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SELECTED SUSTAINABILITY INDICATORS AND PERFORMANCE RANKINGS AT THE HERBAL MEDICINE COMPANY

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Abstract

Background: Sustainability means not only the sustainable use of natural resources but also core values in the areas of human rights (HAM), employment, and inclusive business. Supply chain management performance assessment has a direct influence on sustainability performance. Compliance, monitoring, and auditing have a direct influence on improving performance, minimizing risk, and selecting suppliers to achieve Sustainable Supply Chain Management (SSCM). The research was carried out at the herbal medicine company PT. Sido Muncul Herbal Medicine and Pharmaceutical Industry Tbk.
Purpose: This research aims to select indicators, determine priorities for sustainability aspects, and select alternative SSCM performance measures
Design/methodology/approach: the Analytical Hierarchy Process (AHP) method.
Findings/Result: The top priority sustainability indicators for each sustainability aspect are net profit, employee training and development, occupational safety and health management systems, partnerships, environmental management systems, ISO 14001 certification, and certified quality management and food safety. By knowing the main indicators and priority aspects of sustainability; a manager can implement relevant and profitable SSCM activities and manage trade-offs between conflicting objectives by ensuring that profitability, environmental sustainability, and social sustainability of society can be implemented effectively, efficiently, and sustainably.
Conclusion: As a result, it can be concluded that the implementation of sustainability aspects in SIDO requires models, processes, and practices adapted to planning, production, and control. Sustainability practices are no longer considered complementary but standard business activities, so they need to be integrated. The wider the integration of sustainability into the company's business, the wider the level of integration across the enterprise's operations.
Originality/value (State of the art): SCM is a field that is concerned with sustainability performance related to its activities in generating pollution, waste, and environmental footprint. Although there is an increasing conceptual development of SCM practices and has received much attention, previous research has only focused on selecting priority SSCM practices that are most relevant to improving SSCM performance and has not linked sustainability to supply chain drivers and alternative performance measures to improve sustainability performance. In this research was conducted identifying successful supply chain practices in the context of the large corporate culture, has been listed on the Jakarta Stock Exchange, has gone global, and its products are widely used by the public, compliance with government regulations, and international standards by expanding aspects of social sustainability to K3, human resources, community, and product integrity which were not found in previous studies.

Keywords: Analytical Hierarchy Process, corporate sustainability indicators, sustainability practices, performance measurements, PT. Sido Muncul Tbk

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INTRODUCTION

Sustainable development has become a global issue and a major concern since 1987, when the World Commission on Environment and Development (WCED) defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. According to the WCED definition, sustainability means not only the sustainable use of natural resources but also core values in the fields of human rights, employment, and inclusive business. A holistic view of sustainable development is becoming increasingly strategic because it affects the company's core business and growth, profitability, and even company survival (Lee and Lam, 2019). Increasing global sustainability concerns have led to the release of a variety of regulatory policies aimed at encouraging sustainable practices and outcomes, making it necessary for companies to re-evaluate business processes, logistics, and supplier selection, as well as reduce environmental impacts throughout the supply chain to reduce long-term risks while improving company production efficiency. According to Panigrahi et al. (2019), sustainability involves integration between economic, environmental, and social aspects and maintaining a fair balance between these three aspects of sustainability, which can encourage a company's long-term competitiveness.

Sustainability initiatives have been used to assess various SCM practices and to increase competitive advantage through the creation of SSCM (Paulraj et al. 2018). Companies practice SSCM not only to prevent external pressure but also because of the value system of managers and employees (Paulraj et al. 2018). By implementing SSCM, a company can thrive while having a positive impact on its environment and reputation.

In this research, social performance measurements were carried out, which were extended to K3 (Occupational Safety and Health), product integrity, and community, which were not found in previous research. Practices of social aspects such as improved working conditions and employee life, employee care, fair compensation, customer satisfaction, fair trade with suppliers, and CSR activities are the most frequently evaluated in previous research (Shafiq et al. 2014). Applying these practices can improve the company's reputation and contribute to improving its financial performance. Ajmalet et al. (2018) stated that pursuing social sustainability makes one more reputable, respected, and not too vulnerable to risk. The expanded analysis of social aspects also contributes to this research because it still needs to be done.

Panigrahi et al. (2019) have established the need for a comprehensive framework to identify appropriate sustainability indicators to improve corporate competitiveness. The SDGs provide important direction for identifying sustainable supply chain performance indicators that should be prioritized based on key impacts to improve corporate competitiveness (Calabrese et al. 2019). Therefore, the identification of sustainability indicators in the field in this research is not only based on the main problems that exist and are issues that can affect the company's operations, but also carried out by considering literature studies, government regulations, and international standards. Panigrahi et al. (2019) found that supply chain process performance assessment has a direct influence on sustainability performance. It was further stated that compliance, monitoring, and auditing have a direct effect on improving performance, minimizing risk, and selecting suppliers to achieve sustainable supply chain management (Panigrahi et al. 2019). The integration of sustainability into alternative performance measures is carried out to help companies improve company performance and ensure that all parties have implemented the regulations and standards that have been set along the supply chain. An integrative perspective has the potential to improve supply chains more sustainably (Foerstl et al. 2018).

A large company experiences supply chain complexity, competition, corporate profits, diversity of sustainability issues, broad operational scope, multistage decision-making, compliance with government regulations and international standards, trade-offs, and sustainability. This makes it difficult to implement and improve sustainability performance. The aim of this research is to select indicators and determine priorities for sustainability aspects of supply chain management that companies can use to integrate sustainability practices into performance measurement, help implement sustainability into daily activities, and form a culture of sustainability. Selection Sustainability priorities and performance measurements become useful instruments for managers when making decisions to gain a competitive advantage for companies in the supply chain.

METHODS

This research was carried out at the herbal medicine company PT. Sido Muncul Herbal Medicine and Pharmaceutical Industry Tbk (SIDO). SIDO is the largest herbal medicine company in Indonesia, and it implements sustainability and integrates sustainability aspects into its operational activities. The research was conducted in July – January 2024.

The framework for this research is shown in Figure 1. Supply chains play an important role in sustainability efforts related to reducing carbon emissions, waste, and environmental footprints. Increased supply chain sustainability can be identified by adjusting relevant sustainability indicators. Assessment of the supply chain process performance has a direct impact on sustainability performance. Performance measurements can improve supply chain management performance more sustainably.

The research method used in this study is a case study. The type of data consists of data qualitative and quantitative data. The data sources collected consist of primary and secondary data. Data consists of primary data and secondary data. Primary data comes from interviews using a questionnaire. Secondary data was obtained from literature studies, SIDO company reports, and related research. Data was collected through interviews using questionnaires with supply chain respondents (suppliers, distributors, retailers, customers, and SCM managers), expert assessments, and literature studies. The questionnaire contains questions to guide the identification of sustainability aspects, sustainability practices, and performance measures that have been implemented in operational activities at SIDO. Sustainability indicators are identified based on sustainability practices that have been implemented, and they are also considered in literature studies, government regulations, and international standards (Global Reporting Indonesia and ISO 14001).

Sampling is carried out purposively, namely taking samples with certain criteria (Rukajat, 2018). Purposive sampling was chosen as the sampling technique because the researcher had a target individual based on SIDO database information and determined criteria that were appropriate to the research. Supply chains actors (suppliers, distributors, and retailers) are informants who can provide a lot of information and have collaborated with SIDO for more than five years. The criteria for expert respondents are that they have more than 10 years of experience in the fields of supply chain expertise and sustainability. Apart from the criteria above, SIDO supply chain practitioners also have the authority and understand the supply chain process. Convenience sampling is used for exploring information or perception or feedback from consumers regarding SIDO Product Integrity. Convenience sampling is a sampling technique based on chance. Anyone who happens to meet researchers in retail, pharmacies, or drug stores as SIDO consumers can be used as a sample. This technique was chosen because it is easy, fast, and cheap.

The determination of the number of non-expert respondents is based on the opinion of Hair et al. (2014), which is at least four times the number of aspects to be measured, that is, six sustainability aspects and five performance measurement aspects, that is, 24 people. While determining the number of expert respondents is based on the opinion of Hora (2014) that the number of experts who are adequate and have precision is 3–7 people, expert respondents will provide an assessment (expert judgment) on the questionnaire given, coming from three professions, namely academics, sustainability managers, and supply chain managers, because they take into account different expectations and knowledge to obtain and balance expert contributions in providing different weight allocations, so that produces an average weighted calculation that takes into account different levels of knowledge.

Qualitative and quantitative data analysis methods are used to analyze the results of expert assessments. Determining sustainability priority rankings is carried out using the Analytical Hierarchy Process (AHP) method, which is a structured framework for determining priorities at each hierarchical level using pairwise comparisons that are quantified using a scale of 1-9 (Saaty, 2017). Alternative priorities are given by defining objectives, criteria, sub-criteria, and alternatives to decision issues.

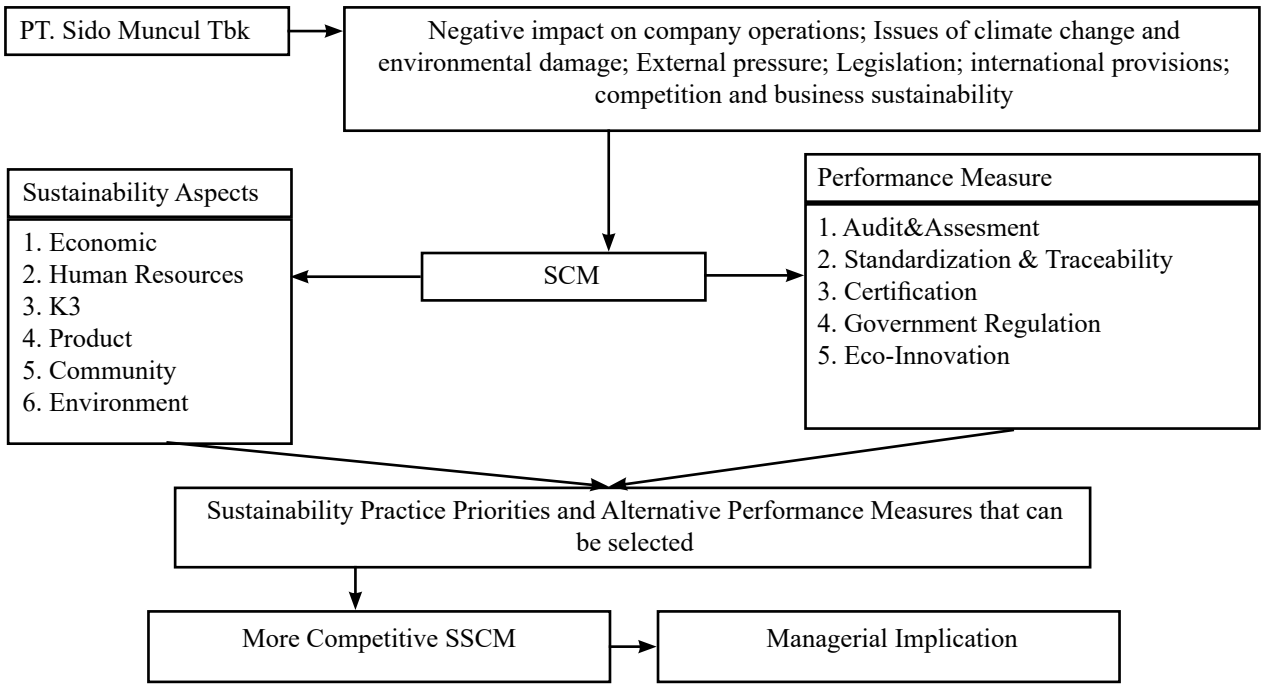

Figure 1. Research framework

The hierarchical model of sustainability priorities and performance measures is shown in Figure 2. The objective of this hierarchy is to prioritize sustainability aspects and their attributes, as well as performance measures, to improve more sustainable supply chain management. Sustainability criteria are the determining elements for achieving goals. The alternative is some priority performance measure for the goal.

Inconsistencies may occur due to human limitations in expressing their perceptions consistently, especially if they have to compare many criteria. The inconsistency limit is determined using the consistency ratio equation (Consistency Ratio = CR), namely the comparison of the consistency index with the Random Index (RI) value. The consistency ratio value is equal to 10% or less than 10%. If it is more than 10%, then the assessment is still random and needs to be corrected.

THE RESULTS

Weight and Priority of Economic Criteria

Table 1 shows that sub-criterion has the most influence on aspects of economic sustainability, respectively, followed by 1) net profit; 2) net sales; 3) distribution of economic value; 4) total assets; 5) earnings per share; 6) ROA; and 7) ROE. The results of this study are consistent with the research of Firdiansjah et al. (2020) and Nurhidayanti (2022) at SIDO. Firdiansjah et al. (2020) stated that profit is often used as a benchmark in measuring a company's financial performance and is needed by stakeholders and shareholders because it is used as an indicator of business assessment, a principle for grouping dividends, and a means of attracting potential investors.

Net sales have a significant effect on net profit. The distribution of economic value consists of economic value distributed to the main stakeholders (shareholders, society, government, suppliers, and employees) and economic value retained. The retained economic value illustrates SIDO's ability to maintain the sustainability of its business. Nurhidayanti (2022) stated that the number of assets has a significant effect on profits. The higher the assets owned by the company, the higher the operating assets produced. Earnings per share are an indicator of whether the company recorded a profit or loss (Nurhidayanti, 2022). Profit has a positive effect on ROA and ROE. ROA makes managers focus on the efficiency of operating assets. The more operating assets are sold, the company's profits will increase. A high ROE will be attractive to investors. This will affect share prices and share per profit (Nurhidayanti, 2022).

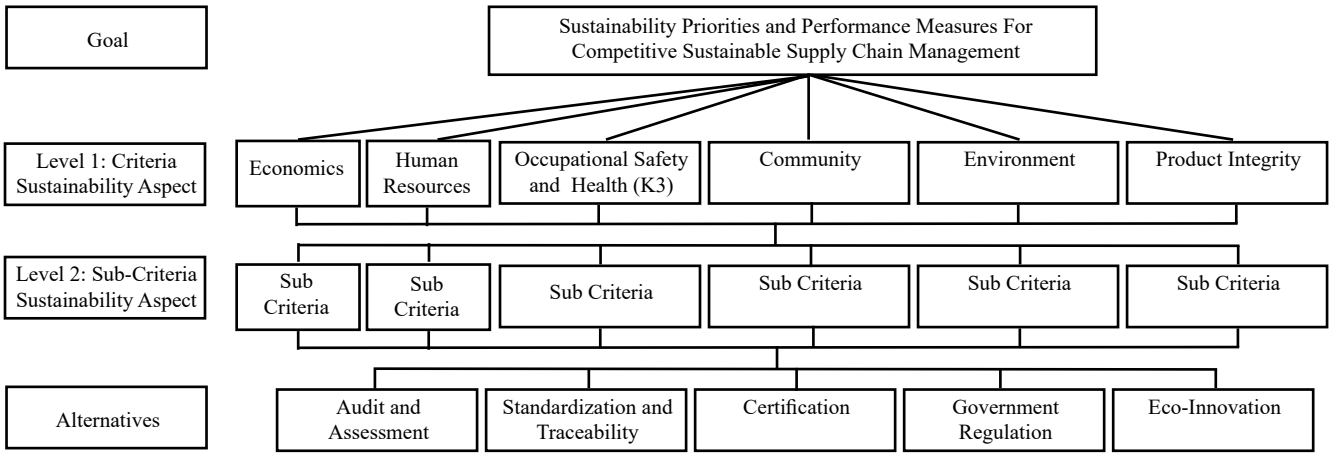

Figure 2. Hierarchical model of sustainability priorities and performance

Table 1. Weight and priority of sustainability aspects of economic criteria

Criteria	Weight	Sub Criteria	Weight	Ranking
Economic	0.33	Net profit	0.43	1
		Net sales	0.19	2
		Distribution of economic value	0.13	3
		Total assets	0.08	4
		Profit and loss to assets ratio	0.06	5
		Profit and loss to equity ratio	0.06	6
		Earnings per share	0.06	7

Weight and Priority of Human Resources Criteria

Table 2 shows, respectively, the priorities for sustainable HR practices are: 1) employee training and development; 2) improving employee welfare; 3) performance appraisal and career development; 4) diversity, and equal opportunities; 5) freedom of association and expression; and 6) employment complaint system. These results support the research of Ajmal et al. (2018), who stated that in a business context, social sustainability is interrelated to employment opportunities, health and safety, training and learning, and professional growth; and Cuthill (2010) research, which argues that education and health are important components of social sustainability. Increasing employee capacity and capability is important to increase innovative productivity for the company's progress, but it must be balanced with improving employee welfare so that employees are more productive and loyal to the company. Sustainable HR management can reduce income inequality (Firdaus DN, 2023) and thus improve employee welfare. Diversity practices and providing equal opportunities in all company activities and operations and freedom for employees to associate and express opinions are fulfillment and respect for human rights (Firdaus DN, 2023).

Further, Firdaus DN (2023) stated that integrating sustainability in HR management is an approach to explaining the main issue of HR management as an HR management practice and strategy that supports the renewal and regeneration of the company's HR capacity and competency for short- and long-term survival. Sustainable HR management can encourage companies to become more competitive and effective in their efforts to provide economic prosperity and social welfare, as well as ecological outcomes for stakeholders and sustainability supporters who have a role in implementing sustainable HR management. According to Firdaus DN (2023), companies can utilize sustainable HR management practices to achieve competitive advantage and improve financial performance, environmental performance, corporate

attractiveness, and HR value. The company's HR department plays an important role in achieving sustainable performance through training, employee development, recruitment, and selection (Leidner et al. 2019). There is still little research on HR management that includes the concept of sustainability as a collection of practices. This research contributes to filling the gap.

Weight and Priority of Occupational Safety and Health (K3) Criteria

Table 3 shows that the occupational safety and health (K3) sustainability priorities and practices, respectively, are: 1) K3 management system; 2) providing health facilities for employees; 3) K3 training, 4) work accident risk mitigation; 5) hazard identification, risk assessment, and incident investigation; and 6) K3 organization.

According to the result of the research by Jaya et al. (2014), to achieve sustainability in industry, two important aspects that local governments and industry must guarantee are employee health and safety (K3). SMK3 is the first priority because it is a series of organized and interconnected activities as a whole that are useful in controlling risks related to work activities to create a comfortable workplace atmosphere, which will greatly influence the implementation of K3. SMK3 is a measure of the performance of K3 implementation in the company. Good SMK3 planning starts with identifying hazards, assessing risks, and determining controls. K3 training is based on the results of hazard identification, risk assessment, and incident investigation. Providing health facilities for employees, K3 training activities to mitigate the risk of work accidents, and K3 organization as the person responsible for and supervisor of K3 implementation. By implementing a management system on an ongoing basis, companies will be more easily able to adapt to constantly changing conditions.

Community Criteria Weight and Priority

The priorities for community sustainability practices are shown by Table 4, respectively, are: 1) partnership programs with raw material suppliers; 2) increasing community capacity and potential; 3) empowering communities and women, providing facilities and policies to support women; 4) CSR and providing donations; and 5) strengthening community economic independence.

A partnership program with raw material suppliers is the main priority aspect of community sustainability because suppliers are part of the value chain, which is related to the continuity of the volume and quality of raw materials (simplisia). Partnership is the answer in order to achieve wider reach, scale, and impact, greater access to resources, minimizing risk and legitimacy, creating transparency and accountability, and improving the company's reputation. Empowerment is the entry point for the emergence of community independence (Ulum MC et al. 2020). Through empowerment, communities have increased capacity, expertise, and confidence to control, manage, and utilize the resources they possess. Community empowerment concerns not only economic welfare (increasing capacity, empowerment, and business capital) but also social welfare (policy facilitation and support, donations). CSR helps companies connect with the community that they serve (Widagdo et al. 2021).

Table 2. Weight and priority of sustainability aspects of human resources criteria

Criteria	Weight	Sub Criteria	Weight	Ranking
Human Resources	0.21	Employee training and development	0.28	1
		Improved employee welfare	0.25	2
		Performance appraisal and career development	0.21	3
		Diversity and equal opportunity	0.11	4
		Freedom of association and expression of opinion	0.09	5
		Employment complaints system	0.06	6

To understand the needs of communities around its operational areas and manage emerging social risks, SIDO empowers communities to form individuals and communities who are empowered, independent, and participate in social life. SIDO operates on the same business principles as the main priority aspect of community sustainability because suppliers are part of the value chain, which is related to the continuity of the volume and quality of raw materials (simplisia). SIDO operates on the same business principles and proposes that the long-term interests of businesses will be best served when the growth and profits achieved are in line with community development, people's quality of life, environmental protection, and sustainability.

Weight and Priority of Environmental Criteria

Priority aspects of environmental sustainability are shown by Table 5, respectively, are: 1) the environmental management system and ISO 14001 certification; 2) access to clean water and sanitation; 3) waste water management; 4) production machine innovation; 5) GHG emission reduction, 6) energy efficiency; 7) utilization of renewable energy; 8) B3 waste management and B3 waste generation reduction program; 9) non-B3 waste management and non-B3 waste generation reduction program; and 10) maintaining the sustainability and diversity of medicinal plants. The environmental criteria have the highest priority weight compared to other aspects. The findings are in line with the results of the study by Sodhi and Tang (2018), which stated that corporate practices place a greater focus on aspects of environmental sustainability. Companies that are financially strong tend to feel positive impact of environmental management Gotschol et al. (2014). Zang et al. (2018) also confirmed the positive impact of environmental management practices on financial performance. It can be seen that the level of importance of the sub-criteria follows the criteria assessment aspect to obtain PROPER from the Ministry of Environment and Forestry (KLHK) and a green industry certificate from the Ministry of Industry. SIDO is a company that has gone global because it has exported to more than 20 countries. Globalization creates more pressure and incentives for companies to improve their environmental performance and requires them to obtain ISO 14001 certification. ISO 14001 certification shows that the company has fulfilled the requirements to develop an environmental management system and action plan to reduce environmental impacts by improving its reputation and strengthening the company's position. In the eyes of regulatory authorities, reducing risks means demonstrating a commitment to environmental responsibility. Environmental performance has a significant effect on a company's economic performance, so it is important to balance the performance of both (Panigrahi et al. 2019).

Table 3. Weight and priority of sustainability aspects of K3 criteria

Criteria	Weight	Sub Criteria	Weight	Ranking
Occupational Safety and Health (K3)	0.16	K3 Management System	0.35	1
		Providing health facilities for employees,	0.24	2
		K3 training	0.18	3
		Mitigation of the risk of work accidents	0.13	4
		Hazard Identification, Risk Assessment, and Incident Investigation	0.06	5
		K3 Organization	0.04	6

Table 4. Weight and priority of community criteria sustainability aspects

Criteria	Weight	Sub Criteria	Weight	Ranking
Community	0.12	Partnership program with raw material suppliers,	0.27	1
		Increasing community capacity and potential	0.21	2
		Empowerment of society and women	0.16	3
		Providing facilities and policies to support women	0.17	4
		CSR and giving donations	0.09	5
		Strengthening community economic independence	0.09	6

Weight and Priority of Product Integrity Criteria

The priority aspects of product integrity are shown by Table 6, respectively, are: 1) certified quality management and food safety; 2) safe, healthy, and quality products; 3) research, innovation, and sustainable product development; 4) raw material quality standards; 5) sustainable supply of raw material; 6) supplier auditing and coaching; 7) responsible marketing, packaging, and labels; 8) packaging and labels; and 9) consumer complaint facilities. These results support research by Burritt and Schaltegger (2014) showing that product responsibility and product safety are emerging global sustainability issues. Companies innovate by developing new products that are more environmentally friendly, as well as by developing new standards to create new revenue streams and achieve competitive advantage (Grant et al. 2017). Another approach that some companies employ is producing durable products to extend product life and avoid waste (Grant et al. 2017). For this reason, the government must promote sustainable consumption, namely the use of related services and products that meet basic needs and deliver a better quality of life while minimizing usage of natural resources and toxic materials, as well as waste and pollutant emissions during the cycle of service and product life, so as not to endanger the needs of future generations. Compliance with regulations is the main foundation for the sustainability of SIDO's business to support product safety and credibility, place consumer safety as a top priority, meet consumer demands for quality and safety, avoid legal sanctions and reputation impacts, and represent social and environmental responsibility to the public, thereby increasing trust. and loyalty among customers and maintaining a loyal customer base. Customer satisfaction and reputation improve financial performance (Cronin et al. 2000) and are key components of competitive advantage (Awang and Jusoff, 2009). Compliance with regulations provides a strong basis for continuous innovation and thus becomes a driver of long-term growth. Companies can integrate product security into every stage of development to create more efficient, safer, and more reliable opportunities and products.

Table 5. Weight and priority of stainability aspects of environmental criteria

Criteria	Weight	Sub Criteria	Weight	Ranking
Environment	0.11	Environmental management system and ISO 14001	0.31	1
		Access to clean water and sanitation	0.10	2
		Waste water management	0.09	3
		Production machine innovation	0.09	4
		Reducing GHG emissions	0.08	5
		Energy efficiency	0.08	6
		Utilization of renewable energy	0.07	7
		B3 waste management and generation reduction	0.07	8
		Non-B3 waste management and generation reduction	0.06	9
		Maintaining the sustainability and diversity of medicinal plants	0.05	10

Table 6. Weight and priority of sustainability aspects of product integrity criteria

Criteria	Weight	Sub Criteria	Weight	Ranking
Product Integrity	0.07	Certified quality management and food safety	0.19	1
		Safe, healthy, and quality products	0.16	3
		Research, innovation, and continuous product development	0.18	2
		Raw material quality standards	0.15	4
		Sustainable supply of raw materials	0.11	5
		Supplier auditing and coaching	0.08	6
		Responsible marketing	0.05	7
		Packaging and labels	0.04	8
		Consumer complaint facility	0.04	9

There are trade-offs in the sustainability aspect, namely differences of opinion between decision-makers in companies regarding sustainability policies, strategies, and programs; conflicts in the process of structural and technological change for sustainability involving a group of industries; and other actors at the industry level (regulators, NGOs) regarding impact assessment, compliance, and management implemented, and the company's contribution to a more sustainable society. The strategies that can be implemented successively are developing a shared meaning of sustainability and further increasing the diversity of stakeholder views to promote the company's adaptability and innovation, implementing positive corporate contribution strategies and governance modes for sustainable development in the form of technology strategies for sustainability, commercialization strategies, and collaborative innovation for sustainability.

Alternative Weights and Priorities

To assess the level of sustainability that has been achieved by the company and the supply chain as a whole, it is important to establish adequate performance measures to measure SIDO's sustainability performance. Supply chain process performance assessment has a direct influence on sustainable performance (Panigrahi et al. 2019). From Table 7, it can be seen that the alternative priority performance measures that have the most influence on SSCM, respectively, are: 1) audit and assessment; 2) standardization and traceability; 3) certification; 4) government regulation; and 5) eco-innovation. These results support research by Rahmana et al. (2018) and Panigrahi et al. (2019) that audit, assessment, and standardization are key players in a performance assessment that help companies measure and monitor the company's SSCM performance. Audits and assessments have a positive impact on sustainability performance and help

companies achieve quality processes and products. Supplier audits and coaching are carried out to ensure suppliers comply with standard company policies, including quality, food safety, and social and environmental issues. Eco-labeling, environmental management systems, environmental audits, supplier assessments, supply chain operational audits, and evaluations are regularly carried out by SIDO to increase the level of compliance with established SOPs, quality standards, and sustainability. Standardization can address suppliers' environmental and social problems and promote better coordination in the supply chain (Panigrahi et al. 2019). Standardization and auditing can maximize sustainability performance and minimize reputational risks (Panigrahi et al. 2019). According to Panigrahi et al. (2019), standardization and traceability are management practices needed to achieve better sustainability performance. SIDO emphasizes the standardization of working conditions and the environment, standardization of raw materials and suppliers, standardization of product quality, and standardization of supply chains by promoting product traceability.

Table 7. Priority weights for selection of alternative performance measures that have the most influence on sustainable supply chain management

Alternative	Economic	HR	K3	Community	Environment	Product Integrity	Weight	Rank
	0.33	0.21	0.17	0.13	0.08	0.07		
Audit and Assessment	0.29	0.28	0.28	0.29	0.28	0.30	0.29	1
Standardization and Traceability	0.24	0.23	0.25	0.24	0.25	0.25	0.24	2
Certification	0.19	0.18	0.19	0.19	0.20	0.18	0.19	3
Government regulations	0.17	0.17	0.18	0.15	0.18	0.17	0.17	4
Eco-Innovation	0.11	0.13	0.09	0.12	0.10	0.10	0.11	5

SIDO carries out quality and food safety, environmental, and K3 certification, as well as training for suppliers. Supplier audits are also carried out by SIDO on a regular and incidental basis. This is what (Panigrahi et al. 2019) conveyed to achieve sustainable performance through sustainable supply chain management with third-party certification, providing training to suppliers, and conducting supplier audits to assess and monitor risks. According to Panigrahi et al. (2019), supplier certification and audits are carried out to assess and monitor risks. Meanwhile, eco-innovation has a strong positive impact on environmental and company performance (Panigrahi et al. 2019) by encouraging SIDO to carry out environmentally friendly innovations that lead to the adoption of technology to improve environmental performance and achieve global competitiveness.

Managerial Implications

The main goal of the company is to make a profit. Therefore, a manager must be able to implement SSCM activities that are relevant and profitable by ensuring that profitability and environmental and social issues can be implemented effectively, efficiently, and sustainably. By knowing the main indicators and priority aspects of sustainability, managers can manage the trade-off between conflicting goals such as generating profits and simultaneously reducing adverse environmental impacts while still upholding various social responsibilities and implementing government regulations with a high level of compliance.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The contribution of this research lies in identifying successful supply chain practices in the context of corporate culture, compliance with government regulations, and international standards by expanding aspects of social sustainability to K3, human resources, community, and product integrity, which were not found in previous studies.

Sustainability priorities are becoming a useful tool to gain a competitive advantage for companies in helping solve various management issues related to sustainability reporting and meeting CSR and government regulatory requirements. As a big company, SIDO focuses more on environmental sustainability, but with the trade-off sustainability aspects, i.e., differences of opinion between decision-makers in the company, a group of industries, and other players at the industry level (regulator, NGO), SIDO expands the social aspect. By having a relationship rooted in social sustainability with various stakeholders such as employees, customers, business partners, and society, the image and social reputation as well as the financial performance of the company will improve. It will take top management's commitment and motivation to apply sustainability to succeed as the right thing to do (i.e, moral motivation) with the involvement of all stakeholders.

The results of this study support and strengthen the results of previous research. Both theoretical and implementation results imply that implementing sustainable supply chain management at SIDO requires adapted models, processes, and practices in planning, production, and control activities. Sustainability practices are no longer considered an add-on but have become a standard of business activities. For sustainability to be managed successfully in the supply chain, full integration is required. The wider the integration of sustainability in a company's business, the wider the level of integration throughout the supply chain.

Recommendations

There is a trade-off in the sustainability aspect, namely differences of opinion between decision-makers in companies regarding sustainability policies, strategies, and programs; the process of structural and technological change for sustainability that concerns a group of industries and other actors at the industry level (regulators, NGOs) regarding impact assessment, compliance, and the measures implemented; and the company's contribution to a more sustainable society. The strategies that can be implemented successively are developing a shared meaning of sustainability and further increasing the diversity of stakeholder views to promote the company's adaptability and innovation, implementing positive corporate contribution strategies and governance modes for sustainable development in the form of technology strategies for sustainability, commercialization strategies, and collaborative innovation for sustainability.

Future research could focus on the existence of an integrative relationship between company performance and SSCM aspects. Ultimately, this analysis shows the strategic and managerial implications that arise from the trade-off between supply chain drivers and sustainability. Future research on trade-offs in corporate sustainability therefore draws on the implications of trade-offs for the idea of corporate sustainability itself.

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