

Corporate sustainability in entrepreneurial settings: green management and operational fairness as joint drivers of venture competitiveness

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Abstract

Purpose- Considering the characteristics and barriers faced by small and medium enterprises (SMEs) and the need to be competitive in the current scenario of high demand for sustainability, this paper aims to propose drivers for developing corporate sustainability in SMEs based on the most influential theoretical and empirical studies and the authors' experience.

Design/methodology/approach- The scientific method used in this study was content analysis of recent literature (2015–2021), specifically the 30 most cited articles on sustainability in SMEs from the Scopus database. This methodological approach has already been tested and validity by other scientific studies. From this content analysis, elements for the development of sustainability in SMEs were identified. Subsequently, in light of the authors' experience, these elements were grouped by affinity, giving rise to the drivers that aim to guide owners and managers of SMEs in the transition to sustainability.

Findings- The major finding of this paper is the proposition of drivers for the development of sustainability in SMEs. They were proposed considering the reality of these companies to be adequate to their resources and structure and to be simple to apply. Thus, these drivers guide the owners and managers of SMEs in actions that make them more prosperous, fair and green and, consequently, more competitive.

Originality/value- This work contributes theoretically to deepening the recent body of knowledge on sustainability in SMEs and fills the gap that indicates the need for accessible and flexible management solutions oriented to the development of sustainability in SMEs.

Introduction and theoretical background

Companies have been under severe pressure from their stakeholders regarding the negative effects of their activities on the planet, which includes concerns regarding climate change, depletion of natural resources and increased carbon dioxide emissions, occupational diseases, natural and health disasters, etc. (Choudhary et al., 2019; Riandita et al., 2021). In this context companies have been seeking managerial, technological and operational solutions that will enable them to survive and evolve in the short, medium and long term while meeting multiple stakeholder goals. These

solutions must consider economic, social and environmental issues, which are the dimensions of sustainability, to minimize negative impacts on the environment and the well-being of society (Lozano, 2015).

The competitive significance of incorporating sustainable strategies and practices for sustainable development and, consequently, improvements in operational activities and performance in sustainability is growing (Choudhary et al., 2019). The purpose of organizations has shifted from a narrow “goal-based” premise to one that is more “duty based” embracing a broader remit of societal values and expectations linked to moral and ethical obligations (George et al., 2021). This explains the emergence and growth of the concept of sustainability as applied to organizational reality, better known as corporate sustainability (CS). CS seeks to meet the needs of internal (shareholders, managers and operational workers) and external (society, government, suppliers, customers, etc.) stakeholders without compromising the ability to meet their needs in the future (Asif and Searcy, 2014). CS has been operationalized through the triple bottom line (TBL), which focuses on the balanced development of sustainability dimensions, which are: economic, social and environmental. TBL aims at profit generation for companies, income generation for workers, fair development of society, and the use of natural resources considering the natural regenerative capacity of the planet (Hammer and Pivo, 2017).

Increasingly CS is considered a prospective source of competitive advantage and an opportunity for companies to grow. The development of CS brings significant benefits to companies, such as the ability to comply with legislation related to social and environmental issues; the qualified support to business decisions through the assessment of economic, social and environmental impacts; the improvement in internal communication; the incentive to develop organizational learning and innovation capacity for sustainable products and services; the improvement of the company's reputation in the market and the improvement of the relationship with stakeholders; etc. (AlNuaimi et al., 2021; Johnson and Schaltegger, 2016; Hsu et al., 2017; Kot, 2018).

The promotion of actions for both the financial growth of the company and the development of society with the least possible impact on the environment and people is essential to the development of CS. To achieve this, company policies, processes and procedures must be developed or adapted, such as environmental and social management systems, eco-efficiency analyses, life cycle assessments, sustainability reporting, cleaner production, green design, continuous improvement programs, etc. (De Oliveira et al., 2010; Johnson and Schaltegger, 2016; Das et al., 2020). However,

these solutions require significant financial investments, as well as the availability of infrastructure, technical and human resources, and the ability to implement and continuously monitor them. Thus, large companies have significant advantages in developing CS when compared to small and medium enterprises (SMEs). In terms of resource endowments, expertise and capacity, SMEs are not “little big businesses” as they suffer from significant liabilities in the form of newness, smallness and/or volatility (Curran, 2006; Zahra, 2021). Given the importance of SMEs for the socioeconomic progress of the world, studies on the development of CS in companies of this size must be conducted (Johnson and Schaltegger, 2016).

SMEs positively help the economy and society in many ways, such as in creating jobs, as seedbeds for innovation, alleviating poverty and ensuring economic stability in many countries (Whittaker et al., 2016; Johnson and Schaltegger, 2016). SMEs account for about 90% of businesses and more than 50% of jobs worldwide, contributing up to 40% of national income in emerging economies (World Bank, 2022). However, this socioeconomic importance means that SMEs generate a number of negative impacts, with estimates suggesting, for example, that they are responsible for approximately 70% of global pollution (Johnson and Schaltegger, 2016; Das et al., 2020).

SMEs have specific characteristics that hinder the development of CS. These include excessively lean staff, low level of training, lack of professionals with sustainability expertise and restricted access to technology, markets and public and private incentives. 40% of SMEs located in developing countries have their financing needs unmet (Venter et al., 2014; World Bank, 2022). SMEs can struggle to provide the conditions for sustainable employment and strategic initiatives (Harlin and Berglund, 2021). On the other hand, SMEs also have characteristics that allow them to strive for better strategic conditions through sustainability (Harlin and Berglund, 2021). Their characteristics that facilitate the development of CS are simple and informal organizational structure, which allows quick reaction to market changes and agility in decision-making; less bureaucracy, which allows for more agile processes and less documentation; centralized management and control; and greater proximity between hierarchical levels, which can optimize internal communication (Feil et al., 2017; Bruwer et al., 2018; Ahmad et al., 2020).

It is worth noting some interesting studies on CS in SMEs. Sajan et al. (2017), Burawat (2017), Caldera et al. (2019), Dey et al. (2020) and Nawanir et al. (2020) have developed strategies that use lean manufacturing practices as a support to implement CS in SMEs. Using these studies as a basis, the implementation of lean manufacturing practices was also considered in this article to be a suitable way for SME owners and managers to

implement sustainability. Falle et al. (2016), Hsu et al. (2017) and Singh et al. (2018) used the balanced scorecard to define sustainability indicators for SMEs. Among the drivers presented in this article, there is the driver that directs SME owners and managers to take actions to ensure that they define indicators that measure sustainability practices. Considering the previous studies, the balanced scorecard was also suggested as being a tool to support the owners and managers of SMEs in obtaining sustainability indicators. Ardyan et al. (2017), Jun et al. (2021) and Muangmee et al. (2021) have developed methods that use green innovations to promote sustainability and increase the competitiveness of SMEs. Technological innovation is something limiting for SMEs due to the lack of financial resources available for this. Therefore, these previous studies have brought methods that allow SMEs to increase competitiveness from technological innovation with open innovation (OI), partnerships and technological tools. Which also contributed to this paper in suggesting actions presented in the drivers. Prasanthi and Sundari (2016), Gupta (2017), Jones and Corral de Zubielqui (2017), Wu (2017), Collins and Saliba (2019), Fatoki (2019), and Dey et al. (2020) have used the sustainability-oriented innovations (SOIs) strategy, which focuses on innovations that consider product life cycle management, to propose methods accessible to SMEs in adopting sustainable practices. These previous studies, consequently, served as a basis for the development of guidelines presented in the driver of this paper concerning organizational culture in SMEs. After all, it is necessary to encourage and engage all stakeholders (owners, managers, other employees) in the process of transition to sustainability. Isensee et al. (2020) have created a framework to analyze the complexity of “sustainable digitalization culture” and develop it in SMEs by promoting technological advances according to their characteristics and needs. One of the main difficulties in SMEs is in relation to their limitations, whether they are structural, financial, human, among others. Therefore, when talking about technological advances for SMEs, caution and attention are needed, so that only what can be put into practice is proposed. The study by Isensee et al. (2020) brings an analysis about the complexity of implementing in SMEs the culture of sustainable digitalization and with that, this study contributed to this article in the alignment of guidelines of technological tools that can really be implemented by SMEs considering their characteristics. Mariani et al. (2021) have created a research agenda based on their theoretical studies to encourage future studies that relate the development of CS in SMEs, especially family-owned ones. They emphasize the need to thoroughly understand the characteristics of family-owned SMEs and their limitations. This study being a great encouragement for the development of the drivers presented in this paper.

This paper considers all these aforementioned theoretical and empirical studies, expands some of them and deepens others, augmenting this body of knowledge by including scientific findings based on the most relevant, influential and current literature on CS in SMEs to enable owners and managers to overcome the challenges

these companies have in developing CS. This paper fills the scientific gaps identified in Johnson and Schaltegger's (2016) study for research to go beyond stakeholder theory and for a better “bridge between small business and sustainability research”, and in Mariani et al. (2021) study that indicates the need for accessible and flexible management solutions for the development of CS in SMEs, those that effectively consider and accommodate the main characteristics of SMEs. From these scientific gaps arises the research question to be answered by this work: in what way is it possible to develop CS in SMEs? To answer it, the objective of this work is to propose drivers for the development of the CS in SMEs based on the scientific literature and the authors' knowledge.

This work offers to the literature the construction of a new block of knowledge on sustainability in SMEs, which extends and deepens concepts on the subject. Furthermore, the study relates the elements of sustainability identified in the relevant literature on the subject to the established pillars of the TBL. Finally, the drivers created based on the literature and expertise of the authors can serve as new constructs on the topic for other researchers. In addition to the contribution to the literature, this work offers unprecedented theoretical-applied knowledge to owners, managers and researchers of SMEs to develop sustainability in the way best suited to their characteristics and constraints. There are few studies in the literature that bring actions directed to owners and managers of SMEs that help the company to become more sustainable, considering the characteristics of this type of company and its resource limitations. Based on the drivers identified by the authors (organizational culture, strategic planning and decision making, capacity development, performance metrics, management technologies and tools, partnerships and supply chain), this work enables SMEs to develop more sustainable actions related to organizational culture, greener strategies, employee development and training, use of performance metrics to assess sustainability, use of useful and responsive technologies and tools, stronger and more supportive partnerships, and a supply chain that is more committed to sustainable principles. When SMEs are able to implement practices in these aspects, they will achieve a greater competitive advantage in the marketplace, be better seen around the world, contribute to the betterment of society by making it more equitable and strengthen awareness of the green world.

Research Methods

This section presents the methodological flow (Figure 1) of this paper to provide the reader with a general and simplified understanding of how its phases were developed and to enable its replication. In the first step, the theme was defined considering its potential scientific/applied contribution and its originality. The potential of the theme was verified through a review of the scientific literature, specifically from previous studies on the theme, in which a research gap was noted as mentioned in the

introduction of this paper. From this, the authors defined the research question, the study objective and the research method.

In the second step, the theory on sustainability in SMEs was studied in depth to ensure better knowledge on the theme, being essential to identify the particularities and needs of SMEs in the development of sustainability. Articles published in the last 5 years in relevant scientific journals in sustainability indexed in the Scopus database were used for this study. Scopus is the database that includes the most relevant studies in the area. These articles were selected from a search on March 22, 2021, using the query (TITLE (“sustain*”) and TITLE (“small and medium enterprise*”) OR TITLE (“small and medium compan*”) OR TITLE (“small and medium firm*”) OR TITLE (“SME”) OR TITLE (“SMEs”) OR TITLE (“small compan*”) OR TITLE (“small firm*”) OR TITLE (“small enterprise*”) OR TITLE (“medium compan*”) OR TITLE (“medium firm*”) OR TITLE (“medium enterprise*”)). The possible variations and combinations of the keywords, contained in the query, were used in the search for a more complete search on the theme. Delimitations of the year of publication (2015–2020) and the type of document (articles and reviews) were used. This period was chosen for the investigation because of the freshness of the scientific findings in the articles on the theme and because the most recent studies include the main conclusions of previous studies representing the state of the art. From these search criteria, 328 articles were returned, which were organized in increasing order of citation, allowing the identification of the 30 most cited articles on the topic in the last 5 years (Appendix), following the approach used in the Nunhes et al. (2019).

In the third step, a content analysis of the 30 articles listed in Appendix was conducted to identify the elements of sustainability in SMEs. The content analysis method consists of selecting the main articles and carefully analyzing them based on how often certain information appears, allowing clear and coherent identification of highlighted knowledge and new lines of thought on the topic (Scott, 2006).

Thirty-eight elements of sustainability were identified and are presented in Table 1. In this Table, it is possible to observe the articles that originated each of the elements. The 30 most cited articles form the columns of this table and in each row is an element of sustainability. Thus, it is possible to verify in which articles that element appeared. The elements were ordered by frequency of appearance, highlighting the relevance of each element to sustainability.

In the fourth step, the elements identified in the previous step were related to the TBL pillars, given their status as one of the most prominent sustainability bases. This can be seen in Table 1, where the TBL column shows the relationship for each element. In the fifth stage, the drivers to guide SMEs in developing CS were proposed and discussed (Table 2). The drivers were formulated from the affinity grouping of sustainability elements in SMEs and based on the literature and the authors' expertise. In Table 2 it is possible to observe the seven drivers that were created, and which elements are in

each of them. To identify the articles that originated these elements, it is necessary to return to Table 1.

Elements for developing sustainability in SMEs

Organizations can be more sustainable from politics, projects, process and practices that develop and improve their sustainability through the TBL pillars (Massa et al., 2015). These elements were identified in the 30 most cited articles on sustainability in SMEs. In this section, the elements were analyzed in light of the theory according to the TBL pillars. Thus, this topic presents Table 1 containing the identified elements and the relationship between them and the TBL pillars (EC – Economic, SC – Social and EN – Environmental). The elements are in descending order according to the frequency with which they were identified in the 30 most cited articles.

In Table 1 it can be seen that even in recent literature there continues to be a predominance of socioeconomic perspectives for environmental neglect. The elements classified as EC, EN and SC simultaneously present in their essence practices that benefit and promote the economic, social and environmental development of the SMEs and society. These practices involve strategies implementation, systems, practices, tools, etc., that promote sustainability in general. Thus, elements such as the use of simple practices were verified, when compared to those applied in large companies, easy to understand for all involved and by the characteristics of each SMEs respecting its limitations of financial, structural and personal resources available (Massa et al., 2015; Walzel and Nowak, 2022). Some other elements have been observed, for example, the identification of materiality topics, the efficient use of resources available in the company and the institution of indicators so that the execution of sustainable practices and operations in the company is privileged (Aboelmaged, 2018; Caldera et al., 2019)

The elements classified as EC aim to assist in the financial progress of the company with positive reflections to the surrounding society from responsible investments and strategies committed to sustainability. To this end, owners and managers of SMEs must make decisions considering issues relevant to the sustainable economic development of the company (Zhai et al., 2018). Thus, the identified elements point to the importance of SMEs making decisions by analyzing the life cycle of products, joining trade associations that bring financial benefits, exploring business opportunities, actively participating in the supply chain and enhancing the ability to take risks responsibly (Johnson and Schaltegger, 2016; Healy et al., 2018; Kot, 2018).

The elements classified as SC aim to help the society surrounding the SMEs to access the resources for their dignified survival with education, safety and health, promoting social equity. Thus, some elements address the importance of partnerships with other companies and different associations, efficient communication between SMEs and their stakeholders, and training for workers aimed at encouraging socioenvironmental education and knowledge of sustainable practices, allowing them to be implemented

correctly in SMEs (Johnson and Schaltegger, 2016; Aboelmaged, 2018). From these elements it is possible to start the transition to a more sustainable organizational culture, form collaborative networks and develop community actions, promoting sustainable social development (Del Giudice et al., 2017; Wu, 2017).

The elements classified as EN involve actions that aim to minimize negative ecological impacts to the planet from activities throughout the product's life cycle. Thus, the elements are about implementing environmental management systems (EMSs), implementing cleaner production strategies, developing environmentally friendly products, producing with more sustainable operations and practices. All this by reducing the consumption of toxic products to the environment and using natural resources rationally to minimize the pollution planet (Zhai et al., 2018; Zhou et al., 2018; D'Amato et al., 2020).

The element classified as EC and SC simultaneously involves the financial development of companies and social development, as it encourages the promotion of ethical conduct through more transparent actions among stakeholders, eliminating corruption and promoting good relationships with internal and external stakeholders (Ayuso and Navarrete-Báez, 2018; Caldera et al., 2019). The element classified as SC and EN simultaneously is about the purchase and acquisition of environmentally friendly materials. This practice allows combating slave labor by purchasing supplies from sustainable companies and minimizing the negative impact on the environment from production processes by avoiding the use materials with nonsustainable characteristics (D'Amato et al., 2020).

The analysis of the relationship between the elements and the EC, SC and EN pillars is partially proven by Jones and Corral de Zubielqui (2017). They state that most of the efforts are in obtaining profit and the minority in promoting the well-being of people and preserving the planet when it comes to the balanced development of the TBL pillars in SMEs. However, this study also showed a considerable dedication to the social pillar. The same effort was not observed for the environmental pillar.

However, for sustainability to be incorporated into the organizational strategy of SMEs effectively there must be a balanced development of the elements related to the EC, SC and EN pillars. Sustainability can only be developed when all three pillars are balanced. For the transition towards sustainability, companies must be guided by aiming for economic prosperity, minimizing the negative environmental impacts caused by their activities, and improving their relationship with employees and society. When the balance between the pillars does not exist, the company does not make the transition properly (Feil et al., 2017).

The 30 articles used as the basis for this study are the most cited articles on sustainability in SMEs and, therefore, are the most influential in the technical-scientific literature, noticing an unbalanced development of the three TBL pillars. In this sense, it is important to intensify research on the environmental pillar in SMEs and to continue

existing studies. To have a more balanced analysis among the elements related to the EC, SC and EN pillars in SMEs.

Drivers for developing sustainability in SMEs

The identified elements were grouped into drivers (Table 2) according to their affinity and the authors' expertise, thus providing guidance to owners and/or managers of SMEs in the transition to sustainability.

As can be seen in Table 2, each driver is composed by grouping the affinity between elements of sustainability. For example, driver A (Organizational Culture) is made up of elements 3, 9, 13 and 38, and more information about the elements can be seen in Table 1.

Organizational culture

The organizational culture driver is composed of elements that will allow SMEs to change the paradigm related to sustainability issues and increasing the engagement of all those involved in this transition, promoting awareness of the theme, and facilitating the achievement of the company's strategic objectives. The first element identified in this driver orients on the importance of “developing the innovative and proactive spirit of managers to take risks related to sustainability” (#3), so that they can encourage employees to learn contents related to sustainability and innovation, promoting the application of new strategies and technologies aiming at a better economic, social and environmental performance than their competitors (Ayuso and Navarrete-Báez, 2018; Zhai et al., 2018).

However, most SMEs have internal barriers that make it difficult to implement innovative practices such as sustainability (Alvarez Jaramillo et al., 2018). SMEs need to adapt to survive in the face of large companies that have an easier time implementing sustainable practices. Green manufacturing practices (GMP) are suggested by Al-Hakimi et al. (2022) as being an organizational strategy geared towards helping manufacturing industries reduce the negative impacts to the environment caused by their actions. GMP coupled with green innovation (GI) are very important for companies in today's competitive world, because in this way the SME uses its resources in an optimal way ensuring as little energy waste as possible, reusing what is possible and recycling what is necessary. Therefore, it is recommended to develop the element “promote the involvement and support of managers for the development and implementation of sustainability practices” (#9) by encouraging leadership and appropriate working conditions.

Among the barriers that hinder the transition to sustainability in SMEs are corruption, lack of awareness of the company with its socioenvironmental responsibilities, and

difficulties in relationships with its stakeholders (Álvarez Jaramillo et al., 2019; Caldera et al., 2019). Thus, it is recommended to develop the element “promote ethical conduct in the organization through more transparent actions aimed at fighting corruption and good relationships with stakeholders” (#13). In addition, it is suggested to “consider equal opportunities and promoting diversity in the selection process of new employees” (#38) from paying decent wages, qualifying younger workers, providing medical care, etc. (Shibin et al., 2018). It is also important to encourage and develop knowledge about innovation and skills to respond nimbly to changes aimed at developing OI culture (Yun et al., 2020). According to Annamalah et al. (2022), SMEs need to adopt the concept of OI to attract foreign investment and stimulate economic growth, given the importance of SMEs to the market. However, this needs creativity, motivation, learning, desire for knowledge and cooperation. Encouragement from the leadership and owners of SMEs is essential. OI remains an option for SMEs to advance the adoption of advanced technologies.

Strategic planning and decision making

The strategic planning and decision making driver consists of elements that guide SMEs in developing an organizational strategy that considers sustainability issues and that foster the use of sustainable criteria in decision making (Johnson and Schaltegger, 2016). SMEs have very particular and different characteristics from each other; consequently, the initiatives implemented must consider this diversity (Kot, 2018). Thus, it is suggested to “consider and assess the characteristics of the organization when choosing the sustainable systems, instruments and tools to be implemented” (#4) during strategic planning, respecting the financial, structural, human resource and other constraints that SMEs present (Johnson and Schaltegger, 2016).

Furthermore, it is necessary to “identify materiality topics to guide the sustainability strategy considering the organization expectations and stakeholders” (#8). For this, it is suggested that SMEs have good relationships with their stakeholders, valuing transparency in their actions, efficient communication among them, sharing of information and responsibilities aiming to intensify the engagement of the parties (Johnson and Schaltegger, 2016; Caldera et al., 2019).

Another element refers to the importance of “including product life cycle analysis in sustainability-oriented decision making” (#22), analyzing the critical impacts from manufacturing to disposal of this product. Thus, choosing and applying appropriate methods for the production, reuse and end-of-life processes of the product are very important (Falle et al., 2016; Feniser et al., 2017). It is recommended that knowledge be developed by training managers and workers, enabling teams that promote organizational development, process and product/service innovations with a focus on sustainability.

With the intensification of competition among companies, organizational innovations have been fundamental to meet the new demands of customers in terms of

customization of products, timely deliveries and efficiency in customer service (Taschner, 2016), being necessary “to use IT systems that assist in decision making in the area of logistics and customer service aiming at the development of economic sustainability” (#27). The profile of consumers has been changing over the years, being noticeable the growth of the environmentally-friendly consumer. The satisfaction of this consumer profile involves efforts in the areas of marketing, psychology and sociology, etc. It is a type of consumer that has individual characteristics and qualities, social value, cultural and belief systems, as well as greater economic rationality when compared to the average consumer (Reijonen, 2011). It is then recommended to “use sustainable process practices as a marketing strategy to attract and win new customers” (#31).

There are several opportunities and difficulties about the ideal and appropriate strategic planning for SMEs to achieve sustainability. Then, it is necessary to apply approaches and techniques capable of analyzing, prioritizing, and assisting in the implementation of organizational strategies (Hasibuan, 2015; Khatri and Metri, 2016). It is recommended to “use SWOT (Strengths, Weakness, Opportunities, Threats) analysis to identify the need for sustainability-related improvements and to perform socioenvironmental and organizational risk analysis” (#33). It is also recommended that SMEs “establish strategies for medium- and long-term replacement of energy from nonrenewable sources with more sustainable alternatives” (#37) in a gradual manner. It is also suggested to restructure processes by using material resources and energy efficiency in production activities. Thus, the delivery of more environmentally and/or socially sustainable products/services is possible. The adoption of green initiatives is significant for SMEs to gain competitive advantage (D'Amato et al., 2020; Sharma et al., 2021). According to Wysocki (2021), most SMEs adopt green initiatives firstly because of environmental policies that recommend compliance with environmental legal requirements, secondly for reducing the harmful effects of production on the natural environment, thirdly for reducing the long-term running costs of businesses, and the least common motivation is in the possibility of increasing long-term turnover and standing out from the competition due to their green approach. Therefore, it is essential that SME owners and managers recognize green initiatives and understand the importance of using them.

Capacity development

The capacity development driver consists of elements that aim to train the owners, managers and other workers of SMEs, encouraging and qualifying them in issues related to sustainable development. Human capital is one of the most valuable assets for companies to achieve their goals and is a fundamental factor in sustainable development (Mansor et al., 2015). Thus, empowerment and people management is a relevant issue to be addressed in SMEs aiming to identify and develop skills consistent

with the company's values, provide well-being to workers, offer life and technical skills training to workers, encourage workers to develop innovative ideas, and encourage them to participate in decision making, value their own managers and encourage workers to contribute to a more just and prosperous society and to minimize environmental pollution (Kantabutra, 2019).

“Promoting socioenvironmental education in the organization from the training of all workers aimed at changing the organizational culture” (#2) allows the company to achieve the goals regarding sustainability defined in the strategic planning. Training or sharing information about sustainability for workers promotes personal and workplace improvements, enabling organizational culture change (Del Giudice et al., 2017). Thus, it is recommended to “train workers to implement and use sustainable practices in processes aiming at the sustainable development of the organization” (#11).

“Developing managers' training for aspects related to sustainable management” (#7) is also a relevant practice, as managers have great influence on other workers and are considered as an example to follow (Martinez-Ferrero et al., 2017). To this end, SMEs are recommended to develop sustainable leadership (SL) in their managers. SL is a model proposed to assist companies in adopting sustainable management practices in a balanced way while achieving high performance, resilience and sustainability in their processes (Avery and Bergsteiner, 2011). According to Timothy (2022) the knowledge and experience of managers significantly influence decision making for certain situations. In addition, managers with this profile are more respected by other employees. Managers with a higher level of knowledge adapt more easily to a variety of scenarios and decide faster than less educated ones. Furthermore, it is recommended to “train and raise awareness of managers to adapt company policies and processes to the sustainable supply chain” (#28), since this adaptation is essential for the participation of SMEs in the sustainable supply chain (SSC), allowing alignment with the focal company's policies and processes. Thus, it is recommended that SMEs provide training to owners and/or managers regarding sustainability legislations and regulations, sustainable practices, financing options to assist in the implementation of green initiatives, among others (Caldera et al., 2019). In this way, the limitations of SMEs that hinder their integration into SSC may be minimized.

Performance metrics

The Performance Metrics driver is composed of elements that encourage the use of indicators and measures that assist SMEs in developing sustainable strategies, tools and practices. SMEs are advised to “implement EMSs (ISO (International Organization of Standardization) 14001) to improve the environmental performance of processes and products” (#17) if they do not have them and, in addition, this system can serve as a basis for establishing sustainability indicators and metrics. Implementing a certifiable environmental management system (EMS) leads SMEs towards increasingly

standardized, documented and targeted sustainability controls. There are several benefits for SMEs regarding sustainability controls, for example, it can help overcome the perception of environmental performance as a symbolic act linked to certification and imbibe a deeper understanding of how and in what ways environmental performance is managed and achieved in SMEs; it can assist in understanding how EMS can be implemented in a more effective way; it can contribute to a broader discussion of EMS concepts and theories for SMEs in an empirical way; among others (Johnstone, 2022). It is also possible to “use the global reporting initiative (GRI) guidelines as a guide to implementing sustainable practices” (#29), encouraging the adoption of sustainable practices (Aboelmaged and Hashem, 2019).

Among the existing tools for performance measurement is the Balanced ScoreCard (BSC), this is a strategic planning tool in which financial and nonfinancial metrics are integrated into the organizational vision, which has been a possibility for sustainability development (Duman et al., 2018). Thus, SMEs should “combine environmental and social elements with the balanced ScoreCard perspectives (financial, customer, internal processes and learning and growth) to measure the organization's sustainable performance” (#18).

The sustainable performance of SMEs can also be measured from the development of sustainability indicators, and they should have economic, environmental and social issues, such as production cost, profit, return on investment, credit line availability, pollution, impact on climate change, the toxicity of operations, job creation, remuneration, labor qualification, etc. (Florindo et al., 2020). In this sense, it is recommended that SMEs “institute eco-efficiency indicators and social indicators, such as diversity, wages, overtime, turn over, to measure, analyze and improve the organization's processes” (#21).

The indicators with other sustainability actions will support SMEs to “conduct environmental and social auditing to measure, assess, report and mitigate environmental impacts from their processes” (#32) and to “develop sustainability reports” (#23) to disseminate the results of this auditing to stakeholders.

Technologies and management tools

The Technologies and management tools driver is composed of elements that help operationalize sustainability in SMEs. This operationalization occurs from the implementation of economic, environmental and social technologies, techniques and tools (Johnson and Schaltegger, 2016). Thus, it is oriented to SMEs to implement technologies that help to “implement the principles of the 3Rs (reuse, reduce and recycle)” (#12). The implementation of the 3Rs assists SMEs in the transition to a circular economy due to the inclusion of economic and political issues. Therefore, for the global green economy of SMEs it is important to emphasize the evolving need to better manage, allocate and institutionalize macroclimate finance. Environmentally

innovative SMEs require both external and internal financing (Austin and Rahman, 2022).

Also recommended are “develop environmentally friendly production processes” (#19), “implement lean manufacturing, six sigma and GMP to contribute to process sustainability” (#30) (Frare and Beuren, 2021), and “implement cleaner production from a sustainable value methodology, delivering products and services to the market with greater customer value” (#36). When talking about SMEs, it is important to remember that they are also producers of waste in their production activities, harming the environment just as large industries do. However, unlike large industries, SMEs have limited resources to treat this waste in the most environmentally friendly way possible. Thus, with OI, cleaner production is a strategy that can help SMEs minimize these negative effects on the environment. Cleaner production activities include minimizing waste and emissions, minimizing the use of materials that negatively impact the environment, improving political organization, making better technology choices and selecting cleaner energy sources (Rumanti et al., 2020).

Furthermore, it is recommended that SMEs develop management tools focused on sustainable outcomes and “implement user-friendly tools for the development and maintenance of sustainable practices” (#1), as well as “use the organization's resources efficiently with a view to sustainable production” (#10). The tools to be used by SMEs should be practical and adaptable. More specifically, the implementation of the tools should consider the resource constraints of SMEs. The tools should also be flexible, considering the informal business characteristics of SMEs, allowing for tolerance of informal cultures and management structures (Johnson and Schaltegger, 2016).

Partnerships

The driver partnerships is composed of elements that highlight the importance of SMEs developing connections with other companies, academic, organizational and social institutions. The establishment of partnerships allows SMEs to create sustainable values. Thus it is recommended to “develop partnerships with companies prominent in sustainability actions for benchmarking their initiatives” (#5), avoiding the repetition of unsuccessful experiences committed by partners in this same process and motivating the implementation of those in which they were successful (Del Giudice et al., 2017).

In addition to this benefit are, increased innovation capacity, sharing of scarce resources in SMEs, innovative cooperation through the process of open innovation (OI), etc (Deltour et al., 2021). The co-creation method, the cooperation of different stakeholders from business, science and public institutions, and the development in iterations in a real environment can help SMEs to find possible solutions for the efficient implementation of sustainable practices. Innovation and the introduction of new products/services or processes are facilitated through these partnerships. As well as

the ability to innovate, the higher level of knowledge and competence, and the reduction of risks in the development process. In addition, these partnership projects positively impact the creation of an OI culture within SMEs. The most frequent effects of these projects are related to the flow of knowledge within SMEs, access to new ideas, integrating users and external viewpoints into the innovation process, expanding the corporate network, knowledge exchange and collaboration. However, it is necessary that all this knowledge is transferred properly into the routine work in SMEs (Alexandrakis et al., 2022).

Furthermore, “exploring international business opportunities in the medium and long term to overcome possible resource constraints for sustainable development” (#34) can be a growth strategy for SMEs, and they can be inserted in chains that add value to them, getting involved in product development, sharing technologies, etc (D'Amato et al., 2020). For this, SMEs must be able to “establish a dialog channel with stakeholders to form a collaborative network aimed at the development of sustainable actions” (#6).

For sustainable practices to be efficient in SMEs, knowledge about them is essential. For this, SMEs are guided to “make alliances/partnerships with universities, research institutions, associations and class institutions to assist in the sustainability development” (#20). This allows that, from this cooperation, their limitations are minimized, promoting the implementation of sustainable practices according to the characteristic of SMEs (Jones and Corral de Zubielqui, 2017; Zhai et al., 2018). In addition to knowledge, SMEs need to have financial resources that support the implementation and application of sustainable practices, which can be facilitated through financial support and subsidy from government institutions. Thus, SMEs are advised to “join trade associations to collectively lobby for government incentives benefiting the adoption of sustainable practices” (#15)

Last but not least, it is recommended that SMEs “develop community actions aimed at contributing to the development of society” (#26). The partnerships mentioned above focused on economic and environmental issues, not being enough for the balanced development of sustainability. It is necessary that the practices be implemented to contemplate and promote social issues, also benefiting the local community (Massa et al., 2015).

Supply chain

The supply chain engine brings elements that allow the development of a coordinated and consequently effective supply chain that considers sustainability issues. Most SMEs are not aware that by executing practices aligned with green supply chain management (GSCM) they can substantially improve operational efficiency, reduce costs and reduce the negative environmental impacts generated by their production activities. To a large extent, implementing GSCM is considered financially burdensome, even if the long-term benefits are exposed. This is due to the limitations of SMEs in terms of human, technological and financial resources. In addition to the fact that SMEs

are usually more oriented towards the economic aspects without really caring about the social and environmental aspects, except when the social and environmental measures offer reasonable cost savings. In addition, SMEs face great difficulties in complying with many strict environmental regulations and policies (Ghosh et al., 2022).

However, even in the face of difficulties there are several benefits of SME participation in a well-managed supply chain. Among them are increased market participation, improved supply, improved quality, reduced steps to develop new products from the cooperation of the parties, increased competitiveness, implementation of medium to long-term planning actions, increased profitability, etc. (Kot, 2018).

For SMEs to enjoy these and other benefits it is recommended to develop elements such as “actively participate in the sustainable supply chain development process of their customers and suppliers” (#14), “align their processes to the quality policy of the focal companies in the supply chain” (#25), “perform benchmarking of organizations within the supply chain to gain new knowledge about sustainable operating practices” (#16), and to ensure a production process with a less negative impact on the environment, SMEs should “prioritize the purchase of environmentally friendly raw materials” (#36).

Conclusion

Despite being the largest employers and contributing significantly to social and economic development worldwide, especially in developing countries, SMEs are responsible for a large part of the negative impacts on society and the planet. This work filled a relevant scientific gap by creating new knowledge to help the development of CS in SMEs. Thus, this work answered the research question about how the CS in SMEs could be developed by taking advantage of their characteristics and limitations and achieved the established objective through the proposition of drivers formulated based on the scientific literature and the author's expertise. These drivers are for owners and managers of SMEs to help them in the process of developing sustainability.

Furthermore, this work contributes to some of the United Nation's (UN's) sustainable development goals (SDGs) such as goal 7 –affordable and clean energy, goal 8 – decent work and economic growth, goal 9 – industry, innovation and infrastructure, goal 13 – climate action, and goal 17 – partnerships for the goals.

The main theoretical-scientific contribution of this work is the creation of a new block of knowledge related to sustainability in SMEs developed by combining theoretical and empirical knowledge identified in the most relevant and influential studies on the topic. Other contributions to the literature consist in the relationship of the elements for

sustainability with the TBL pillars and the possibility of the drivers being used by other researchers as new constructs on the subject.

The drivers originated from the relevant literature on the topic and the authors' expertise and are important guidelines for the implementation of sustainability in SMEs. In addition to contributing to the literature, these drivers have very significant practical application, where the main applied managerial contribution of this work is to enable owners and managers of SMEs to access management solutions for developing sustainability in companies of this size, making them the most prosperous, fair and green, and consequently the most competitive. Thus, SMEs will be able to develop a culture of sustainability, access financing to develop sustainable practices, train their employees for sustainability, insert themselves in green supply chains, etc.

It was possible to observe in the sustainability drivers identified in the scientific literature a significant concentration of efforts in the practice's development focused on obtaining corporate profits and promoting the well-being of people. However, the same did not occur about the preservation of the planet. For sustainability to be effectively developed and achieve all its potential results, its practices must consider the economic, social, and environmental dimensions in a balanced way. Thus, it is suggested for future studies the development of works that balance these dimensions or that prioritize environmental practices in SMEs. These studies can be both theoretical and applied. In order to bring solutions connecting the UN's SDGs such as goal 7 – affordable and clean energy, goal 8 – decent work and economic growth, goal 9 – industry, innovation and infrastructure, goal 13 – climate action, and goal 17 – partnerships for the goals to the practices performed by SMEs according to their possibilities. It is also suggested for future studies the analysis and influence of the external environment on the practices carried out by SMEs.

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