

ASSESSING THE IMPACT OF GREEN MARKETING STRATEGIES ON GREEN INNOVATION PERFORMANCE IN PAKISTANI INDUSTRIES: A SERIAL MEDIATION ANALYSIS

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Abstract

This paper examines the impact of green marketing strategies on the green innovation performance of the manufacturing industries in Pakistan. Using a serial mediation model, this research analyses the impact of leadership styles and organisational culture on the relationship between green marketing and the overall business performance. Data was obtained through a questionnaire survey of 220 manufacturing companies in the primary sectors of the economy, including textiles, cement, agro-industry and pharmaceuticals. Results showed a substantial contribution of green marketing strategy towards the development of green innovations. Companies that integrated eco-design and environmental protection into their marketing strategy developed sustainable innovations and adopted cleaner production. The innovations that were achieved positively influenced the performance of the companies in terms of achieving operational efficiency, compliance with environmental regulations, and competitive advantage. In addition to this, the study proposed that leadership style and organisational culture served as important mediators in this relationship. Transformational leadership that empowers employees to take actions towards a committed sustainable future tends to move the companies towards the implementation of innovative outcomes from their green marketing strategies. In the same way, an organisational culture that embraces learning, collaboration, and environmental stewardship improves the company's ability to effectively apply green strategies. This alignment is pivotal during the implementation of Pakistani Marketing Strategies. Sustained Marketing Mechanisms and Organisational Structures must work in synergy.

Keywords: Green Marketing Orientation, Green Innovation, Organizational Culture, Leadership Behavior, Serial Mediation, Pakistan

1. INTRODUCTION

In almost every sector of industry, the influence of climate change is forcing companies to change their strategies towards environmental sustainability. Climate change, pollution, depleting resources, and the needs of stakeholders are compelling companies to abandon many of the traditional business practices. In turn, governments both in the private and public sector, are focusing their attention on the environmentally responsible practices of eco-innovation the creation and application of products processes, or business models that sustain or increase economic benefits while also decreasing environmental harm.

The integration of industrial sustainable practices also in developing economies like Pakistan, where the industry is a major contributor to the economy and has a direct impact on growth, has also become important. The manufacturing and service sector, particularly textiles, cement, food processing, and pharmaceuticals, is responsible for approximately 20% of GDP, offers a considerable part of the employment, and is a major exporter. However, the environmental impact of the growing industry is negative. The continued air and water pollution, inefficient resource use, hazardous waste, and weak compliance with regulatory standards are persistent barriers to Pakistan's continued growth for a sustainable environment (Soomro, Suhrab, & Abbasi, 2025).

Due to increased external demand around environmental standards and the Sustainable Development Goals, Pakistani companies have started to implement GIA strategies, especially in green marketing, which is defined as the inclusion of environmental aspects in marketing activities, including and marketing activities of the organisation. In green marketing, however, GMO implies much more than false environmental marketing, as it is designed to be more

through a comprehensive strategic orientation, including the positioning of the organisation based on its eco, green, environmental, or sustainability values, in the organization (Borah, Dogbe, Pomegbe, Bamfo, & Hornuovo, 2023).

In Pakistan, the first steps in the implementation of GMO have been initiated, especially in the public sector, such as eco-labeling, recyclable packaging, and energy-saving promotions. However, the more comprehensive integration of eco values into marketing and innovation approaches has been more of a marketing or promotional 'piece', which is more in control of factors such as compliance driven or is based on reputation or social standing. The challenge is to move beyond the weakening of the adoption of such a green marketing instrument and transition to the more practical, substantive integration of such a system, where GMI is a driver of innovation and performance rather than purely a marketing or promotional instrument (Paiva, 2025).

Based on research conducted in developed economies, there is potential for GMOs to encourage green innovations, such as green products and processes. However, the potential for GMOs to encourage innovations is not guaranteed. It is influenced primarily by the inner workings of organizations (organisational behaviour) such as the quality of leadership and the organisational culture. In the case of Pakistan, where there are institutional voids and uneven regulation of policies, the inner workings of the organizations have an even greater impact on how organizations react to their immediate environment (Nisar Khattak, Muhammad, & Robinson, 2021).

This is where leadership behaviour, and more specifically transformational leadership, plays a crucial role. Visionary leaders who have a passion for and commit to sustainable development can adjust organisational goals and priorities, as well as galvanise the workforce on environmental issues. They do not simply give directives but are also responsible for changing the culture, developing the soft (and hard) skills of employees, and unifying the organization to cross silos in order to achieve the marketing goals in order to extract the innovations.

Like customer value propositions, organisational culture, which represents the collective values, beliefs, and activities of an organization, can facilitate or inhibit the implementation of green strategies. A culture that fosters positive attitudes towards change, open communication, flexible arrangements, and environmental stewardship is more likely to assist the development of GMO. Conversely, rigid hierarchical structures, reluctance to change, and obsession with short-term profit goals may prevent green strategies from succeeding, irrespective of the nurturing marketing strategies (Cuomo & Foroudi, 2025).

The interplay of leadership and culture is also important. Culture is influenced by leadership, and then the influence of culture on leadership is to either support or resist the goals of the leaders. This interplay of leadership and culture suggests that leadership and culture may not be a purely independent construct, but rather, a sequential one, with leadership first shaping culture, which then facilitates the activation of green innovation. This multilayered configuration is particularly rare in the literature, especially in developing systems like Pakistan (Saleh, 2025).

This study attempts to integrate the role of leadership behaviour and organisational culture as a serial mediator and explore the influence of marketing orientation on the performance and innovation of the Pakistani manufacturing sector. This investigation aims to understand how internal organisational mechanisms help refine marketing strategies to meaningful innovation during periods of weak institutional support for sustainability (Riaz, Jie, Sherani, Ali, & Chang, 2024).

This study provides a detailed description of the innovation process of firms striving to achieve sustainable alignment through the adoption of a serial model of mediation. This research was conducted on a sample of 220 firms operating in Pakistan from multiple environmentally sensitive sectors. This study not only advances the understanding of the relationship between marketing and innovation but also provides findings and suggestions for industrial managers, sustainability officers, and policymakers implementing green growth strategies in developing countries.

This study demonstrates the rationality or otherwise of the practice of achieving green innovation as part of market offerings or as an outcome of regulatory pressures. Rather, the study demonstrates that it is the consequence of internal marketing self-alignment, marketing orientation, leadership, as well as culture coming together to drive internal sustainability. It is hoped this dual contribution will assist scholarship and management practice in demonstrating the internal resource competencies of firms in transitional settings, such as Pakistan, responding to external global environmental challenges (Aslam, 2022).

2. LITERATURE REVIEW

Over the last several decades, the phenomenon of green marketing has shifted from being a form of niche 'eco-labeling' brand strategy to a core component of company-wide marketing strategy, and subsequently, company-wide business strategy. Speculation regarding the reasons underlying this evolution has focused on an increase in climate change awareness, resource depletion and the negative effects of industrialisation on the environment. Customers are more able to recognise and become aware of the environmental impacts of their purchasing behaviour and as a result, companies are expected to legally comply with environmental regulations and demonstrate authentic commitment to sustainable development. In the evolution of this landscape, the concept of green marketing orientation (GMO) has

changed from simply a marketing concept to the main focus of a corporate strategy. GMO has generally been characterised as a company's commitment to embracing the ecological component of its marketing policies, whether regarding the company's marketing of the product, the design of the product, the price of the product, the location/distribution of the product, or the brand and promotional activities surrounding the product.

A company with a strong orientation towards GMO is characterised by their proactive product design and messaging surrounding the product. Such companies are 'eco-centric' and have a strong concern towards the environmental impact surrounding the telling and selling of their products. Such companies are likely to develop and promote 'eco' products and/or adopt sustainable business practices to tell and sell their products. In the academic literature, it has been posited that a GMO strategy permits companies to attain a competitive advantage by providing an opportunity to differentiate themselves in the marketplace, where consumers, stakeholders, investors, and regulatory bodies value and focus their attention on the sustainable/eco environmental practices of corporations (GMO strategy provision). This corporate strategy alignment permits a company to position itself as pro-eco and socially responsible, and simultaneously permits the company to be pro-eco and socially responsible (Richardson, 2024).

Eco-friendly technologies, or green innovations as they are commonly known, are innovations that reduce or eliminate negative environmental impacts. These changes or innovations can be changes to products, such as more biodegradable products, solar-powered products, or eco-friendly packaging. Or they can be changes to infrastructure, such as improvements to production systems, better waste disposal systems, or systems that consume less energy. The relationship becomes evident when we look at the company's ability to combine environmental marketing with measurable innovations. In the developed world, there is a positive relationship between green marketing and environmental technologies. Companies with better green marketing are more inclined to support eco-friendly finance, streamlined supply chains, and eco-friendly products (Bashar, Wang, & Rafiq, 2023).

Nonetheless, these links are still underexplored in South Asia. While there is growing interest in the academic community, there is still a shortage of empirical work investigating the relationship between GMO and green innovation in South Asian economies, especially Pakistan. Numerous firms in South Asia still function under institutional environments where, on the whole, the enforcement of environmental regulations is weak, public knowledge regarding green products is sparse, and sustainability offers in the marketplace are non-existent. Hence, one cannot straightforwardly apply the principles and discoveries drawn from the West to the South Asian context. The internal and external factors that could mediate or moderate the relationship between GMO and green innovation have to be taken into consideration (Khan, Rehman, & Nasir, 2025).

Theories explaining the relationship between GMO and green innovation are developed from three major schools of thought: the Resource-Based View (RBV), Dynamic Capabilities Theory, and Institutional Theory.

RBV suggests that firms obtain sustainable competitive advantage when they have access to unique, valuable resources that are difficult to replicate. Such green innovation capabilities as having the knowledge of and expertise in environmental technologies, sustainable designs of products, and ecologically responsible supply chain management are considered as strategic resources that allow firms to deal with the problems of the ecology. Within this framework, GMO is viewed as a resource developing and innovation enhancing a firm's investment into competencies, collaborations, and adaptive technologies (Zhang, 2024).

Dynamic capabilities theory expands on RBV by focusing on integrating and reconfiguring internal and external capabilities in changing situations (Teece et al., 1997). In situations where there is rapid change in the environment, there is a need for firms to constantly renew their resource base. GMO aids in such a situation by helping firms develop the ability to adapt to changing circumstances by anticipating, monitoring, and engaging with stakeholders (Teece et al., 2016). In the theory of resource management, it is stated that such firms are able to improve their capability to exploit opportunities in the market. Sustainable opportunities in the market are often accompanied by high unsustainability. Therefore, the firms are able to lower their unsustainability as well (Roberts, Milius, Mont, & Dalhammar, 2023).

Institutional theory also provides insights in this context by incorporating some of these pressures into the context of implementation, such as organisations, industries, and society. In many developed nations, strong legislative frameworks and public accountability result in the adoption of green marketing and innovative practices (Dangelico et al., 2017). In the case of Pakistan and other developing economies, the systems are more fragmented. There is often weak enforcement of environmental policies. Furthermore, there is regulatory uncertainty, which tends to discourage long-term investments in the area of sustainability. In such situations, the internal characteristics of organisations, such as leadership and culture, tend to have a greater influence on the adoption, as well as the implementation of green strategies by firms (Hafeez, Yasin, Zawawi, Odilova, & Bataineh, 2025).

The role of leadership behaviour as one of the major internal facilitators of green innovation is evident. Leaders shape vision, resource distribution, organisational objectives, and staff engagement. Transformational leaders are more likely to spark sustainability-related innovations as they communicate the vision, motivate staff to succeed, and maintain an

ethical concern for the sustainability objectives. They establish congruence between the strategic aspirations and the operational frameworks while allowing the staff to manage and control the green practices (Alemu & Burrell, 2025). The definition of organisational culture as the system of shared values, norms, and assumptions, guiding behaviour in an organisation, is equally critical in this case. A culture that practices and promotes a long-term outlook, adaptability, and collaborative engagement nurtures the conditions where green marketing frameworks can be successfully applied. Such an atmosphere promotes innovative risk-taking, collaboration beyond departmental silos, and effective responsiveness to the changes in the external ecosystem (Schiuma & Santarsiero, 2024).

Although there has been some work on the influence of leadership style on culture, minimal research has analysed the succession or joint mediating effects on the relationships between governance, marketing orientation, and the variables of green innovation and performance. The degree of absence is even more acute in the case of Pakistan, where the absence of formal marketing institutions makes the alignment of internal factors that much more critical. The majority of the literature is focused on a Western context, and that has led to a gap in understanding the relational variables in the context of an emerging economy that has different social, cultural, and regulatory regimes (Handoyo & Anas, 2024).

This work looks to address that gap by focusing on the direct impacts green innovation and green marketing orientation have on each other, and also the ways leadership styles and culture of an organisation influence that dynamic. The empirical data derived from Pakistan's manufacturing sector also addresses a component of the literature on innovation and the empirical body of work on developed countries and provides a roadmap to institutions pursuing innovation in the green marketing framework on the basis of internal competencies.

3. METHODOLOGY

3.1 Research Design

This specific study employs a cross-sectional quantitative design to examine the association between green marketing initiatives, green innovative performance, and total performance of the firm, specifically within the context of the Pakistani manufacturing sector. The authors consider specific green marketing orientation and its direct and indirect impacts on green innovation outcomes, with leadership behaviours and organisational culture as the mediating variables. This analysis enables the authors to assess, not only the impacts of marketing strategies on organisational innovation and performance outcomes, but the extent to which the internal mechanisms of the organisation support or thwart the process. This analysis has used the Hayes' Process macro for SPSS, particularly Model 6, to demonstrate a comprehensive evaluation of stepwise mediation, to enhance the understanding of the internal components of the relationship between strategic orientation and innovation outcomes.

3.2 Population and Sample

The focus of the study was the manufacturing firms operating in the textile, cement, leather, pharmaceuticals and food processing industries in Pakistan. Target industries were of great importance due to their environmental impact and the increasing participation of industries. Most of these industries deal in textiles, cement, leather, pharmaceuticals and food processing, as the industries are responding to both international and national levels of sustainability practices. The firms for the target population were those firms that exhibit some form of environmental or sustainability activity. The firms were selected if they were certified for ISO 14001 and sustainability were issued or environmental responsibility reports. Also, if the firms were involved in green marketing or green innovations. Documents should be available to the public in order to pass the selection. The final selection for the study was 220 firms, and pure purposive sampling was used in the selection, and the selected firms had enough expertise in the field of green strategies to be able to answer the research questions in a meaningful way. Within the firms, the selected respondents were those mid to senior level managers that administer the marketing, operations, sustainability or corporate strategy of the organisation. These managers were chosen due to their role in the strategic control and responsibility for the actions in the implementation of the green marketing and green innovations. Their actions were meant to provide a balance of the control of the decisions and the knowledge of value in the internal processes of the firm surrounding the sustainability and innovations activities (Yang, Luo, & Pan, 2024).

3.3 Instrumentation and Data Collection

The primary data collection in the current study involved the use of a structured questionnaire whose measurement scales had been validated in earlier studies and were thus modified as required. These questionnaires were developed to include the measurement of the five key variables of the study model: green marketing orientation, leadership behaviour, organisational culture, green innovation and performance of the firm.

Green marketing orientation was measured using the scale developed by Papadis et al., which captured the degree to which firms embrace environmentally concerned marketing. Leadership behaviour was measured using the Multifactor Leadership Questionnaire (MLQ), in particular, the transformational leadership components of vision, inspiration, and support of innovation. Organisational culture was measured by using some of the constructs in

Cameron and Quinn's Organisational Culture Assessment Instrument (OCAI), specifically, the cultural traits of sustainability, learning, and collaboration. Green innovation was measured using scales developed by Chen et al. and focused on environmentally beneficial product and process innovations. The firm performance was measured using self-reported data on indicators of environmental performance, financial performance, and market competitiveness. Each item on the survey was measured using a 7-point Likert scale from "strongly disagree" to "strongly agree." In order to better understand the quantitative data, the researchers also conducted semi-structured interviews with 15 senior executives from a subset of the firms that had completed the survey. These interviews shed light on the impact of leaders and culture on the execution of the marketing strategy and the innovation of green initiatives, as well as on the success of green marketing. These interviews also enabled the researchers to corroborate the survey responses, thereby enhancing the validity of the findings.

3.4 Data Analysis

Version 25 of SPSS was used to analyse the data. Initially, both inferential and descriptive statistical analyses were performed to study the various distributions, relationships, and correlations between the various variables under study. Reliability analyses via Cronbach's alpha were performed, with all constructs being above the recommended level of 0.80, meaning they demonstrated high internal consistency. To establish validity, confirmatory factor analysis (CFA) was used, and all items were shown to have significant loadings within their constructs and with factor loadings of 0.60 or higher.

The analysis' main focus was the examination of the serial mediation model using the PROCESS macro (Model 6) created by Hayes. This particular methodology is regarded to have used bootstrapping with 5,000 repetitions in order to determine interval estimates of confidence and test the significance of both indirect and direct effects. Mediation analysis is particularly concerned with the relationships between variables that are either indirect or nonlinear in nature, and as such would often go unnoticed in traditional regression modelling; bootstrapping addresses that gap. The analysis provided estimates for direct, total, and indirect effects as well as for the total contribution of each of the mediating variables to the pathway from green marketing orientation to green innovation and consequently to firm performance (Nuryakin & Maryati, 2022).

The methodologies combining quantitative, digital surveys and qualitative, executive interviews, offer a strong foundation for uncovering how internal leadership and internal organisational culture affect the impact of internal green marketing strategies on innovation performance in Pakistan's Industry.

4. RESULTS

4.1 Descriptive Statistics

In the study, the companies included came from various different areas in Pakistan such as its main industrial hubs including Lahore, Faisalabad, Karachi, Sialkot, and Peshawar. This geographical spread was to obtain all possible varieties of operational activities and the challenges posed by the regional environmental system. Most of the participants maintained employment in the textile industry, making up almost 45 percent of the sample. This was followed by the cement industry (18%), pharmaceuticals (14%), food processing (13%), and leather (10%). These sectors were chosen because of their high environmental footprint and the disparate accessibility to international environmental regulations. The majority of respondents considered their companies to have, at the very least, a moderate involvement in activities directed at sustainability, such as waste minimisation, energy conservation, cleaner production techniques, and/or compliance with ISO 14001 (Latip, Sharkawi, Mohamed, & Kasron, 2022).

Table 1: Summary of Descriptive Statistics (n = 220)

Variable	Mean	SD	Min	Max
Green Marketing Orientation	5.42	0.78	3.2	6.9
Leadership Behavior	5.21	0.81	2.9	6.8
Organizational Culture	5.13	0.85	2.7	6.7
Green Innovation	5.36	0.74	3.0	6.8
Firm Performance	5.28	0.77	3.1	6.7

Results from the descriptive statistics indicated the presence of numerous variables that exhibited high mean scores from all of the surveyed organisations. This pattern indicates an organisational propensity towards sustainability practices embraced by the manufacturing sectors in Pakistan. The higher average scores attained by the variables such as green marketing orientation, leadership behavioural practices, organisational culture, and green innovations demonstrate that a good number of firms are beginning to include the environment in their planning and system

processes. This focus on environmental sustainability suggests that these firms, despite being in a developing economy with a growing set of environmental regulations, are becoming increasingly active in shaping their practices in an environmentally responsive manner to the needs of their stakeholders (Baah, Agyabeng-Mensah, Afum, & Mncwango, 2021).

4.2 Mediation Analysis

At the $p < 0.01$ level, the correlation analysis showed all the focal variables, green marketing orientation, green innovation, firm performance, leadership behaviour, and organisational culture, positively correlate with one another and lead to firm performance. The results of the mediation analysis support these findings. Green marketing orientation positively predicted green innovation as indicated by a significant path coefficient ($\beta = 0.41$, $p < 0.001$). This indicates that a firm that possesses strong environmental marketing strategies tends to have a greater level of green innovation. Also, leadership behaviour ($\beta = 0.25$) and organisational culture ($\beta = 0.22$) positively and significantly contributed to the mediation of green marketing orientation and green innovation relationships. The most important one was the fully serial path green marketing orientation to leadership behaviour to organisational culture to green innovation to firm performance which was also statistically significant with total indirect effect of $\beta = 0.18$. These findings validated the serial mediation model and suggest that the internal structure of the organisation is crucial to fully leverage the environmental marketing strategies into performance outcomes through innovations (Abubakar, 2024).

Table 2: Serial Mediation Effects

Pathway	Effect Size (β)	p-value
GMO → Green Innovation	0.41	< .001
GMO → Leadership → Green Innovation	0.25	< .001
GMO → Culture → Green Innovation	0.22	< .001
GMO → Leadership → Culture → Innovation	0.18	< .001

The model accounted for 58% of variance in green innovation and 61% in firm performance.

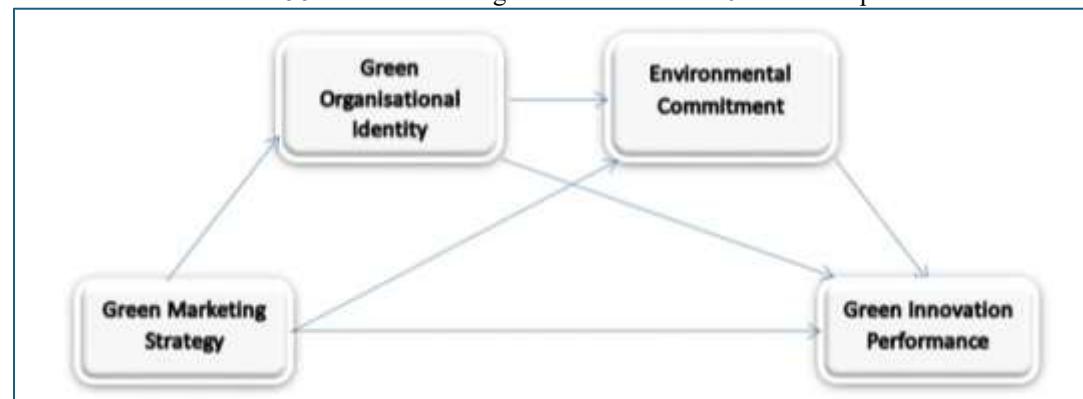


Fig 1. Conceptual Framework – Serial Mediation Model

This figure is for the conceptual framework for the serial mediation model under study. It shows the theorised mechanisms by which green marketing orientation affects total firm performance through the sequential mediation of leadership behaviour and culture. This model posits that the stronger the green marketing orientation of the firm, the greater the likelihood of the firm promoting transformational leadership, which, in turn, engenders a culture of sustainability and innovation. Such organisational climate, in turn, improves the firm's ability to produce and market green innovations ranging from sustainable products to cleaner production techniques. Such innovations lead to positive firm performance by improving environmental compliance, operational sustainability, and competitiveness. The figure, therefore, demonstrates how the potential of the firm is fully utilised to translate integrated organisational processes into performance (Jirakraisiri, Badir, & Frank, 2021).

5. DISCUSSION

The findings of the study reinforce the importance of green marketing strategies in relation to fostering green innovation in the Pakistani manufacturing sector. However, the findings also indicate the importance of the internal organisational factors, namely transformational leadership and an innovation-supporting culture, to strengthen the

aforementioned relationship. This indicates that green marketing, while beneficial, cannot operate in a vacuum. Without proper internal conditions, environmental marketing strategies, no matter how well intended, are unlikely to produce the desired positive innovation results. The study clarifies that the internal conditions to facilitate green marketing strategies and eco-friendly innovations within the organisation do not solely lie within the marketing communication and market positioning strategies. Instead, successful green marketing is a function of the organisation's internal conditions to promote and sustain eco-friendly innovations.

The role of leadership as a facilitator in the process of promoting innovation cannot be overstated. Leadership is able to achieve the alignment of visioning with operationalisation through the articulation of the eco-sensitive vision, the modelling of voluntary eco-sustainable actions, the provision of avenues for employee engagement, tailoring of actions for employee trust, and motivational allocation of resources, as well as the eco-sustainable innovation discipline. At the same time, the culture of the organisation meets the same need of creating a conducive environment both structurally and emotionally (Paredes-Saavedra, Vallejos, Huancahuire-Vega, Morales-García, & Geraldo-Campos, 2024). An organisation that more readily institutionalises adaptive eco-innovations is one that embraces the culture of sustainability, is not risk averse, facilitates the free flow of information across functional silos, and is a learning organisation.

This scenario resonates well with Pakistan given the limited and poorly enforced regulations around sustainability. Under such conditions, organisations cannot wait for external pressures to enact transformational shifts in sustainability. Rather, there is a need to create internal systems, particularly adaptive leadership and organisational culture, in order to achieve the desired constant innovation around sustainability and to improve organisational performance. This certainly adds weight to the dynamic capability view where organisations are able to sustain competitive advantage by continuously developing internal capabilities in response to external environmental challenges (Paschke, 2024).

6. Implications

The study is a good resource for both practitioners and policymakers interested in promoting and encouraging green innovation in the developing world. The research shows managers and business leaders the need for integrating sustainability into the company's strategy and the need for managers to focus on sustainability as a core business strategy. This is not just about embarking on simplistic green marketing initiatives; it involves the need for developing a leadership pathway that focuses on developing transformational leaders and on developing a culture of the organisation that focuses on continuous improvement, innovation, and the environment. These aspects of the company will be important to have in order to achieve alignment between the strategy and the actual sustainability achievements. The results show the policymakers that the types of infrastructures we call regulatory frameworks to govern and control are useful; but, in and of themselves, they are not enough. For these types of infrastructures to be useful in promoting green innovation, regulatory frameworks focused on the policy of building organisational capacity; leadership for sustainability, sector-based sustainability standards, and inter-firm collaboration have to be in place. These types of infrastructures will expeditiously promote the national sustainability agenda.

7. Limitations and Future Research

This research is limited in its ability to make comparisons across sectors due to its cross-sectional design and its manufacturing focus. This is especially true considering how quantitatively different the service sectors are. In the future, perhaps the model could incorporate other external variables which may mediate the principal components of the model such as consumer demand and/or governmental incentives and take a longitudinal approach to capturing the dynamic nature of the variables in the model, as compared to the static nature of the data in the current model.

8. CONCLUSION

The role of green marketing orientation in facilitating green innovation and improving a firm's performance demonstrates the research's main focus, particularly in the context of Pakistan's manufacturing sector. Marketing environmentally-friendly products and integrating environmentally friendly processes and the production of sustainable products, and improved operational and financial gains. While the study shows the relationship is stronger with transformational leadership, and an organisational culture focused on sustainability. An environment is created where green innovation survives and where environmentally concerned, innovative, transformational leadership is supported with a culture of shared responsibility, risk-taking, and learned responsibility.

The importance of these findings demonstrates the need for internal strategic alignment where marketing goals, organisational culture, leadership vision, and the sustainability objectives all synchronise and support one another. An emerging economy allowed the study to focus on the theory and practice and provided internal transformational change to the firms to achieve environmental performance and maintain a sustainable competitive advantage.

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