Business Management as a Link Between Competitiveness and Sustainable Development in the Textile Sector

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Abstract

Efficient resource management plays a crucial role in the sustainable development of companies, aiming to maximize economic performance, minimize environmental impacts, and contribute to social welfare. This quantitative and explanatory study analyzed resource management in textile microenterprises in Metropolitan Lima, with a sample of 370 participants. The methodology used was non-experimental and cross-sectional, allowing for a detailed analysis of the relationship between business management and sustainable development in this specific context. Two questionnaires of 20 questions each were administered. Both instruments were validated by five experts in the business area. The Aiken’s V for the first instrument was 0.83 and for the second instrument was 0.79. Additionally, a pilot test was conducted for instrument reliability, obtaining 0.89 for the first instrument and 0.81 for the second. The results highlight the significant relationship between business management and sustainable development, especially in terms of competitiveness and general management aspects. However, there is a relatively lesser association of eco-efficiency, eco-effectiveness, and continuous improvement in the variability of sustainable development. It is concluded that, while business management is considerably related to sustainable development, aspects such as eco-efficiency and continuous improvement show a less pronounced relationship in sustainable development variability. These findings underscore the importance of sustainability-focused business management to enhance competitiveness and foster equitable and long-term sustainable development.

Keywords: Resource management, sustainable development, Peruvian companies
1. Introduction

Currently, businesses are embracing eco-efficiency models to achieve objectives that are still in their infancy. This phenomenon stems from a short-term profitability perspective focused on a singular criterion, limiting the perception of the gradual impact that both public and private enterprises have on their environmental surroundings due to their production processes and service delivery (Zapata Chiroque et al., 2023).

However, it is entirely feasible to develop goods and services with management approaches that address environmental responsibility, thereby meeting customer needs while minimizing adverse effects on the environment. Nonetheless, microenterprises often lack policies to mitigate environmental impact, as well as to control emissions and toxic discharges. In many cases, there is also a lack of ingrained recycling culture or integration of renewable resource usage, and product lifecycle extension is not widespread (Castro-Góngora & Mul-Encalada, 2020). The lack of attention to sustainability in the operational environment of these business units jeopardizes the long-term viability of their activities (Ministerio de Medio ambiente del Perú, 2010).

Furthermore, companies have been incorporating social responsibility actions over the years, aiming to improve quality indicators. This has gradually persuaded many employees about the importance of participating in what is considered an entity with sustainable quality aligned with the core business activity (Esquivel, 2022). Employee satisfaction level is crucial because the company engages in their continuous development through safety programs, workplace health initiatives, and others, enabling them to achieve work goals and be part of a respectable and sustainable entity (Hernández-Pajares & Yagui, 2020).

Furthermore, the connection between social responsibility and the environment is closely linked to the core business activity through the purchase of carbon credits, which has reduced CO₂ emissions stemming from the company’s energy consumption. In addition to this, recycling campaigns and support for environmental preservation initiatives are undertaken, although employee involvement in these activities is limited (Miranda Pegueros et al., 2022). The primary limitation of the organization lies in the lack of development of symbolic strategies that motivate both employees and suppliers to participate in the implementation of actions for the benefit of society, as well as in the management of sustainability and quality indicators. This could bring the company closer to its environment and reduce the negative perception of the impact organizations will face in the face of higher levels of competition (Esquivel, 2022).

Acuña-Moraga et al., (2022), Institutions argue for the urgency of companies promoting sustainable consumption. At the same time, they recognize their crucial role in fostering a culture rooted in ethical, green, and ecological consumption. Finally, the Sustainable Development Goals (SDGs) represent a valuable opportunity to implement strategic plans that strengthen contemporary organizations. Likewise, Sánchez Ortega et al., (2021) they expressed that to maintain their long-term viability, corporate social responsibility must influence their environment and employees during periods of uncertainty.

The company supports underprivileged communities through health and nutrition campaigns, engaging employee volunteers from corporate social responsibility programs who also contribute to environmental conservation. However, the insurer’s senior management acknowledges the need to enhance knowledge management and develop strategies to involve employees and suppliers in social responsibility activities, which could increase the competitiveness of the company (Guadalupe Zevallos et al., 2023; Paz-Rodríguez et al., 2014).

Hernández-Pajares & Yagui Nishii, (2020) refer to significant performance in corporate sustainability in collaboration with the government to provide social assistance to healthcare institutions and vulnerable communities. However, the disclosure of performance to collaborators and clients is less frequent, yet crucial in terms of safety, health, and economic sustainability to maintain business operations. It is worth noting that actions within organizations regarding sustainability vary. Some adopt a reactive approach, while others are proactive, seeking sustainable
development with benefits for both the company and society.

However, Hernández Pajares & Yagui Nishii, (2021) refer that the experiences of Peruvian companies have a significant impact on sustainability, showing significant development in the disclosure of environmental information. Therefore, environmental management indicators are related to waste, water, transportation, and regulatory compliance. Furthermore, emphasis is placed on the disclosure of practices related to reducing input consumption and waste management (Ruiz Vásquez, 2023).

The evolution of environmental performance and information disclosure in Peruvian companies is on the rise, partly due to the influence of international regulations, especially in organizations with high-impact activities. On the other hand, the circular economy does not receive the same momentum in business practices due to the lack of a sustainability culture (Alburqueque et al., 2021; Ruiz Vásquez, 2023). The study revealed that environmental management indicators achieved higher levels linked to resources, transportation, and regulatory compliance. However, circular economy strategies aimed at mitigating environmental impact are less widespread and implemented. It is observed that the size of the company and the sector only affect the level of environmental information disclosure, and that the implementation of circular economy systems is limited in most cases (Hernández-Pajares & Yagui Nishii, 2020).

The scarcity of resources and the lack of knowledge about implementing appropriate cost strategic plans can affect business profitability. It is important to highlight the necessity of investing in optimal costing systems to strengthen administrative management. This will not only reduce costs but also enhance the long-term sustainability of the business (Cutti et al., 2023).

It is worth noting that quality indicators such as social responsibility within the company’s policies are significant in their relationship. However, senior management acknowledges the need to improve knowledge management and strategies to engage employees and suppliers in social responsibility efforts (Sánchez Ortega et al., 2021).

The present research is based on the Stakeholder Theory, which posits that companies should consider the interests of all parties affected by their actions and decisions, including employees, customers, suppliers, and local communities (Rodríguez Hernández & Urrea Urrea, 2022; Suyo-Vega et al., 2022). This consideration is essential for promoting long-term business relationships and the creation of shared value (Fernández Fernández & Bajo Sanjuán, 2012).

The Stakeholder Theory, proposed by Edward Freeman, recognizes that companies have responsibilities to a wide range of stakeholders. In this way, companies can contribute to sustainable development and foster stronger relationships with their business and social environment (Freeman, 2012).

The variable Resource Management is divided into four dimensions: (a) Business management process, (b) Business management strategies, (c) Business decision-making, and (d) Business goals, objectives, and mission.

Regarding business management processes, they are defined as activities and actions carried out by managers and leaders who engage in planning, organizing, directing, and controlling resources and activities to achieve the company’s goals. Key figures such as Fayol, Taylor, and Drucker are fundamental references for understanding this process (Stein, 1999).

Similarly, business management strategies include actions, plans, and strategies developed with short to long-term objectives in mind, leveraging opportunities and addressing challenges in the business environment. Business strategies encompass approaches such as SWOT analysis (Strengths, Weaknesses, Opportunities, Threats), supported by Porter’s generic strategies (Stein, 1999).

With regards to Business Decision Making, it involves processes between executives and managers who choose among different alternative actions to solve problems, seize opportunities, or achieve organizational objectives. Decision making includes models such as the rational model, the satisficing model, the bounded rationality model, and the prospective approach (Camacho Gaibor et al., 2023).
Finally, companies establish objectives, goals, vision, and mission that represent the direction and purpose of the organization. Goals are objectives that the company aims to achieve, which must be quantifiable, while the mission is the reason for the existence of the company. Strategic planning is fundamental to understanding the objectives and goals of companies, and they are also related to concepts such as organizational identity and the company’s vision (Contreras-Pacheco et al., 2021).

About Corporate Sustainable Development, it is subdivided into four dimensions: (a) Business Eco-efficiency, (b) Business Eco-effectiveness, (c) Continuous Improvement, and (d) Business Competitiveness.

Regarding business eco-efficiency, it is defined as the development of competencies to produce goods and services by optimizing the use of natural resources and minimizing negative environmental impacts during the production, distribution, and marketing activities of goods and services. Companies that apply eco-efficiency principles seek to mitigate high energy, water, and raw material consumption, as well as reduce waste generation and pollutant emissions. To achieve eco-efficiency, companies can implement cleaner technologies, improve production processes, adopt environmental management practices, and promote employee awareness and participation, generating corporate advantages (Esquivel, 2022). Therefore, companies reduce costs and increase operational efficiency (Morales Romero et al., 2019; Pache Duran et al., 2018; Pérez-Calderón et al., 2021).

With regard to Business Eco-effectiveness, it refers to an organization’s ability to apply good practices in environmental care, generating positive impacts on the environment and society through its activities, beyond simply reducing its environmental footprint. It focuses on generating positive impacts on the environment and society. Likewise, it seeks to integrate environmental and social considerations into all its operations and business decisions, actively contributing to sustainable development. Through this process, the environmental footprint is reduced, and eco-effective companies can engage in corporate social responsibility activities (Rodríguez Hernández & Urrea Urrea, 2022). Therefore, Business Eco-effectiveness goes beyond minimizing negative impacts and actively seeks to contribute to environmental and social well-being (Andrade Tacca & de la Cruz Huanca, 2022; Orozco Martínez, 2020).

The application of Continuous Improvement in the business context refers to the constant process of identifying, analyzing, and improving the processes, products, and services of a company to increase its efficiency, quality, and competitiveness (Díaz Muñoz et al., 2021; Zayas Barreras, 2022).

Continuous improvement is a systematic and ongoing process that drives innovation and excellence in all areas of a company. Companies that embrace continuous improvement aim to identify and eliminate inefficiencies, solve problems, capitalize on growth opportunities, and adapt to market changes. Moreover, continuous improvement is based on feedback, data analysis, employee involvement, and top management commitment to operational excellence and customer satisfaction (Arana-Salazar et al., 2020).

Finally, the dimension of Business Competitiveness refers to a company’s ability to compete effectively in the market by offering products or services that meet the needs and expectations of customers while generating profitability and long-term sustainability. Competitive companies offer diverse services and products that guarantee quality and other added-value features to effectively respond to market demands. Business competitiveness is based on a combination of internal and external factors that affect a company’s ability to compete, including innovation, quality, operational efficiency, access to resources, and the ability to adapt to the changing market environment (Luna-Altamirano et al., 2022; Romero-Suárez et al., 2020).

After analyzing the theoretical positions of the variables and dimensions presented, it was established to analyze the resource management and sustainable development of Peruvian companies. Likewise, in each dimension described such as eco-efficiency, eco-effectiveness, resource management in continuous improvement, and business competitiveness.

The research is theoretically justified as it expanded new knowledge related to resource management in sustainable development, but of Peruvian companies, so that researchers or
professionals in the field of management, administration, or related areas can identify effective practices, challenges, and opportunities for improvement in the sustainability of companies. In this way, a balance is established between economic, social, and environmental needs both in the present and for future generations.

2. Methodology

The study was quantitative, explanatory, cross-sectional, and non-experimental in design (Hernández-Sampieri, R. Mendoza, 2018). The study included a sample of 370 micro-entrepreneurs working in the Gamarra textile district in Peru. The research team made the necessary arrangements to obtain data from the micro-entrepreneurs. Convenience sampling was employed, focusing on micro-entrepreneurs involved in the textile sector, specifically those selling threads, buttons, zippers, machinery, clothing, and related items, encompassing all stages of the textile process. Data collection took place over a period of five months, from June to November 2023.

The entire process was conducted virtually, and informed consent was included in the questionnaire. Each questionnaire consisted of 20 questions. One questionnaire addressed business management with four dimensions: (a) Business management process, (b) Business management strategies, (c) Business decision-making, and (d) Business goals, objectives, and mission. Additionally, for the variable of Business Sustainable Development, another questionnaire described four dimensions: (a) Business eco-efficiency, (b) Business eco-effectiveness, (c) Continuous improvement, and (d) Business competitiveness.

The questionnaires were evaluated by five experts in the business field. The Aiken’s V coefficient for the first instrument was 0.83, and for the second instrument, it was 0.79. Furthermore, a pilot test was conducted to assess the instrument’s reliability, resulting in a score of 0.89 for the first instrument and 0.81 for the second one.

Ethical aspects were considered throughout the research process, including justice, autonomy, beneficence, and non-maleficence. The identity of the respondents was respected throughout the process, and the results are used solely for research purposes.

3. Results

The main findings of the data analysis collected on business management and sustainable development in Peruvian companies revealed a variety of examined dimensions. For this purpose, two tests were established: (a) Goodness of fit and (b) variability test for the analysis of all dimensions.

3.1 Goodness of fit test

Table 1: Goodness of fit test for the business management and sustainable development analysis model

<table>
<thead>
<tr>
<th>Business Management</th>
<th>Chi- cuadrado</th>
<th>gl</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Development</td>
<td>2,049</td>
<td>2</td>
<td>.031</td>
</tr>
<tr>
<td>Eco-efficiency</td>
<td>2,940</td>
<td>2</td>
<td>.230</td>
</tr>
<tr>
<td>Eco-effectiveness</td>
<td>1,064</td>
<td>2</td>
<td>.587</td>
</tr>
<tr>
<td>Continuous Improvement</td>
<td>1,152</td>
<td>2</td>
<td>.562</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>12,392</td>
<td>2</td>
<td>.002</td>
</tr>
</tbody>
</table>

The most notable aspect of Table 1 is that the Chi-square value for "Competitiveness" is highly significant (p = 0.002), indicating a statistically significant relationship between the proposed
variables. This suggests that business management is significantly related to a company's competitiveness. Additionally, the Chi-square value for "Sustainable Development" is also significant at a 95% confidence level ($p = 0.031$), showing a statistically significant relationship between both variables, although not as pronounced as in the case of competitiveness. The other variables (Eco-efficiency, Eco-effectiveness, and Continuous Improvement) do not show a significant relationship with sustainable development in this analysis.

### 3.2 Variability Test

<table>
<thead>
<tr>
<th>Business Management</th>
<th>Cox y Snell</th>
<th>Nagelkerke</th>
<th>McFadden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Development</td>
<td>0.251</td>
<td>0.282</td>
<td>0.132</td>
</tr>
<tr>
<td>Eco-efficiency</td>
<td>0.158</td>
<td>0.178</td>
<td>0.079</td>
</tr>
<tr>
<td>Eco-effectiveness</td>
<td>0.205</td>
<td>0.234</td>
<td>0.109</td>
</tr>
<tr>
<td>Continuous Improvement</td>
<td>0.198</td>
<td>0.224</td>
<td>0.103</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>0.144</td>
<td>0.213</td>
<td>0.138</td>
</tr>
</tbody>
</table>

Table 2 displays different measures of variability for the variables of business management in sustainable development, such as the Cox and Snell, Nagelkerke, and McFadden measures.

For sustainable development, the Cox and Snell and Nagelkerke values are higher compared to other variables, suggesting that this aspect of business management has a greater capacity to explain variability in sustainable development according to this model. On the other hand, Competitiveness shows lower explained variability compared to the other variables, according to the three measures provided. This could indicate that, in this specific model, competitiveness has a relatively lesser influence on the variability of sustainable development compared to other aspects of business management.

### 4. Discussion and Conclusión

The findings suggest that, while there is a growing awareness between social responsibility and quality indicators, significant challenges persist for the implementation of sustainable policies that achieve societal well-being. The lack of a rooted recycling culture, limited use of renewable resources, and inadequate integration of product life cycles represent significant barriers to advancing corporate sustainability.

Furthermore, there appears to be a disconnect between social responsibility and the environment, where sustainability-related actions primarily take a reactive rather than proactive approach. Although efforts have been made to reduce the environmental footprint and contribute to sustainable development, the involvement of employees and suppliers in these activities remains limited. (Castro-Góngora & Mul-Encalada, 2020; Ministerio de Medio ambiente -Perú, 2010)

Resource management, including the dimensions of eco-efficiency, eco-effectiveness, continuous improvement, and business competitiveness, emerges as a crucial factor in driving towards corporate sustainability. However, significant gaps are identified in the implementation of eco-efficient and sustainable practices, as well as in companies' ability to compete effectively in the market while meeting environmental and social standards (Esquivel, 2022)

In conclusion, the research related to micro-entrepreneurs in the textile sector highlights the urgent need to promote more sustainable and responsible business management in the Peruvian context (Miranda Pegueros et al., 2022). While progress has been made in integrating social responsibility and quality practices within businesses, there is still much to be done to address emerging environmental and social challenges. (Alburqueque et al., 2021; Sánchez Povis, 2020).

It is crucial for Peruvian companies to adopt a more proactive approach towards sustainability
by integrating environmental and social considerations into all their operations and business decisions. This includes implementing eco-efficient and sustainable practices, fostering a culture of environmental and social responsibility, and promoting the participation of employees and suppliers in sustainability initiatives (Alburqueque et al., 2021; Rodríguez Hernández & Urrea Urrea, 2022).

Furthermore, it is necessary to strengthen the connections between the business sector, government, and society to implement sustainable and equitable business development models over time. This involves creating policies and regulatory frameworks that promote corporate sustainability, as well as raising awareness and providing training to the various stakeholders involved in promoting responsible business practices (Rodríguez Hernández & Urrea Urrea, 2022; Suyo-Vega et al., 2022).

Ultimately, corporate sustainability is not only a cornerstone that ensures the visibility of companies over time, but also contributes to improving the quality of life, comfort, and environmental conservation. It is essential for Peruvian companies to recognize their predominant role in driving sustainable development within their organizations and to lead and promote good business practices for the benefit of others (Andrade Tacca & de la Cruz Huanca, 2022; Guadalupe Zevallos et al., 2023).

The limitations of the present research, for the improvement of credibility and transparency, are related to the size of the sample, since it only describes the context of microenterprises within the textile industry. However, it is necessary to include other sectors of the industry. It is advisable to expand the sample size, diversify the category of companies, to generalize the results and strengthen the existing knowledge.

References


