Exploring the Role of Sustainable Intellectual Capital in Enhancing Sustainable Performance: A Case Study

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Abstract

Intellectual Capital (IC) is increasingly recognized as a critical asset for organizational success. In parallel with rising awareness of sustainability, the concept of Sustainable Intellectual Capital (SIC) has emerged. Despite its relevance, empirical research on SIC is still scarce, especially regarding its linkage to sustainable organizational performance. This study addresses this gap through a case study of an MSME supported by PT LEN, this study aims to assess how internal organizational stakeholders perceive the concepts of SIC, sustainability, and sustainable performance, as well as to gain a deeper understanding of the impact of SIC on the economic, social, and environmental dimensions of sustainable organizational performance. The evidence indicates that stakeholders are not familiar with the concept of SIC and tend to overemphasize the environmental dimension when referring to sustainability and sustainable performance. Furthermore, the findings reveal that the organization's sustainable performance is influenced by all components of SIC—human, structural, and relational capital. This study contributes to the development of two distinct yet complementary streams of research: intellectual capital and sustainability capabilities. It also offers important managerial implications for industrial organizations concerned with their performance. Finally, any generalization to other contexts should be made on a purely theoretical basis.

Keywords: *Sustainable Intellectual Capital; Sustainable Performance; MSMEs*

I. INTRODUCTION

In Indonesia, Micro, Small, and Medium Enterprises (MSMEs) constitute around 99% of total business units and play a vital role in economic growth. Their contribution to Gross Domestic Product (GDP) reaches 60.5%, while their share in employment absorption amounts to 96.9% of total national employment (Limanseto, 2022). The government has therefore placed special emphasis on MSMEs as a key driver of national economic development. However, the rapid growth of MSMEs also poses significant negative impacts on the environment, particularly in relation to pollution.

Pollution generated by MSMEs may originate from various sources, including production waste, exhaust emissions, and the use of hazardous chemical materials. If not properly managed, pollution from MSMEs can pose serious risks to public health and the surrounding environment. Therefore, the government also needs to give special attention to environmental management within the MSME sector. Such efforts may include providing education and training on waste management and the handling of hazardous materials, as well as strengthening supervision of MSME compliance with environmental regulations. In addition, MSMEs can undertake environmentally responsible actions, such as using eco-friendly

materials and improving energy efficiency, as strongly recommended. These practices not only help protect the environment but can also enhance the image and market value of MSME products. Such responsibilities are in fact regulated under Law No. 23 of 2009 on Environmental Protection and Management. The law stipulates that MSMEs are not required to prepare Environmental Impact Assessments (AMDAL) or Environmental Management and Monitoring Efforts (UKL/UPL); however, they are required to prepare a Statement of Commitment for Environmental Management and Monitoring (SPPL).

In order to achieve sustainable development, environmental management within the MSME sector must become a serious and long-term strategic priority. Through appropriate measures and collaboration among the government, MSMEs, and society, a healthy environment for present and future generations can be achieved. To reduce pollution generated by MSMEs, cooperation and awareness among multiple stakeholders are essential. For instance, the government can impose stricter regulations on MSMEs that fail to consider the environmental impacts of their activities, while also providing incentives for MSMEs that have taken environmental impacts into account and act in an environmentally responsible manner. Meanwhile, MSMEs also need to enhance their awareness and capabilities in managing waste and hazardous materials. The government can provide appropriate training and education to enable MSMEs to implement environmentally friendly practices. Consumers likewise play a crucial role in reducing pollution generated by MSMEs. By choosing environmentally friendly MSME products and supporting businesses that act responsibly, consumers can contribute to environmental protection. In the long run, environmental management within the MSME sector should become an integral part of MSME business strategies. MSMEs that take environmental impacts into account in their operations will be more sustainable and better able to compete in an increasingly environmentally conscious global market. Ultimately, environmental management in the MSME sector is essential for safeguarding human health and the surrounding environment. Achieving a healthy and sustainable environment requires collaboration among the government, MSMEs, and society, reflecting synergy between MSMEs and broader sustainability initiatives (YDBA, 2023).

In modern knowledge-based economy, intellectual capital (IC) has played a significant role in the business, institutional, and academic domains, facilitating the transition toward innovative, competitive, and sustainable organizational development. More broadly, IC can be defined as a set of competencies related to an organization's employees which, together with organizational structures and relationships with stakeholders, can express the organization's potential for value creation (Joshi et al., 2013). Accordingly, IC encompasses human capital and its capabilities, organizational culture and technologies (structural capital), and relationships (relational capital), all of which enable organizations to achieve competitive advantage (Kianto et al., 2014; Xu & Wang, 2018; Chen, 2008).

Intellectual capital is closely related to knowledge management, which can foster organizational sustainability across multiple dimensions (social, economic, and environmental). Consequently, it contributes to the development of production systems that value the natural and social balance of the global ecosystem (Del Giudice et al., 2022). The

management of intellectual capital can drive corporate sustainability initiatives, and its potential contribution to environmental issues has been increasingly emphasized in recent years (Xu & Wang, 2018; Tonial et al., 2018). At present, companies place greater value on certain aspects, such as consumers' environmental awareness and the reputation generated by activities that lead to more sustainable production. An organization's ability to address sustainability challenges may determine its profitability or even its survival (de Villiers & Sharma, 2020). Therefore, organizations now enhance their sustainable performance by leveraging all forms of capital and managing their intellectual capital more efficiently (Del Giudice et al., 2022; Martínez-Coba, n.d.).

The increasing relevance of intellectual capital and sustainability concerns has given rise to the concept of sustainable intellectual capital (SIC) (Chen, 2008). SIC encompasses intangible resources, capabilities, knowledge, and relationships associated with environmental protection, while also extending to social and economic aspects. Despite its relevance, empirical research on SIC remains limited, particularly regarding its link to sustainable performance. Accordingly, this study aims to examine MSME stakeholders' perceptions of SIC, sustainability, and sustainable performance, and to deepen understanding of SIC's influence on organizational sustainable performance.

II. LITERATURE REVIEW

Intellectual Capital

The transition toward a knowledge economy has highlighted the central role of intangible resources as key drivers of organizational performance and competitive advantage (Brooking, 1997; Agostini et al., 2017; Yusoff et al., 2019). Intellectual capital (IC), as intangible assets that generate value beyond what is reported in traditional accounting systems (Edvinsson & Malone, 1988), has therefore become a major focus in management research. Since its introduction by Galbraith in 1969, IC research has evolved through four phases: conceptual clarification, measurement and reporting, managerial application, and, more recently, extension to address ecological and social challenges (Secundo et al., 2016; Dumay & Garanina, 2013; Massaro et al., 2018). Despite extensive research, no single definition of IC has been universally accepted. However, it is commonly described as knowledge-based resources related to employees, organizational processes, and stakeholder relationships that contribute to value creation and competitive advantage (Stewart, 1997; Kujansivu, 2008; Sardo et al., 2018). Most studies adopt a three-dimensional taxonomy: human capital (HC), structural capital (SC), and relational capital (RC), and emphasize that these dimensions are interrelated (Bontis, 2004; Do Rosário Cabrita, 2009).

Building on this foundation, Chen (2008) introduced the concept of Sustainable Intellectual Capital (SIC), also known as green IC, which integrates intellectual capital with environmental sustainability concerns. Although still underexplored (Yusoff et al., 2019), SIC is defined as the knowledge, capabilities, and resources related to environmental protection and eco-innovation that enable firms to achieve sustainable competitive advantage (Chen, 2008; López-Gamero et al., 2009; Yusliza et al., 2020). Consistent with the traditional IC framework,

SIC comprises sustainable human capital (SHC), sustainable structural capital (SSC), and sustainable relational capital (SRC). SHC relates to employees' environmental knowledge, skills, and attitudes, which can be enhanced through training and supportive work environments to foster green innovation (Chen & Chang, 2012; Yong et al., 2019). SSC refers to organizational systems, cultures, and processes that support environmental management and green innovation, which are critical for sustainable performance (Chen, 2008; Jardon & Dasilva, 2017). Finally, SRC reflects environmentally oriented relationships with customers, suppliers, and other stakeholders, which increasingly influence organizational reputation and competitive advantage as stakeholder expectations shift toward sustainability (Tonial et al., 2018; Chen, 2008; Yusliza et al., 2020).

Sustainability and Corporate Social Responsibility

Awareness of the environmental impacts of human activities began to emerge in the mid-1960s, leading to the continuous development of the sustainability concept (Elkington, 2006). Sustainability reflects society's progression toward equitable and long-term prosperity while preserving natural and cultural resources for future generations (Dyllick & Hockerts, 2002). Growing social awareness has reinforced the view that firms should not prioritize profit alone but must consider the economic, environmental, and social consequences of their activities (Maldonado-Erazo et al., 2020). Consequently, organizations play a critical role in addressing global unsustainability by embedding sustainability into their business strategies to enhance stakeholder welfare, societal well-being, and environmental protection (Avesani, 2019; Savitz & Weber, n.d.). Corporate sustainability is therefore understood as the implementation of strategies that meet present organizational and stakeholder needs while safeguarding future human and natural resources (Labuschagne et al., 2005), as well as a means of achieving long-term growth and profitability through the integration of social and environmental concerns into business models (Niţă & Ştefea, 2014).

Closely linked to sustainability, Corporate Social Responsibility (CSR) has evolved from an ethical obligation into a performance-oriented concept that emphasizes stakeholder value and business outcomes (Bowen, 2013; Ashrafi et al., 2020). CSR promotes voluntary business practices aligned with sustainable development and reflects societal expectations across economic, legal, ethical, and discretionary dimensions (Maldonado-Erazo et al., 2020; Muñoz et al., 2020). Grounded in the triple bottom line framework, CSR integrates economic, environmental, and social objectives to achieve sustainable development (Żak, 2015). As a strategic approach, CSR supports long-term organizational value creation by enhancing economic performance, social welfare, and environmental sustainability, while also fostering transparency, ethical conduct, stakeholder engagement, and the development of intangible assets such as reputation, relationships, and employee motivation (Du et al., 2011; Yusoff et al., 2019; Yu & Liang, 2020; Branco & Rodrigues, 2006).

Sustainability Intellectual Capital and Sustainability Performance

Corporate Social Responsibility (CSR) is widely recognized as an indicator of organizational success and a means of achieving sustainable development by integrating economic, environmental, and social dimensions. Recent research increasingly links CSR and sustainability initiatives to firm performance across these three areas (Lopes de Sousa Jabbour et al., 2020). Once assessed, sustainability performance can serve as a strategic management and communication tool, although the concept itself remains relatively new and insufficiently explored (Büyüközkan & Karabulut, 2018). Sustainability performance is defined as the overall outcome—positive or negative—of an organization's economic, environmental, and social impacts relative to a given baseline (Büyüközkan & Karabulut, 2018).

Economic performance reflects an organization's contribution to society, environmental performance concerns its impact on natural systems and resource use, and social performance relates to labor practices and community effects. Despite the focus on these three dimensions, many studies still rely on financial performance as a proxy, leaving the relationship between sustainability performance and firm performance unclear (Goyal et al., 2013). Prior research suggests that intellectual capital (IC) supports long-term value creation and sustainability performance, particularly in resource-constrained firms, by enhancing innovation, information flows, relationships, and cultural commitment to sustainability (Goyal et al., 2013; Ying et al., 2019; Xu & Wang, 2018; Alvino et al., 2021). Consistent with this view, Sustainable Intellectual Capital (SIC) and its dimensions—SHC, SSC, and SRC—have been shown to positively influence economic, environmental, and social performance, underscoring the need for further investigation into their interrelationships within corporate sustainability contexts (Yong et al., 2019).

Sustainable Human Resources and Sustainable Performance

Human resources play a crucial role in fostering corporate sustainability, as they contribute to improving organizational performance across the three dimensions of sustainability—economic, environmental, and social. Moreover, a positive relationship between knowledge creation and employee behavior has been identified in the literature (Malik et al., 2020; Kianto et al., 2014; Rayner & Morgan, 2018). However, in the specific case of sustainable human capital (SHC), several studies have not found evidence of a significant relationship between this dimension and an organization's sustainable growth. For instance, Omar et al. (2017) examined the relationship between SHC and business sustainability in Malaysian manufacturing SMEs but did not find evidence of a positive effect of SHC on business sustainability. Similarly, Mukherjee and Sen (2019), in their study of non-financial firms in India, did not observe a significant relationship between SHC and sustainable organizational growth.

SHC contributes to the creation of ethical principles and organizational cultures aligned with corporate sustainability values. Consequently, CSR strategies can positively influence a firm's SHC in several ways. First, by becoming more sensitive to environmental and social issues, firms can attract employees who are more inclined to acquire and develop knowledge. Second, CSR strategies may lead to the adoption of human resource practices such as

developing environment-related activities or providing rewards for achieving goals associated with social and environmental commitments. Finally, CSR initiatives tend to enhance employee morale and working conditions, creating an environment conducive to generating new sustainability-related ideas (Nirino et al., 2022). Therefore, the effective implementation of CSR practices is beneficial for human resource efficiency and may have a positive impact on sustainable performance (Nirino et al., 2022).

Sustainable Structural Capital and Sustainable Performance

Organizations with well-embedded structural capital (SC) are more likely to possess a strong collaborative environment that can motivate employees and other stakeholders to transfer and absorb greater amounts of knowledge. In contrast, organizations with weak systems and procedures tend to be unable to achieve their full performance potential (Yusoff et al., 2019). Institutionalized corporate policies and structures are therefore essential for implementing and achieving corporate sustainability (Yusliza et al., 2020).

Firms require appropriate organizational structures to effectively implement CSR strategies (Jardon & Dasilva, 2017). Several studies provide evidence of a positive influence of sustainable structural capital (SSC) on corporate performance (Hsu & Wang, 2012; Wang et al., 2014). For example, Delgado-Verde et al. (2017) found that SSC positively affects the development and innovation of environmentally friendly products. In addition, CSR strategies can foster the creation of structural capital (organizational capabilities, processes, organizational culture, or corporate image) which ultimately enhances firm performance (Chen, 2008).

Sustainable Relational Capital Performance

Finally, relational capital (RC) facilitates the exchange of information between organizations and their stakeholders, thereby enabling firms to access relevant information. Accordingly, the greater the interaction with stakeholders, the better an organization's routines and practices tend to be (Yusoff et al., 2019). Collaboration is essential for promoting knowledge sharing and environmental awareness, which in turn supports the transition toward a more sustainable society. Therefore, knowledge sharing and collaboration are crucial for the adoption of sustainable practices (Dickel et al., 2018; Matinaro et al., 2019). Khalil Omar et al. (2017) conclude that sustainable relational capital (SRC) has a positive and significant relationship with corporate sustainability. Similarly, in their study of industrial firms in Korea, Xu and Wang (2018) demonstrate that intellectual capital positively influences corporate sustainability, highlighting the importance of relational capital.

From another perspective, RC can be influenced by CSR activities, as stakeholders increasingly hold expectations regarding social and environmental issues. Consequently, RC must be managed effectively in order for organizations to achieve competitive advantage (Yong et al., 2019; Cillo et al., 2019). Well-managed environmental and social aspects can foster organizational culture and image, as well as strengthen commitment to sustainability (Huang & Kung, 2011).

III. METHODOLOGY

This study examines the perceptions of internal stakeholders from MSMEs supported by PT LEN regarding Sustainable Intellectual Capital (SIC), sustainability, and sustainable performance, while also deepening understanding of how SIC influences sustainable performance. To address the limited empirical evidence on this complex relationship, an in-depth case study methodology was adopted (Miles, 2014; Yin, 2018). Data were collected between March and June 2023 using multiple sources, including semi-structured interviews, document analysis, and direct observation, enabling data triangulation and enhancing research validity (Yin, 2018). Eleven semi-structured interviews were conducted with MSME owners selected for their comprehensive organizational knowledge. The interviews, lasting 18–45 minutes, explored participants' perceptions and practical examples related to SIC and sustainable performance. All interviews were recorded, transcribed, and analyzed using content analysis, with data systematically categorized according to SIC, sustainability, sustainable performance, and the relationships among these concepts.

IV. RESULTS AND DISCUSSION

Perceptions of Sustainable Intellectual Capital (SIC), Sustainability, and the Concept of Sustainable Performance

This case study provides evidence of a lack of knowledge regarding the concept of IC), particularly SIC. However, after the interviewer briefly explained the meaning of IC and SIC (also in order to proceed with the interview), it was found that the core ideas underlying the SIC concept were implicitly reflected in most of the respondents' answers. For example, one SME owner stated: "The concept itself, in this way, is something I have never heard of. What is implicit in this concept is not new. We already had this perception. However, attaching a specific name to this concept is something I am hearing for the first time." Similarly, another SME owner claimed that "when one understands what each term means, there are some areas that are still very unfamiliar to me."

These findings also indicate that, prior to the explanation of SIC by the interviewer, stakeholders tended to emphasize the human dimension of IC. They perceived the SIC concept as being equivalent to one of its dimensions, namely sustainable human capital (SHC), implicitly associating SIC with individual practices they were already undertaking. Internal organizational actors did not have a holistic perception of the SIC concept, instead indirectly associating it with the human dimension, reflecting the literature that often emphasizes the three-dimensional classification of IC. Consequently, they were also unaware of the need for interaction among IC dimensions to create value, as suggested by Do Rosário Cabrita (2009). Nevertheless, it should be highlighted that SME owners stated that "SIC is an intangible asset, but ultimately it becomes a concern for SME owners in relation to the environmental resources they possess." This claim is consistent with Chen's (2008) definition of SIC, which integrates IC with environmental aspects.

When respondents were asked whether they understood the concepts of sustainability and sustainable performance, all of them stated that they did. However, the findings reveal a stronger focus on environmental sustainability and, to a lesser extent, on the economic dimension. For instance, one SME owner argued that "perhaps the environmental area is the one in which I most often hear about the concept of sustainability, or even in the economic area. But I am already familiar with this concept." Another SME owner stated that "sustainability means that a company carries out its activities without harming the environment. It is everything we do every day, from turning off lights, separating waste, and respecting the environment so that we do not damage the activities we develop."

Therefore, these findings show that internal organizational actors tend to perceive sustainability as a single dimension, namely the environmental dimension. Sustainability is not regarded as a construct encompassing different and interrelated dimensions, as suggested by several authors such as Avesani (2019) or Niţă and Ştefea (2014). While these authors consider corporate sustainability as a business strategy aimed at promoting economic growth that requires the integration of environmental and social dimensions, Żak (2015) emphasizes the need to balance these dimensions (environmental, social, and economic).

Consequently, in order to proceed with the interviews, the interviewer needed to clarify the concept of sustainability. This clarification allowed respondents to express their perceptions of company performance by considering the different sustainability dimensions (economic, environmental, and social) in a more rigorous manner. Economic performance was perceived as efficiency in production processes, with a strong focus on waste reduction. As stated by one SME owner: "This is our concern to think about these issues and to innovate. For example, at present, a set of actions is being implemented aiming toward the concept of zero waste or zero waste-related costs generated by the company." The reduction of waste management costs, technological adaptation for profitable applications, and product/process differentiation for environmental protection were identified as key measures of economic performance, as also discussed by Yusoff et al. (2019).

In addition, there was a shared perception regarding the organization's concern for environmental issues. In SMEs, various environmental initiatives, such as paperless practices or water and energy savings (through solar panels), are being implemented. However, the focus on waste and solutions to reduce it appeared in most responses. This focus was emphasized by one SME owner, who stated: "Here, environmental performance is partly measured by the resources and waste we generate." Another SME owner added: "We have to reduce waste and we have set targets. One of our targets for this year is to reduce the waste we generate by 20%." SME owners thus considered waste reduction and the establishment of best practices to be essential. Accordingly, respondents' perceptions are consistent with the findings of Yusoff et al. (2019), where indicators such as waste reduction or energy consumption are used to measure environmental performance. Non-polluting processes that preserve natural resources should be adopted in the production of goods (Żak, 2015).

Waste reduction and management were viewed as critical elements of both economic and environmental performance. SME owners stated that their companies are committed to incurring costs and making investments in order to generate positive environmental impacts.

Finally, most interviewees emphasized the importance of employee well-being related to the social dimension, providing examples of several initiatives and forms of recognition and rewards, such as career monitoring, employee integration programs, and healthcare programs. As one SME owner stated: "We are entrepreneurs who care deeply about our employees. It is more than just wages. There is a fundamental relational component and closeness with employees that does not exist in many companies." The interviewees' perceptions are in line with Yusoff et al. (2019) and Żak (2015), who emphasize the importance of employee health and safety as key indicators for measuring social performance.

The Impact of Sustainable Human Capital on Sustainable Performance

These findings show that the development of Sustainable Human Capital (SHC) influences organizational sustainable performance both overall and across each of its dimensions: economic, environmental, and social. All interviewees regarded SHC as a critical dimension and provided examples of how it has been developed over time. Such examples include training initiatives implemented by SMEs, employee empowerment, and knowledge sharing among employees, all aimed at increasing awareness of sustainability-related issues and enhancing environmental knowledge by developing new skills. In monthly meetings, so-called "environmental notes" are discussed, during which employees are made aware of waste-reduction issues. SME owners have also made significant investments in educating the community on environmental matters, for instance through training sessions on waste separation. One owner stated that although people initially had doubts, many of them were valid and constructive. According to the owner, posters were installed showing how many planets humanity has already consumed in terms of natural resources, so that employees could become more aware of environmental problems. Over time, the company has strengthened employees' "green" knowledge base through various initiatives in order to improve sustainable performance.

The findings also highlight the importance for organizations of fostering employee knowledge related to waste and residue reduction, as well as the continuous search for solutions, which can potentially affect the organization's economic, environmental, and social performance. It is important to emphasize that the different dimensions of sustainable performance are interrelated. According to SME owners, there is a clear link between SHC and both the economic and environmental dimensions. In their words, employees are strongly encouraged to develop knowledge of environmental issues. For example, regarding waste sorting, training activities have been conducted by specialized organizations, or employees are informed during monthly meetings about how much the company pays for waste collection. At the economic level, employees are made aware that the more material is discarded, the more money is wasted. In addition, employees become more sensitive to reducing water consumption, which simultaneously affects monthly utility bills, as noted by the SME owners.

Furthermore, SHC can also influence the organization's sustainable social performance. SME owners provided examples of how enhancing employees' environmental knowledge can generate social benefits. One owner illustrated this relationship by explaining that the company incurs annual environmental-related costs and aims to reduce them to zero. If employees possess greater environmental knowledge and can operate more efficiently, management can argue that if average annual expenditures are reduced, the remaining resources may be reinvested in improving employees' working conditions or in other social facilities. This could result in better conditions during employees' downtime or improvements to shared communal spaces.

Thus, in broader terms, this reflects the idea that sustainable performance begins with individual behavioral change. Organizational performance improves when greater impact is achieved at the individual level through human resource management practices. The above findings are consistent with Malik et al. (2020) and Rayner and Morgan (2018), who identify a positive relationship between employee behavior and knowledge and improvements in organizational sustainable performance across its three dimensions. However, other studies, such as Khalil Omar et al. (2017) and Mukherjee and Sen (2019), suggest that this relationship may not always be statistically significant.

The Impact of Sustainable Structural Capital on Sustainable Performance

The findings indicate that all interviewees emphasized the importance of Sustainable Structural Capital (SSC) in driving organizational sustainable performance. Several illustrations of SSC development were identified. Most of them relate to organizational culture, operational procedures, environmental protection systems (including environmental management policies and certifications), as well as investments in intangible assets such as software that enable waste reduction. SME owners stated that environmental themes are embedded in the organizational culture of their businesses. They also highlighted the importance of seeking better environmental processes, improved environmental routines, and superior products that generate significant impact. Environmental certification itself was emphasized as a key element. "Green" operational procedures and environmental management policies were also major concerns within the organization. For instance, as noted by one SME owner, the company strongly encourages customers to place orders online rather than using paper. The firm has implemented policies aimed at reducing paper usage and promoting the use of information technology as a substitute.

Furthermore, the findings show that organizational SSC has a direct impact on environmental performance. This effect was emphasized by SME owners, who argued that the structural components of a company are closely linked to sustainable performance. If an organization lacks adequate structure and organization, waste generation and natural resource consumption are likely to be significantly higher. Concerns regarding waste reduction again emerged as a central theme. Interviewees highlighted several factors that support SMEs' environmental performance, such as reducing paper use and increasing reliance on technological mechanisms associated with the transition toward 100% recyclable materials.

According to SME owners, at the production level, information is transmitted via tablets, thereby reducing the need for printed materials.

In addition, the implementation of lean methodologies within the organization has made a substantial contribution to improving not only environmental performance but also economic performance. Through this approach, various organizational areas are audited based on indicators such as quality, cleanliness, safety, environmental impact, and waste management. The audit results for the "finishing" area (conducted in May 2023) provide a relevant illustration of the effects of SSC on sustainable performance. Sustainable practices, such as waste reduction, positively affect environmental performance. Moreover, alongside waste-related improvements, enhanced final product quality has a positive impact on the organization's economic performance. Finally, health and safety indicators reflect concern for employee well-being in the workplace. Overall, the audit results for the assessed area were fairly positive, indicating employees' commitment to continuous improvement. The organization as a whole is gradually striving to achieve best-practice standards. These findings are consistent with Yusoff et al. (2019), who argue that organizations with well-embedded structural capital that fosters a collaborative environment can motivate employees and stakeholders to absorb more knowledge, thereby enhancing organizational performance. The results are also in line with Hsu and Wang (2012) and Wang et al. (2014), who report a positive influence of SSC on firm performance across all three dimensions, as well as with Yusliza et al. (2020), who emphasize that organizational policies and structures are crucial for implementing and achieving corporate sustainability.

The Impact of Sustainable Relational Capital on Sustainable Performance

Similar to the other dimensions of SIC discussed above, all interviewees considered Sustainable Relational Capital (SRC) to be important. The interviews provided insights into how SRC is developed and how it influences the firm's sustainable performance. Several approaches are used to build SRC, however, particular emphasis should be placed on efforts to disclose SMEs' environmental practices in order to strengthen their corporate image. These efforts are mainly undertaken by the company's marketing and communication departments. According to SME owners, they frequently share on social media the initiatives they implement, such as replacing machinery with more efficient equipment or publicizing new packaging solutions. The importance of the marketing function was further highlighted, as these initiatives are also disseminated through social networks so that the public can perceive the company's concern for environmental issues. Moreover, there is evidence that, at the relational level, although some partners do not place significant value on SMEs' environmental practices, the majority of partners do appreciate them. The company previously used plastic for product packaging; however, due to environmental concerns, it began adopting cellulose-based paper. It was necessary to explain to clients the reasons behind this change, and clients generally understood and accepted it.

The case study also shows that, from an economic perspective, the concern for developing products using more sustainable raw materials is not always beneficial for either

the company or its customers, as such materials tend to be more expensive and have a shorter lifespan. For customers, quality issues are particularly important due to their needs and the potential costs of replacement. Consequently, these practices do not necessarily translate into improved economic performance, a finding that contrasts with studies such as Khalil Omar et al. (2017) and Xu and Wang (2018), which emphasize a positive relationship between SRC and sustainable economic performance.

Finally, unused materials are donated to institutions and schools. According to SME owners, clients are even encouraged to recycle materials once they are no longer in use or to donate items such as clothing, as commonly practiced in environmentally conscious countries. This behavior aligns with the social dimension of sustainable performance, demonstrating that relationships with external stakeholders can enhance an organization's social performance. On the one hand, the company avoids disposal costs for unused materials, on the other hand, these practices are consistent with the principles of reuse and recycling, as well as active engagement with the community.

V. CONCLUSION AND RECOMMENDATIONS

Conclusion

This paper aims to assess the perceptions of internal stakeholders in industrial MSMEs regarding the concept of SIC and sustainable performance, as well as to examine the influence of SIC on firms' sustainable performance. The findings of the in-depth case study reveal that while stakeholders are generally familiar with the concepts of sustainability and sustainable performance, they tend to emphasize the environmental dimension more strongly than the economic and social dimensions. Moreover, the results indicate a limited awareness of intellectual capital and sustainable intellectual capital as integrated strategic concepts that support comprehensive sustainability measurement and management.

Furthermore, the study demonstrates that the three dimensions of sustainable intellectual capital: SHC, SSC, and SRC positively influence sustainable performance. SHC enhances economic, environmental, and social performance through employee training, awareness initiatives, and environmentally responsible behaviors. SSC contributes to sustainable performance by improving organizational processes, environmental management policies, technological investments, and workplace safety. Meanwhile, SRC strengthens sustainable performance through stakeholder collaboration, organizational reputation, and socially and environmentally responsible partnerships. Overall, the findings highlight the critical role of sustainable intellectual capital in improving MSMEs' sustainable performance across environmental, economic, and social dimensions.

Recommendation

As a direction for future research, it is recommended to investigate why some organizations implicitly adopt and link the concepts examined in this study. In addition, further studies should examine how sustainable performance may influence an organization's SIC.

Finally, similar research should be conducted across different industrial and non-industrial sectors (such as financial organizations).

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