

The contribution of manufacturing companies to the achievement of sustainable development goals: An empirical analysis of the operationalization of sustainable business models

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Abstract

This study aims to identify the sustainable business practices operationalized in the sustainable business models of manufacturing companies and highlights these companies' contributions to achieving Sustainable Development Goals (SDGs). The results outline that a clear sustainable value proposition is operationalized through a large and various range of sustainable practices that, although some of them are legally promoted, are mostly voluntarily adopted. Unlike previous studies, this research shows a widespread commitment not only to the economic and environmental dimensions of sustainability but also to the social one, above all to promote workers' well-being, improve the workplaces, and engage the employees. Furthermore, the study reveals an across-the-board dimension of sustainability operationalized by the adoption of local embeddedness strategies, networking development, and creation of a sustainable ecosystem and contributes to extending—and improving all dimensions of—the triple bottom line framework. Finally, the companies investigated contribute to the achievement of 11 of the 17 SDGs by highlighting dimensions in which companies already have a strong impact and those in which they could enhance their practice. Based on these results, this research advances theoretical knowledge and offers practical implications to improve sustainable business management further.

KEYWORDS

manufacturing companies, sustainability, sustainable business models, Sustainable Development Goals (SDGs), sustainable practices, triple bottom line

Abbreviations: BM, business model; CEO, chief executive officer; CSR, corporate social responsibility; MDG, Millennium Development Goal; SBM, sustainable business model; SDG, Sustainable Development Goal; TBL, triple bottom line.

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1 | INTRODUCTION

The desire for a more sustainable world has increased in recent years and is evident in public opinion, civil society, and in policymakers, as well as scholars. Nonetheless, it is widely recognized that businesses are one of the major drivers of environmental deterioration and, in certain cases, social inequality. In this context, the United Nations has made a global call for a more sustainable, equal, and inclusive way of life by publishing the 2030 Agenda and its 17 Sustainable Development Goals (SDGs). Businesses are involved in this transformative process.

An increasing number of businesses are integrating sustainability into their management practices (e.g., Bocken & Short, 2021; Kabongo, 2019; Millar & Russell, 2011) to contribute to solve existing socio-environmental problems (e.g., Schaltegger & Wagner, 2011), thus playing a critical role in achieving the SDGs (e.g., Rosati & Faria, 2019). Thanks to such integration, sustainability is elevated to the strategic level in these companies, which can be defined as sustainability-oriented businesses. These are initiatives established by entrepreneurs who are motivated to address the grand challenges of sustainable development and pursue “thrivability” (e.g., Moggi et al., 2022; Smitsman, 2019) by undertaking business practices aimed at achieving the SDGs (e.g., Agrawal et al., 2022; Horne et al., 2020). To extrapolate value rationally (e.g., Zott & Amit, 2007), they redesign their traditional model of doing business by creating a business model (BM) that simultaneously depicts financial and sustainable value, thereby responding to the global call for sustainable development.

Despite growing interest in sustainable business models (SBMs), there is still a limited understanding of how they can be operationalized in practice (Bocken et al., 2014; Roome & Louche, 2016) and how these practices are aligned with the SDGs (Heras-Saizarbitoria et al., 2022; van der Waal & Thijssens, 2020). Few studies exist that empirically highlight the operational practices used by companies to promote sustainable business (Comin et al., 2020; Laasch & Pinkse, 2020; van Bommel et al., 2020), and even fewer studies that analyze businesses' sustainable practices in the light of the SDGs. Accordingly, a greater understanding of the collection of behaviors adopted by companies is required to advance research into the practical relevance of management studies (e.g., Lüdeke-Freund, 2020; van Bommel et al., 2020), and a need for wider empirical evidence about the concrete contribution of companies to SDGs has emerged. This leads directly to the research question of this work: How do companies contribute to the achievement of the SDGs by putting into practice their SBMs?

In seeking answers to this question, this research investigates sustainable practices related to the SDGs by highlighting what sustainability-oriented companies are doing to operationalize their SBMs in practice and how these practices can benefit the achievement of the SDGs. Thus, the goal of this paper is twofold: (1) to identify sustainable business practices and (2) to highlight the contribution of manufacturing companies to achieving the SDGs through the operationalization of SBMs.

Italian sustainability-oriented for-profit companies operating in manufacturing industries were selected as the analysis context. The choice of focus on manufacturing is driven by two factors: first, to specifically examine a study context that has not yet been empirically investigated in the literature on this topic (e.g., De Giacomo & Bleischwitz, 2020). In this regard, energy (e.g., Tolkamp et al., 2018), the sharing economy (e.g., Freudenreich et al., 2020), building (e.g., Leising et al., 2018), biogas (e.g., Karlsson et al., 2018), innovation ecosystems (e.g., Oskam et al., 2021), and service industries (Buffa et al., 2018) have been widely examined. Second, to investigate an industry that intrinsically is not sustainability oriented, such as manufacturing (e.g., Agwu & Bessant, 2021; Bocken et al., 2014), which traditionally creates adverse impacts on the environment (e.g., pollution and resource depletion) and society (e.g., unfair wages).

The remainder of this study is organized as follows. After a literature review on sustainability theories and the SDGs along with SBMs and practices, the method is described, followed by the analysis and discussion of the findings. Next, theoretical and managerial implications are proposed. Finally, this study concludes with limitations and possible directions for future research.

2 | LITERATURE REVIEW

2.1 | Sustainability theories and SDGs

According to the World Commission on Environment and Development, sustainability is “a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs” (Brundtland, 1987, p. 17). The content of the notion of “sustainability” is under discussion. Some scholars propose that sustainability must be correlated with the correct use of natural resources (e.g., Sheth et al., 2011), to prevent it from being exploited too generally. Other scholars consider the concept in a broader way, including the different dimensions of business and the needs of several stakeholders (Wheeler et al., 2003), which cannot be limited to environmental protection. Nonetheless, often the notion of sustainability has taken the position of an “empty signifier” (Brown, 2016), which needs to be clearly defined and “filled” in order not to be so generic as to make no sense, or worse, to be exploited. Consequently, the concept of sustainability needs to be well defined and operationalized in concrete practices to avoid the risk of isomorphism.

One of the first attempts to define sustainability is the triple bottom line (TBL) theory (Elkington, 1994), which is based on three elements; namely, profit, people, and planet, by breaking sustainability into its economic, social, and environmental dimensions. Scholars and practitioners use this three-dimensional theory as a practical framework for sustainability (e.g., Joyce & Paquin, 2016; Rogers & Hudson, 2011; Upward & Jones, 2016) because it can be easily applied by any business in its daily activities. Next, some changes or extensions of the existing TBL are proposed to provide further directions among multiple bottom lines. Some scholars replace “profit”

with “prosperity” to indicate economic benefits for the firm and the socioeconomic well-being of workers and communities (e.g., Stahl et al., 2020; Wheeler & Elkington, 2001), while others propose the quadruple bottom line theory by adding principles/values (e.g., Lerner et al., 2017; Raiborn et al., 2013), technology (e.g., Arukala & Pancharathi, 2020), or also prosperity (e.g., Hamidi & Worthington, 2021) as further dimensions to the TBL. In the corporate finance field, asset allocation is based on not only economic and financial aspects but also on environmental, social, and governance—named ESG—criteria.

The Millennium Development Goals (MDGs) and the SDGs interpret sustainability in a broader way, calling for a wide range of interventions to promote sustainability under different, but interrelated, dimensions. Indeed, the SDGs extend the MDGs in a more exhaustive way, not limiting the sustainable actions to developing countries only (e.g., Van Zanten & Van Tulder, 2018). The 2030 Agenda contributes to the discussion about the content of the sustainability notion by proposing an integrated framework of objectives related to social, environmental, economic, and governance aspects (e.g., Sullivan et al., 2018). If the 2030 Agenda is a general call for countries, people, organizations, and businesses, these last must understand how the SDGs can be put into action every day (Scheyvens et al., 2016; van der Waal & Thijssens, 2020) by innovating their BM (Ferlito & Faraci, 2022). Nonetheless, further research is still needed to understand the role of businesses as sustainable development agents (Mio et al., 2020) and, especially, which practices make businesses' contributions substantial and durable enough to reach sustainable development.

While the SDGs were immediately adopted as a framework for assessing the non-financial dimensions of corporate performance (e.g., Khaled et al., 2021; Moldavska & Welo, 2019) and sustainability reporting (e.g., Küçükgül et al., 2022), the need for understanding how business practices can be aligned to SDGs has emerged with reference to certain specific local contexts (e.g., Blagov & Petrova-Savchenko, 2021; Ike et al., 2019; Vildåsen, 2018), dimensional class (Smith et al., 2022), or industry (Perryman et al., 2022). Scholars have acknowledged the lack of research on how organizations are contributing to the SDGs (Heras-Saizarbitoria et al., 2022; van der Waal & Thijssens, 2020), and the analysis of the practices implemented to achieve SDGs can clarify the concrete contribution of businesses to sustainable development, avoiding the risks of opportunistic behaviors highlighted by previous studies (Calabrese et al., 2022; Heras-Saizarbitoria et al., 2022).

Therefore, although previous studies have focused on sustainability practices, scant research has aimed to understand how SBMs are operationalized in actual practices, and how these can effectively benefit the achievement of the SDGs (e.g., Ferreira Caldana et al., 2022; Santos et al., 2015).

2.2 | SBMs and practices

The concept of SBM—also named BMs for sustainability—has emerged recently as a research area (e.g., Lozano, 2018; Oskam

et al., 2021; Press et al., 2020; Ritala et al., 2018), when studies began integrating BM and sustainability concepts to create and balance economic, social, and environmental value (Bocken et al., 2014; Boons & Lüdeke-Freund, 2013; Schaltegger et al., 2016; Tencati & Pogutz, 2015). The increasing interest in SBM has created a proliferation of categorizations and typologies by scholars and practitioners (Khizar et al., 2022). Among the various definitions in the literature (Geissdoerfer et al., 2018), this study embraces the following: an SBM is “a simplified representation of the elements, the interrelation between these elements, and the interactions with its stakeholders that an organizational unit uses to create, deliver, capture, and exchange sustainable value for, and in collaboration with, a broad range of stakeholders” (Geissdoerfer et al., 2016, p. 1219).

Based on the definitions provided in the literature, many studies (e.g., Boons & Lüdeke-Freund, 2013; Ciasullo et al., 2019; Freudenreich et al., 2020; Gao & Li, 2020; Joyce & Paquin, 2016; Lüdeke-Freund, 2020; Schaltegger et al., 2016; Upward & Jones, 2016) have proposed frameworks for SBM by referring to the main BM elements (e.g., Osterwalder & Pigneur, 2010; Richardson, 2008)—value proposition, value creation and delivery, and value capture—in many cases, by modifying them or adding further attributes to original elements. More precisely, value proposition refers to the products and services that companies provide to customers or target markets, value creation and delivery refers to the business activities and processes that companies undertake to create, produce, sell, and deliver products and services to customers, while value capture refers to the methods through which companies earn revenue by selling products and services to customers. In this regard, the value exchanged between a company and a wide range of stakeholders belonging to the organization's value constellation has been highlighted theoretically (Bocken et al., 2014; Breuer et al., 2018; Evans et al., 2017; Geissdoerfer et al., 2016; Zott et al., 2011), but only a few studies have considered it in the context of SBM frameworks (e.g., Freudenreich et al., 2020; Joyce & Paquin, 2016; Laasch & Pinkse, 2020; Lüdeke-Freund, 2020; Oskam et al., 2021; Upward & Jones, 2016) and without proposing empirical evidence.

Given that a BM can be viewed as an interdependent system of activities that contribute to create value through the internal and external activities in which the company is engaged (Zott & Amit, 2010), SBMs include a narrative of sustainability practices (Stubbs & Cocklin, 2008) that are applied to pursue a clear mission, expressed as profit-seeking—economic value—along with social and environmental value (Boons & Lüdeke-Freund, 2013; Muñoz et al., 2018). In this sense, a sustainable business practice is conceptualized as “business behaviour that leads to a net overall increase in the different forms of capital associated with sustainable development” (Moser, 2001, p. 293). Using the TBL as a practical framework for sustainability (e.g., Rogers & Hudson, 2011), Table 1 shows the main sustainable actions and practices emerging from a literature review.

The introduction of SDGs and the consequent reformulation of the sustainability notion calls for rethinking and innovating SBMs. Although the literature argues for the importance of conceptual

TABLE 1 Main sustainable practices and actions according to the TBL as a practical framework for sustainability

Dimensions of TBL framework	Sustainable practices	Sustainable actions	Author(s) (year)
Environmental dimension	Waste management	To reduce energy and water consumption, environmental damage, and reusing and recycling	Herring and Sorrell (2009); Merrilees and Marles (2011)
		To switch to renewable energy sources	Evans et al. (2009); Høgevoid et al. (2015)
	Resource management	To manage energy, water, and electricity, especially to improve non-renewable energy use	Moscardo (2013)
	Chemical component management	To reduce emissions of gases and carbon	Azevedo et al. (2012)
	Stakeholder management-related activities	To adopt a code of conduct by suppliers	Høgevoid et al. (2015)
		To develop stakeholders' awareness of sustainable business and limit adverse impacts on the community	Merrilees and Marles (2011)
Supply chain management-related activities	To implement sustainability initiatives through a broad network of stakeholders	Mollenkopf et al. (2010)	
	To use resources shared between the various links in the production chain	Høgevoid et al. (2015)	
Social dimension	Delivery of functionality rather than ownership	To provide services that satisfy users' needs without them having to own physical products	Tukker (2004)
	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being	To generate employee welfare and living wages and community development in terms of education, health, and livelihoods	Bocken and Allwood (2012)
	Encouragement of sufficiency	To reduce consumption and production (e.g., to encourage slow consumption)	Schrader and Thøgersen (2011); Bocken and Short (2016)
Economic dimension	Re-purposing business for society/the environment	Not pursuing profit maximization; focusing on providing social and environmental benefits by developing close integration of companies and stakeholders	Yunus et al. (2010); Grassl (2012); Gehman et al. (2019); Mion et al. (2021)
	Development of scaled-up solutions	To develop franchising, licensing, and collaborative models such as crowd sourcing, open innovation platforms, incubators, and slow/patient capital	Brabham (2008); Bocken and Allwood (2012); Del Giudice et al. (2018); Chaurasia et al. (2020)

research about SBMs built around a mission centered on SDGs, it also calls for empirical analyses (Lüdeke-Freund, 2020). Only a few studies related to specific contexts (Breuer et al., 2018; Nitsenko et al., 2017; Raith & Siebold, 2018) have faced this topic by empirically examining the practices that make the relationship between SBMs and SDGs effective. Accordingly, this study examines what sustainability-oriented companies are doing to operationalize their SBMs in practice and how these practices can contribute to achieve SDGs.

3 | METHODOLOGY

3.1 | Research design

This exploratory study adopts a qualitative methodology using an abductive approach, given that it enables us to move iteratively

between theory and the data to better grasp the empirical phenomenon (e.g., Dubois & Gadde, 2014; Ketokivi & Choi, 2014). More precisely, this research employs a multiple case study strategy that results from the need to understand a phenomenon in its real-life context as well as to propose specific cases from which to predict general considerations. This method is appropriate to explore and examine complex and emergent social and business phenomena (Yin, 2017), and it is suitable to increase the robustness of the findings of empirical investigations (Eisenhardt & Graebner, 2007).

This research uses a three-stage interview process comprising in-depth interviews and a questionnaire, followed by follow-up interviews. The interviews, which were chosen to build a realistic observation of the cases (Snow & Thomas, 1994), were considered useful to “learn about the world of others” (Qu & Dumay, 2011); that is, businesses' sustainable practices, in order to infer some insights that could contribute to a more general theory. The questionnaire was

built following a Cartesian approach to map sustainable business practices emerging from the in-depth interviews and the literature analysis (see Table 1) and add further data. Finally, the data collection process also included secondary sources to corroborate and triangulate the findings (Yin, 2017) as well as to ensure the validity and reliability of the research (Creswell, 2014).

Thematic analysis and directed content analysis were used as research techniques because they enable us to examine a large amount of data to identify themes and to obtain new contents.

3.2 | Sample selection procedure

A theoretical sampling strategy was used to detect cases. Personal networks were employed to approach potential informants (Ridder, 2017) who met the following four inclusion criteria: (1) for-profit manufacturing companies operating in the global market; (2) well-established companies (startups were excluded); (3) companies that have created sustainable value over time through successful business-as-usual competitive practices and, thus, were not born sustainable, namely, were not “originally conceived to develop a new BM leveraging sustainability at its core” (Todeschini et al., 2017, p. 765), such as non-profit organizations, social enterprises, benefit corporations, and B Corps; and (4) companies communicating a lasting vision and everyday practice of sustainability over many years. To detect the company's orientation toward sustainability, preliminary inquiry into the corporate websites and other public documents was carried out. This phase was aimed to understand if companies clearly communicated a sustainable commitment, for example, by introducing “sustainability” as a keyword in the mission statement, implementing a website page devoted to illustrating the sustainable strategy of the firm, or establishing a board committee or a manager to run sustainability politics. The following mission statement adopted by one of companies investigated is proposed as example of a lasting vision of sustainability:

We work for the well-being of people and the planet.
We do this by researching, measuring and building networks for work, knowledge, the environment with a company that sows beauty. (C8)

Based on these selection criteria, we created a target list of 20 companies. After contacting them via email, we received replies from eight expressing inability to participate owing to the ongoing Covid-19 pandemic. Thus, 12 Italian for-profit companies were identified as eligible participants. Table 2 summarizes their profiles (some companies are named using the Greek alphabet to respect their request for anonymity).

The choice of limiting our sample to 12 cases is connected to having collected and examined data until it no longer provided additional information to that previously collected. This aspect is in line with Creswell's study (1998), which recommended conducting from five to 25 interviews to reach data saturation. This study reached data

saturation after 10 interviews. A further two cases were collected as a confirmatory step to ensure that the findings no longer provide new insights.

3.3 | Data collection

The empirical study employed interviews and a questionnaire with representatives of Italian sustainability-oriented for-profit companies operating in manufacturing industries. Specifically, we planned in-depth, semi-structured interviews with key informants from the companies (founders, CEOs, or managers), which were conducted from January to November 2021. Before starting each interview, the study's aim was presented to each interviewee, highlighting the importance of their knowledge and opinions on the research topic. We developed an interview guide based on the literature we reviewed to ensure we followed similar procedures in investigating all selected companies and to guarantee the case studies' reliability (Yin, 2017). The interview guide included the following three aspects: (1) the company's vision, mission, values, and strategy; (2) the creation of sustainable value as part of the business strategy implementation process; and (3) specific examples of sustainable business actions undertaken to resolve existing socio-environmental problems. In some cases, more than one person was interviewed. Each interview lasted between 60 and 90 min and was undertaken in Italian, then translated into English, ensuring the meaning of the original responses.

Subsequently, the respondents were contacted asking for their willingness to complete a questionnaire, which was prepared based on the literature review (see Table 1) and data collected during the interviews. The cover letter, which was sent along with questionnaire, specified the importance of choosing one or more informants for their knowledgeability on the topic under investigation as well as their availability to participate in the subsequent follow-up interview. The purpose of the questionnaire was to better map sustainable business practices by responding to two questions: (1) to choose sustainable business actions applied by a company within a list including the actions that emerged during the previous study steps (literature review and interviews) and (2) to add further actions implemented by the company. Similar responses were clustered.

Secondary sources were used to verify the data collected and add information for completeness. Specifically, we scrutinized the corporate websites and documentary data of each company, including their sustainability reports, certification report, code of ethics, press articles, and corporate videos published online or provided by each company. Table 3 provides an itemization of the data collected.

3.4 | Data analysis and trustworthiness of the results

Two different, but complementary, analyses were combined to examine the data: Thematic analysis was used to identify sustainable business practices operationalized into SBMs, while content analysis was



TABLE 2 Profile of the interviewed companies

Case (C)– Company's name	Foundation year	Core business	Size (approx. number of workers)	Total revenue (millions of euro in 2020)	Globalized market (number of countries)	Position of interviewee	Position of respondent to questionnaire and follow-up interviewee
C1–Alpha	1965	Clothing for men and women	120	38	Not available	• CEO	• CEO
C2–Bauli	1922	Sweet and savory bakery	1600	485	70	• Sales and marketing director	• Senior brand manager • Warehouse and distribution manager
C3–Beta	1979	Non-ferrous metals	404	336	Not available	• CSR manager	• CSR manager
C4–Delta	1850	Pastry products	150	30	Not available	• CEO	• CEO
C5–Epsilon	1961	Fresh pasta, filled pasta, sauces, and ready meals	3500	1000	64	• Innovation and sustainability manager	• Innovation and sustainability manager
C6–Gamma	1956	Ecosystem of iconic brands in the cycling world	500	205	90	• HR people and culture manager	• Founder entrepreneur
C7–La Sportiva	1928	Footwear and clothing for outdoor sports	400	130	74	• CEO and president • Marketing manager	• CEO and president • Marketing manager
C8–Loccioni	1968	Measurement systems and solutions for quality control	450	120	40	• Founder entrepreneur • Communication manager	• Founder entrepreneur • Communication manager
C9–Oberalp Group	1981	High-quality sports clothing and equipment brands	703	235	65	• Founder entrepreneur • Sustainability specialist	• Founder entrepreneur • Sustainability specialist
C10–Pedrollo	1974	Surface and submersible electric pumps for domestic, civil, agricultural, and industrial use	460	166	160	• Founder entrepreneur • Executive manager	• Founder entrepreneur • Executive manager
C11–Vincenzi Biscotti	1905	Sweet baked goods	400	120	110	• Senior brand manager	• Senior brand manager • Brand strategy and management
C12–Zeta	1983	Butter, cheese, and serum	300	170	50	• CEO	• CEO

TABLE 3 Sources of data collected

Case (C)	Questionnaire	Both interviews	Other sources					
			Corporate website	Corporate videos	Code of ethics	Press articles	Sustainability certifications	Sustainability report
C1	√	√	√				√	
C2	√	√	√					√
C3	√	√	√				√	
C4	√	√	√				√	
C5	√	√	√	√			√	
C6	√	√	√				√	
C7	√	√	√	√				√
C8	√	√	√	√			√	
C9	√	√	√	√	√			√
C10	√	√	√	√				
C11	√	√	√					√
C12	√	√	√		√		√	

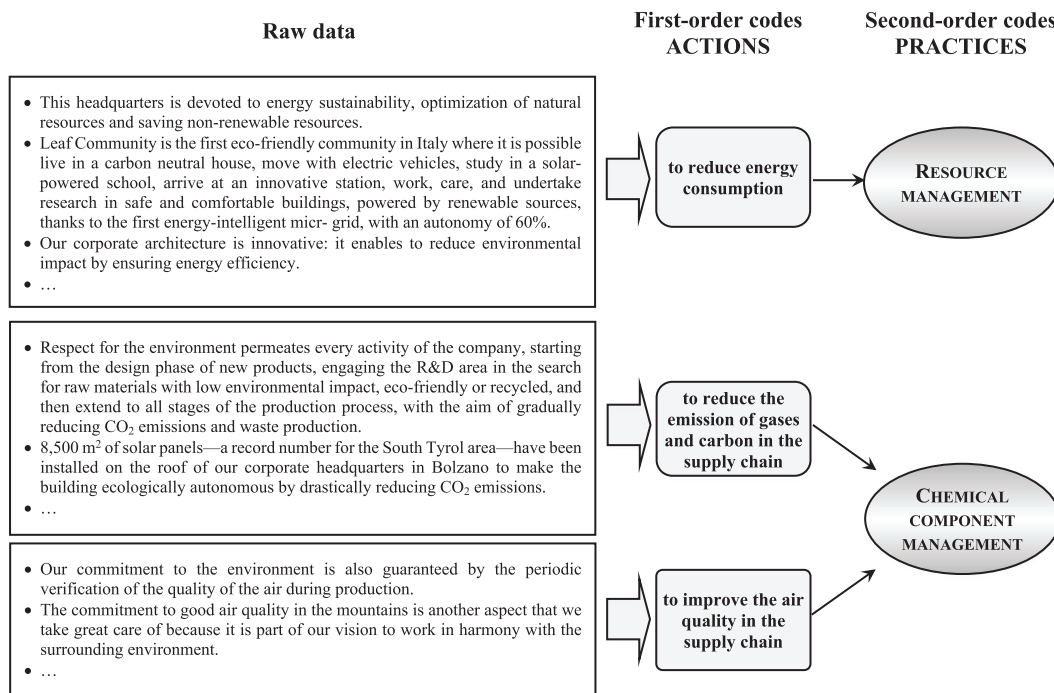


FIGURE 1 Illustration of the data analysis process (thematic analysis)

used to examine the contribution of manufacturing companies to achieve the SDGs through the operationalization of SBMs. NVivo 11 software was employed for data organization and analysis, in the interest of comprehensive treatment of the data.

Thematic analysis was applied following the procedure suggested by Braun and Clarke (2006). Specifically, after transcribing and reading all the data (data familiarization), we codified the points of interest and organized the themes (generation of initial codes) and gathered up the relevant codes to identify potential higher order themes (searching for themes). Subsequently, we identified and confirmed the

themes as well as recognized links between codes and themes (review of themes). Finally, after refining the specificity of each theme (definition and naming of themes), we analyzed the themes and produced the report (production of the report). During this process, two researchers/authors performed the analysis separately, carefully checked and then compared codes to resolve initial disagreements on certain codes. Similarities and differences were reduced to a manageable number in order to obtain a unique coding scheme. The researchers gathered raw data into first-order codes (i.e., actions) and, subsequently, detected themes (i.e., practices) as the second-order

codes. By way of example (not exhaustive), Figure 1 illustrates the coding procedure of some data on environmental value.

Starting from the results of the thematic analysis, the practices that operationalize SBMs were analyzed by performing a directed content analysis according to deductive coding, which requires the use of a pre-existing coding system with pre-defined keywords to code the texts. For this purpose, Horne et al.'s (2020) coding scheme was used as an appropriate guideline to examine the correspondence between the number of occurrences of keywords within the sustainable business practices identified and SDGs.

In terms of trustworthiness of qualitative data (Pratt et al., 2020), more coders evaluated the primary and secondary sources collected to confirm the participants' descriptions and how companies act by operationalizing SBMs. In addition, the authors asked another experienced qualitative researcher who did not know the content but was familiar with the theoretical background, to read the dataset and code it independently. The discrepancies that emerged with the coding of the independent coder were discussed and solved. This *modus operandi* enabled us to reduce researcher bias and subjectivity.

4 | ANALYSIS AND DISCUSSION OF THE RESULTS

4.1 | Sustainable business practices applied to operationalize SBMs

Based on analysis of the primary and secondary sources, it was possible to map the sustainable actions and to categorize them into sustainable practices performed by the companies analyzed. The findings largely confirmed the implementation of sustainable practices mapped by previous studies as shown in Table 1, except for “development of scaled-up solutions,” which did not emerge from empirical evidence. Nonetheless, several additional practices emerged, in general regarding the social dimension and, in detail, behaviors aimed at improving the working conditions of employees, retaining them and creating a strong involvement in the corporate identity. These practices are presented in Table 4, which shows, with reference to the TBL framework, sustainable practices and some examples of actions.

Environmental practices, largely detected by previous studies, were identified by this analysis, and two additional environmental practices emerged: “Product innovation for sustainability” and “Sustainable mobility promotion.” With regard to the first, a respondent declared this:

We create products characterized by durability and encourage reuse across customers by providing them with a repair service to extend the life of the product. Customers can turn to a professional trained by the company to regenerate the product that thus retains much of its original technical characteristics, without having to resort to the purchase and consumption of a new shoe. (C7)

About the second one, another respondent argued this:

Our employees are encouraged to give up almost completely their car to go to work. Special prizes and bicycles at the station are provided as an additional incentive. (C9)

In social terms, as mentioned above, the most evident finding of the analysis was strong attention to employees, considered as a crucial factor in achieving sustainability. The sustainable practices oriented toward human resources included the activation of corporate welfare plans, the improvement of workplaces and workflows to ensure employees' well-being, for example, by making working hours flexible or promoting a working environment based on reciprocal respect. In this regard, one of respondents argued this:

My company is attentive to working conditions, especially comfort, the ergonomics of the workstation, and safety in the workplace, which have been developed and improved over the years. A lot of manual work by the operators has been eliminated and at the climatic level interventions have been made in terms of light in the plants. In addition, employees can advise on how to improve the workplace, which results in less stress, occupational diseases, and accidents in the workplace. (C10)

Furthermore, social practices included attention to training and education, the creation of an inclusive and fair environment, and diversity, equity, and inclusion management.

Finally, the analysis highlighted that companies interpret sustainability as an objective that overcomes the boundaries of the single business and include the local ecosystem of stakeholders in a common struggle to create an inclusive and fair development. Therefore, a large set of actions aimed at creating a shared view of making sustainable business emerged. These actions can be categorized into the three following practices: “adoption of a local embeddedness strategy,” “development of networking,” and “creation of sustainable ecosystem.” These practices cannot be classified in the traditional three dimensions of TBL framework; they are across-the-board and have an effect on sustainability as whole. These practices are understood by the interviewees as embedded in the SBMs of companies that are fully integrated within their local context even though they are capable of operating worldwide. Territorial embeddedness is not definable in terms of corporate philanthropy but rather in terms of operationalization of concrete actions aimed at creating strong relationships with crucial stakeholders and promoting lasting partnerships based on common feeling regarding the development of territories and communities. In this sense, two examples are given here:

We are surrounded by nature, which gives us energy and inspiration. The mountain water and clean air enhance our ingredients to the fullest, creating the

TABLE 4 Sustainable business practices

Dimensions of TBL framework		Derived from	
Environmental dimension	Sustainable practices	Literature review	Thematic analysis
Environmental dimension	Waste management	✓	Sustainable actions (examples) To reduce disposable plastic process To reduce, reuse, and recycle materials in the production process To use water consciously To reduce energy consumption To use cogeneration plants inside the company To switch to renewable energy sources To reduce the emission of gases and carbon in the supply chain
		✓	
	Resource management	✓	To improve the air quality in the supply chain To use low environmental impact fuels To encourage reuse To make the best use of capacity
		✓	To improve the preparation of shipments To shorten transport routes To develop products that respect the environment and offer maximum safety To extend the products' life To incentivize employees to avoid (or stop) using their car to travel to work
	Chemical component management	✓	To provide sustainable solutions for all stakeholders, with the needy, disabled, and disadvantaged around the world included To develop the community in terms of education, health, and livelihoods To create consumer awareness about respect for the environment To offer employees a personalized welfare plan To offer an internal canteen with fresh food prepared every day To offer a kindergarten To monitor the safety conditions of the workplace To offer flexible working hours To create a culture based on "not stamping the badge"
		✓	
	Stakeholder management-related activities	✓	To offer flexible working hours To create a culture based on "not stamping the badge"
		✓	
	Supply chain management-related activities	✓	To offer flexible working hours To create a culture based on "not stamping the badge"
		✓	
Product innovation for sustainability	✓	To offer flexible working hours To create a culture based on "not stamping the badge"	
	✓		
Promotion of sustainable mobility	✓	To offer flexible working hours To create a culture based on "not stamping the badge"	
	✓		
Social dimension	Delivery of functionality rather than ownership	✓	To offer flexible working hours To create a culture based on "not stamping the badge"
	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being	✓	To offer flexible working hours To create a culture based on "not stamping the badge"
	Encouragement of sufficiency	✓	To offer flexible working hours To create a culture based on "not stamping the badge"
	Corporate welfare	✓	To offer flexible working hours To create a culture based on "not stamping the badge"
	Employees' well-being in a healthy and safe workplace	✓	To offer flexible working hours To create a culture based on "not stamping the badge"

(Continues)

TABLE 4 (Continued)

Dimensions of TBL framework	Sustainable practices	Derived from		Sustainable actions (examples)
		Literature review	Thematic analysis	
Economic dimension	Diversity, equity, and inclusion management	✓	✓	To promote respect, diversity, a culture of merit, and an open-door policy
	Corporate academy	✓	✓	To select employees based on the principles of impartiality and equal opportunity
	Re-purposing business for society/the environment	✓	✓	To create employment for disabled people
				To introduce the topic of CSR into training courses
Across-the-board practices				To make a positive impact on the environment and society voluntarily
				To communicate the corporate vision and mission statement, including sustainability, inside, and outside the company boundaries
	Creation of economic value in favor of stakeholders	✓	✓	To create an international CSR team
	Adoption of a local embeddedness strategy	✓	✓	To pursue the long-term viability and stability of the business to increase economic growth
Development of networking				To invest in the territory of origin
				To create employment opportunities at the local level
				To develop relationships with the various stakeholders in the local community
				To promote local, national, and international partnerships with the stakeholders
Creation of sustainable ecosystems				To invest in private and public projects with the help of stakeholders
				To select new suppliers in compliance with sustainability/CSR criteria
				To disseminate the company's code of ethics to stakeholders as well as to verify that it is respected

perfect union. We continued to invest in our territory, while understanding the greater commitment to pursuing excellence in a more logistically difficult place. It was an ethical, social and economic choice to stay in the mountains, despite a good investment in the lowlands in 2015. And it was above all a choice of identity and goodness that is manifested in the offer of healthy and genuine ingredients at the base of our products. (C4)

In 2021 we started a process of identifying our stakeholders with the aim of detecting those with whom to engage in relationships, involving them in our choices and business processes. We believe that an effective stakeholder engagement procedure allows us to enrich and make more sustainable strategic decisions and, especially, to orient social, environmental and economic performance toward a single direction of growth. (C2)

The results highlight that it is possible to engage in profit-driven management inspired by principles that diverge from traditional business logic and obtain economically favorable results, as previous studies have shown (e.g., Bocken & Short, 2021; Schaltegger et al., 2016; Schaltegger & Wagner, 2011). In BM terms, all the manufacturing companies investigated expressed a clear sustainable value proposition that is operationalized by a large and diverse range of sustainable practices. Although some of these practices are promoted by incentives accorded by the State (e.g., some environmental practices such as those regarding the renewable energy, or social ones such as the adoption of welfare plans for employees), the analysis highlights that the adoption of sustainable practices is mostly voluntary. The transition to SBMs and their operationalization into concrete and effective practices emerged as a conscious choice for the manufacturing companies analyzed, which are aware of being responsible for sustainable development. This contrasts with previous studies that have highlighted a formal and opportunistic adhesion to sustainability (e.g., Calabrese et al., 2022; Heras-Saizarbitoria et al., 2022).

As Table 4 shows, multiple actions regarding energy, waste, and water management are manifestations of the circular economy principles “reduce, reuse, and recycle.” In contrast to previous studies (e.g., Høgevold et al., 2015), this study identified lower rates of implementation of renewable energy sources, although many companies expressed strong intentions to transition to renewable sources in the future, while great efforts were made toward energy and emissions management.

Furthermore, the study shows a widespread commitment to the social dimension of sustainability, by implementing practices aimed at improving the workplaces and engaging employees. While other studies have predominantly mapped environmental practices (e.g., Ferreira Caldana et al., 2022), our analysis underlined the crucial role assigned by companies to employees in pursuing sustainability. The attention

devoted to workers' well-being is a concretization of the principles of equality, inclusion, and human dignity that crosses the borders of these companies and ensures that businesses assume a leading role in pursuing social sustainability. Nonetheless, employees are no longer the sole beneficiary of the products and services offered, which instead address the needs of multiple stakeholders, as Freudenreich et al. (2020) argued. In this sense, the companies interviewed are adopting a stewardship role to ensure stakeholders' long-term health and well-being (e.g., Bocken & Allwood, 2012).

With regard to the economic dimension of sustainability, the results support those outlined in the literature, that is, re-purposing the business for society/environment (Bocken et al., 2014). The analysis highlighted that the overall purpose of each company is not only to seek profit; but that this has been expanded to include the achievement of a collective significance characterizing the entire company and its brand.

No company transformed its juridical form into a purpose-driven one, such as a benefit corporation, because sustainability is embedded into daily practices and a formal structure is not needed to evolve the strategy toward sustainability.

Finally, the study highlighted across-the-board sustainable practices that cannot be categorized into any one TBL dimension but extends this sustainability approach and improves all the dimensions of this framework. The sustainable business practices identified support the theoretical importance (Comin et al., 2020; Freudenreich et al., 2020) of creating, delivering, and capturing sustainable value for the benefit of all company stakeholders (recipients), while simultaneously acting with local and global stakeholders (co-creators of value). This study empirically identified across-the-board sustainable practices and underlined the crucial importance assigned by businesses to the partnerships for sustainability. In contrast, previous studies have underlined certain characteristics of the stakeholder ecosystem, such as maintaining a wide range of stakeholders within the organization's value constellation (e.g., Bocken et al., 2014; Breuer et al., 2018; Evans et al., 2017; Geissdoerfer et al., 2016; Zott et al., 2011) and networking with the various stakeholders of the quadruple helix model (Carayannis & Campbell, 2009; Høgevold et al., 2015), from a theoretical perspective. More precisely, this study also highlights the importance of adopting a local embeddedness strategy and creating a sustainable ecosystem via the inclusion of a broad network of stakeholders with specific traits (Gyrd-Jones & Kornum, 2013) that comply with sustainability criteria in such a way that value can be co-created. The creation of stakeholder ecosystems moves companies toward addressing the grand challenges of sustainable development and the pursuit of thriving (e.g., Moggi et al., 2022).

4.2 | Contribution of companies to the achievement of the SDGs

The second objective of this study was to highlight the contribution of manufacturing companies to the achievement of SDGs through the operationalization of SBMs. As a whole, each of the practices

TABLE 5 Sustainable business practices identified for the achievement of SDGs

Sustainable development goals (SDGs)	Number of practices for SDG	Number of companies implementing sustainable practices	Sustainable business practices
1. No poverty	0	0	
2. Zero hunger	0	0	
3. Good health and well-being	5	12	Creation of economic value in favor of stakeholders
		12	Employees' well-being in a healthy and safe workplace
		10	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being
		9	Corporate welfare
4. Quality education	2	11	Corporate academy
		10	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being
5. Gender equality	1	12	Diversity, equity, and inclusion management
6. Clean water and sanitation	1	10	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being
7. Affordable and clean energy	2	12	Resource management
		11	Chemical component management
8. Decent work and economic growth	4	12	Adoption of a local embeddedness strategy
		12	Creation of economic value in favor of stakeholders
		12	Development of networking
		10	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being
9. Industry, innovation, and infrastructure	1	12	Product innovation for sustainability
		12	Re-purposing business for society/the environment
10. Reduced inequalities	2	12	Delivery of functionality rather than ownership
		12	Diversity, equity, and inclusion management
		10	Adoption of a stewardship role to ensure stakeholders' long-term health and well-being
11. Sustainable cities and communities	0	0	
12. Responsible consumption and production	7	12	Product innovation for sustainability
		12	Resource management
		12	Waste management
		11	Chemical component management
		10	Encouragement of sufficiency
		10	Supply chain management-related activities

TABLE 5 (Continued)

Sustainable development goals (SDGs)	Number of practices for SDG	Number of companies implementing sustainable practices	Sustainable business practices
13. Climate action	2	11	Stakeholder management-related activities Chemical component management Sustainable mobility promotion
14. Life below water	0	0	
15. Life on land	0	0	
16. Peace, justice, and strong institutions	0	0	
17. Partnership for these goals	2	12	Development of networking Creation of sustainable ecosystem
		11	

identified as being used to operationalize SBMs contributed differently to pursuing the SDGs, as their frequencies in Table 5 show.

The attention devoted to environmental aspects of SDGs is evident: most of the practices identified (7) were addressed to achieve “Responsible consumption and production” (Goal 12) proposed in the United Nations Agenda, together with “Climate action” (Goal 13), “Clean water and sanitation” (Goal 6), and “Affordable and clean energy” (Goal 7) that are embedded in a restricted number of practices but are implemented by a large number of businesses. Further, by investing in research toward sustainable product innovation, companies showed a commitment to Goal 9, “Industry, innovation, and infrastructure,” which is a goal strictly related to manufacturing. Nonetheless, significant attention is devoted by sustainably oriented business to the social dimensions of the SDGs; indeed, five practices were implemented in companies to achieve “Good health and well-being” (Goal 3), while four practices were applied to realize “Decent work and economic growth” (Goal 8), and all companies demonstrated the pursuit of “Gender equality” (Goal 5) by implementing diversity, equity, and inclusion management. Other SDGs are related to across-the-board sustainable practices: “Quality education” (Goal 4), “Reduced inequalities” (Goal 10), and, overall, “Partnership for the goals” (Goal 17). For these goals, businesses operated together with other stakeholders to meet social needs, included those of the population who are more fragile.

It follows that the companies investigated are not investing in the six following SDGs: “No poverty” (Goal 1), “Zero hunger” (Goal 2), “Sustainable cities and communities” (Goal 11), “Life below water” (Goal 14), “Life on land” (Goal 15), and “Peace, justice and strong institutions” (Goal 16). Some of the 21 practices identified contribute to more than one SDG: For example, “Creation of economic value in favor of stakeholders” contributes to both Goal 3 and Goal 8.

Therefore, the practices identified impact 11 of the 17 SDGs, highlighting the heterogeneity in terms of the distribution of practices between these goals, and revealing the sustainable development dimensions in which companies already contribute strongly, as well as the areas in which they could further develop their practices. These results are in line with previous studies (e.g., Horne et al., 2020), but they differ in terms of the practices implemented by companies to promote the achievement of SDGs. Specifically, the interviewees reported that their companies were primarily investing in internal practices, particularly those directed toward employees, which enabled them to achieve Goals 3, 5, 7, 9, and 12 of the SDGs (Table 5). These findings are only partially in line with previous studies, such as those by Ferreira Caldana et al. (2022) and Vildåsen (2018), which have primarily highlighted businesses' contribution in the environmental and economic dimensions. Fewer practices were carried out to improve directly people's living conditions outside the corporate boundaries and thus achieve Goals 6 and 13. Goals 4, 8, and 10 were pursued through both internal and external business practices.

Further, this research indicates the importance of applying specific sustainable business practices to develop partnerships with more stakeholders (Goal 17), by confirming that the “grand

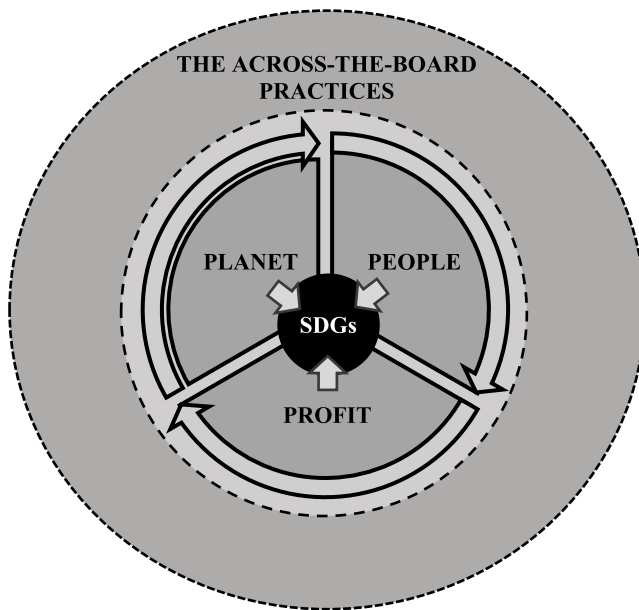


FIGURE 2 Framework of sustainable business management for the achievement of SDGs

challenges” of humankind can be addressed through the collaborative and concerted efforts of more stakeholders, as businesses, universities/research centers, governments, and society, as the quadruple helix model suggests (Carayannis & Campbell, 2009). Finally, the practice of adoption of a local embeddedness strategy goes in the line of building a systemic view of sustainability, confirming the conclusions of Raith and Siebold (2018), by involving all sustainability dimensions and engaging different local actors in pursuing a common purpose.

Figure 2 proposes a framework that reflects the efforts of manufacturing companies to develop sustainable business practices to achieve the SDGs. Precisely, the across-the-board practices add value to the dimensions of the TBL approach, thus contributing to creating economic (profit), social (people), and environmental (planet) value. The dotted line between the company and the across-the-board practices highlights the open relationship between these four dimensions of sustainability by revealing the company's and stakeholders' crucial role in adopting sustainable business practices. In this sense, the across-the-board practices are more than one extra element in the framework shown in Figure 2, given that they act as a lever for implementing the TBL framework. In addition, the across-the-board practices are the elements that wrap, determine, and impact the other three core (classical) dimensions: profit, people, and planet, by serving as facilitators in achieving SDGs.

5 | THEORETICAL AND PRACTICAL IMPLICATIONS

This study provides theoretical and practical contributions because management research must, on the one hand, consider the real world

to be theoretically valid and, on the other hand, provide practical suggestions to be relevant. From the theoretical viewpoint, it extends previous research on this topic (e.g., Bocken et al., 2014; Høgevold et al., 2015; Tolcamp et al., 2018; Upward & Jones, 2016) identifying sustainable business practices more commonly applied in the flow of management-related activities within sustainability-oriented manufacturing companies. While most studies have focused on different sustainability-oriented industries (e.g., Buffa et al., 2018; Oskam et al., 2021), this research explored manufacturing, which has been less investigated from this perspective (Agwu & Bessant, 2021; Bocken et al., 2014). It responds to the call for further research on operational practices (Comin et al., 2020), offering practical evidence and analyzing the contribution of these practices to the achievement of SDGs, filling a gap in the empirical evidence on the effective contribution of companies to Agenda 2030. Furthermore, the study provides empirical evidence about sustainable practices, thereby contributing to define the notion of “sustainability” from a practical perspective.

Leaving aside the data itself, which cannot be generalized and is not representative of global trends, an aspect worthy of note is the strong attention that companies are paying to the social versus environmental dimensions of sustainability. They are implementing sustainable practices aimed at improving the workplaces and engage their employees in addition to generating environmental value. Previous studies have highlighted an opposite trend (e.g., Dijkstra et al., 2020; Ferreira Caldana et al., 2022). This empirical evidence suggests that these dimensions of the TBL framework are both important to define sustainability and that one must not be investigated more than the other.

In addition, this study proposes an expansion of the existing TBL framework by providing a bottom line that so far has not been considered among the possible extensions of the framework itself. The results of this research suggest that these across-the-board practices should be added to the TBL approach, supporting the theoretical debate on the importance of creating, delivering, and capturing sustainable value by developing partnerships with stakeholders for sustainability (Breuer et al., 2018; Freudenreich et al., 2020; Geissdoerfer et al., 2016) in terms of recipients and co-creators of value (Comin et al., 2020; Freudenreich et al., 2020). This is in direct contrast to dealing with a single stakeholder interested in supporting local projects, particularly if these are to the stakeholder's advantage (Mollenkopf et al., 2010). Moving toward the direction of adopting across-the-board practices means that companies address the grand challenges of sustainable development and the pursuit of thriving.

From the practical viewpoint, given that the companies we investigated are implementing only some of the sustainable business practices identified, they may further mobilize their efforts to expand these in operational, communication, and organizational terms both inside and outside their corporate boundaries. Specifically, for the environmental dimension, the results suggest the need for more investment in renewable energy sources and innovative corporate structures to mitigate and offset environmental impact by ensuring energy efficiency, water management, and bioclimatic and natural

lighting of work environments. In contrast to the extant literature, this study revealed that the implementation of specific sustainable business practices with global environmental impact lacked scale across the companies investigated. This area could, thus, be developed in the future.

For the social dimension, this research revealed that best practices are devoted to ensuring gender diversity, introducing the topic of corporate social responsibility (CSR) into training courses, creating more opportunities for disabled people, and others actions toward employees' well-being, while less attention emerged for external stakeholders in a global scenario. These results suggest, on the one hand, that workers' needs are crucial to achieve sustainability and, on the other hand, that greater efforts are needed to address issues related to external stakeholders.

In terms of across-the-board practices, this study suggests that companies establish relationships with actors from local and global communities that are oriented toward sustainability, actively involved in the pursuit of common good (Hollensbe et al., 2014), and with the will to overcome a short-term vision (Marginson & McAulay, 2008) by embracing a medium- to long-term horizon of action to improve economic, environmental, and social prosperity. After all, the Latin root of the term "sustainability" means "to support from below," implying the importance of active and widespread participation by, and engagement of, all stakeholders (Comin et al., 2020; Freudenreich et al., 2020). A significant contribution to the achievement of the SDGs may depend not on the individual company but rather on each actor in the stakeholder ecosystem. Essentially, to identify problems and then try to solve them, it is important to design, implement, communicate, and share "with" someone, not "for" someone.

Under this scenario, sustainability-oriented for-profit manufacturing companies can assume multiple roles in contributing to achieve the SDGs. This research suggests that sustainability-oriented companies continue to implement entrepreneurial projects for the environment and society (protagonist role), to support, with the help of a wider range of stakeholders, other socio-environmental projects (supporter role), to promote awareness of sustainability issues among their employees and other stakeholders (promotion role), to create the conditions for establishing a stakeholder ecosystem in favor of the environment and society (activator role), and to guide and manage the ecosystem toward the desired end (orchestrator role).

6 | CONCLUSIONS

This study aimed to identify sustainable business practices operationalized in the SBMs of sustainability-oriented manufacturing companies and to highlight the contribution of these companies to the achievement of the SDGs. Both the goals of the study were achieved. More precisely, 19 sustainable business practices were identified as being commonly applied in the flow of the management-related activities of the companies we investigated. A clear sustainable value proposition was operationalized in a large and various range of sustainable practices that, although some of them are legally

promoted, are voluntarily adopted. In addition, environmental value was found to be generated in terms of energy and emissions management but less so by using renewable energy sources. In contrast to previous studies, this research shows a widespread commitment to the social dimension of sustainability, via the implementation of practices aimed at improving workplace conditions and employee engagement. With regard to the economic dimension, the purpose of each company was indeed not only to seek profit but also to gain social relevance characterizing the entire company and its brand. The study proposes the adoption of a local embeddedness strategy, development of networking, and creation of sustainable ecosystem as across-the-board sustainable practices that cannot be categorized into the existing TBL framework but that contribute to extend this sustainability approach and improve all the dimensions of the framework itself.

Furthermore, this research confirmed that also businesses, and particularly sustainability-oriented manufacturing companies, can contribute to the realization of the 2030 Agenda, as can policymakers. This study found that the companies investigated contribute to the achievement of 11 out of 17 SDGs, by revealing the dimensions in which companies already contribute strongly and those in which they can develop further practices. All of the practices identified were undertaken with the objective of ensuring the common good (Hollensbe et al., 2014) and the well-being of future generations through socio-environmental improvement, supported by several actors. Our study revealed that certain Italian companies have been forerunners in instituting sustainability criteria, which they have been used long periods of time and which are reflected in their BMs. The results presented in this study do not represent a final point but rather should be seen as a stimulus for the development of a broader approach to the sustainability management process in future in order to effectively pursue sustainable development and the thriving.

This study is not without limitations. The results cannot be generalized due to the subjectivity in the choice of sample, the selection of cases examined, the limited number of interviews conducted, and restrictions in data collection to the specific study context (industry and country).

Further research is necessary to develop this topic. Future studies would benefit from expanding the sample and analysis of industries, particularly within the international context. Another promising area could be the investigation of the operationalization of SBMs in practice and their contribution to the achievement of SDGs with reference to benefit corporations and B Corps to study possible similarities and differences with companies that were not born sustainable. In addition, we focused on family-owned companies. Differences may emerge in public companies because ownership type could be a moderating variable in the migration from traditional BMs to SBMs. In addition, this study focused on the practices as conceived by the businesses themselves, while further research could understand the stakeholders' perspective of sustainable practices implemented by companies, for example, by measuring the impact of these practices on the stakeholders' living conditions.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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REFERENCES

- Agrawal, R., Majumdar, A., Majumdar, K., Raut, R. D., & Narkhede, B. E. (2022). Attaining sustainable development goals (SDGs) through supply chain practices and business strategies: A systematic review with bibliometric and network analyses. *Business Strategy and the Environment*, 1–19. <https://doi.org/10.1002/bse.3057>
- Agwu, U. J., & Bessant, J. (2021). Sustainable business models: A systematic review of approaches and challenges in manufacturing. *Revista de Administração Contemporânea*, 25(3), 1–18. <https://doi.org/10.1590/1982-7849rac2021200202.en>
- Arukala, S. R., & Pancharathi, R. K. (2020). Integration of advances in sustainable technologies for the development of the Sustainable Building Assessment Tool. *International Journal of Technology Management and Sustainable Development*, 19(3), 335–360. https://doi.org/10.1386/tmsd_00030_1
- Azevedo, S. G., Carvalho, H., Duarte, S., & Cruz-Machado, V. (2012). Influence of green and lean upstream supply chain management practices on business sustainability. *IEEE Transactions on Engineering Management*, 59(4), 753–765. <https://doi.org/10.1109/TEM.2012.2189108>
- Blagov, Y. E., & Petrova-Savchenko, A. A. (2021). The transformation of corporate sustainability model in the context of achieving the UN SDGs: Evidence from the leading Russian companies. *Corporate Governance*, 21(2), 307–321. <https://doi.org/10.1108/CG-01-2020-0047>
- Bocken, N. M. P., & Allwood, J. M. (2012). Strategies to reduce the carbon footprint of consumer goods by influencing stakeholders. *Journal of Cleaner Production*, 35(November), 118–129. <https://doi.org/10.1016/j.jclepro.2012.05.031>
- Bocken, N. M. P., & Short, S. W. (2016). Towards a sufficiency driven business model: Experiences and opportunities. *Environmental Innovation and Societal Transitions*, 18(March), 41–61. <https://doi.org/10.1016/j.eist.2015.07.010>
- Bocken, N. M. P., & Short, S. W. (2021). Unsustainable business models—Recognising and resolving institutionalised social and environmental harm. *Journal of Cleaner Production*, 312(August), 127828. <https://doi.org/10.1016/j.jclepro.2021.127828>
- Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production*, 65(February), 42–56. <https://doi.org/10.1016/j.jclepro.2013.11.039>
- Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation State of the art and steps towards a research agenda. *Journal of Cleaner Production*, 45(April), 9–19. <https://doi.org/10.1016/j.jclepro.2012.07.007>
- Brabham, D. C. (2008). Crowdsourcing as a model for problem solving: An introduction and cases. *Convergence*, 14(1), 75–90. <https://doi.org/10.1177/1354856507084420>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>
- Breuer, H., Fichter, K., Lüdeke-Freund, F., & Tiemann, I. (2018). Sustainability oriented business model development: Principles, criteria, and tools. *International Journal of Entrepreneurial Venturing*, 10(2), 256–286. <https://doi.org/10.1504/IJEV.2018.092715>
- Brown, T. (2016). Sustainability as empty signifier Its rise, fall, and radical potential. *Antipode*, 48(1), 115–133. <https://doi.org/10.1111/anti.12164>
- Brundtland, G. H. (1987). Report of the World Commission on Environment and Development: Our Common future, United Nations web sites. Available at: <http://www.ask-force.org/web/Sustainability/Brundtland-Our-Common-Future-1987-2008.pdf> (Accessed 23 August 2022).
- Buffa, F., Franch, M., & Rizio, D. (2018). Environmental management practices for sustainable business models in small and medium sized hotel enterprises. *Journal of Cleaner Production*, 194(September), 656–664. <https://doi.org/10.1016/j.jclepro.2018.05.143>
- Calabrese, A., Costa, R., Levaldi Ghiron, N., Tiburzi, L., & Villazon Montalvan, R. A. (2022). Is the private sector becoming cleaner? Assessing the firms' contribution to the 2030 Agenda. *Journal of Cleaner Production*, 363, 132324. <https://doi.org/10.1016/j.jclepro.2022.132324>
- Carayannis, E. G., & Campbell, D. F. J. (2009). 'Mode 3' and 'Quadruple Helix': Toward a 21st century fractal innovation ecosystem. *International Journal of Technology Management*, 46(3–4), 201–234.
- Chaurasia, S. S., Kaul, N., Yadav, B., & Shukla, D. (2020). Open innovation for sustainability through creating shared value role of knowledge management system, openness and organizational structure. *Journal of Knowledge Management*, 24(10), 2491–2511. <https://doi.org/10.1108/JKM-04-2020-0319>
- Ciasullo, M. V., Castellani, P., Rossato, C., & Troisi, O. (2019). Sustainable business model innovation. "Progetto Quid" as an exploratory case study. *Sinergie Italian Journal of Management*, 37(2), 213–237. <https://doi.org/10.7433/s109.2019.11>
- Comin, L. C., Aguiar, C. C., Sehnem, S., Yusliza, M.-Y., Cazella, C. F., & Julkovski, D. J. (2020). Sustainable business models: A literature review. *Benchmarking: An International Journal*, 27(7), 2028–2047. <https://doi.org/10.1108/BIJ-12-2018-0384>
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Sage.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- De Giacomo, M. R., & Bleischwitz, R. (2020). Business models for environmental sustainability: Contemporary shortcomings and some perspectives. *Business Strategy and the Environment*, 29(8), 3352–3369. <https://doi.org/10.1002/bse.2576>
- Del Giudice, M., Carayannis, E. G., Palacios-Marqués, D., Soto-Acosta, P., & Meissner, D. (2018). The human dimension of open innovation. *Management Decision*, 56(6), 1159–1166. <https://doi.org/10.1108/MD-06-2018-950>
- Dijkstra, H., van Beukering, P., & Brouwer, R. (2020). Business models and sustainable plastic management: A systematic review of the literature. *Journal of Cleaner Production*, 258, 120967. <https://doi.org/10.1016/j.jclepro.2020.120967>
- Dubois, A., & Gadde, L. E. (2014). Systematic combining: A decade later. *Journal of Business Research*, 67(6), 1277–1284. <https://doi.org/10.1016/j.jbusres.2013.03.036>
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25–32. <https://doi.org/10.5465/amj.2007.24160888>

- Elkington, J. (1994). Towards the sustainable corporation: Win-win-win business strategies for sustainable development. *California Management Review*, 36(2), 90–100. <https://doi.org/10.2307/41165746>
- Evans, S., Norell Bergendahl, M., Gregory, M., & Ryan, C. (2009). *Towards a sustainable industrial system: Accelerating the contribution of education and research*. University of Cambridge Institute for Manufacturing Cranfield University.
- Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E. A., & Barlow, C. Y. (2017). Business model innovation for sustainability: Towards a unified perspective for creation of sustainable business models. *Business Strategy and the Environment*, 26(5), 597–608. <https://doi.org/10.1002/bse.1939>
- Ferlito, R., & Faraci, R. (2022). Business model innovation for sustainability: A new framework. *Innovation & Management Review*, 19(3), 222–236. <https://doi.org/10.1108/INMR-07-2021-0125>
- Ferreira Caldana, A. C., Marchiori Pacheco, L., Fernandes Rodrigues Alves, M., & Bastos Fernandes dos Santos, N. M. (2022). Strategy implementation for the 2030 agenda: Insights from Brazilian companies. *Business Ethics, the Environment & Responsibility*, 31(2), 296–306. <https://doi.org/10.1111/beer.12409>
- Freudenreich, B., Lüdeke-Freund, F., & Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. *Journal of Business Ethics*, 166, 3–18. <https://doi.org/10.1007/s10551-019-04112-z>
- Gao, P., & Li, J. (2020). Understanding sustainable business model: A framework and a case study of the bike sharing industry. *Journal of Cleaner Production*, 267(September), 1–11. <https://doi.org/10.1016/j.jclepro.2020.122229>
- Gehman, J., Grimes, M. G., & Cao, K. (2019). Why we care about certified B corporations: From valuing growth to certifying values practices. *Academy of Management Discoveries*, 5(1), 97–101. <https://doi.org/10.5465/amd.2018.0074>
- Geissdoerfer, M., Bocken, N. M. P., & Hultink, E. J. (2016). Design thinking to enhance the sustainable business modelling process. *Journal of Cleaner Production*, 135(November), 1218–1232. <https://doi.org/10.1016/j.jclepro.2016.07.020>
- Geissdoerfer, M., Morioka, S. N., de Carvalho, M. M., & Evans, S. (2018). Business models and supply chains for the circular economy. *Journal of Cleaner Production*, 190(July), 712–721. <https://doi.org/10.1016/j.jclepro.2018.04.159>
- Grassl, W. (2012). Business models of social enterprise: A design approach to hybridity. *ACRN Journal of Entrepreneurship Perspectives*, 1(1), 37–60.
- Gyrd-Jones, R. I., & Kornum, N. (2013). Managing the co-created brand: Value and cultural complementarity in online and offline multi-stakeholder ecosystems. *Journal of Business Research*, 66(9), 1484–1493. <https://doi.org/10.1016/J.JBUSRES.2012.02.045>
- Hamidi, M. L., & Worthington, A. C. (2021). Islamic banking sustainability: Theory and evidence using a novel quadruple bottom line framework. *International Journal of Bank Marketing*, 39(5), 751–767. <https://doi.org/10.1108/IJBM-06-2020-0345>
- Heras-Saizarbitoria, I., Urbieta, L., & Boiral, O. (2022). Organizations engagement with sustainable development goals: From cherry picking to SDG washing? *Corporate Social Responsibility and Environmental Management*, 29(2), 316–328. <https://doi.org/10.1002/csr.2202>
- Herring, H., & Sorrell, S. (2009). *Energy efficiency and sustainable consumption*. The Rebound Effect.
- Høgevold, N. M., Svensson, G., Klopper, H. B., Wagner, B., Valera, J. C. S., Padin, C., Ferro, C., & Petzer, D. (2015). A triple bottom line construct and reasons for implementing sustainable business practices in companies and their business networks. *Corporate Governance*, 15(4), 427–443. <https://doi.org/10.1108/CG-11-2014-0134>
- Hollensbe, E., Wookey, C., Hickey, L., George, G., & Nichols, C. V. (2014). Organizations with purpose. *Academy of Management*, 57(5), 1227–1234. <https://doi.org/10.5465/amj.2014.4005>
- Horne, J., Recker, M., Michelfelder, I., Jay, J., & Kratzer, J. (2020). Exploring entrepreneurship related to the sustainable development goals—Mapping new venture activities with semi-automated content analysis. *Journal of Cleaner Production*, 242(January), 118052. <https://doi.org/10.1016/j.jclepro.2019.118052>
- Ike, M., Donovan, J. D., Topple, C., & Kordi Masli, E. (2019). The process of selecting and prioritising corporate sustainability issues: Insights for achieving the Sustainable Development Goals. *Journal of Cleaner Production*, 236, 117661. <https://doi.org/10.1016/j.jclepro.2019.117661>
- Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to design more sustainable business models. *Journal of Cleaner Production*, 135(November), 1474–1486. <https://doi.org/10.1016/j.jclepro.2016.06.067>
- Kabongo, J. D. (2019). Sustainable development and research and development intensity in US manufacturing firms. *Business Strategy and the Environment*, 28(4), 556–566. <https://doi.org/10.1002/bse.2264>
- Karlsson, N. P. E., Hoveskog, M., Halila, F., & Mattsson, M. (2018). Early phases of the business model innovation process for sustainability: Addressing the status quo of a Swedish biogas-producing farm cooperative. *Journal of Cleaner Production*, 172(January), 2759–2772. <https://doi.org/10.1016/j.jclepro.2017.11.136>
- Ketokivi, M., & Choi, T. (2014). Renaissance of case research as a scientific method. *Journal of Operations Management*, 32(5), 232–240. <https://doi.org/10.1016/j.jom.2014.03.004>
- Khaled, R., Ali, H., & Mohamed, E. K. A. (2021). The Sustainable Development Goals and corporate sustainability performance: Mapping, extent and determinants. *Journal of Cleaner Production*, 311, 127599. <https://doi.org/10.1016/j.jclepro.2021.127599>
- Khizar, H. M. U., Iqbal, M. J., Khalid, J., & Adomako, S. (2022). Addressing the conceptualization and measurement challenges of sustainability orientation: A systematic review and research agenda. *Journal of Business Research*, 142, 718–743. <https://doi.org/10.1016/j.jbusres.2022.01.029>
- Küçükgül, E., Cerin, P., & Liu, Y. (2022). Enhancing the value of corporate sustainability: An approach for aligning multiple SDGs guides on reporting. *Journal of Cleaner Production*, 333, 130005. <https://doi.org/10.1016/j.jclepro.2021.130005>
- Laasch, O., & Pinkse, J. (2020). Explaining the leopards' spots: Responsibility embedding in business model artefacts across spaces of institutional complexity. *Long Range Planning*, 53(4), 101891. <https://doi.org/10.1016/j.lrp.2019.101891>
- Larner, J., Cheverst, K., MacDonald, M., Hoile, C., & Soutar, A. (2017). The open source guild: Creating more sustainable enterprise? *Journal of Management Development*, 36(1), 71–80. <https://doi.org/10.1108/JMD-10-2014-0134>
- Leising, E., Quist, J., & Bocken, N. (2018). Circular economy in the building sector: Three cases and a collaboration tool. *Journal of Cleaner Production*, 176(March), 976–989. <https://doi.org/10.1016/j.jclepro.2017.12.010>
- Lozano, R. (2018). Sustainable business models: Providing a more holistic perspective. *Business Strategy and the Environment*, 27(8), 1159–1166. <https://doi.org/10.1002/bse.2059>
- Lüdeke-Freund, F. (2020). Sustainable entrepreneurship, innovation, and business models: Integrative framework and propositions for future research. *Business Strategy and the Environment*, 29(2), 665–681. <https://doi.org/10.1002/bse.2396>
- Marginson, D., & McAulay, L. (2008). Exploring the debate on short termism: A theoretical and empirical analysis. *Strategic Management Journal*, 29(3), 273–292. <https://doi.org/10.1002/smj.657>
- Merrilees, B., & Marles, K. (2011). Green business events: Profiling through a case study. *Event Management*, 15(4), 361–372. <https://doi.org/10.3727/152599511X13175676722609>
- Millar, H. H., & Russell, S. N. (2011). The adoption of sustainable manufacturing practices in the Caribbean. *Business Strategy and the Environment*, 20(8), 512–526. <https://doi.org/10.1002/bse.707>

- Mio, C., Panfilo, S., & Blundo, B. (2020). Sustainable development goals and the strategic role of business: A systematic literature review. *Business Strategy and the Environment*, 29(8), 3220–3245. <https://doi.org/10.1002/bse.2568>
- Mion, G., Loza Adauí, C. R., & Bonfanti, A. (2021). Characterizing the mission statements of benefit corporations: Empirical evidence from Italy. *Business Strategy and the Environment*, 30(4), 2160–2172. <https://doi.org/10.1002/bse.2738>
- Moggi, S., Pierce, P., & Bernardi, N. (2022). From sustainability to thriving: A novel framework for entrepreneurial ecosystems. *The International Entrepreneurship and Management Journal*, 18, 829–853. <https://doi.org/10.1007/s11365-021-00787-x>
- Moldavska, A., & Welo, T. (2019). A holistic approach to corporate sustainability assessment: Incorporating sustainable development goals into sustainable manufacturing performance evaluation. *Journal of Manufacturing Systems*, 50, 53–68. <https://doi.org/10.1016/j.jmsy.2018.11.004>
- Mollenkopf, D., Stolze, H., Tate, W. L., & Ueltschy, M. (2010). Green, lean, and global supply chains. *International Journal of Physical Distribution and Logistics Management*, 40(1/2), 14–41. <https://doi.org/10.1108/09600031011018028>
- Moscardo, G. (2013). *Sustainability in Australian business: Principles and practice*. John Wiley & Sons Australia.
- Moser, T. (2001). MNCs and sustainable business practice: The case of the Colombian and Peruvian petroleum industries. *World Development*, 29(2), 291–309. [https://doi.org/10.1016/S0305-750X\(00\)00094-2](https://doi.org/10.1016/S0305-750X(00)00094-2)
- Muñoz, P., Cacciotti, G., & Cohen, B. (2018). The double-edged sword of purpose-driven behavior in sustainable venturing. *Journal of Business Venturing*, 33(2), 149–178. <https://doi.org/10.1016/j.jbusvent.2017.12.005>
- Nitsenko, V., Nyenno, I., Kryukova, I., Kalyna, T., & Plotnikov, M. (2017). Business model for a sea commercial port as a way to reach sustainable development goals. *Journal of Security and Sustainability*, 7(5), 155–166. [https://doi.org/10.9770/jssi.2017.6.4\(13\)](https://doi.org/10.9770/jssi.2017.6.4(13))
- Oskam, I., Bossink, B., & de Man, A.-P. (2021). Valuing value in innovation ecosystems: How cross-sector actors overcome tensions in collaborative sustainable business model development. *Business & Society*, 60(5), 1059–1091. <https://doi.org/10.1177/0007650320907145>
- Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley & Sons.
- Perryman, M., Besco, L., Suleiman, C., & Lucato, L. (2022). Ready for take off: Airline engagement with the United Nations Sustainable Development Goals. *Journal of Air Transport Management*, 103, 102246. <https://doi.org/10.1016/j.jairtraman.2022.102246>
- Pratt, M. G., Kaplan, S., & Whittington, R. (2020). Editorial essay: The tumult over transparency: Decoupling transparency from replication in establishing trustworthy qualitative research. *Administrative Science Quarterly*, 65(1), 1–19. <https://doi.org/10.1177/0001839219887663>
- Press, M., Robert, I., & Maillefert, M. (2020). The role of linked legitimacy in sustainable business model development. *Industrial Marketing Management*, 89(August), 566–577. <https://doi.org/10.1016/j.indmarman.2019.05.009>
- Qu, Q. S., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting & Management*, 8(3), 238–264. <https://doi.org/10.1108/11766091111162070>
- Raiborn, C., Payne, D., & Joyner, B. (2013). Environmentally friendly business strategies BP—A case of rhetoric or reality? *Journal of Business and Management*, 19(2), 67–89.
- Raith, M. G., & Siebold, N. (2018). Building business models around sustainable development goals. *Journal of Business Model*, 6(2), 71–77. <https://doi.org/10.5278/ojs.jbm.v6i2.2467>
- Richardson, J. (2008). The business model: An integrative framework for strategy execution. *Strategic Change*, 17(5–6), 133–144. <https://doi.org/10.1002/jsc.821>
- Ridder, H. G. (2017). The theory contribution of case study research designs. *Business Research*, 10, 281–305. <https://doi.org/10.1007/s40685-017-0045-z>
- Ritala, P., Huotari, P., Bocken, N., Albareda, L., & Puumalainen, K. (2018). Sustainable business model adoption among S&P 500 firms: A longitudinal content analysis study. *Journal of Cleaner Production*, 170 (January), 216–226. <https://doi.org/10.1016/j.jclepro.2017.09.159>
- Rogers, K., & Hudson, B. (2011). The triple bottom line: The synergies of transformative perceptions and practices of sustainability. *OD Practitioner*, 43(4), 3–9.
- Roome, N., & Louche, C. (2016). Journeying toward business models for sustainability: A conceptual model found inside the black box of organisational transformation. *Organization & Environment*, 29(1), 11–35. <https://doi.org/10.1177/1086026615595084>
- Rosati, F., & Faria, L. G. D. (2019). Business contribution to the Sustainable Development Agenda: Organizational factors related to early adoption of SDG reporting. *Corporate Social Responsibility and Environmental Management*, 26(3), 588–597. <https://doi.org/10.1002/csr.1705>
- Santos, F., Pache, A. C., & Birkholz, C. (2015). Making hybrids work: Aligning business models and organizational design for social enterprises. *California Management Review*, 57(3), 36–58. <https://doi.org/10.1525/cmr.2015.57.3.36>
- Schaltegger, S., Hansen, E. G., & Lüdeke-Freund, F. (2016). Business models for sustainability: Origins, present research, and future avenues. *Organization & Environment*, 29(1), 3–10. <https://doi.org/10.1177/1086026615599806>
- Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. *Business Strategy and the Environment*, 20(4), 222–237. <https://doi.org/10.1002/bse.682>
- Scheyvens, R., Banks, G., & Hughes, E. (2016). The private sector and the SDGs: The need to move beyond ‘business as usual’. *Sustainable Development*, 24(6), 371–382. <https://doi.org/10.1002/sd.1623>
- Schrader, U., & Thøgersen, J. (2011). Putting sustainable consumption into practice. *Journal of Consumer Policy*, 34, 3–8. <https://doi.org/10.1007/s10603-011-9154-9>
- Sheth, J. N., Sethia, N. K., & Srinivas, S. (2011). Mindful consumption: A customer centric approach to sustainability. *Journal of the Academy of Marketing Science*, 39(1), 21–39. <https://doi.org/10.1007/s11747-010-0216-3>
- Smith, H., Discetti, R., Bellucci, M., & Acuti, D. (2022). SMEs engagement with the Sustainable Development Goals: A power perspective. *Journal of Business Research*, 149, 112–122. <https://doi.org/10.1016/j.jbusres.2022.05.021>
- Smitsman, A. (2019). *Into the heart of systems change*. Maastricht University.
- Snow, C., & Thomas, J. B. (1994). Field research methods in strategic management: Contributions to theory building and testing. *Journal of Management Studies*, 31(4), 457–480. <https://doi.org/10.1111/j.1467-6486.1994.tb00626.x>
- Stahl, G. K., Brewster, C. J., Collings, D. G., & Hajro, A. (2020). Enhancing the role of human resource management in corporate sustainability and social responsibility: A multi stakeholder, multidimensional approach to HRM. *Human Resource Management Review*, 30(3), 100708. <https://doi.org/10.1016/j.hrmr.2019.100708>
- Stubbs, W., & Cocklin, C. (2008). Conceptualizing a “sustainability business model”. *Organization and Environment*, 21(2), 103–127. <https://doi.org/10.1177/1086026608318042>
- Sullivan, K., Thomas, S., & Rosano, M. (2018). Using industrial ecology and strategic management concepts to pursue the Sustainable Development Goals. *Journal of Cleaner Production*, 174, 237–246. <https://doi.org/10.1016/j.jclepro.2017.10.201>
- Tencati, A., & Pogutz, S. (2015). Recognizing the limit: Sustainable development, corporate sustainability and the need for innovative business

- paradigms. *Sinergie Italian Journal of Management*, 33(1), 37–55. <https://doi.org/10.7433/s96.2015.03>
- Todeschini, B. V., Nogueira Cortimiglia, M., Callegaro-de-Menezes, D., & Ghezzi, A. (2017). Innovative and sustainable business models in the fashion industry: Entrepreneurial drivers, opportunities, and challenges. *Business Horizons*, 60(6), 759–770. <https://doi.org/10.1016/j.bushor.2017.07.003>
- Tolkamp, J., Huijben, J. C. C. M., Mourik, R. M., Verbong, G. P. J., & Bouwknecht, R. (2018). User-centred sustainable business model design: The case of energy efficiency services in the Netherlands. *Journal of Cleaner Production*, 182(13), 755–764. <https://doi.org/10.1016/j.jclepro.2018.02.032>
- Tukker, A. (2004). Eight types of product service system: Eight ways to sustainability? Experiences from SusProNet. *Business Strategy and the Environment*, 13, 246–260. <https://doi.org/10.1002/bse.414>
- Upward, A., & Jones, P. (2016). An ontology for strongly sustainable business models: Defining an enterprise framework compatible with natural and social science. *Organization & Environment*, 29(1), 97–123. <https://doi.org/10.1177/1086026615592933>
- van Bommel, K., Henkemans, M. B., Brinkhorst, T., & Meurs, M. (2020). A review of sustainable business models: Past accomplishments and future promises. *Journal of Sustainability Research*, 2(3), 1–25. <https://doi.org/10.20900/jsr20200022>
- van der Waal, J. W., & Thijssens, T. (2020). Corporate involvement in Sustainable Development Goals: Exploring the territory. *Journal of Cleaner Production*, 252, 119625. <https://doi.org/10.1016/j.jclepro.2019.119625>
- Van Zanten, J. A., & Van Tulder, R. (2018). Multinational enterprises and the Sustainable Development Goals: An institutional approach to corporate engagement. *Journal of International Business Policy*, 1(3), 208–233. <https://doi.org/10.1057/s42214-018-0008-x>
- Vildåsen, S. S. (2018). Corporate sustainability in practice: An exploratory study of the sustainable development goals (SDGs). *Business Strategy and Development*, 1(4), 256–264. <https://doi.org/10.1002/bsd2.35>
- Wheeler, D., Colbert, B., & Freeman, R. E. (2003). Focusing on value: Reconciling corporate social responsibility, sustainability and a stakeholder approach in a network world. *Journal of General Management*, 28(3), 1–28. <https://doi.org/10.1177/030630700302800301>
- Wheeler, D., & Elkington, J. (2001). The end of the corporate environmental report? Or the advent of cybernetic sustainability reporting and communication. *Business Strategy and the Environment*, 10(1), 1–14. [https://doi.org/10.1002/1099-0836\(200101/02\)10:1%3C1::AID-BSE274%3E3.0.CO;2-0](https://doi.org/10.1002/1099-0836(200101/02)10:1%3C1::AID-BSE274%3E3.0.CO;2-0)
- Yin, R. K. (2017). *Case study research: Design and methods* (6th ed.). Sage.
- Yunus, M., Moingeon, B., & Lehmann-Ortega, L. (2010). Building social business models: Lessons from the Grameen experience. *Long Range Planning*, 43(2/3), 308–325. <https://doi.org/10.1016/j.lrp.2009.12.005>
- Zott, C., & Amit, R. (2007). Business model design and the performance of entrepreneurial companies. *Organization Science*, 18(2), 181–199. <https://doi.org/10.1287/orsc.1060.0232>
- Zott, C., & Amit, R. (2010). Business model design: An activity system perspective. *Long Range Planning*, 43(2), 216–226.
- Zott, C., Amit, R., & Massa, L. (2011). The business model: Recent developments and future research. *Journal of Management*, 37(4), 1019–1042. <https://doi.org/10.1177/0149206311406265>

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