






# “Sustainability-oriented innovations and value creation in SMEs: An illustration in the Colombian context”

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# SUSTAINABILITY-ORIENTED INNOVATIONS AND VALUE CREATION IN SMES: AN ILLUSTRATION IN THE COLOMBIAN CONTEXT

## Abstract

Unlocking the potential of small and medium-sized enterprises hinges on grasping the underlying principles driving the development of sustainability-oriented innovations. It empowers this community of firms to contribute to sustainability and, at the same time, generate value. In this sense, drawing on the sustainable value creation model, the purpose of this study is to propose a framework for sustainability-oriented innovations in small and medium-sized enterprises by analyzing various strategic approaches. The study employs a theoretical approach aligning conceptual foundations with sustainability-oriented innovations. The study utilizes the sustainable value creation model and identifies four strategies suitable for small and medium-sized enterprises: (i) pollution prevention, (ii) product stewardship, (iii) clean technology, and (iv) sustainable vision focused on the base-of-the-pyramid. Further, portfolios of sustainability-oriented innovations, framed in each of the four strategies and in the context of small and medium-sized enterprises found in the literature are discussed. To illustrate each strategy, the analysis of four small and medium-sized enterprises operating in Colombia is conducted. The findings demonstrate how these strategies, combined with the implementation of portfolios of sustainability-oriented innovations, generate value in small and medium-sized enterprises, while promoting sustainability in the case of the context of an emerging economy. Moreover, the study suggests that small and medium-sized enterprises can effectively adopt a strategic orientation toward designing and implementing portfolios of sustainability-oriented innovations. Ultimately, the study highlights the potential of small and medium-sized enterprises in developing economies to contribute strategically to sustainable development, given their unique characteristics.

## Keywords

sustainability-oriented innovations, sustainable value creation, sustainable strategies, small and medium-sized enterprises, Colombia

## JEL Classification

M14, O30

## INTRODUCTION

Small and medium-sized enterprises (SMEs) constitute a significant portion of organizations, contribute to over 60% of formal employment (OECD/CAF, 2019; OECD, 2017), and account for 60% of carbon emissions and 70% of pollution globally (Aragón-Correa et al., 2008). Despite their prevalence, SMEs' capacity to drive sustainability is often overlooked, in contrast to their organizational and administrative aspects (Dzeraviah, 2023).

The concept of sustainability refers to "meeting the needs of the present without compromising the needs of future generations" (WCED, 1987, p. 54). At the corporate level, business sustainability involves meeting stakeholder needs while preserving the potential to fulfill those needs

in the future (Bartolacci et al., 2020). The pursuit of sustainable development in business is realized through the adoption of sustainability-oriented innovations (SOI), which possess the capacity to generate stakeholder value in diverse ways. The sustainable value creation model (SVCM) (Hart & Dowell, 2011; Hart & Milstein, 2003), rooted in the resource-based firm theory (Barney, 1991) and extended to the natural-resource-based view (Hart, 1995) encompasses temporal (present vs. future) and spatial (internal vs. external) dimensions. It yields four generic sustainability strategies: pollution prevention, product stewardship, clean technologies, and a sustainable vision centered on the base-of-the-pyramid (Hart & Dowell, 2011; Hart & Milstein, 2003). Each strategy entails unique drivers, key resources, and forms of value generation.

However, the challenge remains: How can SMEs navigate the competitive landscape while embracing sustainability using these strategies? SMEs possess distinctive traits that make them less straightforward as sustainable value generators. Nonetheless, literature suggests that SMEs can adopt sustainable practices and create value through SOI (Bucheli-Calvache et al., 2023; Rodríguez-Espíndola et al., 2022). While advancements have occurred in various competitive domains (Cubillos-González & Tiberio Cardoso, 2020), incorporating sustainability for SME competitiveness (Moreno-Mantilla et al., 2013; Reyes-Rodríguez et al., 2020) is understudied, and there is a paucity of perspectives regarding SOI in emerging economies framed in certain sustainability strategies (Bedoya-Villa et al., 2023). This poses the need for a framework that characterizes sustainable value creation strategies and offers insights into sustainability-oriented innovations within SMEs. Consequently, the research question that guides this study is: How can sustainable value creation strategies be materialized in SMEs based on SOI?

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## 1. THEORETICAL BASIS

To position the study in the ongoing academic debate, this section begins by discussing the prevalence of SOI in the context of SMEs. Then, as a theoretical driving force, the SVCM and its constituents are also approached.

Sustainability, as defined by the principle of meeting present needs while safeguarding the needs of future generations (WCED, 1987), encompasses environmental protection, social equity, and economic well-being within the business landscape. This dynamic necessitates innovations across a spectrum of facets, spanning products, processes, administration, and technology (Hermundsdottir & Aspelund, 2021).

Initially, the focal point of corporate innovation rested on ecological concerns. This led to the inception of “eco-innovations,” aimed at conceiving novel processes, products, and technologies that mitigate adverse environmental impacts (Bucheli-Calvache et al., 2023; Rennings, 2000). As time progressed, a comprehensive outlook emerged by integrating social and economic dimensions. This evolution gave rise to the concept of sustainability-oriented innovations (SOI), characterized

by purposeful enhancements toward sustainable objectives (Klewitz & Hansen, 2014; Rodríguez-Espíndola et al., 2022). SOI encompasses an array of domains, including new products, processes, marketing techniques, organizational methodologies, management systems, and external relations, all amalgamated with economic, social, and environmental considerations (Klewitz & Hansen, 2014). The success of SOI lies in reshaping production methods, consumption patterns, and market structures, distinguishing it from mere invention.

The realm of SOI in SMEs comprises a broad range of perspectives across various disciplines. Some emphasize the hurdles SMEs face in adopting proactive SOI approaches, such as resource limitations, unformalized planning, and funding impediments, portraying them as reactive entities concerning social and environmental matters (Cantele & Zardini, 2020; del Brío & Junquera, 2003). Contrarily, another stream of literature underscores SMEs’ advantages, including entrepreneurial flair, streamlined structures predominantly helmed by owner-managers, and actions that stem from deeply ingrained value systems (Reyes-Rodríguez, 2021; Stekelorum, 2020). SMEs uniquely capitalize on their organizational architectures and capabilities, harmonizing SOI

with their strategic objectives (Aragón-Correa et al., 2008; Klewitz & Hansen, 2014; Rodríguez-Espíndola et al., 2022). Smaller enterprises are poised to excel in radical innovation and niche market competition through SOI (Bos-Brouwers, 2010; Pacheco et al., 2018; Zhang & Walton, 2016). Literature further explores sustainable and social enterprises, highlighting instances where SMEs founded on sustainability effectively leverage SOI for success (Hockerts, 2018; Saebi et al., 2019).

Business sustainability has risen as not only a moral imperative but also a source of opportunities for companies. This shift is grounded in the realization that sustainable practices can offer advantages, ranging from cost savings and risk mitigation to revenue expansion and enhanced reputation (Hart, 1995; Hart & Dowell, 2011; Hart & Milstein, 2003). However, capitalizing on these opportunities requires examining sustainability challenges through various “lenses” to identify strategies that concurrently foster a more sustainable world and generate value for stakeholders. This concept crystallizes in the form of the sustainable value creation model (SVCMM)(Hart & Dowell, 2011; Hart & Milstein, 2003), a theoretical framework that draws in the resource-based view of the firm – a cornerstone theory in understanding competitiveness and value generation (Barney, 1991; Grant, 1991).

The SVCMM constitutes a framework encompassing two pivotal dimensions (see Figure 1). Vertically, it underscores the critical need for businesses to strike a balance between present-day profitability and the cultivation of technologies and markets that extend into the future. This tension underscores the challenge of generating short-term results while nurturing sustainable long-term growth. Horizontally, the focus is on augmenting organizational capabilities while simultaneously embracing external perspectives and knowledge. This juncture encapsulates the tension between preserving a firm’s existing technological foundation and embracing new and disruptive technologies (Hart & Milstein, 2003). The interplay of these dimensions forms four quadrants, each of which constitutes a realm where companies are expected to operate to unlock value. As sustainability is inherently multifaceted, excelling across these quadrants serves as a source of opportunities, fostering the creation of sustainable value (Hart & Dowell,

2011; Hart & Milstein, 2003). Within each quadrant lies a distinctive strategy that leads to unique pathways of value creation.

Positioned at the intersection of short-term internal performance, Quadrant I gravitates towards risk mitigation and cost lowering. It encompasses strategies that mitigate environmental impacts of operations, translating to reduced waste and emissions (Reyes-Rodríguez et al., 2016). Eco-efficiency, a central tenet, drives cost savings through heightened process efficiency and optimized resource utilization (Abdelhalim et al., 2023). Essential resources for implementation encompass capabilities in continuous improvement and quality management, based on the commitment of employees (Hart & Dowell, 2011; Hart & Milstein, 2003; Prieto-Sandoval et al., 2019; Reyes-Rodríguez & Ulhøi, 2022). By curbing waste and optimizing resource utilization, firms can embark on a trajectory towards enhanced revenue and minimized costs (Incekara, 2022; Savitri & Nik Abdullah, 2023).

Expanding upon short-term performance, Quadrant II encompasses an array of external stakeholders – ranging from suppliers and customers to regulators, communities, NGOs, and the media. By integrating the voices of these stakeholders into business processes, firms can distinguish themselves in the market, enhancing reputation and legitimacy – two crucial elements for sustained value creation (Góes et al., 2023; Hart & Milstein, 2003). Product stewardship encapsulates the entire product lifecycle, necessitating stakeholder participation at each stage. This strategy hinges on the integration of stakeholders, fostering external confidence in a firm’s motives and activities (Reyes-Rodríguez & Ulhøi, 2022; Topleva & Prokopov, 2020). Through product stewardship, companies can invigorate existing offerings, infusing them with a holistic sustainability orientation and fostering deeper engagement with critical stakeholders.

Shifting its focal point to long-term performance and internal aspects, Quadrant III underscores the imperative of innovation in addressing sustainability challenges. This quadrant champions the idea of strategic repositioning – by reevaluating core competencies and business models. Such

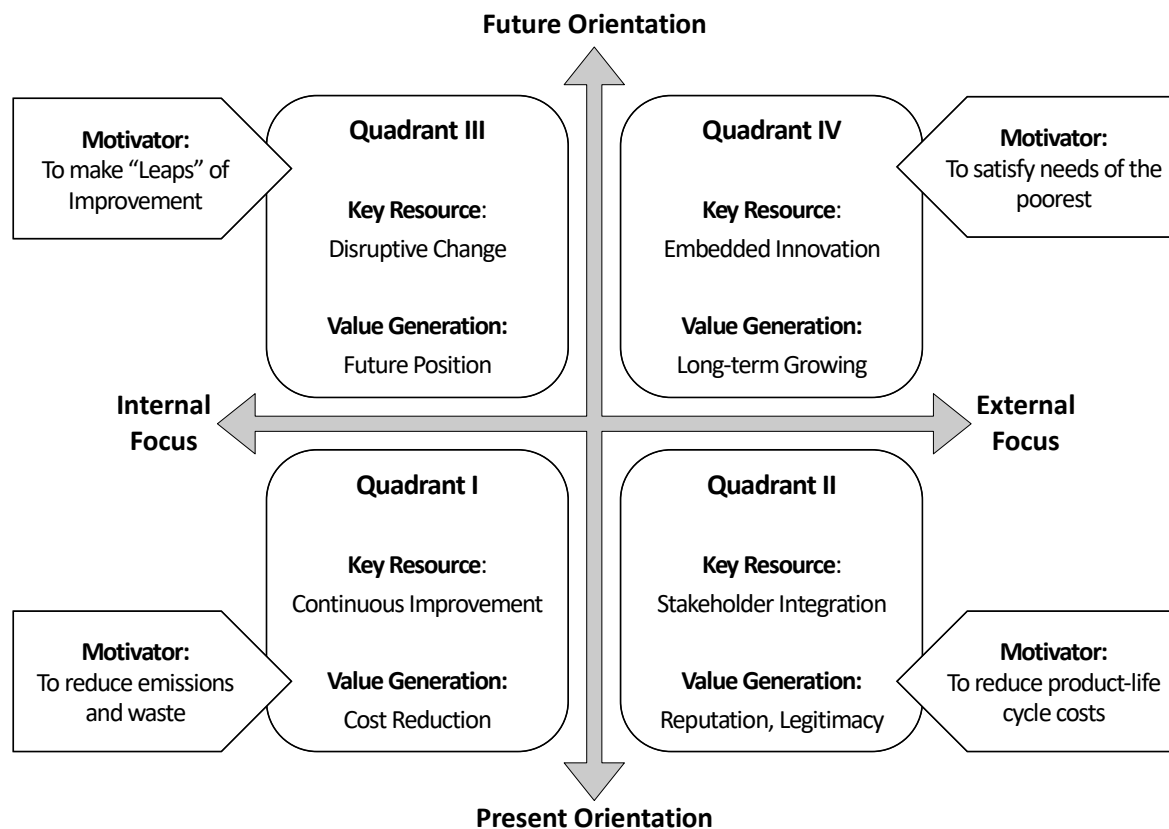


Figure 1. SVCM framework

introspection often leads to innovative solutions aligned with sustainability goals. A core tenet here is the notion of creatively dismantling existing capabilities to pave the way for revolutionary breakthroughs (González-Ramos et al., 2023; Hart & Milstein, 2003). The clean technology strategy emblemizes this quadrant, advocating not just incremental adjustments but disruptive innovation that navigates through ever-evolving and intricate realms of knowledge (Omri et al., 2023; Yu et al., 2021).

Centrally focused on the long-term performance of a firm and its external stakeholders, Quadrant IV encapsulates a strategy built upon a sustainable vision for the company's future. This approach is centered on embracing an inclusive form of capitalism, one that prioritizes the needs of marginalized populations situated at the base-of-the-pyramid (Aman et al., 2023; Heuer et al., 2020). In this vein, collaboration with stakeholders who are often overlooked, such as environmental activists, residents of underserved neighborhoods, and inhabitants of developing nations, unearths novel vistas

for competitive innovation. This strategy necessitates what is termed as embedded innovation – a collaborative approach that co-creates businesses alongside marginalized communities, marking a departure from conventional paradigms of marketing low-cost products (Hart & Milstein, 2003; Knizkov & Arlinghaus, 2019).

In summary, the SVCM provides a framework for businesses to identify and pursue sustainable business opportunities. By considering the four quadrants of the SVCM, firms can adopt a holistic approach to sustainability that integrates short-term and long-term perspectives, as well as internal and external dimensions to simultaneously address environmental and social challenges and reap competitive benefits.

Given the above, the aim of this study is to characterize a theoretical framework based on the SVCM in the context of SMEs, framing the different SOI in the four different strategies based on the literature. Rooted in the SVCM's conceptual framework, the study seeks to elucidate each generic



strategy through practical explanations drawn from SOI knowledge. Then, an illustration of each of the four sustainable strategies and some related SOI are discussed in the context of real SMEs in an emerging economy setting such as Colombia.

## 2. RESULTS

This section discusses specific manifestations of SOI in SMEs that align with each of the four distinct strategies discussed earlier. Each type of strategy and related SOI are illustrated in the context of real SMEs in Colombia.

Figure 2 provides a compilation of the developed analysis. It illustrates, within the realm of SMEs, the main SOI associated to each strategy of the SVCM. The essence of the axes remains consistent with the original proposal. However, the temporal dimension is suggested to refer to the type of impact (short- or long-term) of the respective strategy. Similarly, the spatial dimension pertains to the participation and/or influence of internal and external stakeholders in the adopted strategy.

### 2.1. SOI in SMEs for pollution prevention

SMEs pursuing a pollution prevention strategy often engage in sustainable innovations aimed at achieving cleaner production and establishing robust environmental management systems. Cleaner production involves the consistent application of environmentally conscious practices to processes, products, and services, with the overarching goals of enhancing efficiency and diminishing risks to both individuals and the ecosystem (UNEP, 2002). The emphasis on cleaner production in SMEs is particularly evident in production processes and materializes in the form of improvements in technologies, good operational practices, and the substitution of inputs (Klewitz & Hansen, 2014). It has been shown that cleaner production allows SMEs to increase productivity, respond to regulations, and even raise the standards of their respective industries through ecological modernization. The potential of the SOI related to cleaner production is that it enables small firms to change their organizational “mindset” about environmental management and the use of resources, either by establish-

Source: Adapted from Hart and Milstein (2003), and Hart and Dowell (2011).

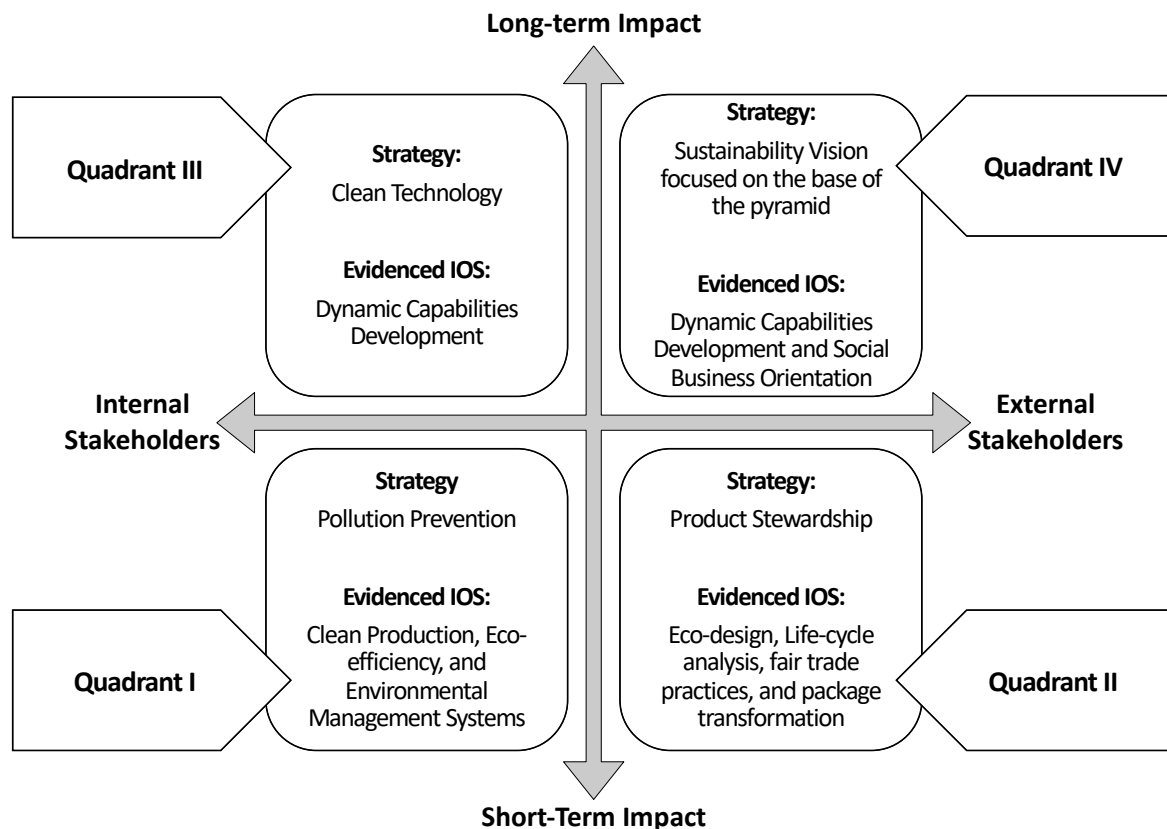


Figure 2. SOI in SMEs according to the SVCM

ing processes of continuous environmental improvement or by integrating environmental and resource considerations into existing improvement processes (Savitri & Nik Abdullah, 2023).

Key facets of cleaner production in SMEs encompass waste management, recycling initiatives, judicious material disposal, and the reduction and monitoring of wastewater discharges (Berkel, 2007; Rumanti et al., 2023). On the other hand, although cleaner production primarily focuses on reducing the impact on the environment, it is closely related to eco-efficiency, which emphasizes obtaining economic benefits (Klewitz & Hansen, 2014). Irrespective of the chosen route – eco-efficiency or cleaner production – the outcome remains consistent. By directing focus toward eco-efficiency and reaping its economic benefits, SMEs promptly reap rewards, often termed the “low-hanging fruit,” by curbing resource consumption, launching energy-conservation initiatives, refining protocols, and upgrading outdated equipment. These combined efforts invariably lead to a reduction in operational costs (Rumanti et al., 2023).

Although cleaner production is a form of SOI in SMEs at the process level, environmental management systems (EMS) in SMEs are another form of SOI at the organizational level, serving as a means to systematically manage environmental aspects. Evidence of EMS adoption in SMEs includes specific standards such as ISO 14001, EMAS, and custom standards (Johnstone, 2020), and is related to the establishment of organizational structures such as environmental management departments, teams, committees, and cross-functional environmental management units (ibid.). EMS in SMEs involve innovation by improving internal processes and procedures and subsequently enhancing a firm’s performance by promoting environmental risk control.

Thus, the adoption of SOI tailored for pollution prevention furnishes SMEs with a twofold advantage: curtailing energy consumption and waste generation, thereby reducing costs. Moreover, the implementation of EMS, based on continuous improvement, empowers SMEs to proactively manage potential risks via a methodical approach to environmental stewardship. This integrated strategy facilitates a simultaneous reduction in envi-

ronmental impact and operational expenses while positioning SMEs as proactive contributors to sustainability.

Illustrative case # 1 – INTERGRAFIC DE OCCIDENTE [WESTERN INTERGRAHPICS]: Traditional companies in the publishing and graphic industries are usually classified as symbols of enmity between the productive sector and the environment, mainly due to the significant carbon footprint they leave throughout their core supply chain (Berrone, 2016). In this regard, INTERGRAFIC DE OCCIDENTE S.A. is no exception. The company’s central process is conventional as it is involved in folding packaging and paper label production, as well as the manufacturing and distribution of folding boxes, blister cards, and labels that are in demand in the food, pharmaceutical, and personal care product industries (Intergrafic.com.co, n.d.). Despite operating for over 35 years and achieving and maintaining relevant certifications, INTERGRAFIC is still considered a medium-sized company employing approximately 130 individuals.

However, what stands out is their commitment to social and environmental accountability (García, 2020), which is not common for companies of this size (Şahin & Çankaya, 2020). Although they do not explicitly acknowledge the negative effects of their production and logistics processes, they do demonstrate efforts through their environmental policy and specific sustainability projects. These initiatives include efficient use of water, proper handling and utilization of waste, and the installation of devices to reduce their energy costs. Ultimately, their sustainability-oriented practices help prevent and partially offset the harmful impact while simultaneously generating savings to improve their financial situation.

## 2.2. SOI in SMEs for product stewardship

Regarding a product stewardship strategy, it has been shown that SMEs have adopted different approaches to their SOI. On the one hand, eco-design, understood as product design for sustainability, includes all activities from pre-manufacturing to final disposal. Eco-design has demanded that SMEs reconsider the means to repair, reuse, disas-

semble, re-manufacture, and/or recycle a product to develop adaptable product structures, energy savings, the use of eco-friendly materials, and reduced raw materials (Omri et al., 2023; Topleva & Prokopov, 2020).

Underlying eco-design is a life-cycle perspective. Therefore, another approach to product stewardship in SMEs could refer to life cycle analysis (LCA). However, it can be inferred that the full use of said analysis in this type of company tends to be limited since it requires intensive use of resources to track the consumption of the same, the environmental impacts, and the generation of waste throughout the product life cycle. However, where LCA has been used, it has been useful in supporting decision-making as to which materials to reduce, replace, or use in product innovation (Klewitz & Hansen, 2014; Omri et al., 2023). Another SOI approach to product stewardship adopted to a lesser extent in SMEs refers to eco-labeling to achieve differentiation and reputation effects in environmental and/or socially responsible product categories (Klewitz & Hansen, 2014).

Aspects related to SOI in a product stewardship strategy in SMEs also relate to: (i) fair trade and organic products requiring the change of raw materials and practices in organic crops (Blay-Palmer & Donald, 2009); (ii) intervention in packaging that contemplates the reduction or reuse of products, use of biodegradable packaging, and efficient packaging systems (ibid.); and (iii) intervention in logistics with more efficient methods of transportation and new distribution channels (Bos-Brouwers, 2010). The benefits of SOI around the stewardship of the product in SMEs and the improvement of reputation are more tangible in a business-to-business environment, where SMEs gain a reputation as suppliers or subcontractors of other companies, usually large companies. However, in a business-to-consumer environment, SMEs can differentiate themselves from their stakeholders in terms of radical product innovation targeted at specific niches (Klewitz & Hansen, 2014; Mishaal & Haw, 2023).

Illustrative case # 2 – CAFÉ FORESTAL [FOREST COFFEE]: The coffee activity in the Colombian region of Santander represents about 23% of the departmental agricultural production. This is consid-

ered a contribution to permanence, a sense of rootedness, and the strengthening of the social fabric. Likewise, Santander is recognized for its specialty coffee, being the region with the most certification and verification programs in Colombia. Diligently adhering to these programs helps open doors to more and better national and international markets (Federaciondecafeteros.org, 2022). The CAFÉ FORESTAL Group is precisely the unifying entity for some of these special coffees. Its core business focuses on specialty organic coffee grown under shade, sourced from certified farms, and manually collected. The company operates under the philosophy of regenerative agriculture and fair trade. Additionally, it places special emphasis on its distribution channel through attractive packaging processes, its own and third-party points of sale, as well as supporting alliances and electronic commerce through its virtual store (Forestal.cafe, n.d.).

The company belongs to a fairly consolidated business conglomerate with a long tradition in Santander, but it still operates as an SME. One of the most noteworthy projects developed within CAFÉ FORESTAL involves bringing the experience of enjoying a good coffee to all types of businesses, whether small, medium, or large. To achieve this, a new variant of its business model offers the possibility of installing fully automated machines in stores, hotels, restaurants, and cafeterias. These machines produce various types of coffee drinks for immediate consumption. This serves as an example of how comprehensive coverage of the details of a complete production process can be achieved in terms of sustainability, or what could also be referred to as 'total vertical integration'. In this sense, CAFÉ FORESTAL can take full charge of the supply chain of its organic coffee, from cultivation and harvesting to direct contact with the consumer.

### 2.3. SOI in SMEs for clean technologies

Exploring the realm of clean technologies, the literature indicates limited adoption of sustainability-oriented innovation (SOI) strategies for disruptive clean technologies within firms, particularly in the SME context (Hart & Dowell, 2011). Although intervention has been found in the tech-



nological component of SMEs as part of their SOI, the notion of clean technologies has had a predominantly incremental rather than disruptive nature (Bos-Brouwers, 2010; Klewitz & Hansen, 2014; Omri et al., 2023; Yu et al., 2021).

Nonetheless, SOI related to clean technology strategies, paired with a sustainable vision concentrated on the base-of-the-pyramid, has driven the development of dynamic capabilities. These capabilities have proven pivotal for SMEs to recalibrate their resource base and competencies in fast-paced environments (Hart & Dowell, 2011). In the case of the literature on sustainability in SMEs, the development of dynamic capabilities has been evidenced as a determinant of the adoption of SOI in a strategy towards clean technologies.

Noteworthy amongst these shifts is the emergence of dynamic capabilities, like integrative capabilities (Eikelenboom & de Jong, 2019). Additional constructs include re-conceptualization, co-evolution, and reflexive control (Stekelorum et al., 2018), detection and use of opportunities (Prieto-Sandoval et al., 2019), dynamic absorption and adaptation (Rodríguez et al., 2020), and corporate strategic adjustment (Han et al., 2023), among others. What is interesting in these findings is that the development of these dynamic capacities is linked to the exchanges and mutual development of SMEs with external actors within the framework of supply chains, sectoral clusters, and circular economy environments. This somehow challenges the SVCM theoretical postulate that the clean technology adoption strategy has an internal perspective.

Illustrative case # 3 – CERÁMICA ANDINA [ANDEAN CERAMICS]: The Catatumbo basin, located in the Colombian region of Norte de Santander, is known for its subsoil, which contains various layers of clayey material, including shales, mudstones, and sandstones. The high quality of the clay found here has led to the establishment of companies specializing in the production and marketing of rustic and vitrified floors made of red ceramic. The supply chain of these companies is typically fully integrated, with the firing of the material being a central activity. However, this process is characterized by an artisanal, almost primitive approach, resulting in the constant

emission of high concentrations of gases and pollutants into the atmosphere (Vecino-Arenas et al., 2010).

Despite its relatively small size and traditional practices in the industry, CERÁMICA ANDINA, a company operating in this sector, has aimed to make a difference in terms of environmental impact. This commitment has posed significant challenges and required a rethinking of its business model. CERÁMICA ANDINA primarily functions as a ceramic floor factory, and while its core business process may not differ greatly from other private sector companies, its decision to technologically transform its firing operations has been a significant recognition of both opportunities and challenges. Through a substantial investment of resources and collaboration with academic institutions, the company successfully implemented a roller kiln in the mid-2000s. The roller kiln is a continuous production furnace characterized by high technological standards and minimal labor requirement, operating on natural gas for heat generation (Díaz & Sánchez, 2011).

The adoption of this advanced equipment has brought about a substantial reduction in environmental impact and subsequent cost savings due to increased operational efficiency. Moreover, it has opened up various growth opportunities for the company through the development of new and diverse value propositions (Cerámica Andina, 2016). While the geographical context has influenced its past and current commercial dynamics to some extent, CERÁMICA ANDINA remains a notable reference for successful technological conversion, emphasizing both environmental sustainability and profitability.

## 2.4. SOI for a sustainable vision centered on the base-of-the-pyramid

As previously mentioned, the development of dynamic capabilities is a determinant for a SOI framed in clean technology strategies and a sustainable vision focused on the base-of-the-pyramid. The evidence presented on the emergence of this type of capability in SMEs, therefore, also shows progress in the approach to the adoption of SOI for the sustainable vision at the base-of-the-

pyramid. However, from the perspective of SMEs, the SOI for the sustainable vision focused on the base-of-the-pyramid emphasizes those related to ventures conceived as social enterprises, whose business model is based on achieving a mission of creating social and economic value. Social (and even environmental) objectives have the same, and in some cases higher, priority than economic objectives (Klewitz & Hansen, 2014; Knizkov & Arlinghaus, 2019).

Within this conception of a social enterprise, SOI that support different social missions (e.g., education, ensuring access to water, the inclusion of minorities in the labor force, etc.) are combined with different profit-generating mechanisms to ensure survival in the market (Saebi et al., 2019). Such SOI in the concept of a social enterprise encompass either value creation for the beneficiaries as recipients of a good or service (e.g., medical treatment for rural patients) or value creation with the beneficiaries (e.g., IT consultancy linking personnel diagnosed with Asperger syndrome) (Saebi et al., 2019). On the other hand, the social enterprise uses its SOI to configure different interactions between social and economic activities. In some instances, economic activities serve to subsidize the social mission, as in the case of the “buy one, give one” model, in which profits from marketing goods and services to regular customers are used to achieve the social mission (ibid.). Particularly, it is recurrent to find that the SOI around the development of SMEs as social enterprises as a response to a shared vision strategy focused on the base-of-the-pyramid takes place in the context of rural areas to seek the development of communities. The SOI are directed to improve the living conditions of the communities and, in general, achieve inclusive prosperity (Bansal et al., 2019).

In this sense, it is worth mentioning that literature around the implementation of SOI in SMEs as a social enterprise often explores business-to-consumer operating schemes and is particularly aimed at market niches. However, it is argued that it is also essential to disseminate these SOI to mass markets to significantly affect the transition to sustainable development (Klewitz & Hansen, 2014).

Illustrative case # 4 – CASEROS A SU GUSTO [HOMEMADE FOR YOUR LIKING]: Originally

known as regular lunch or executive lunch, this class of ready-to-eat home-cooked food is made up of low-cost traditional ingredients to offer it at affordable prices. They are generally accessed by students and grassroots workers who go to modest restaurants in search of them, often joining a system of discount tickets that are generated every fortnight or month. The typical Colombian flavors are the protagonists of this product, taking into account the features of strong gastronomic roots and acquired taste that the average Colombian presents (Duque, 2020). CASEROS A SU GUSTO is a small company that has been in operation for more than eleven years and that offers this type of food, represented in typical and traditional dishes, varied and freshly prepared every day of the week (Caserosasugusto.com, n.d.).

Their target market is located in the middle and lower-middle-income classes of society, since they are products for people who prefer seasoning and homemade care and who feel comfortable living the same organoleptic and service experience every day, as long as the sine qua non-condition of having very comfortable prices is respected. At the level of its business model, the value offer of the company is varied, not only in terms of its daily menu for breakfasts and lunches, but it has increased its commercial dynamics through the incorporation of its addresses boosted by its activity on social networks, institutional contracts, and the introduction of its line of frozen homemade food (Franquiciascolomba.co, n.d.), allowing it to project itself into an accelerated market development strategy.

Table 1 summarizes the findings comparing the four generic strategies for sustainable value creation based on SOI, and which puts into perspective the logic used to specify its adjustment to each of them. It also shows the conglomerate of SOI implemented and the subsequent forms of value creation, both at an environmental, social, and business level.

It is noteworthy that the perspective of illustrative cases one and two is of a short-term type, while that of illustrative cases three and four is projected towards the long term by the theoretical discussion of the abovementioned strategies.

**Table 1.** Summary of findings: SMEs that create sustainable value

Issue	Illustrative case # 1	Illustrative case # 2	Illustrative case # 3	Illustrative case # 4
SME Name	INTERGRAFIC DE OCCIDENTE	CAFÉ FORESTAL	CERÁMICA ANDINA	CASEROS A SU GUSTO
Strategy adopted	Pollution prevention	Product stewardship	Clean technology	Sustainability vision focused on the base-of-the-pyramid
SOI implemented	Eco-efficiency, environmental management systems	Life-cycle analysis, fair trade practices	Dynamic capabilities development	Social business orientation
Environmental value creation	Water saving, source of alternative energy	Organic/ecologic product	Pollution prevention	N/A
Societal value creation	N/A	Cultural rooting, work opportunities	N/A	Basic needs satisfaction through achievable prices
Financial value creation	Operating costs decreasing, risk mitigation	Growth through product and market development, brand reputation	Business model transformation, repositioning	Positioning, Customer loyalty
Value creation time horizon	Short term	Short term	Long term	Long term
Stakeholders involved in the strategy	Employees	Supply chain (suppliers, and allies)	Owners and employees	Customers
Stakeholders' nature	Internal	External	Internal	External

### 3. DISCUSSION

SMEs have a significant impact on the economy (OECD/CAF, 2019), employment generation in societies (OECD, 2017), and emissions (Aragón-Correa et al., 2008). The present study recognizes this and emphasizes that SMEs are not separate from the sustainability process and can actively contribute to solving the global problem. The study aims to highlight the potential of SMEs in adopting strategies through the implementation of SOI (Hansen et al., 2009; Klewitz & Hansen, 2014), and proposes a framework aligned with the four generic strategies of the SVCM (Hart & Dowell, 2011; Hart & Milstein, 2003). To illustrate these concepts, the study discusses the situation of real firms from the Colombian context, integrating academic aspects for the theory and practice of strategic sustainability in SMEs and understanding their role in society.

The first contribution of this study is the inductive formulation of the theoretical approach, based on relevant literature. It sheds light on the role of SMEs as important actors in the pursuit of a sustainable society. It demonstrates how SMEs have adopted SOI over the years, depending on their internal or external orientation and time horizon considered. Drawing on the SVCM, the study characterizes four possible ge-

neric strategies. Thus, SMEs can adopt mechanisms to prevent pollution, protect their products, implement clean technologies, or focus on a vision centered on the base-of-the-pyramid. While the benefits of each strategy vary, the real impact, both on the company and society, is more significant compared to a decision of non-involvement.

To further support this approach, the study illustrates the formulated framework through the description of four different SMEs' situation operating in Colombia. Each illustrative case exemplifies how the proposed strategies can be applied and how SMEs can create sustainable value through innovative business models. By aligning their strategic decision-making systems with growth, competition, and operation, SMEs can leverage their dynamic capabilities (Eikelenboom & de Jong, 2019; Han et al., 2023; Prieto-Sandoval et al., 2019; Rodríguez et al., 2020; Stekelorum et al., 2018) and take risks in investment decisions to make a difference in their industry and the broader context. The illustrative cases demonstrate pollution prevention, product stewardship, implementation of clean technologies, and a business model centered on the base-of-the-pyramid, showcasing the potential of SMEs to contribute to sustainability.

In the first instance, INTERGRAFIC DE OCCIDENTE is a clear example of pollution prevention (i.e., a strategy with short-term impact and the involvement of internal interest groups). The company demonstrates that through shared action to implement clean production practices (Berkel, 2007), and standards of integrated management systems (Johnstone, 2020), the capability to adopt sustainable impact practices is created in the core businesses to correct their carbon footprints and generate significant savings. Additionally, the relevance of initiating the approach to accountability processes through sustainability reports in SMEs is highlighted, despite being an uncommon practice (Şahin & Çankaya, 2020).

Second, CAFÉ FORESTAL represents a form of product stewardship (i.e., a strategy with short-term impact and the involvement of external stakeholders). With CAFÉ FORESTAL, evidence is obtained on the effectiveness of scrupulous work to safeguard the details that are part of the total transformation of a value offer throughout its supply chain. Their initiatives were supported by an emphasis on the life cycle analysis of their value proposition (Klewitz & Hansen, 2014; Lefebvre et al., 2003), which is complemented by fair-trade schemes (Blay-Palmer & Donald, 2009) and an intervention in distribution logistics to achieve more sustainable practices (Bos-Brouwers, 2010).

Third, at CERÁMICA ANDINA, they took on the task of implementing clean technologies in their central process (i.e., a strategy with long-term impact, the involvement of internal interest groups). The technological reconversion carried out in its plant multiplied its commercial possibilities and generated alternatives for present and future development. The signals sent by this type of SME imply that the sustainable value creation strategies adopted must be associated with the knowledge and exploitation of their dynamic capabilities (Eikelenboom & de Jong, 2019; Prieto-Sandoval et al., 2019; Rodríguez et al., 2020; Stekelorum et al., 2018), as well as taking and analyzing risks in their investment decisions. All of the above must be given to make a difference in the particular industry and the general context, based on environmental and profitable strategic awareness.

Fourth, CASEROS A SU GUSTO embodies a business model that conforms to a sustainable vision centered on the base-of-the-pyramid (i.e., a strategy with long-term impact and the involvement of external stakeholders). Its implicit orientation towards the satisfaction of palates through the continuous offer of traditional dishes at a moderate price also makes it possible to achieve a potential nutritional contribution to a large part of the working families in the region in which it operates. The case illustrates how an SME also has the potential to create appropriate sustainable value through its transition to a social entrepreneurial nature (Saebi et al., 2019). Their sense of purpose and location of beneficiaries is, therefore, fundamental strategic disciplines that are in line with the fact that they are growing and competing based on an effective contribution to solving social problems.

Additionally, the study acknowledges the need to measure the benefits obtained from each strategy, which is an area that requires further research. It suggests that the pollution prevention strategy, due to its cost-effectiveness, may be more feasible for SMEs compared to other strategies. On the other hand, the adoption of clean technologies may present challenges for SMEs due to heavy investments and the disruptive nature of such initiatives. The study emphasizes that the proposed strategic options and innovations are not mutually exclusive and that combined approaches can be effective in creating positive impacts on society, the environment, and the company itself. However, further exploration of new forms of SOI in SMEs is necessary to meet the increasing demands for sustainable value creation.

Finally, the study acknowledges certain limitations. The illustration of the proposed framework is merely theoretical and illustrated by the description of the situation of four particular SMEs, which may not be representative of all SMEs in Colombia (or in any other developing country). Therefore, caution should be exercised in generalizing the findings. The study leaves open a research agenda for future studies to empirically validate the framework and strategies through statistical sampling of SMEs, allowing for robust generalizations.

## CONCLUSION

This study presents a theoretical approach to discuss how SMEs can effectively implement sustainable value-creation strategies through innovations. The research characterizes four specific strategies that leverage sustainability-oriented innovations, providing valuable insights for adapting the sustainable value creation model. By proposing a comprehensive framework and analyzing four real-life illustrative cases from firms operating the Colombian context, this study showcases the potential of SMEs to embrace sustainable development challenges. The findings reveal that sustainable value creation in SMEs can be achieved through the design and implementation of tangible strategies focused on: (1) pollution prevention through eco-efficiency and environmental management systems; (2) product stewardship through life cycle analysis and fair-trade practices; (3) the adoption of clean technologies, leveraging dynamic capabilities; and (4) an emphasis on the base-of-the-pyramid, utilizing social enterprise orientation.

These strategies underscore the significance of SMEs in addressing sustainability and sustainable development. The study concludes with recommendations for SME owner-managers in developing economies, like Colombia. It is crucial to recognize that sustainability presents a strategic challenge that can be approached from various perspectives, tailored to the specific context of the business. Regardless of size, companies can pursue sustainability-oriented innovations to create value anchored in sustainability. The choice of emphasis (internal or external) and the timeframe (short or long-term) depend on each SME's circumstances.

Furthermore, embracing corporate sustainability from an entrepreneurial perspective can lead to the implementation of innovations that not only enhance social and environmental integrity but also contribute to the competitive position of SMEs. By capturing alternative forms of value, SMEs can benefit from increased competitiveness, improved reputation, and access to new markets. In summary, this study highlights the importance of sustainable value creation strategies for SMEs in developing countries. It offers practical insights and recommendations for SME owner-managers to strategically integrate sustainability into their operations, fostering both business success and positive socio-environmental impact.

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