs and constraints while aligning with global sustainability goals (Adegbola, et. al., 2024, Chukwurah, et. al., 2024, Obeng, et. al., 2024). This includes collaborating with local stakeholders, investing in sustainable infrastructure, and adapting products and practices to meet local environmental and social standards.

Anticipating regulatory changes and market demands is crucial for MNCs to stay ahead in their sustainability efforts. Regulatory landscapes are evolving rapidly, with governments and international bodies introducing stricter environmental regulations and sustainability standards (Delmas & Toffel, 2012). MNCs must proactively monitor these developments and adjust their strategies to ensure compliance and mitigate risks (Akinsulire, et. al., 2024, Amajuoyi, Nwobodo & Adegbola, 2024, Okatta, Ajayi & Olawale, 2024). For instance, the European Union's Green Deal and the United Nations Sustainable Development Goals (SDGs) are setting new benchmarks for environmental performance and social responsibility (UN, 2021). Additionally, market demands are shifting towards greater sustainability, driven by consumer preferences and investor expectations (Eccles et al., 2014). MNCs need to anticipate these changes and integrate sustainability into their core business strategies to maintain competitive advantage and build resilience.

In summary, the future of sustainability for MNCs will be shaped by emerging trends such as the circular economy and digital transformation, the growing influence of emerging markets, and the need to anticipate regulatory changes and market demands. By proactively addressing these factors, MNCs can enhance their sustainability performance, meet stakeholder expectations, and contribute to global sustainability goals (Ajayi & Udeh, 2024, Akinsulire, et. al., 2024, Esan, Ajayi & Olawale, 2024).

#### 9 Conclusion

The comprehensive review of strategic approaches to sustainability in multinational corporations (MNCs) reveals a multifaceted landscape where environmental, social, and governance considerations are increasingly integral to corporate strategy. Key findings underscore the importance of adopting robust sustainability frameworks, leveraging innovative technologies, and addressing significant challenges to achieve meaningful progress. Firstly, the implementation of environmental management systems, such as ISO 14001, and the development of Corporate Social Responsibility (CSR) initiatives have proven essential for MNCs seeking to align their operations with sustainability goals. These frameworks provide structured approaches for managing environmental impacts and engaging with stakeholders, contributing to improved corporate transparency and accountability. Additionally, sustainable supply chain management has emerged as a critical area, where strategies to green the supply chain and overcome challenges related to global operations are vital for reducing environmental footprints and enhancing sustainability performance.

The role of innovation and technology in driving sustainability cannot be overstated. Technological advancements, including digital transformation, have significantly impacted sustainable practices by enabling more efficient resource management and fostering innovation-driven sustainability initiatives. Case studies illustrate how MNCs that embrace technology and innovative approaches can achieve substantial gains in environmental and social performance. However, challenges remain, including geographic and cultural diversity, balancing economic and environmental objectives, and navigating complex regulatory landscapes. MNCs must adapt their strategies to local contexts while addressing trade-offs between short-term costs and long-term sustainability benefits. Compliance with evolving regulations and managing stakeholder expectations are also critical for maintaining credibility and achieving sustainability goals.

Looking forward, the ongoing importance of integrating sustainability into MNC strategies is clear. As global sustainability goals continue to evolve, MNCs must remain agile and proactive in addressing emerging trends, such as the circular economy and increased regulatory scrutiny. Future success will depend on the ability to innovate, collaborate, and adapt to new challenges and opportunities in the quest for global sustainability. In conclusion, achieving global sustainability goals requires a concerted effort from MNCs to implement effective strategies, leverage technological advancements, and navigate the complexities of the global landscape. By embracing these approaches, MNCs can contribute to a more sustainable future and align their operations with the broader goals of environmental and social responsibility.

#### Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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