



# Evaluating green initiatives: advancing environmental responsibility in global business operations

Évaluation des initiatives vertes : promouvoir la responsabilité environnementale dans les opérations commerciales mondiales

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## ABSTRACT

This paper assesses green practices and corporate environmentalism in international business management. It examines sustainability activities in different industries, emphasizing the strategies companies adopt to achieve sustainability and economic performance simultaneously. Drawing on corporate environmental reports, sustainability audits and green performance indicators, this study reveals the motivators and barriers to implementing environmentally sustainable practices. The study sheds the light on how firms can adopt eco-efficient technologies, waste management, and resource optimization to enhance their competitive advantage and meet organizational environmental responsibilities. The proposed research advances the knowledge of corporate stewardship and offers practical recommendations for organizations interested in improving environmental responsibility.

**Keywords:** Green initiatives, corporate environmental responsibility, sustainability, resource conservation, eco-friendly practices.

**Article originality and practical implications:** This article offers fresh thoughts on how green initiatives may be implemented across global businesses through a comparison of the effects of environmentally friendly measures on business performance. In this study that has embraced the business performance perspective for studying CER, the issue of how businesses can improve on the achievement of sustainability goals and still attain good business returns has been effectively explained. Therefore, the study benefits from the incorporation of real data from corporations and sustainability reports as it provides applicable recommendations regarding sustainability implementation for organizations.

## RÉSUMÉ

Cet article évalue les pratiques vertes et l'environnementalisme des entreprises dans la gestion des affaires internationales. Il examine les activités de durabilité dans différentes industries, en mettant l'accent sur les stratégies adoptées par les entreprises pour atteindre simultanément la durabilité et la performance économique. S'appuyant sur les rapports environnementaux des entreprises, les audits de durabilité et les indicateurs de performance verte, cette étude révèle les motivations et les obstacles à la mise en œuvre de pratiques durables sur le plan environnemental. Elle met en lumière la manière dont les entreprises peuvent adopter des technologies éco-efficaces, la gestion des déchets et l'optimisation des ressources pour renforcer leur avantage concurrentiel et assumer leurs responsabilités organisationnelles en matière d'environnement. La recherche proposée fait progresser les connaissances sur la gestion des entreprises et offre des recommandations pratiques aux organisations désireuses d'améliorer leur responsabilité environnementale.

**Mots clés :** Initiatives vertes, responsabilité environnementale des entreprises, durabilité, conservation des ressources, pratiques respectueuses de l'environnement.

**Originalité de l'article et implications pratiques :** Cet article propose de nouvelles réflexions sur la manière dont les initiatives écologiques peuvent être mises en œuvre dans les entreprises mondiales en comparant les effets des mesures respectueuses de l'environnement sur les performances des entreprises. Dans cette étude qui a adopté la perspective de la performance des entreprises pour étudier la RCE, la question de savoir comment les entreprises peuvent améliorer la réalisation des objectifs de durabilité tout en obtenant de bons rendements a été expliquée de manière efficace. Par conséquent, l'étude bénéficie de l'incorporation de données réelles provenant d'entreprises et de rapports de durabilité, car elle fournit des recommandations applicables concernant la mise en œuvre de la durabilité pour les organisations.

## INTRODUCTION

With increased knowledge and understanding, environmental stewardship has gained international attention as a key factor to advancement. Given that people around the world have the same basic survival needs, there should be a real convergence of interests. Even as people's individual pursuits are distinguished by their cultures, religions, economic conditions, and historical backgrounds, a shared desire for a healthy, environmentally sound home is ever-present. And given this shared future, an extraordinary range of cross-border collaborations has been put in place to make a heterogenous world more united toward the shared goal of managing and safeguarding essential resources over the long term and reducing environmental catastrophes. Aware of the myriad benefits of constructive environmental management, viable companies from big to small are persistently acting as responsible stewards of the environment. Companies will continue to make contributions to such conservation initiatives beyond the short term if there are prospective profits to accrue and customers to be drawn (Petreski et al., 2023).

Environmental stewardship refers to the ethical and responsible management of the natural environment and resources. Its guiding principles suggest that decisions affecting local and global natural resources should be based, at the macro level, on the premises of nationalism, and, at the micro level, on individuals' ecological and economic relevance (Gohar & Indulska, 2016). Far from a united front, generally recognized factors that may enable or impede the advancement of environmental stewardship include governmental measures, industry regulations, economic strength, and local people's level of environmental awareness. Inspired by concerns about environmental conservation and human well-being, some enterprises are now engaging in sustainable and environmentally friendly business practices (Dressler, 2022).

Long term strategies can also indirectly increase shareholders' and value, sales, and consumer confidence is reliable in responding to the initiative. The green management initiative also increases competitive advantage will in position as in consumers and suppliers for innovative practices. Even the workers engaged in the process of the green initiative containing companies seems to be not only fit but also have received better moralistic, physical, and financial benefits. Some instances have also showed that the green initiative is more useful for the developing than developed countries, raw and parenting in developing countries according to WHO.

Green marketing has over time become one aspect in the global business circle that is aimed at being responsible for the wellbeing of the environment (Wang & Li, 2022). Basically, green marketing is a strategy sustainable for the environment, as implied from its name that it involves marketing products and services taking conscious care of the environment. This includes recycling, organic food, biodiversity, fertilizers, pesticides, etc (Lokuge et al., 2020). It similarly involves the marketing strategy, designing, manufacturing, packaging, and products and nuclear. The significance of green marketing concern in the global business interest is mirrored by the fact that green management has always been emphasized on reducing the cost associating with resources, waste management, and pollution control. After two decades, a trans-corporate global headquarter is making efforts to ensure clean environmental practices in their intra, as well as inter-firm linkage and enterprise control system has never been evident before (Ahmed et al., 2020).

Business practices that are eco-friendly would improve corporate environmental performance and reduce their environmental impact, providing business and marketing incentives for improving environmentally friendly practices . Many instances are used to support this argument. Some forecasts predict that all gas and diesel engines will be replaced by EVs (electric vehicles) in 2025 with the development of technology. This change can also cause dramatic changes in the allocation of lead markets by 2035 and the replacement. Therefore, driving the economy of all the United States (EV) will raise productivity by 1 to 1.7% of total output. According to study, >10% of total stock and <2% of infrastructure investment are required to achieve the 1 percentage point medium EV payoff (Ahmed et al., 2020). The pricing of EVs would decrease if electric cars were cheaper and longer charging was possible. According to estimates, batteries account for 57% of the car's price. And the cost of batteries may decrease if buyers' attitudes toward electric cars change. For example, lower lithium consumption in modern batteries will lead to the discovery of more batteries using nickel.

In recent years, businesses have been under increasing pressure to demonstrate their environmental stewardship and to incorporate eco-friendly practices into their operations (Faheem et al., 2024). This shift can be attributed not only to the growing awareness among consumers of environmental issues and their increased preferences for sustainable products and companies, but also to the efforts of regulators and governing bodies. Keeping in view with the same objective, green marketing strategies and practices have been used to attract potential consumers' attention (Nohekhan & Barzegar, 2024). Concurrently, many businesses around the world are implementing eco-friendly practices that can help them achieve their economic and environmental objectives more efficiently and effectively. 'Green' initiatives have been recently discussed to realize the long-term benefits by achieving both strategic and operational goals. The companies are striving to establish strong and enduring sustainability programs that create business value by adopting the initiative called green initiatives (Kabiraj et al., 2010).

Given the current environmental concerns the whole world community faces, the need for businesses to factor in environmental conservation and eco-friendly operations is more crucial now than it has ever been. Therefore, the purpose of this review was to explore the delicate connection between global business activities and environmental conservation, showing how eco-friendly practices can minimize environmental effects and at the same time tackle the proximities of the current economic universe. Through an exploration of theoretical frameworks, empirical research, and real-world case studies, this review aims to offer insights into the transformative potential of environmental stewardship in fostering sustainable business practices and driving positive environmental outcomes.

## LITERATURE REVIEW

Research on total quality management, business process re-engineering, strategic corporate social responsibility, and continuous improvement has driven understanding of internal 'green' operational practices (Ahmed et al., 2020). In turn, practical implementation of internal green operational practices in efficient, effective, timely, cooperative, and flexible manners has encouraged organizations to share ESG values with those of their supply chain partners. However, authors argued that development of ESG partnerships between organizations would need to include organizational decision-making with supply chain operations. That is, taking ESG minded operational decisions alone is not sufficient. With the current increasing concern about the natural environment, the application of sustainability has become a guiding principle in global business operations (Dressler, 2022).

Corporate leaders, as it is observed, are increasingly becoming worried about the environmental problems, and thus lead to their engagement in the green-oriented operations. Therefore, society has come to understand the importance of being environmentally friendly in the modern world. As a response to the harmful consequences of industrial activities upon the environment, protecting the environment from negative impacts and behaving responsibly to the interests of society has become a strong motivation for the companies to establish strategic partnerships with the appropriate partners, to further benefit the creation of social and environmental values, help in climate stabilization and reduction in the CO<sub>2</sub> emissions, and in this way bring many other valuable gains to the international marketing (Ho et al., 2022). In the recent literature, this vital inclination of the companies towards the sustainable operations is referred to as the ESG practices.

### Corporate social responsibility (CSR)

Corporations are part of society, and they have duties towards society (Ahmed et al., 2022). This societal contract offers permission to companies to function in a society in an economical manner and lays down responsibilities and duties that a company is needed to satisfy. This contract also indicates that CSR is voluntary compliance. CSR is more about than about regulatory compliance or profitability. It is the responsibility of management to adjust the business actions and decisions to create a constructive waste. Companies can make stakeholder engagement operational by dealing with stakeholders as shareholders and by perceiving both the chances that these stakeholders symbolize and the dangers they present. When companies are accountable for constructing a solid connection among the market, the societal and natural environments, and the organization, they concentrate on their structural and operational activities in a manner that demonstrates both market and societal necessities.

Furthermore, this societal bargaining model proposes organizations acting to address issues of social and ethical accountability as a response to trade demands that are socially and culturally described. As environmental and social concerns are becoming more crucial, with profound global and local implications, businesses are beginning to accept the paradigm of corporate social responsibility which arises from the perception that companies have the ethical duty of addressing environmental and societal matters instead of concentrating merely on financial outcomes (Carroll, 2021). CSR places stress on corporate self-regulation as companies, to be socially accountable, require behaving fairly and taking part in endeavors that enhance society (Choi & McNeely, 2020). The social accountability of an enterprise is about guaranteeing that companies act ethically, contributing to economic advancement while enhancing the standard of life of the workforce and their families plus the entire local community and society at large.

### Triple bottom line approach

Literature review on green investment states the growing business joining attempts to imitate environmental performance in a piece with a subject generally charted by the idea of corporate social accountability. It considers the shift of businesses toward the ideas of TBL or sustainability. More sustainable cultures create less friction in the community and the atmosphere in which they run (Paudel & Yedgarian, 2024). The connectivity between TBL and environmental performance and environmental stewardship comes from manufacturing and supply too much consumption climate and employees to lessen that. The closer corporations and the reduction of worldwide environmental issues can drive to on the TBL. The TBL approach

strives for equal attention to environmental sustainability and societal responsibilities as the profit-making goals. This requires a balanced emphasis on these factors in decision making, corporate responsibility, and reporting systems.

The approach offers a comprehensive real-world perspective and measure for sustainable development. The TBL allows the Corporation to measure and report on social and environmental performance in the same way that it reports on its financial performance. TBL seek that the business performance is not driven solely by profits but by the organization's capability to foster to a healthy environment and society at large. Balancing the environment considers as the paramount importance according to Literature review on green investment (Zheng & Jin, 2023).

This research proposes a theoretical framework of Environmental Stewardship for focus on green strategies embedded within TBL approach. This is an extended part of organizational capability in TBL culture for triple bottom line achievement (Kabiraj et al., 2010). The focus of TBL approach relies on sustainable social development and environmental concern, along with economic drivers. TBL considers the three dimensions of the relationships and responsibilities between commerce and society as necessity for TBL for organization. Economic, societal and environmental sustainability concerns are the three areas discussed to reflect the foundation of TBL process that increases in more sustainable position and lower disruption, dispute and vulnerability.

### **Natural capitalism**

The second principle advocates the importance of natural and renewable capital. There should be a focus on natural resources, lands, clean water, clean air, a stable climate, and a fertile soil. Furthermore, natural resources and ecosystems should be protected and regenerated. In practical terms, operational transformations need to include the conservation of nature and natural processes for intactness of lands, soils and vegetation as resource for the production of biomass (Kanashiro Uehara, 2023). With the depletion of finite resources, the utilization of renewable resources has gained more importance. To achieve social and environmental objectives and taking responsibility for the sustainability of the whole production process as well as supply chain, some actors such as the World Wildlife Fund have developed certification schemes to produce commodities from renewable resources. Certification schemes are part of market-based regulation measures and reward corporate engagement in sustainable resource management.

Triple bottom line certification schemes shift the issue of resource accountability to the supply chain and provide market evidence for a steering effect of resource stewardship on corporate value. According to the natural capitalism framework, the first of four interlinked principles is to eliminate waste through circular industrial processes and maximize the productive use of materials (Fairbrass et al., 2020). Related to this, economic development should be de-coupled from environmental degradation, achieving as much utility as possible from the least possible use of resources through dematerialization and good design. For example, direct recycling rates in industry often lie well below 50% (in 2014, the global recycling rate of plastic, for example, was estimated at 14%) and this is the domain to which operational aspects must be reduced from a corporate perspective. Examples for operational strategies in fulfillment of the principle of waste reduction are a reduction of resource needs, operational resource productivity improvements through operational excellence in lean production, and a reduction of emissions (Sun & Wang, 2022).

### **Sustainable development**

The concept of sustainable development has gained significant attention in recent years given the increasing threats to the environment (Saleem et al., 2021). Sustainable development aims to meet the need of the present while ensuring that future generations will be able to cater for their needs. This has been recognized by both developed and developing countries as the right approach to follow. The United Nations (UN), the World Trade Organization (WTO), International Chambers of Commerce (ICC), and even the company for Economic Co-operation and Development (OECD) have underlined the importance of the adoption of sustainable approaches to integrate the sustainability in the various business operations (Carfi & Schilirò, 2012). Further, sustainable development supplies a binding principle of international economic, environmental and social governance. The sustainable development is highly dependent upon corporations, and crucially on transnational corporations that have expanded their operations beyond domestic borders (Nosratabadi et al., 2019). Millennials, the future business heads, are more environmentally conscious in an era of environmental degradation, because they strongly support corporate environmental responsibility (CER) as stakeholders. To remain competitive, attract the next-generation workforce, satisfy consumer demands, or simply perform what is right, businesses must, thus, put competitive emphasis on ecological responsibility and ES (Burgess-Wilkerson et al., 2019). Societal sustainability specific to ecological interests and the preservation of natural resources by economic consumers for future generations are environmental conservation and ES. Ecology prevents pollution, environmentally friendly energy production and performance, and recovery of natural resources in ecosystems or corporate entities enthusiastic about sustainability. It is quite a lot to do if current conditions, environmental conservation, and resources are utilized, must be met by the needs of future generations. These activities can educate and wise resources as environmentally responsible corporation workers. Business conduct such as energy conservation, carbon offsetting, supply chain compliance, and green marketing activity may promote corporate

environmental responsibility and business sustainability (Zhao et al., 2022).

Environmental stewardship (ES) is manifested in the form of corporate social responsibility (CSR), which is gaining popularity among businesses of varied sizes (Ahmad et al., 2021). In order to concentrate on CSR actions, the businesses must optimize their operations and human resources to enhance their environmental, social, and economic efficiency established on the strategy, goals, and assessments incorporated with the organization's strategy-involved activities. The potential way to construct and develop the business sustainability system is extensively developed and verified in the literature reported, however, the role of knowledge sharing obtained by employees and guests in the framework of ES is approximate uncertain due to a lack of academic research. The purpose of the research was therefore to examine the environmental responsibility and management activities of businesses by researching the part of employees and clients' knowledge sharing, which could promote better ecological stewardship.

### Conceptualizing environmental stewardship

Mindfulness is an important precursor of stewardship behavior. Researchers argue that environmentally minded people are often found to be more nature connected, connected to Earth, and to possess biospheric values tenets of stewardship. Based on the above arguments, it is evident that Environmental stewardship as a 'meta' universal foundational attitude that finds different expressions worldwide, which can be more Christian in one context and more naturally grounded in the individual spirit of the land in another (Saleem et al., 2021).

Figure 1: Conceptual Framework



Source: Compiled by authors

Environmental stewardship is a concept taking root in virtually every aspect of society, from calls for "sustainable economics" to "green" business and corporate social responsibility. The goals of stewardship efforts are as diverse as the stakeholders involved. Environmental organizations seek to prevent and repair damage to the natural world, or avoid preventable pollution. Consumer groups and shareholders' organizations call for companies whose environmental and social performance are reflected in their financial stature. Citizens, looking for personal influence, ecological integrity, and a sense of community, create their own network-based partnerships to reduce or eliminate environmental problems. They seek to control the conditions under which growth occurs.

In this context, stewardship shifts the focus from controlling whether or not we use resources to determining how we use them. (Emeka-Okoli et al.2024). The hallmark of environmental stewardship is the moral duty for those primarily responsible for environmental degradation to actively participate in conserving environmental sustainability (Bennett et al., 2018). Environmental stewardship reflects personal character and ethical world views. As such, advocacy for environmental values ultimately motivates behaviors that are friendly to the environment. personal behavior becomes a reflection of the interrelatedness, interconnectedness, and dependence that we have as members of the global community (Mazzocchi, 2020) which refers that environmental stewardship, in context, reflects a belief that human beings inhabit communities both defined geographically and comprising the many species that inhabit their homes. Here, the concept of home illustrates a faith and

spiritual proposition based on beliefs that a larger creative power exists and where inhabitants of our communities are charged with responsibilities of care and management that attend such steward concepts.

## **METHODS**

This research utilized a qualitative research approach, thereby incorporating an extensive assessment of secondary data (Paudel, 2023) with a view of isolating the role of green initiatives and corporate environmental responsibility in global business operations. The original source of data for this research was sustainability reports, environmental audits, CSR disclosures, and GEPIs. These reports include: The Global Reporting Initiative (GRI), the Carbon Disclosure Project (CDP), and the official websites of Multinational enterprises (MNEs). The industries covered in the study span from automotive to technological, retail to manufacturing industries to the realization that all industries are duly participating in the stewardship of the environment. The selection of companies was based on their ranking in terms of sustainability, ISO 14001 certification, a commitment to renewable energy, and the application of state-of-the-art waste management programmes.

The information was surveyed of main environmental indicators like the emissions of the greenhouse gases the energy use the management of wastes and the usage of resources. These quantitative approaches were supported by the qualitative studies on the state of corporate governance systems, sustainability management and engagement, and sustainable innovation. The kind of analytical tools that were used in this study were content analysis so as to fit environment factors against different firms with a view of identifying some patterns of success and challenges that different firms experienced in their drive towards green initiatives. Furthermore, cross-sectional comparison was made between firms from developed and developing countries, so as to get insights on the differences in drivers of sustainability adoption, including regulatory context, market pressure, and resource availability. Any correlations between green practices and measures and financial results were identified where needed by using statistical tools to quantify the economic benefits of sustainable practices.

The research therefore adopted CSR and environmental stewardship as the conceptual framework for the assessment of how such firms incorporate sustainable policies within their operations. This framework allowed for comprehension of how corporate environmental strategies neither align with, nor are disconnected from, global issues like climate change and resource scarcities. In addition, it contributed to the understanding of how organizations apply green technologies, implement circular economy model and aim at energy efficiency as key aspects of organizational sustainability. No primary data was collected for the purpose of this research hence no ethical issues were implicated when using data collected from the public domain (Paudel et al., 2024). All identities were kept confidential and no proprietary data was used in this study while all sources used in this work were duly acknowledged. Another limitation associated with this research approach is lack of primary data on internal organization structures, functions, planning and control systems, policies and procedures regarding sustainability practices. However, the amount and variety of data collected offered solid information on the status of green activities among international businesses.

## **RESULTS AND DISCUSSION**

In other words, to date, it seems quite acceptable to adopt environmental values that can preserve the welfare of future generations only if businesses succeed in lagging stakeholder attempts to reduce the negative externalities of pollution-generating activities in the short term. Thus, any strong push for more serious limitations or reducing environmental damage has been met with objections by firms that express concerns over how their business would fair under more onerous terms. However, this is change to increasing pressure on firms at several levels to become much more environmentally responsible, which represents a significant and increasing direct financial threat to many businesses. According to Guo et al.(2022), environmental concerns and responsibilities are also considerations in firm strategies because the threats and consequences of climate change are becoming harder to disregard. Indeed, legal requirements that advance environmental protection increase in number and severity, and stakeholders at many different levels, from employees and customers to shareholders and activist competitors, are showing increased concern regarding business's damage to the Earth. The typical result is that many firms are taking steps in the direction of environmental sustainability Hermundsdottir and Aspelund (2021) argue that beyond direct environmental goals, environmentally sustainable business processes, products, and services have significant potential to impact business performance and value.

Environmentally sustainable business practices can contribute to business sustainability by limiting business's demands on the environment and encouraging fair treatment of workers and communities, ultimately ensuring that firm assets are not polluted, exhausted or otherwise diminished in ways that would make the enterprise physically unsustainable (Heldal et al., 2023).

Similarly, firms may employ environmentally sustainable practices in attempts to meet legal requirements, especially for pollution-generating activities, and possibly as a way to reduce attention of regulatory agencies (Dzomonda & Fatoki, 2020). For firms that are not engaging in greenwash externally and internally, approaches that genuinely limit the damaging environmental effects of business activities are likely to have positive impacts on business value by helping maintain assets that are affected by environmental conditions (Petreski et al., 2023).

### **Regulatory Landscape and International Agreements**

According to Laasch et al. (2020), one of the main supporters for the international governance to direct firms for stewardship activities is the United Nations (UN). The UN propounds that all businesses should be oriented towards addressing the sustainable developments yet must to adhere to the international agreements and treaties also. The United Nations (Environmental Protection) UN (EP) has served a long list of agreements to global environmental issues. The UN has signed agreement on Climate Change (Kyoto Protocol), agreement to promote a sustainable chemical management, reduce environment effects of metals and electronic wastes, agreement on mercury reducing and its crisis minimizing the damages, clean the ocean and order for its conservation, cooperate to the ground and its ecosystem conservation particularly from the land degradation and drought and has be proponent of these agreements largely(United Nations, 1998). Additionally, the United Nations Environment Program Partnership for Action on Green Economy (PAGE) has been engaging with many governments on economic policies and strategies also countries' institutions and businesses to use and intensify the environmental stewards in their business such issues and protect their environment (United Nation, 2017). These underline the commitment of the United Nations in establishing and implementing environmental stewardship that particularly leverages on economic and business strategies and international agreement and treaties for its promotion.

The twentieth century has witnessed a great increase in the trade of goods and services across the boundaries (Wei et al., 2021). But this international business expansion also brings some negative social and environmental outcomes, which raised the demand for the liberalization of social and environmental government regulations (Du et al., 2022). To address these challenges, increasingly, various international approaches have been propagated to guide firms toward more sustainable and responsible operations and practices, such as corporate social responsibility (CSR) and environmental, social, and governance (ESG). In addition, international governance bodies and countries realize the need for globally harmonizing business practices to improve sustainable business performances and environmental protection level. Various international agreements and treaties have been established to reach this aim (Islam & Khaled Rahman, 2022).

### **Business Case for Environmental Stewardship**

The task of businesses given the ailing state of the planet couldn't be clearer. If corporate leaders rely on the business case method of decision-making, the restoration of environmental health is a priority. An operational culture that reduces resource consumption, waste generation, and pollution is a source of sustainable competitive advantage. The environmental stewardship adds to the profit potential as a risk management discipline and as a source of technological competitive advantage (Mishra & Yadav, 2020). According to Emeka-Okoli et al.(2024), Organizational responsibility for environmental stewardship has never been greater and the time has come for new managerial skills for business success. An organization's competitive positioning and prospects for gaining financing or securing investment, a business certification, or a favorable governmental policy require evidence of robust, comprehensive environmental stewardship

The most impactful of the ESG initiatives pursue resource efficiency, like energy and water, waste and pollution controls, and GHG reduction strategies (Ahmad et al., 2021). Environmental stewardship reduces costs. Energy efficiency generally makes a good business case, with payback periods that typically last less than year in our experience. Engineering, efficiency, and pollution controls are proven and often easy to justify over the short- and long-term (Kanashiro Uehara, 2023). Besides the contribution to the planetary and public wellbeing, the environmental stewardship also reduces risks. Cleaner production and resource efficiency, pollution control measures, and carbon reduction are also risk management tool[s]. Adequate technology, material and over consumption evaluations are also risk management. The environmental stewardship can deliver competitive advantage. Environmental compliance protects demand, brand value, and asset creation. Environmental innovation closes the business model, delivering new markets, energy savings, and resource management superiority, and builds relationships (Sulej & Kołodziej, 2022). Organizations who demonstrate environmental stewardship have found it easier to partner, find suppliers, and secure access to capital, real estate, insurance, and even employees.

### **Integration of Environmental Stewardship into Corporate Strategy**

The potential to use environmental stewardship as a source of a distinct competitive advantage cannot be underestimated, because it requires the development of unique skills and know-how to create value from it. The stakeholder approach, formulated in terms of comprehensive corporate social responsibility (CSR) formulates expectations of society at large regarding business conduct (Wei et al., 2021). Consumers in advanced and innovative economies suffer from consumption diseconomies, i.e. the deteriorating quality of a number of environmental and social characteristics of the

products purchased by them: production pollutant emissions, resource depletion, or exploitation of developing economies workers (Giesler & Veresiu, 2014). At the same time, at least in some advanced economies, for some buying situations (e.g., organic, environmentally benign, eco-labelled), also a sustainability-based preference structure is observable. Ethical consumerism may evolve, but its reactive and disintegrated nature, indeed, creates limited pressures for the environmental improvement of corporate products (Camilleri et al., 2023). CSR instrumentation may be contributed to similar organizations as to NGOs, i.e., also to CSR is dedicated to the relations with ecological, social and, via them, ethical circumstances of the environment in which it operates.

### **Green Marketing and Consumer Behavior**

This new sustainable development concept has provided an unprecedented opportunity for “green” procurement and product sales, and corporate executives have spent an increasingly large amount of time studying green products and green marketing. Many developed countries that are socially responsible consumers have become the early adopters of green products and green consumer environmental lifestyle, and green consumer psychology has become the main focus of these scholars (Wang & Li, 2022). These studies mainly focus on the factors that drive green consumer behavior cognitive, affective, situation, marketing, and social factors. To summarize, cognitive factors focus on how green consumers assess products to make purchase decisions (Paudel et al., 2024), including environmental knowledge, envy for product attributes, perceived product price, perceived environmental value product, environmental issues and consumers’ health, and the expected effect of the green products on the environment and the consumers themselves. Affective factors focus on consumers’ mood in green purchasing, including environmental consciousness, environmental concerns, greenscepticism, product belief, environmental emotions, and environmental attitude (Shaukat & Ming, 2022; Salguero Nuñez et al., 2024).

Economic globalization threatens to harm the natural environment and public health. Policymakers have consequently advocated for stricter penalties against polluters, and have made substantial efforts in implementing environmental emission trading systems (Zheng & Jin, 2023). According to Pang and Xie (2023), many businesses in China have also started to shoulder social and environmental responsibilities, addressing the so-called “externality” problem impacting the environment, resources, and the public health. Also, a new paradigm of pursuing a harmonious procurement environment has been added, and enterprises have begun implementing the sustainable development concept of the people, planet, and profit (Larivière & Smit, 2022).

### **Key eco-friendly practices in global business operations**

Alongside benefits, corporations enacting CSR approaches may not generally meet the outlooks of other different stakeholders, particularly the local societies that may countenance negative social or economic effects. This report examines a wide examination of the prevailing literature of both toxic industries and RW alterations while highlighting a number of beneficial consequences for the society with references of companies which recently behaved in a really ethical manner (Qing & Jin, 2023). The increasing and dangerous change in the climate of the earth is making it hard for the humankind to live a protected life on this planet. This caused the authorities and immense set-up to reveal third party details of their practices on their website as necessary as a section of their official responsibilities. After the financial disaster and the widely held criticisms on integrity and flexibility of contemporary CSR practices of a selection of financial businesses, corporations situated ethical techniques at the very strategic level so as to prevent the progression of disrespectful procedures. Managers and practitioners need to forward an endorsement of Corporate Environmental Management Accounting (CEMA) which can monitor the practices of the corporate environmental stewardship ability. Over the years, Indian industries have initiated to comprehend the immense possibilities in CEMA and not many Indian firms have recognized it as an essential part of CEA. The eco-friendly approach to managing business operations can be defined as an open and growing concept that acknowledges the bad impacts of the business operations and aims on not exacerbating the ecological problems (Islam & Khaled Rahman, 2022). It has been recognized that environment friendly operational approach is not only essential to accomplish various SDGs, it is not also favorable to the business establishments in reducing their operational expenses. Rather, in several cases, it will become necessity in be under competitive pressure especially in the condition of globalization, increase in transparency, progress in IT, legal construction and global dealings.

### **Energy efficiency and renewable energy sources.**

Sustainability and green business can reduce running expenses for the organization, while also helping combat climate change (Nohekhan & Barzegar, 2024; Rahman et al., 2024). Electric cars and tube lights consume only 20 – 25 per cent of the energy, which reduce carbon emissions in the environment (Qing & Jin, 2023). And the global companies have gradually shifted from regular light bulbs or fluorescent tubes to LED lighting that assures less consumption of electricity and lasts longer. So, there is a need to reshuffle our reliance on non-renewable energy equipment known as energy use or the usage of electricity. Also, there is an urgent necessity in the implementation of renewable energy sources. With enhanced use of assigned amounts from flexible NGOs, there is declining greenhouse gasses released from the atmosphere. Improved environmental corporate governance is anticipated to rise up against renewable energy equipment. To enhance renewable

energy equipment, we can provide increased amount of information for the capital investors to efficiently disclose all the environmental relevant information within a financial report and. Lower interest rates are anticipated, and finance is obtained at a fast rate for the development of renewable energy sources. Substantial amount of barriers should be anticipated for identifying dimensions of renewable energy sources. Low government supports have been identified, and fewer numbers of investors are present, considering new manufacturing materials as a barrier to operational success. Wind energy production units should take place practical ranges of geographical advantages, areas with high heights or over 100 feet with a constant flow of wind, both in winter and summer. Tidal energy is generated with the help of tidal power plants. It is particularly helpful along the seashore or water bodies where the possibility of water tides is assure to rise. The diversion of water from the breakwater to the power station angles turbines to transfer this flow of water to the generator (Wang & Li, 2022). Another potential renewable energy source is sea power. The exhaustive potential of this alternative is estimated to be approximately 12,742 TWh of electricity. Different types of sea power plants include Osmotic power plants OTEC, etc. Concentrated Solar Power is a type of power production facility that uses mirrors and lenses to concentrate a large area of sunlight to produce heat. It is particularly beneficial for looking to invest in areas with high solar power output and abundant sunlight. Solar trees urban landscaping is increasingly appreciated and beneficial for residential areas. It is an effective source of centralized energy, such as large multinational corporations, hotels, refineries, cement factories, steel industries, and oil and gas plants that procure extensive sun shades for employees to exercise either in the parking lot or near the business.

Key factors driving green energy strategies in global business operations take the form of increasing and often high operational costs, electricity consumers demanding environmental protection, pressurizing legislation, and pricing policies linked to Green House Gas (GHG) emissions (Tuganova et al., 2022). Utilizing renewable energy resources has the provision to increase environmental efficiency as it is relatively pollution-free and has a considerably lower or zero carbon footprint (Isaksson & Linderoth, 2018). Solar power, for instance, has earned respect as a cheap source of energy in recent years, leading to addiction and being used for a variety of uses which include electricity generation and desalination of water. In countries like Oman, where sunshine exceeds the majority of hours in a year, photovoltaic solar panels for electricity generation have been observed. The wind is another frequently used renewable energy source. Wind farms have gained mainstream adoption in recent years and are prevalent in jurisdictions with considerable wind flow across Europe and Asia. Even small scale industries focusing on small-scale production are frequently adopting wind energy systems to satisfy their internal energy requirements and achieve sustainability purposes. Micro-power from agricultural products and various types of waste is anticipated to play a significant role in the transformation of the worldwide power market in the coming years (Adie Setyawan et al., 2022).

### **Waste reduction and recycling programs**

The rise of global warming, depletion of virgin resources, and aquatic pollution, etc. have prompted the necessity of enforcing policies to manage waste, minimize the long-term impacts of waste, and foster a shift towards recycling and recovering energy from waste. As a result, businesses have over the years shifted sustainability strategies to tackling every possible way waste can be reduced, driven to the least possible generation of waste and primarily to reduce consumption rather than via optimization of materials and processes. This inaccurate approximation to wanting to capitalize on profits versus environmental consciousness signals an organizational gap concerning waste reduction and recycling practices, particularly in the uncertain landscape of developing countries. Besides, implementing waste reduction and recycling programs can be expensive, thus contributing to why businesses have been casual about developing a way to handle waste efficiently (Piwowar-Sulej & Kołodziej, 2022). Yet the tribulation for this inaccuracy can be attributed to a lack of a comprehensive National Waste Management Policy which begins the failure of a country to establish an effective waste management program. While developing countries are yet to have a standardized framework, most developing countries do not demonstrate the pace with which waste implementation and recycling programs could be inclined.

One of the major causes of environmental degradation has been associated with improper waste management systems across the globe. To address the deteriorating environmental quality and resource conservation plans, organizations have augmented initiatives to manage waste efficiently and elevate waste reduction policies. Brundtland Commission outlined the significance of environmental stewardship for sustainable economic development in which issues related to waste production and recycling were highlighted as significant areas that need to be effectively managed to achieve sustainable development objectives (Huang et al., 2022). The existing trends and patterns of waste – resulting from the increasingly globalized patterns of consumption – entail holistic strategic commitments to minimize the overall waste generated (Kabiraj et al., 2010).

### **Transportation and logistics**

In order to work with more environmentally friendly transportation technologies, the fuel for the vehicles needed to be produced from green energy resources. Nano-technology, algal fuel, waste bio-fuel, and agricultural waste bio-fuel are the best options for green fuels which can be made from waste, algal fuel, bio-fuel, and ethanol respectively (Katiyar et al.,

2017). The cost of the vehicles is so efficient that it can never be a hurdle in the implementation of the green vehicles. Operating infrastructure for zero-emission vehicles still required electric vehicles, infrastructure for renewable and clean sources of fuel and good public policy for the promotion of zero-emission vehicles excluding fossil fuel and renewable gas heavy-duty vehicles (Wolfram & Lutsey, 2016). Operational infrastructure for sustainable purpose of last-mile freight delivery and distribution kept the essence of public policies and private sector efforts to address for important technology-innovation, successful business models, and other aspects (Bertolini et al., 2024).

The energy requirements of the exploratory simulations are satisfied by the PV panels and the customer had to remove the extra load demands from the curb. Humidity is the most significant factor for the bio-fuel production including biodiesel, biogas, and bio-methanol. Many governments also have facilitated the national context for the production and distribution of renewable natural gas. The GHGs cut by recycling the food waste and distributing of compost (Rodionova et al., 2017). Every day organizations around the globe move goods to support organizations and supply chains (Bukhari et al., 2022). With the research and challenges, it has become evident that using own and third-party logistics have become more prominent in constructing eco-friendly blocks of business houses, helping nature and human beings (Gu et al., 2022). The main transportation modes such as road, rail, sea, and air account for maximum emissions which in return result in global warming and pollution. The solutions for the challenges lying in the sustainable development of green logistics starting from production of fuel to end supply chain networks (Zou et al., 2023).

### **Technological innovations and tools**

Artificial Intelligence such as renewable energy resource-supportive software programs have been introduced in businesses and other sectors for sustainable energy utilization and management to ensure intelligent consumption of energy resources and overheads related to conventional energy usage. Robotic process automation has been used in eco-friendly practices in organizations to replicate manual tasks performed by employees efficiently consuming resources and to reduce risks and overheads related to operations or processes (Ahmad et al., 2021). Organizations can decrease energy waste and artificial energy consumption by automating more systems and reducing risk factors along with increasing business performance. With technological advancements, various tools and techniques have been introduced to achieve eco-friendly practices and support sustainability. The business organizations and industries have to incorporate renewable energy-supportive technologies for the best possible use of resources and to reduce pollution and wastage (Bradu et al., 2022). The security systems such as secure software updates and data encryption technologies have also been introduced in modern business activities to minimize the artificial energy waste generation and the charging and consumption of energy resources. One of the most widely concerned issues are the information systems (IS) and communication technologies (ICTs) in which the economic operations can be carried out through the internet by utilization of technique to decrease artificial usage of energy through laptop and system updates. The adoption of environmentally friendly practices in business operations requires the use of renewable energy, minimal wastage, pollution control measures, and efficient management of materials and resources (Yu et al., 2021).

Modern-day business activities include environmental sustainability strategies through green approaches and technological innovations to achieve high-performance business operations (Lokuge et al., 2020). Governmental departments are also emphasizing the use of inventive technologies through regulations and incentives to incorporate sustainable processes and eco-friendly strategies into everyday business operations (Crişan et al., 2021).

### **Green Technologies and Solutions: Challenges to Integration**

The firm's focus on distinctive properties can result in green performance boost and leadership (Biggi et al., 2023). Technology diversification and frequency, nevertheless, pose fresh organizational, operational, and administrative difficulties. The recombination of hardware and software innovations hampers the predominance of single-domain or conventional strategies and innovative practices require more competence, market insights, stakeholders, and assets. Eco-friendly goods/services enhance natural resource efficiency and restrict waste as well as pollution. Moreover, innovative practices can contribute to environmental organization and master production processes as well as the better utilization of renewable or available raw material. Technology-enabled simulators know-how that in high-risk and food production surrounding is faster, safe, precise, and certainly smart. Factories are fitted with fitting and assembly machinery, as well as exhibits and work cell-lines, for a different combination (Nizetic et al., 2020).

The adoption of green technologies and solutions across all functions, from production to operations and supply chain, can significantly cut firms' pollution and greenhouse gas emissions (Yu et al., 2022). However, the right adoption can be hard for firms, especially in contexts characterized by high levels of dynamism, uncertainty or scarcity of resources, and lack of securities in technology-based initiatives. Technological innovations in environmental stewardship and eco-friendly practices in global business operations are essential for accomplishing sustainability targets and underscoring the role of profitable growth (Wu et al., 2018). Firms are exposed to a rapidly altering technological landscape, where especially innovative responses to environmental practices offer unique skills, capabilities, and competitive advantages.

To promote a successful transition to a sustainable environment, fundamental changes may be required in the culture and values of the organization (Paudel et al., 2024). In operations, this might be achieved by creating organizational principles for sustainability. Sound corporate values and vision, as well as a sustainable objective and culture, mark the triumph of this shared conviction and specify the collective ideal regarding a sustainable future. Additionally, the product quality and creating a sustainable culture, vision and goal lead to reduction of environmental harm. Creating a sustainable culture includes continuous learning of management and staff to bring about better outcomes and the promotion of sustainability (Kabiraj et al., 2010). Visions and goals should be specific and must be a source of pride for the company. These should be taken into account when incorporating an open and transparent communication system that can be assessed on numerous tactical and strategic organizational sections. The strategies help the compliance with operational and organizational targets. Enhancing social life to better their economies aligns well with this value, vision and goal as, it rewards the corporation. These principles, the deviation and destination of the company's efforts, its goals and the return on society's investment, contributes to what renders the business circular (Masud et al., 2019). Achieving Environmental Stewardship while maximizing profits is difficult. There are challenges that need to be overcome for the successful integration of environmental stewardship and eco-friendly practices in business operations. A review of the literature (Ho et al., 2022) centers on the challenges to integration. One such challenge is getting all levels of the organization to "buy in" and to consent to its integration. This commitment requires a fundamental change in beliefs and attitudes of leaders before it can be translated into corporate values, vision, and mission. Achieving "buy in" at every level of the organization requires leadership at all levels recognizing the need for these changes, at first altering their conduct, and then encouraging their peers and subordinates to do the same. Which they can do by initiating corporate wellness programs and incorporating sustainability as part of the organizational culture. Leaders can also offer professional development and enrichment opportunities for transformation to sustainability.

### **Regulatory and compliance issues**

Right now, these practices are getting massive attention from international bodies. Various regulatory and compliance measures and international laws and regulations focus on these issues. Various regulatory and compliance measures and international laws and regulations are the main driver behind this change (Bu et al., 2020). Some of the regulatory measures and international laws and regulations which direct the organizations to be environmentally responsible and adopt pro-environmental strategies include Toxic Substances Control Act, the Federal Food, Drug, and Cosmetic Act (FDCA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Pollution Prevention Act, The Clean Water Act, The Clean Air Act, The Resource Conservation and Recovery Act, The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Safe Drinking Water Act, The Emergency Planning & Community Right to Know Act (EPCRA), and the Federal Mine Safety and Health Act (Mine Act).

Some international laws and regulations include the Stockholm Convention that does not allow the use, sale, and manufacturing of certain pesticides and certain chemicals which are determined to be hazardous for humans and the environment have been stopped by this law (Heldal et al., 2023). Some international laws also include the Rotterdam Convention which ensures that certain hazardous substances do not enter the food, water, and feed and an informed decision to be taken before the trading of these substances. An organization can be considered eco-friendly and environmentally responsible when it integrates environmental stewardship and green practices into its business foregrounds and evolves pro-environmental strategies. The concept of eco-friendliness ensures that the products and services of an organization boost sustainability, protect the environment, and safeguard the health of all living beings in the surrounding environment. These eco-friendly practices and environmental stewardship are not only confined to one area but encompass all the organizational operations starting from raw material to production to reach the final consumers and even beyond (Qing & Jin, 2023).

### **Supply chain complexity**

In this reality, developing the best possible coupling between lead and partnering companies' supply chains is crucial. This coupling must depend on sustainability, circular economy, and achieving a zero waste situation. IT solutions and the use of AI and ML are needed for real-time data flow and predictive actions. GSCM shares responsibility for environmental and economic management with the entire supply chain, from suppliers to customers and recycling firms. Coordination of business functions and technological advances are essential for managing diverse products and strengthening supplier management (Ghahremani Nahr et al., 2021). Due to its increasing business complexity and indifference to the organizations involved, managing a sustainable supply and manufacturer sector is in pronounced disparity with a more significant capacity of GSCM. We need to significantly enhance innovation, information technology efficiencies, and business practices to find approaches that align all involved in GSCM. The complexity of managing supply chains has grown in global inclusion (Ahmad et al., 2022). Over the years, the global marketplace dramatically shifted, so businesses need to cultivate sustainable corporate social responsibility (CSR) and economies (Feng et al., 2020). Businesses are stepping forward to work towards their sustainability goals by introducing lean systems and greening their corporate and business models. However, the

multifaceted supply chain presents the most significant challenge.

### **Cost and resource constraints**

From external factors, economic barriers such as labour and capital, necessary in building green buildings or buying energy-efficient machinery or E-vehicles, and inadequate policies by government which does not provide incentives for environmentally friendly activities lead to high initial cost due to which organization opt for traditional processes or products (Piwowar-Sulej & Kołodziej, 2022). To overcome such challenges, organizations need to understand the strategic alignment of sustainability with its financial and operational goals and create the right organizational structures and culture alongside having operational processes transformative enough to make a pro-environmental commitment(Barbosa et al.2020).

A successful and ready-for-use solution includes the development and use of newer technologies and tools that enable a proper assessment of their operations against a set of identified criteria or certifications, the outcome of which can be used to plan and implement continuous improvement projects. Large players are uniquely positioned to bring many organizations together—both suppliers and buyery, and thus drive massive impact within entire industries (Zanten & Tulder, 2021). A major internal challenge that the companies face in integrating environmental stewardship and eco-friendly practices in their operations is cost and resource constraints (Ames et al., 2023). Organizations are required to continuously innovate, evolve processes and products in a sustainable ecosystem. However, extra costs, time and resources are required to perform such changes in existing processes or products. It is time-consuming to make a change in various operational processes, that too, simultaneously is costlier than performing each task one by one. The existing performance management is based on traditional financial indicators which often provide short-term profits and not long-term sustainability goals (Arcuri & Giolli, 2022).

### **Practices and implementation: the example**

In this sense, the analysis of empirical data confirms: that the success of business entities on the global arena includes the necessity to act efficiently at the local level by adjusting business models and exploiting opportunities provided by local conditions (market needs, business environment, social, economic, political, and legal conditions) and to translate local strategies according to the global business environment requirements (da Fonseca et al., 2020). The examination of long-term strategic decisions results from the necessity to develop cost-effective processes and implement measures to increase the effectiveness of internal control systems, as well as to ensure the enhanced viability of the green initiatives undertaken. Therefore, this work elaborates the results of the case study analysis which has been performed in one of the countries of the Central Asia that has already implemented green initiatives in the business context (da Fonseca et al., 2020).

As Hermundsdottir & Aspelund (2021) observed, the integration of green practices is seen as an option to win strategical positioning as a result of the benefits derived from the adoption of green initiatives, including energy and resources savings, brand recognition, product quality, and increased demand for products and services. Recently, it has been evidenced that the development of green initiatives has a positive impact on the positioning of enterprises in processes of internationalization, benefiting in both creating and developing new markets (Liu et al., 2024). Green initiatives and environmental responsibility have gained a lot of attention in academic literature recently, mainly due to the increasingly critical importance in ensuring environmental sustainability of the global community (Jabeen & Khan, 2022).

Recently, research has paid more attention to investigating the relationship between environmental sustainability principles such as operations sustainability the ultimate goal of which is to limit the production of noxious gases, and then to improve the healing power of the earth, and sustainable energy initiatives, leadership, environmental management system, eco-efficiency, green awareness, ecological corporate culture, and environmental performance to remain competitive at the global level (Zhang et al., 2022).

This article aims to analyze the leading companies in terms of environmental stewardship (Piwowar-Sulej & Kołodziej, 2022). According to the sustainability ratings, the three best companies are Adidas Group, Clorox Company, and Target Corporation. They become the best due to their strict environmental policies and procedures, effective environmental management systems and public commitment to environmental issues. Adidas Group demonstrates a strong commitment to sustainability as part of its core business strategy. The company has outlined ambitious sustainability targets, including achieving climate neutrality across its entire value chain by 2050 and ensuring that 90% of its products are sustainable by 2025. To realize these goals, Adidas leverages long-term relationships with suppliers to enhance collaborative efforts on sustainability and minimize greenhouse gas emissions. Their focus on innovative materials and recycling technologies underscores their dedication to operating in an environmentally responsible manner.Clorox Company has established itself as a frontrunner in sustainability with its comprehensive environmental governance aimed at integrating ESG (Environmental, Social, Governance) considerations into daily operations. The firm's recent recognition by Barron's as the most sustainable U.S. company highlights its ongoing sustainability efforts. Clorox has set ambitious goals for reducing greenhouse gas emissions and advancing sustainability across various dimensions, including product packaging and sourcing. Their strong

CEO commitment emphasizes the importance of sustainability being ingrained in their corporate culture. Target Corporation is also paving the way in sustainability through its robust climate policy.

The company has committed to achieving net-zero greenhouse gas emissions by 2040 and has set significant targets for reducing its operational emissions. Their strategies focus on renewable energy adoption, improving energy and water efficiency, and engaging suppliers in sustainability efforts. Moreover, Target's dedication to aligning with the Paris Agreement illustrates its proactive approach to addressing climate change.

Many publications describe the pro-environmental activities (PEA) of companies on a very high level. These activities comprise multiple fields which help to reduce companies' footprint and external failures and, in consequence, reduce harm to the environment. One of the most important activities is the reduction of used energy. Companies try to reduce the consumption of electricity, gas or heat. The next thing is production that is also crucial. It is sourced from renewable sources, use non-harmful materials, have less waste and emissions. These companies show that their commitment to environmental issues has wide external and internal effects that improve values of companies, increase market share, improve relationship with stakeholders and reduce the environmental burdens. They usually are operated by the principle of closed loop system management, which means they use, renewable and recycle source and also re-use resources that is not harmful to the environment (Abbate et al., 2023). All companies do a lot of processes to reduce CO<sub>2</sub> emissions, for example by developing renewable energy sources. These companies also performed projects thanks to which they decreased the usage of energy. All are aimed at saving water similarly to energy saving. All developed policies dealing with pollution reduce, strived to minimize emission of toxic waste, implementing company procedures and standards. Also in this are very important one state ISO certificates, especially ISO 14001 environmental management systems – they are a guarantee of appropriate and effective managing these problems and their reduction. Another common activity developed by companies is to produce accurately management reports where they present their improvement (Ho et al., 2022).

### **Key findings**

In the context of the issues discussed, the study highlights that the companies that effectively develop communication strategies about environmental performance and the ECR produce business and societal benefits as concerned by the stakeholders and business culture also have an important effect on the type and character of environmental reports (Modapothala & Issac, 2014). Therefore, it is claimed that sustainable development concerns universal problems of all societies requiring companies to implement eco-friendly practices and manage in line with the principles of environmental stewardship. The paper provides valuable support and meaningful sources of information for businesses and society in understanding and addressing the complex issues of global social and ecological sustainability, prescribing companies to be integrating a social responsibility view conceptually and in practice. The results of the systematization of scientific research literature give reason to say that the issues of influence of eco-friendly practices and the concept of environmental stewardship on business development are actively discussed in the scholarly community (Du et al., 2022). In particular, on the one hand, enterprises are helping to make progress in sustainable resource use with companies and brands becoming appreciated for their commitment and its effects. The drivers for adopting eco-friendly practices and managing business in line with the principles of green marketing and green management are defined mainly in the areas of declining or emerging resources and environmental degradation, government regulations, legislation, and business stakeholders (Gupta & Gupta, 2021). On the other hand, the factors hindering the acceptance of green business practices are external (cost premium, difficulty in finding certified suppliers, lack of political support, and standardization, among the others) and internal (communication, implementation, training) factors.

Furthermore, MNEs' dynamic pathway in co-evolution of environmentally-friendly organizational structures and practices in developed and developing countries is proposed from both the macro and micro perspectives. The technological, strategic, institutional, and cultural-based barriers and managerial implications for strategic environmentally friendly global corporate structural and operational practices between the MNEs headquartered in the advanced country or emerging country are discussed. This study presents fundamental and practical perspectives into the potential value creation of environmental stewardship and eco-friendly practices for global, regional, or MNCs and operational functions that operate in Mexico, particularly for the automotive industry. Our field research found that environmental stewardship and eco-friendly product and process development, market product positioning (green segmentation), market-oriented environmentally friendly innovation strategy, supplier partnerships, and eco-efficient practices lead to corporate and operational function-level environmental capabilities in the studied automotive global and regional MNCs that co-evolve with aggregate organizational-level.

### **FINAL REMARKS**

The broad examination carried in this analysis supports academics and practitioners in articulating the strategic positioning based on environmental performance and connect theory in the real-time facets. Moreover, we also conveyed the

implications for sustainable corporate outperformance and delineated future research avenues. To understand the underpinning complexity of the businesses and inquire the synergistic potential between CSR and environmental performance, research paradigms from the viewpoint of stakeholders, stakeholders, and the political economy might be explored for detailed results. Similarly, the market competitiveness, firm-specific leaders, and strategic partnership development to attain the operational performance constitute pivotal avenues for researchers to develop corporeal business strategies and curate regulatory structures for beneficial global outcomes.

Briefly, our research may propose the path for future analysis in the field of environmental stewardship and global business orientation in the scenarios of varying market structures and the amplifying competitive constraints. We may conclude that environmental stewardship serves as the key motivator in transforming the firms' operations to a strategic value on CSR, potentially yielding social, environmental, and economic performances. The dynamic business environment has witnessed changes in the market structure, economic policies and industry standards, over the years. Consistent with this observation, environmental sustainability has broad next-generation corporate leadership and competitor relationships, i.e., high-level documented examples (Schmoderer & Respondek, 2022).

The initiatives require changes in the business perspective and support of eco-friendly production strategies and competitive advantages. This confirms that the corporate social responsibility (CSR) has attained trust in the societal evolution and could be labelled as the support environmental stewardship (Wang & Bian, 2022).

This study tried to create a framework for both higher and additional valued management science and decision-making for both academic professionals and management researchers. Globally dispersed operations of business organizations now demand vigilant insight and important methodologies to guide, and in fact lead, businesses that wish to continue their desired economic success, but do so in a more simultaneously ecologically friendly context. Societies, requiring more economic success to raise their lifestyles and environmental levels, pose many tough questions about governmental regulations and business responses, and in turn demand action and solutions. Business organizations, regardless of size and industry, operate in ecological and business environments that increasingly require global solutions. No longer are the impacts of carbon emissions, waste, water consumption, and other environmentally related factors the concern of primarily consumers or research and development's new product development efforts.

Global industries ranging from automotive, packaging, and consumer and retail goods through to manufacturers of aerospace and defense, high-technology, and other advanced products industries are all seeking both proactive techniques and operational solutions to stave off negative environmental impacts and transform their organizational behaviors to be partners in the human race's quest to be better stewards of the ecosystem.

### **Implications for business and future research**

The first and major weakness of this study lies in its restriction of the collected data from the corporate environmental reports and self-reported data, which may be either biased or lacking critical information on the companies' green activities. Hence, the revealed picture can be rather rosy concerning the endeavours of corporations to act sustainably, with potentially missing observation of specific issues that companies face when integrating and advancing sustainable initiatives. Furthermore, the study is confined to industries only, which means that research conclusions and recommendations can hardly be applied to all types of companies. Further research is needed with third party or with more general sector samples to get a more external and independent picture of the sustainability practice. This research could also have broadened the sampling of regulators, non-governmental organizations and consumers of the goods and services provided by the firms so as to get a wholesome picture of the dilemmas and possibilities of CER.

Facing such a daunting task, the business research community must move beyond traditional exploratory work on inconclusive findings. Scholars must play an active role in setting new standards aimed at creating laws and regulations that promote a commitment to environmental stewardship. Moreover, they must offer new perspectives that help the business community become proactive in this domain, should the scholars become more concerned about the quality of the environment in which they live as opposed to simply maximizing their societal and dependent respect and rewards. Only if the business research community re-commits to a vigilant role as guardians of the environment will we be able to move our professions to another dimension of understanding in eco-stewardship and responsible decision-making.

As the global business community faces an eco-crisis of staggering proportions, many enterprises struggle with the role they must play in improving the state of the environment. As is evident in our research, the vast majority of the business community remains tied to short-term financial performance measures and regulation-driven competitive compliance, rather than possessing the courage and conviction to institutionalize environmental stewardship without being coerced to engage in eco-friendly practices. While the business sector is somewhat concerned about the implications of eco-unfriendly behavior, expressions of concern do not appear to lead to proactive eco-friendly corporate practices.

Surely, the risk-taking foundation of business operation may contribute to the phenomenon of concern off versus

concern on. The business research community more frequently critiques existing theory as opposed to constructing new paradigms, and is often concerned with the corporate bottom-line to the exclusion of the greater social environment. Clearly, the time for much shrewder questioning of the nature and scope of current paradigms is at hand.

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## REFERENCES

- Abbate, S., Centobelli, P., Cerchione, R., Nadeem, S. P., & Riccio, E. (2023). Sustainability trends and gaps in the textile, apparel and fashion industries. *Environment, Development and Sustainability*, 26, 2837–2864. <https://doi.org/10.1007/s10668-022-02887-2>
- Adie, S. N., Utami, H., Bayu Setyo, N., Ayuwardani, M., & Suharmanto. (2022). Analysis of the driving factors of implementing green supply chain management in SME's in the city of Semarang. *International Research Journal of Economics and Management Studies*, 1(2), 45–51. <https://doi.org/10.56472/25835238/irjems-v1i2p107>
- Ahmad, A., Ikram, A., Rehan, M. F., & Ahmad, A. (2022). Going green: Impact of green supply chain management practices on sustainability performance. *Frontiers in Psychology*, 13, Article 973676. <https://doi.org/10.3389/fpsyg.2022.973676>
- Ahmad, N., Scholz, M., AlDhaen, E., Ullah, Z., & Scholz, P. (2021). Improving firm's economic and environmental performance through the sustainable and innovative environment: Evidence from an emerging economy. *Frontiers in Psychology*, 12, Article 651394. <https://doi.org/10.3389/fpsyg.2021.651394>
- Ahmad, T., Zhang, D., Huang, C., Zhang, H., Dai, N., Song, Y., & Chen, H. (2021). Artificial intelligence in sustainable energy industry: Status quo, challenges and opportunities. *Journal of Cleaner Production*, 289(289), 125834. <https://doi.org/10.1016/j.jclepro.2021.125834>
- Ahmed, M., Iqbal, S., Tazrin Jahan Priyanka, Arani, M., Mohsen Momenitabar, & Mashum Billal. (2020). An environmentally sustainable closed-loop supply chain network design under uncertainty: Application of optimization. *Advances in Intelligent Systems and Computing*, 343–358. [https://doi.org/10.1007/978-3-030-66501-2\\_28](https://doi.org/10.1007/978-3-030-66501-2_28)
- Ames, E., Håkan Andréasson, & Rinne, O. (2023). Hoop and weak cosmic censorship conjectures for the axisymmetric Einstein-Vlasov system. *Physical Review. D/Physical Review. D.*, 108(6), 1–12. <https://doi.org/10.1103/physrevd.108.064054>
- Arcuri, A., & Giolli, L. (2022). The relationship between upstream vertical integration and environmental sustainability in the luxury fashion industry. *SN Business & Economics*, 2(7), Article 73. <https://doi.org/10.1007/s43546-022-00252-z>
- Barbosa, M., Castañeda -Ayarza, J. A., & Lombardo Ferreira, D. H. (2020). Sustainable strategic management (GES): Sustainability in small business. *Journal of Cleaner Production*, 258(0959-6526), 120880. <https://doi.org/10.1016/j.jclepro.2020.120880>
- Bennett, N. J., Whitty, T. S., Finkbeiner, E., Pittman, J., Bassett, H., Gelcich, S., & Allison, E. H. (2018). Environmental stewardship: A conceptual review and analytical framework. *Environmental Management*, 61(4), 597–614. <https://doi.org/10.1007/s00267-017-0993-2>
- Bertolini, M., De, G., & Nava, A. (2024). Sustainable last-mile logistics in economics studies: A systematic literature Review. *Sustainability*, 16(3), 1205–1205. <https://doi.org/10.3390/su16031205>
- Biggi, G., Mina, A., & Tamagni, F. (2023). There are different shades of green: Heterogeneous environmental innovations and their effects on firm performance. *Papers*. <https://ideas.repec.org/p/arx/papers/2310.08353.html>
- Bradu, P., Biswas, A., Nair, C., Sreevalsakumar, S., Patil, M., Kannampuzha, S., Mukherjee, A. G., Wanjari, U. R., Renu, K., Vellingiri, B., & Gopalakrishnan, A. V. (2022). Recent advances in green technology and industrial revolution 4.0 for a sustainable future. *Environmental Science and Pollution Research International*, 30(9), 1–32. <https://doi.org/10.1007/s11356-022-20024-4>
- Bu, X., Dang, W. V. T., Wang, J., & Liu, Q. (2020). Environmental orientation, green supply chain management, and firm performance: Empirical evidence from Chinese small and medium-sized enterprises. *International Journal of Environmental Research and Public Health*, 17(4), 1199. <https://doi.org/10.3390/ijerph17041199>
- Bukhari, J., G, S. A., Hou, L., Herrera, O., & Merida, W. (2022). Zero-Emission delivery for logistics and transportation: Challenges, research issues, and opportunities. *ArXiv (Cornell University)*, 1729–1749. <https://doi.org/10.48550/arxiv.2205.15606>
- Burgess Wilkerson, B., Hamilton, C., Garrison, C., & Robbins, K. (2018). Preparing millennials as digital citizens and socially and environmentally responsible business professionals in a socially irresponsible climate. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3319110>
- Camilleri, M. A., Cricelli, L., Mauriello, R., & Strazzullo, S. (2023). Consumer perceptions of sustainable products: A systematic literature review. *Sustainability*, 15(11), 8923. <https://doi.org/10.3390/su15118923>
- Carfi, D., & Schilirò, D. (2012). Global green economy and environmental sustainability: A cooperative model. *Communications in Computer and Information Science*, 300, 593–606. [https://doi.org/10.1007/978-3-642-31724-8\\_63](https://doi.org/10.1007/978-3-642-31724-8_63)

- Carroll, A. B. (2021). Corporate social responsibility: Perspectives on the CSR construct's development and future. *Business & Society*, 60(6), 1255–1545. <https://doi.org/10.1177/00076503211001765>
- Choi, Y.J., & McNeely, C. L. (2020). Rhetorical framing of organizational identity: Corporate social responsibility in the modern world polity. *SocArXiv (OSF Preprints)*. <https://doi.org/10.31235/osf.io/x3fvd>
- Crîșan, O.-A., Bîrleanu, C., Crîșan, H.-G., Pustan, M., Merie, V., & Șerdeal, F. (2021). Eco-Innovation analyses in the management of drinking water provided by the main suppliers in Romania. *International Journal of Environmental Research and Public Health*, 18(12), 6232. <https://doi.org/10.3390/ijerph18126232>
- da Fonseca, E. P. R., Caldeira, E., Ramos Filho, H. S., Barbosa e Oliveira, L., Pereira, A. C. M., & Vilela, P. S. (2020). Agro 4.0: A data science-based information system for sustainable agroecosystem management. *Simulation Modelling Practice and Theory*, 102, 102068. <https://doi.org/10.1016/j.simpat.2020.102068>
- Dressler, M. (2022). Generic strategic profiling of entrepreneurial SMEs – environmentalism as hygiene factor. *International Entrepreneurship and Management Journal*, 19(1), 121–150. <https://doi.org/10.1007/s11365-022-00809-2>
- Du, L., Razaq, A., & Waqas, M. (2022). The impact of COVID-19 on small- and medium-sized enterprises (SMEs): Empirical evidence for green economic implications. *Environmental Science and Pollution Research*, 30(1), 1540–1561. <https://doi.org/10.1007/s11356-022-22221-7>
- Dzomonda, O., & Fatoki, O. (2020). Environmental sustainability commitment and financial performance of firms listed on the Johannesburg stock exchange (JSE). *International Journal of Environmental Research and Public Health*, 17(20), Article 7504. <https://doi.org/10.3390/ijerph17207504>
- Emeka-Okoli, S., Chinwuba Nwankwo, T., Adanma Otonnah, C., & Nwankwo, E. E. (2024). Environmental stewardship and corporate social responsibility: A review of case studies from the oil and gas sector. *World Journal of Advanced Research and Reviews*, 21(3), 69–77. <https://doi.org/10.30574/wjarr.2024.21.3.0661>
- Faheem, M. A., Anwer, S., Rayhan, Z., Ullah, M. A., Paudel, R., Ahmed, M. F., & Khan, H. (2024b). AI-Driven innovation in HRM and its impact on business management: An in-depth study of technology advancement and strategic implementation. *Nanotechnology Perceptions*, 20(S13), 1174–1204. <https://doi.org/10.62441/nano-ntp.v20is13.76>
- Fairbrass, A., Mace, G., Ekins, P., & Milligan, B. (2020). The natural capital indicator framework (NCIF) for improved national natural capital reporting. *Ecosystem Services*, 46(2020), Article 101198. <https://doi.org/10.1016/j.ecoser.2020.101198>
- Feng, Y., Fouque, J., & Ichiba, T. (2020). Linear-quadratic stochastic differential games on directed chain networks. *arXiv: Probability*.
- Ghahremani Nahr, J., Nozari, H., & Sadeghi, M. E. (2021). Green supply chain based on artificial intelligence of things (AIoT). *International Journal of Innovation in Management, Economics and Social Sciences*, 1(2), 56–63. <https://doi.org/10.52547/ijimes.1.2.56>
- Giesler, M., & Veresiu, E. (2014). Creating the responsible consumer: Moralistic governance regimes and consumer subjectivity. *Journal of Consumer Research*, 41(3), 840–857. <https://doi.org/10.1086/677842>
- Gohar, S.R. & Indulska, M. (2016). Business process management: Saving the planet? *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.1606.02459>
- Gu, Z., Malik, H. A., Chupradit, S., Albasher, G., Borisov, V., & Murtaza, N. (2022). Green supply chain management with sustainable economic growth by CS-ARDL technique: Perspective to blockchain technology. *Frontiers in Public Health*, 9, Article 818614. <https://doi.org/10.3389/fpubh.2021.818614>
- Guo, B., Wang, Y., Feng, Y., Liang, C., Tang, L., Yao, X., & Hu, F. (2022). The effects of environmental tax reform on urban air pollution: A quasi-natural experiment based on the environmental protection tax law. *Frontiers in Public Health*, 10, Article 967524. <https://doi.org/10.3389/fpubh.2022.967524>
- Gupta, A. K., & Gupta, N. (2021). Environment practices mediating the environmental compliance and firm performance: An institutional theory perspective from emerging economies. *Global Journal of Flexible Systems Management*, 22(3), 157–178. <https://doi.org/10.1007/s40171-021-00266-w>
- He, D., Raza, A., Chen, M., Xu, Y., & Morake, O. (2022). Examining the green factors affecting environmental performance in small and medium-sized enterprises: A mediating essence of green creativity. *Frontiers in Psychology*, 13, Article 1078203. <https://doi.org/10.3389/fpsyg.2022.1078203>
- Heldal, R., Nguyen, N.-T., Moreira, A., Lago, P., Duboc, L., Betz, S., Coroamă, V. C., Penzenstadler, B., Porras, J., Oyedeji, S., Capilla, R., Brooks, I., & Venters, C. C. (2023). Sustainability competencies and skills in software engineering: An industry perspective. *Repository of Furtwangen University of Applied Sciences (Furtwangen University)*, 211, Article 111978. <https://doi.org/10.2139/ssrn.4493646>
- Hermundsdottir, F., & Aspelund, A. (2021). Sustainability innovations and firm competitiveness: A review. *Journal of Cleaner Production*, 280(1), Article 124715. <https://doi.org/10.1016/j.jclepro.2020.124715>
- Ho, Y.-H., Wang, C., & Lin, C.-Y. (2022). Antecedents and consequences of green mindfulness: A conceptual model. *Int J Environ Res Public Health*, 19(11), 6367–6367. <https://doi.org/10.3390/ijerph19116367>
- Huang, W., Chau, K. Y., Kit, I. Y., Nureen, N., Irfan, M., & Dilanchiev, A. (2022). Relating Sustainable Business Development Practices and Information Management in Promoting Digital Green Innovation: Evidence From China. *Frontiers in Psychology*, 13, Article 930138. <https://doi.org/10.3389/fpsyg.2022.930138>
- Isaksson, A., & Linderoth, H. (2018). Environmental considerations in the Swedish building and construction industry: The role of costs, institutional setting, and information. *Journal of Housing and the Built Environment*, 33(4), 615–632. <https://doi.org/10.1007/s10901-017-9588-8>

- Islam, N., & Rahman, S. K. (2022). *Corporate environmental management accounting practicing and reporting in Bangladesh*. <https://doi.org/10.48550/arxiv.2208.12541>
- Jabeen, A., & Khan, S. A. (2022). Economic growth, social inclusion, and environmental protection: Assessing the existence of green growth in Pakistan. *Environmental Science and Pollution Research*, 29(2022), 66675–66688. <https://doi.org/10.1007/s11356-022-20467-9>
- Kabiraj, S., Walke, R. C., & Joghee, S. (2010). Going green: A holistic approach to transform business. *SSRN Electronic Journal*, 2(3), 22–31. <https://doi.org/10.2139/ssrn.1641602>
- Kanashiro Uehara, T. (2024). Planetary welfare principles for just and sustainable futures: A compass for system change, trade reforms, and transformations. *Sustainability : Science, Practice and Policy*, 20(1), Article 2300885. <https://doi.org/10.1080/15487733.2023.2300885>
- Katiyar, R., Kumar, A., & Gurjar, B. R. (2017). Microalgae based biofuel: Challenges and opportunities. *Biofuels*, 157–175. [https://doi.org/10.1007/978-981-10-3791-7\\_9](https://doi.org/10.1007/978-981-10-3791-7_9)
- Laasch, O., Jamali, D., Suddaby, R., & Freeman, R. (2020). *Research handbook of responsible management*. Edward Elgar Publishing. <https://doi.org/10.4337/9781788971966>
- Larivière, B., & Smit, E. G. (2022). People–planet–profits for a sustainable world: Integrating the triple-P idea in the marketing strategy, implementation and evaluation of service firms. *Journal of Service Management*, 33(4/5), 507–519. <https://doi.org/10.1108/josm-01-2022-0033>
- Liu, M., Liu, L., & Feng, A. (2024). The impact of green innovation on corporate performance: An analysis based on substantive and strategic green innovations. *Sustainability*, 16(6), 2588. <https://doi.org/10.3390/su16062588>
- Lokuge, S., Sedera, D., Cooper, V., & Burstein, F. (2021). Digital transformation: Environmental friend or foe? Panel discussion at the Australasian conference on information systems 2019. *Communications of the Association for Information Systems*, 48(1), 616–634. <https://doi.org/10.17705/1cais.04846>
- Marjan Petreski, Tanevski, S., & Stojmenovska, I. (2024). Employment, labor productivity and environmental sustainability: Firm-level evidence from transition economies. *Business Strategy and Development*, 7(1), Article e251. <https://doi.org/10.1002/bsd2.347>
- Masud, Md. A., Rashid, Md. H., Khan, T., Bae, S., & Kim, J. (2019). Organizational strategy and corporate social responsibility: The mediating effect of triple bottom line. *International Journal of Environmental Research and Public Health*, 16(22), 4559. <https://doi.org/10.3390/ijerph16224559>
- Mazzocchi, F. (2020). A deeper meaning of sustainability: Insights from indigenous knowledge. *The Anthropocene Review*, 7(1), 77–93. <https://doi.org/10.1177/2053019619898888>
- Mishra, P., & Yadav, M. (2020). Environmental capabilities, proactive environmental strategy and competitive advantage: A natural-resource-based view of firms operating in India. *Journal of Cleaner Production*, 291, Article 125249. <https://doi.org/10.1016/j.jclepro.2020.125249>
- Modapothala, J. R., & Issac, B. (2014). Analysis of corporate environmental reports using statistical techniques and data mining. *ArXiv (Cornell University)*. <https://doi.org/10.48550/arxiv.1410.4182>
- Nawaser, K., Hakkak, M., Aeiny, M. A., Vafaei-Zadeh, A., & Hanifah, H. (2023). The effect of green innovation on sustainable performance in SMEs: The mediating role of strategic learning. *International Journal of Productivity and Quality Management*, 39(4), 490–511. <https://doi.org/10.1504/ijpqm.2023.132828>
- Nizetic, S., Solic, P., Lopez-de-Ipina Gonzalez-de-Artaza, D., & Patrono, L. (2020). Internet of things : Opportunities, issues and challenges towards a smart and sustainable future. *Journal of Cleaner Production*, 274(1), 122877. <https://doi.org/10.1016/j.jclepro.2020.122877>
- Nohekhan, M., & Barzegar, M. (2024). *Impact of Green Marketing Strategy on Brand Awareness: Business, Management, and Human Resources Aspects*. ArXiv.org. <https://doi.org/10.48550/arXiv.2401.02042>
- Nosratabadi, S., Mosavi, A., Shamshirband, S., Kazimieras Zavadskas, E., Rakotonirainy, A., & Chau, K. W. (2019). Sustainable business Models: A review. *Sustainability*, 11(6), Article 1663. <https://doi.org/10.3390/su11061663>
- Pang, F., & Xie, H. (2023). The environmental externality of economic growth target pressure: Evidence from China. *China Finance Review International*, 14(1), 146–172. <https://doi.org/10.1108/cfri-09-2022-0171>
- Paudel, R. (2023). Navigating the complexities of qualitative research in built environmental studies: Methodologies, philosophies, and credibility. *International Journal of Applied and Scientific Research*, 1(4), 381–390. <https://doi.org/10.59890/ijasr.v1i4.1058>
- Paudel, R., & Yedgarian, V. A. (2024). Nepal's real estate landscape: Unveiling behavioral dynamics for strategic investments. *Utsaha: Journal of Entrepreneurship*, 3(2), 1–19. <https://doi.org/10.56943/joe.v3i2.514>
- Paudel, R., Tehrani, S., & Sherm, A. (2024). Balancing act: Integrating qualitative and quantitative data driven for recruitment and selection process. *Jurnal Info Dan Sains/Jurnal Info Sains*, 14(02), 162–177. <https://doi.org/10.54209/infosains.v14i02.4545>
- Paudel, R., Tehrani, S., & Zohaib Waris, M. (2024). Factors that influence the behavioral intention of customers toward online food delivery service. *TransAmerica Review*, 2(2), e24008. <https://doi.org/10.62910/transame24008>
- Petreski, M., Tanevski, S., & Stojmenovska, I. (2024). Employment, labor productivity and environmental sustainability: Firm-level evidence from transition economies. *Business Strategy and Development*, 7(1), Article e347. <https://doi.org/10.1002/bsd2.347>
- Piwowar-Sulej, K., & Kołodziej, I. (2022). Organizational practices promoting employees' pro-environmental behaviors in a visegrad group country: How much does company ownership matter? *PLoS One*, 17(2), e0261547. <https://doi.org/10.1371/journal.pone.0261547>

- Priya Mohandas. (2020). Exploring strategic CSR paradigm: A review of strategy – CSR linkages. *SocArXiv (OSF Preprints)*. <https://doi.org/10.31235/osf.io/ntv3z>
- Qing, C., & Jin, S. (2023). Does ESG and digital transformation affects corporate sustainability? The moderating role of green innovation (pp. 1–24). <https://arxiv.org/pdf/2311.18351>
- Rahman, T. U., Saud, D., & Nawaz, T. (2024). Sustainable tourism in a changing climate: Strategies for management, adaptation, and resilience. *Penrose: International Journal of Interdisciplinary Studies*, 1(2), e24001. <https://doi.org/10.62910/penrose24001>
- Rodionova, M. V., Poudyal, R. S., Tiwari, I., Voloshin, R. A., Zharmukhamedov, S. K., Nam, H. G., Zayadan, B. K., Bruce, B. D., Hou, H. J. M., & Allakhverdiev, S. I. (2017). Biofuel production: Challenges and opportunities. *International Journal of Hydrogen Energy*, 42(12), 8450–8461. <https://doi.org/10.1016/j.ijhydene.2016.11.125>
- Saleem, M., Qadeer, F., Mahmood, F., Han, H., Giorgi, G., & Ariza-Montes, A. (2021). Inculcation of green behavior in employees: A multilevel moderated mediation approach. *International Journal of Environmental Research and Public Health*, 18(1), 331. <https://doi.org/10.3390/ijerph18010331>
- Salguero Núñez, C. S., Sánchez Pallo, E. R., Peñaloza Molina, H. Y., & Veloz Jaramillo, M. A. (2024). Green marketing and the purchasing decision oriented towards sustainable consumption. *Sapienza: International Journal of Interdisciplinary Studies*, 5(1), e24008. <https://doi.org/10.51798/sijis.v5i1.728>
- Schmoderer, T., & Respondek, W. (2022). Null-forms of conic systems in R3 are determined by their symmetries. *ArXiv (Cornell University)*, 170, Article 105397. <https://doi.org/10.48550/arxiv.2205.12170>
- Shaukat, F., & Ming, J. (2022). Green marketing orientation impact on business performance: Case of pharmaceutical industry of Pakistan. *Frontiers in Psychology*, 13, Article 940278. <https://doi.org/10.3389/fpsyg.2022.940278>
- Sun, X., & Wang, X. (2022). Modeling and analyzing the impact of the internet of things-based industry 4.0 on circular economy practices for sustainable development: Evidence from the food processing industry of China. *Frontiers in Psychology*, 13, Article 866361. <https://doi.org/10.3389/fpsyg.2022.866361>
- Tuganova, R., Permyakova, A., Kuznetsova, A., Rakhmanova, K., Monzul, N., Uvarov, R., ... & Budenny, S. (2022). Relationships between patenting trends and research activity for green energy technologies. *arXiv preprint arXiv:2210.09611*.
- United Nation. (2017, November 15). *Partnership for Action on Green Economy*. UNEP - UN Environment Programme. <https://www.unep.org/explore-topics/green-economy/what-we-do/partnership-action-green-economy>
- United Nations. (1998). *Kyoto Protocol to the United Nations Framework Convention on Climate Change*. <https://unfccc.int/resource/docs/convkp/kpeng.pdf>
- Wang, J., & Li, A. (2022). The impact of green advertising information quality perception on consumers' response: An empirical analysis. *Sustainability*, 14(20), Article 13248. <https://doi.org/10.3390/su142013248>
- Wang, X., & Bian, W. (2022). Analyzing the role of corporate social responsibility for sustainable environmental performance: Mediating roles of environmental strategy and environmental outcomes. *Frontiers in Psychology*, 13, Article 906610. <https://doi.org/10.3389/fpsyg.2022.906610>
- Wei, S., Sial, M. S., Comite, U., Thu, P. A., Badulescu, D., & Popp, J. (2021). An examination to explain the mechanism of employees' environment-specific behavior through CSR and work engagement from the perspective of stewardship theory. *International Journal of Environmental Research and Public Health*, 18(17), Article 9370. <https://doi.org/10.3390/ijerph18179370>
- Wolfram, P., & Lutsey, N. (2016). Electric vehicles: Literature review of technology costs and carbon emissions [Review of *Electric vehicles: Literature review of technology costs and carbon emissions*]. *International Council on Clean Transportation*, 1–23. <https://theicct.org/publication/electric-vehicles-literature-review-of-technology-costs-and-carbon-emissions/>
- Wu, J., Guo, S., Huang, H., Liu, W., & Xiang, Y. (2018). Information and communications technologies for sustainable development goals: State-of-the-Art, needs and perspectives. *IEEE Communications Surveys & Tutorials*, 20(3), 2389–2406. <https://doi.org/10.1109/comst.2018.2812301>
- Yu, D., Tao, S., Hanan, A., Ong, T. S., Latif, B., & Ali, M. (2022). Fostering green innovation adoption through green dynamic capability: The moderating role of environmental dynamism and big data analytic capability. *International Journal of Environmental Research and Public Health*, 19(16), Article 10336. <https://doi.org/10.3390/ijerph191610336>
- Yu, J., Park, J., Lee, K., & Han, H. (2021). Can environmentally sustainable development and green innovation of hotels trigger the formation of a positive brand and price premium? *International Journal of Environmental Research and Public Health*, 18(6), Article 3275. <https://doi.org/10.3390/ijerph18063275>
- Zanten, J. A., & Tulder, R. (2021). Analyzing companies' interactions with the sustainable development goals through network analysis: Four corporate sustainability imperatives. *Business Strategy and the Environment*, 30(5), 396–2420. <https://doi.org/10.1002/bse.2753>
- Zhang, Q., Gao, B., & Luqman, A. (2022). Linking green supply chain management practices with competitiveness during covid 19: The role of big data analytics. *Technology in Society*, 70, Article 102021. <https://doi.org/10.1016/j.techsoc.2022.102021>
- Zhao, W., Luo, Z., & Liu, Q. (2022). Does supply chain matter for environmental firm performance: mediating role of financial development in China. *Economic Change and Restructuring*, 56, 3811–3837. <https://doi.org/10.1007/s10644-022-09410-7>
- Zheng, S., & Jin, S. (2023). Can enterprises in China achieve sustainable development through green investment? *International Journal of Environmental Research and Public Health*, 20(3), 1787. <https://doi.org/10.3390/ijerph20031787>
- Zou, Y., Shi, M., Chen, Z., Deng, Z., Lei, Z., Zeng, Z., Yang, S., Tong, H., Xiao, L., & Zhou, W. (2023, December 25). *ESGReveal: An LLM-based approach for extracting structured data from ESG reports*. ArXiv.org. <https://doi.org/10.48550/arXiv.2312.17264>