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Unlock the Change. A Literature Review on Barriers Limiting SME Sustainable Transition

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Abstract

Since the publication of the report *Our Common Future* of the World Commission on Environment and Development (Brundtland, 1987) governments around the world have started a reflection upon the social and environmental damages caused by a growth-oriented economic system which neglects our natural ecosystem's boundaries (Shaper, 2002; Chofreh et al., 2020; Goni et al., 2021). This has led also to the definition of sustainable development goals (SDGs) in the 2030 Agenda of United Nation, in which businesses are called to give their contribution towards sustainability (Cantele & Zardini, 2018) considering their environmental, social and economic impact (Elkington, 1998). In this scenario, Smes represent 99.8% of companies (European Commission, 2019; Neri et al., 2021) and because of their overall socio-economic and environmental impacts, play a fundamental role in order to achieve SDGs. Through a systematic literature review (SLR) on current studies, this study seeks to establish a comprehensive body of knowledge on the particular barriers to sustainability for SMEs. Thematic analysis method (TA) was used to identify key themes and classify them into four major types of barriers for SMEs (organizational constraints, individual features and beliefs, market conditions, and institutional environment). The last paragraph discusses these findings to identify under-investigated areas and proposes future paths of research, and draws the limitations of this study.

JEL codes: L25; M13; M14

Keywords: SME; barrier; sustainability transitions; systematic review; thematic analysis

1. Introduction

Since the publication of the report *Our Common Future* of the World Commission on Environment and Development¹ (Brundtland, 1987) governments around the world have started a reflection upon the social and environmental damages caused by a growth-oriented economic system which neglects our natural ecosystem's boundaries (Shaper, 2002; Chofreh et al., 2020; Goni et al., 2021). This has led also to the definition of sustainable development goals (SDGs) in the 2030 Agenda of United Nation², in which businesses are called to give their contribution through the implementation of sustainable practices (Cantele and Zardini, 2018). In this scenario, awareness that sustainability entails not only environmental issues but also economic and social aspects has arisen and has been strengthened both by public

¹The traditional definition of sustainable development has been drawn from this report as "development that meets the needs of the present generations without compromising the ability of future generations to satisfy their own needs " (Brundtland, 1987).

² For further details, see: <https://sustainabledevelopment.un.org/post2015/transformingourworld> (last access: November 2022)

institutions, civil society and businesses (Cantele and Zardini, 2018). Covid-19 pandemic showed (more) the extreme consequences of excessive exploitation of the natural ecosystem on the health of the global population and, thus, the urgency to switch from business-as-usual models to (more) sustainable ones which consider the so-called triple bottom line³ (Elkington, 1998). In 2022 Ukrainian-Russian conflict also contributed to problematize the unsustainability of dependence on fossil fuels both regarding environmental pollution and for ethical reasons, as long as their revenues (often) subsidize oppressive regimes. All these factors contributed to fostering the relevance of sustainability discourse in public opinion and academic community who have investigated different areas of this topic. Sustainability, as well as other concepts such as innovation, is a complex and to some extent ambiguous concept which is difficult to operationalize in research (Costache et al., 2021). Its blurred features have nourished the debate on the definition of *sustainability* itself which is still unsolved and potentially open to new interpretations. Thus, on the one hand, to deal with the multidimensional and interdisciplinary nature of knowledge involved requires a holistic perspective (Cantele & Zardini, 2020; Del Baldo et al., 2022; Neri et al., 2021). It is necessary to reduce the complexity of sustainability concepts by focusing on one or few specific areas at a time and investigating their interconnections. According to Lewis et al. (2015) the extreme heterogeneity of topics related to sustainability has generated a fragmented understanding and has promoted research approaches which are descriptive of "what or how it is" rather than giving insight on "what or how it should be" to improve sustainability practices of firms. Thus, both academic scholars and firms have a fragmented approach in conceptualizing transition towards sustainability (Costache et al., 2021).

Exploring the barriers that small and medium enterprises⁴ (SMEs) may face in the implementation of sustainable practices, in line with the research on the adoption of environmental management practices (EMPs) for SMEs by Dasanayaka et al. (2022), the Resource Based-View (Barney, 1991) and the neo-institutional theory (DiMaggio and Powell, 1983) will be adopted. External environments of organizations exert both technical, economic and physical pressures which push them to produce or exchange their products and services within the market, and social, cultural, legal or political pressures which push them to conform to social norms, at least apparently, in order to survive (DiMaggio & Powell, 1983; Hatch, 2018). Thus, businesses have to make some changes to maintain or to gain social legitimation from their stakeholders and remain competitive. However, in the implementation of sustainable transition, firms also depend on their material, non-material and organizational resources (Barney, 1991) that can act both as triggers or barriers in the achievement of competitive advantages, namely revenues and improvement in corporate reputation, related to sustainability. In comparison with bigger companies, there are still few studies on the sustainable transition of SMEs and on the barriers that obstacle the implementation of (more) sustainable business models (Cantele & Zardini, 2018; Neri et al., 2021). In our research, we selected contemporary literature (Cantele and Zardini, 2020; Costache et al., 2021; Dasanayaka et al., 2022; Neri et al., 2021) to explore key themes and gaps for future studies on this topic. To focus on SMEs' specific obstacles is relevant for achieving SDGs for at least two main reasons. At a global level, SMEs are the most important pillar of the economic system and their overall triple (economic, environmental and social) impact is higher than that of larger firms (Lewis et al., 2015; Neri et al., 2021). Support for SMEs in their sustainable transition can help to mitigate both the pandemic's consequences and the soaring cost of raw-materials and fossil-fuel energy. Otherwise, the actual turmoil context risks worsening the conditions of SMEs since sustainable changes may not automatically improve their performance in the short and medium-long term: hence, the question is how to govern this challenging process of transition justly.

³ In his work Elkington underlines the need for firms to account for their economic, environmental and social bottom lines in an integrated way. However, in his research he also recognizes the complexity to converge on common definitions or standards related to these three dimensions.

⁴ According to the *Article 2 of the Annex to Recommendation 2003/361/CE* on the definition of SMEs: "The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million". Full text available at: <https://eur-lex.europa.eu/eli/reco/2003/361/oj> (last access: November 2022)

2. A Path towards the Sustainable Transition of Entrepreneurship

Concerning the concept of transition, in this paper we adopt the definition of Markard et al. (2012, 956) which is "a long-term, multidimensional and fundamental transformation process through which established socio-technical systems switch to more sustainable production and consumption models". Thus, a transition is as a top-down, multi-scalar, multi-level, not uniform in timing and implementation, multi-stage and multi-stakeholder process that ends with a systemic change which embraces different actors and fields (Loorbach et al., 2010; Rotmans et al., 2001). In this scenario, although they play an important role, companies represent only one level and actors involved (Boons and Wagner, 2009). Since the concept of sustainability is embedded in institutions and social structures, companies cannot address the critical issues of the current development model as individual actors (Loorbach et al., 2010). Thus, to avoid the socio-economic impacts of an environmental tipping point, the synergic commitment of institutions, civil society and the business sector is necessary. Firms play a major role since their sustainable orientation may influence a growing number of stakeholders until reaching a "critical mass", introducing a disruptive change in the overall socio-economic system (Loorbach et al., 2010). Regarding firms' motivation to change, alongside ethical and ecological ones, there is the desire to gain competitive advantages (Cantele and Zardini, 2018). The research findings by Cantele and Zardini (2018) who explored the relationship between financial and sustainable performance, are that sustainability practices- through the mediation of a firm's reputation, customer satisfaction and organizational commitment- are associated with an increase of economic performance. Study by Boons and Wagner (2009) partially confirms this statement, affirming that scholars agree on the fact that implementing sustainable practices cannot have negative impacts on businesses. Indeed, entrepreneurial activities have their reason to exist in relation to their ability to respond to a specific social demand through the resources at their disposal (Barney, 1991; Goni et al., 2021); hence, if the balance given by these two elements - social demand and availability of resources - changes, the company will face a challenging condition and forced to find new solutions for solving stakeholders' problems (Jakhar et al., 2018) in order to remain competitive. As stated below, in the current scenario of population increase, massive depletion of natural resources and price growth, entrepreneurs have to abandon traditional business-as-usual models on behalf of sustainable business models by balancing their economic performance with the social needs (social responsibility) and the preservation of the environment (environmental responsibility) (de Pádua Pieroni et al., 2018; Goni et al., 2021; Loorbach and Wijsman, 2013). Firms have to become responsible for their positive and negative externalities (Balluchi et al., 2011; Bocken et al., 2014) and show they can generate, alongside economic value, non-financial forms of shared value (Porter and Kramer, 2019).

3. The Role of SMEs

Since in the European context SMEs represent 99.8% of companies (European Commission, 2019; Neri et al., 2021), it is fundamental to engage them in achieving SDGs. In comparison with larger enterprises, SMEs have a massive role in exploiting natural resources and environmental pollution, being responsible for 70% of global emissions (Neri et al., 2021; Cantele and Zardini, 2020). In addition, SMEs are often

suppliers to large companies and they may act as facilitators of this process of change within their supply chains (Shaper, 2002). Starting from these considerations, international and national governments have adopted several policies to push SMEs to embrace sustainability, especially regarding environmental aspects (Chofreh et al., 2020; Goni et al., 2021): to cite one, in 2020 the European Commission adopted *the strategy for SMEs for a digital and sustainable Europe*. We will consider *barriers* as all those factors that hinder and dissuade from the implementation of sustainability within firms (Neri et al., 2021). The European commission also carried out different research on the relations between SMEs and sustainable transition: according to the *Flash Eurobarometer 486* (European Commission, 2020) 70% of European SMEs encounter at least a barrier to the introduction of sustainable innovation. Above these, they relate major obstacles to excessive bureaucratic constraints, financial liquidity problems and lack of qualified human resources to implement required organizational changes. *The Flash Eurobarometer 498 SMEs, green markets and resource efficiency* (European Commission, 2020) also confirms that obstacles of adopting an eco-efficient approach for SMEs are linked to the complexity of the regulatory framework, costs of adapting their products or services to standards and lack of supply of sustainable materials, parts, products or services. Some scholars (Dasanayaka et al., 2022) underline that all these factors have to be seen as a system of interrelated or interconnected barriers and that, hence, to study them a holistic approach is required (Cantele and Zardini, 2018; Del Baldo et al., 2022; Neri et al., 2021). In addition, to select the most effective solutions and policy tools, policy-makers need to consider barriers but also their interconnections, in order to set "leverage points" against which to define the priorities of their policy interventions. First, this integrated approach may limit the negative outcomes of implementing isolated policy solutions, while determining co-benefits through the synergistic adoption of one or more policies. The identification and classification of these obstacles may be useful not only for adopting specific policies but also to pinpoint the professional figures for addressing them (Cantele and Zardini, 2018, 2020; Trianni et al., 2017). Finally, this (new) challenging transition goes beyond the achievement of SDGs *per se*, as a new model of development may be an opportunity to build a more inclusive market (especially for SMEs) and society.

4. Methodology

Given the centrality and urgency assumed by the sustainable transition of entrepreneurship and, in particular, of SMEs this study aims to organize a basic yet comprehensive body of knowledge on barriers limiting this process of change. In addition, as pointed out earlier, although research on SMEs' sustainable transition has expanded in recent years, there is still considerable space for further investigation to provide in-depth knowledge or additional evidence. This research is in line with the contemporary literature review on barriers and facilitators for the adoption of environmental management practices (EMPs) by SMEs conducted by Dasanayaka et al. (2022) but unlike this one, adopts a holistic perspective of sustainability. The originality is that this study focuses only on the barriers (and not also the facilitators) that SMEs encounter in implementing sustainability. We excluded older studies to discard the research findings that might have been referred to as a historical context that is too distant from the current one. We adopted the method of thematic analysis (TA) and conducted a systematic literature review (SLR). TA method is useful to search for common features throughout the body of extant literature, since it also allows the researcher to construct and reframe themes, connecting data items (Kiger and Varpio, 2020). It also "implies searching throughout the data set to get a rich thematic description of data and to give lecturers information on important or dominant themes" (Kiger & Varpio, 2020; Poggesi et al., 2016). We took the following steps to query the database Scopus and carry out the SLR. We establish to consider articles, book chapter and review, written in English and published between 2019 and 2022, which include

in their title, abstract, or keywords the terms "sustainab*" and "small and medium enterprises*" and SMEs* and "barrier*". These words were used to identify studies that matched our research question. The search initially yielded 116 results, which were further restricted at those which contained the exact keywords "small and medium- sized enterprises" or "sustainability" or "SMEs" or "sustainable development" or "barriers" or "small and medium enterprises" or "business sustainability" or "small and medium-sized enterprises" or "small-and medium-sized enterprises". After this step, a list of 83 papers resulted and we fully read their abstracts to ensure contents were useful to provide insights on the research question. We read 22 papers in their entirety, and to avoid redundancy of research results and methodologies used, we subjected a smaller sample of 5 papers to TA. This study adopted two codes to conduct SLR and to explore fundamental themes: internal constraints and external constraints of SMEs. In fact, academic research on the sustainable transition of business environment mostly adopts a classification of barriers based on their internal or external origin (Álvarez Jaramillo et al., 2019; Costache et al., 2021; Dasanayaka et al., 2022; Neri et al., 2021). Internal barriers comprise all those characteristics of a company that contribute to limiting the implementation of sustainability practices (Costache et al., 2021; Neri et al., 2021). External barriers comprise all those contextual factors in the environment in which the company operates (Neri et al., 2021) and which can influence the attitude of SMEs towards the sustainable transition. To organize a basic yet comprehensive body of knowledge, we followed an inductive approach and grouped codes for identifying key themes: organizational constraints, individual features and beliefs, market conditions, and institutional environment. In the selection of themes, only those which are strictly connected to data and reflect the entire data set (Kiger and Varpio, 2020; Poggesi et al., 2016) have been chosen. We summarized the studies on which we conducted the thematic analysis in Table 1. In particular, major themes (presence and relevance of each in the study), the name of the authors, year of publication, methodology, research questions, and major results are reported. In the next session, we will illustrate the four themes and related subthemes in a more detailed manner.

Themes	Authors	Year	Methodology	Research question	Main Findings
Organizational constraints Owner/managers' or employees' individual features Market conditions Institutional environment	Álvarez Jaramillo, Zartha Sossa and Orozco Mendoza	2019	Review of 50 highest cited articles in Scopus between years 2013 and 2017	What are the major barriers that academic scholars attribute to the sustainable development of SMEs?	Identification and classification based on sector, sustainability tools and external/ internal origin of 175 barriers of SMEs when implementing sustainable practices. Above all the studies selected, none focus only on external barriers.
Market conditions Institutional environment Organizational constraints Owner/managers' or employees' individual features	Cantele and Zardini	2020	Empirical research through two-steps. A first pilot survey to 20 entrepreneurs and managers. Administration of a questionnaire survey of 348 Italian SMEs. Construction and test of model	What are the factors which influence the perception of owners or managers of SMEs towards implementation of sustainability?	The decision process of the owner or manager is a multistep process influenced by internal and external pressures. In this study, authors synthesized internal and external barriers in one variable. The positive influence and negative of the perceived benefits of sustainability or barriers filter and influence the different pressures.
Organizational constraints	Neri, Cagno and Trianni	2021	Empirical exploratory research on 26 Italian and German SMEs in the chemical and metallurgical sector.	What drivers and barriers influence the process of decision-	Contextual factors (sector, country and size) and firm's perception toward sustainability have different impacts on the perception of barriers and drivers that may

Owner/managers' or employees' individual features Institutional environment Market conditions Owner/managers' or employees' individual features			The methodology is that of semi-structured interviews and secondary data.	making? What contextual factors and how the firm's approach towards sustainability influence the adoption of sustainable industrial measures of SMEs?	hinder/foster the sustainable transition of SMEs.
Institutional environment Organizational constraints Owner/managers' or employees' individual features Market conditions	Costache, Dumitrascu and Maniu	2021	Review of academic and non-academic literature, interviews with managers of Romanian SMEs, administration and collection of 71 questionnaires and visits to the main offices.	What are the major barriers and facilitators in the implementation of sustainability for Romanian SMEs? How are these factors connected with the firms' characteristics?	Authors mainly related the barriers perceived by managers to the business environment, especially sustainable partners, sustainability-oriented customers, fair competitors and sustainable suppliers. Among others, managers perceive barriers related to the legal and institutional environment (regulation frame and bureaucracy).
Institutional environment Market conditions Organizational constraints Owner/managers' or employees' individual features	Dasanayaka, Gunarathne, Murphy, and Nagirikandage	2022	Systematic review of 54 articles in Scopus, Web of Science and Science Direct between years 2000 and 2020. To address the research question, they have carried a descriptive and thematic content analysis out.	What are the major barriers and drivers (external and internal) to the adoption of environmental management practices (EMP) by SMEs?	Legislative and market pressures mainly hampered SMEs, followed by organizational factors, especially lack of resources.

TABLE 1. Overview of the reviewed studies on the barriers to sustainable transition of SMEs

5. Findings

Adopting the TA method, our study detected four essential themes regarding barriers to the sustainable transition of SMEs. In the following sections, we will describe and report each of these themes in table 2.

5.1 Internal Constraints

Scholars attribute major value to internal features of a firm in comparison with external conditions for the achievement of sustainable transition of SMEs (Neri et al., 2021). In this framework, two key themes are present: *individual features and beliefs* and *organizational constraints*. The scholars consider all these themes as hermetic categories to facilitate the research work, even if the outlines are more blurred and barriers are interconnected and interdependent (Dasanayaka et al., 2020). 2022).

Theme I: Individual Features and Beliefs

Subtheme a: Owner/managers

Scholars agree that the smaller business size of SMEs, together with a low structuring and formalization of the organizational hierarchy, is connected to a greater decision-making power granted to the figure of the owner or manager. Thus, this figure has a major impact on the enhancement of the firm's sustainability practices (Neri et al., 2021) since his subjective attitude, values, knowledge concerning the benefits of sustainable practices (e.g., competitive advantage, reputation, customer satisfaction, employees' motivation, financial performance, etc.) influence the choice of implementation (Costache et al., 2021) even more than the perception of barriers (Cantele and Zardini, 2020). Because of this greater power of owner/s or manager/s, the decision-making processes in SMEs are more informal than in larger companies and make the adoption of sustainable practices more heterogeneous between businesses (Dasanayaka et al., 2022). Their individual attitude is associated with awareness of the corporate impact and on the perception of the urgency and benefits for the firm of adopting (more) sustainable solutions (Dasanayaka et al., 2022). This might be conditioned by a personal sense of de-responsibility of the company impacts and by the expectation on the role of public actor who, as the recipient of the taxes paid by the entrepreneur, is "the" actor in charge of the aspects of protection of the natural environment (Costache et al., 2021). In the suggestions for future research paths section by Neri et al. (2021), they highlight that the impact of the firm-owner's personal concept of sustainability on improvements towards sustainability needs to be explored in-depth since it often shapes the organizational culture. In the research by Costache et al. (2021) individual variables- such as gender, age and level of instruction- of SMEs owners are associated with prevalent typologies or differentiated perceptions of barriers in implementing sustainable measures. In particular, the main findings revealed female entrepreneurs seem to be more worried about financial obstacles than their male counterparts and that younger entrepreneurs often consider that sustainable practices cost too much than their older counterparts (Costache et al., 2021). Likewise, entrepreneurs with a higher level of education are more inclined to introduce sustainability into business strategy since they can evaluate both financial and non-financial costs and they are aware of their businesses impacts (Costache et al., 2021). This lack of awareness may also be related to the lack of information which regards especially institutional regulations- and, thus, for example, the required standards, how to implement, how to report (Álvarez Jaramillo et al., 2019). This barrier, even less cited or explored by scholars, may be relevant since it may create a sense of disorientation in the path or strategic vision that has to be set to implement sustainability, acting as a deterrent factor.

Subtheme b: employees

At an individual level also the behaviors, awareness and level of engagement of employees in the adoption of sustainable practices is regarded as a barrier for the sustainable turn of a firm (Álvarez Jaramillo et al., 2019; Cantele & Zardini, 2020; Costache et al., 2021; Dasanayaka et al., 2022; Neri et al., 2021). According to scholars (Neri et al., 2021), incorrect behavior of employees towards sustainability may be associated with a low level of knowledge of this concept and that may represent a deterrent factors to be committed. This is also strictly related to a lack of awareness of the urgency and benefits of sustainability practices (Neri et al., 2021). Thus, if this process of change follows a top-down approach, risks to encounter resistance in employees' behaviors and commitment (Costache et al., 2021) and hinder the sustainable transition of the firm. To avoid this, the decision-making process should adopt a participatory logic, actively involving and explaining to workers the usefulness, modalities and benefits of change through training and communication activities (Costache et al., 2021).

Theme II: Organizational Constraints

Subtheme c: human resources

At the organizational level, the lack of adequate skills of the owner and employees and the lack of technical figures or tools (e.g., sustainability manager or certification) in charge of environmental aspects (Álvarez Jaramillo et al., 2019; Costache et al., 2021; Neri et al., 2021) are regarded as barriers for SMEs. The lack of human resources for SMEs is one of the historical weaknesses, together with the reduced availability of financial resources (Álvarez Jaramillo et al., 2019; Costache et al., 2021) dedicated to the implementation of sustainable practices. Research by Costache et al. (2021) on the limiting and facilitating factors of the sustainable transition of Romanian SMEs confirmed that managers almost equally perceive the lower availability of financial (65%) and human (63%) resources as primary barriers. Therefore, firms which adopt a holistic perspective of sustainability (namely the triple bottom line perspective) perceive more the lack of human resources as barrier rather than economic constraints (Neri et al., 2021). This is true also for firms with a dedicated manager which perceive more barriers related to bureaucracy and lack of expertise of management and human resources than financial ones (Neri et al., 2021).

Subtheme d: financial resources

Scholars relate the lack of human resources to the scarcity of economic resources, which limits the budget allocated to the training of managers, employees and to external consultancy, reinforcing the lack of human resources (Costache et al., 2021). Scholars also found that the more reduced the size of a firm, the more perceived the barriers related to economic resources and that firms without a dedicated sustainability manager or sustainability certifications suffer more from this barrier (Costache et al., 2021). Regarding financial constraints, researchers relate them to the owner's perception of high initial costs in implementing sustainable organizational changes (Álvarez Jaramillo et al., 2019; Costache et al., 2021) or to certificate these changes (Dasanayaka et al., 2022). Thus, the sustainable turn for SMEs may be hampered by a fear of losing competitiveness (Cantele & Zardini, 2020) being in a condition of financial constraints and limited access to credit in which is too risky to make investments that might not pay-back in the short time (Neri et al., 2021). Scholars relate adding costs to rental premises (Álvarez Jaramillo et al., 2019), to new technologies (Dasanayaka et al., 2022) or to required training activities (Costache et al., 2021). Stemming from these considerations, SMEs often lack of including in their strategic planning resources to allocate to sustainable changes, adopting a sort of "survival mode" without considering the creation of value in the long term (Álvarez Jaramillo et al., 2019).

Subtheme e: industry

Another potentially limiting factor for the path towards transition of SMEs is the industry sector as long as not all products or services fit to undergo more or less consistent sustainability organizational changes (Costache et al., 2021) and face the same types or intensity of barriers (Neri et al., 2021). To adapt the production system or logistics may particularly expensive for some SMEs, depending not only on their business size but also to their industry (Álvarez Jaramillo et al., 2019) since different industries have different standard and reporting duties (Neri et al., 2021).

Subtheme f: time

Scholars (Álvarez Jaramillo et al., 2019; Cantele & Zardini, 2020; Neri et al., 2021) also considers the lack of time as a barrier for SMEs which is strictly linked with the *subthemes c (human resources)* and *d (financial resources)*. The difficulty to address properly all the organizational changes, regarding both product or process, employees, infrastructures, technology, etc. is a major challenge, especially for smaller firms since there is little time to dedicate to other-than-usual tasks.

5.2 External constraints

Theme III: Institutional environment

When we refer to the institutional environment, we look at those factors strictly linked to the government and governance of a particular geographical dimension- that can be local, national or supranational- which may complicate the sustainable development of SMEs.

Subtheme g: regulations and bureaucracy

Scholars (Álvarez Jaramillo et al., 2019; Cantele & Zardini, 2020; Costache et al., 2021; Dasanayaka et al., 2022; Neri et al., 2021) include legal and bureaucratic constraints linked to adaptation to environmental regulations among the main external barriers for SMEs. Above these, different certification labels between sectors both on environmental and social behavior of firms, and the overlap of regulations at regional, national and supranational levels complicates both the planning of long-term activities and the search for time and economic resources to deal with them. In addition, as stated before, the acquisition of sustainability certifications often involves expecting high costs (Álvarez Jaramillo et al., 2019; Dasanayaka et al., 2022) that SMEs perceive as non-urgent or unaffordable. Government policies may create other barriers for SMEs, such as high waste disposal costs or high-raw material costs (Dasanayaka et al., 2022) that may represent an obstacle for smaller firms which cannot afford to sustain (economically and socially) the already existent costs while making new investments to introduce more sustainable practices.

Subtheme h: subsidies, funds and taxations

Scholars relate this subtheme to the fact that SMEs often receive little support from public institutions (Neri et al., 2021) in undertaking the financial investments to improve their sustainability. The institutional support to improve sustainability may be direct (subsidies, tax reliefs and funds) or indirect (taxations or sanctions for brown companies). The aim of the first tools is to incentive SMEs in undertaking sustainable practices without incurring into credit shortage, making sustainability more attractive for them (at least financially) rather than additional costs. On the other side, subsidies and funds may be useful also to sustain the market demand, promoting responsible and sustainable consumption (Neri et al., 2021). This means to promote a change in social norms in order to convince companies, consumers and financial investors that they are equally responsible for preserving the environment and the well-being of the community (Costache et al., 2021). For SMEs, this means to highlight potential advantages of sustainable practices and the relatively simple ways of implementing them, since there are some evidences that the perceived benefits affect the decision to undertake sustainable practices than the minimization of obstacles (Cantele and Zardini, 2020; Dasanayaka et al., 2022). However, the lack of taxes, sanctions and controls over brown companies, which do not respect with the sustainable standards, may be a deterrent factor for SMEs in undertaking sustainable changes because of the fear of losing their competitiveness being unable to supply goods or services at a reduced price (Costache et al., 2021). According to research by (Costache et al., 2021) this barrier can be related also to government corruption, for example favoring major industry with higher bargain power rather than discouraging their unsustainable behaviors. Some studies criticize this policy tool of legislative coercion as a lever for the transition to sustainable business models, stating that regulatory compliance does not integrate with company practices and, therefore, does not entail concrete performance improvements (Dasanayaka et al., 2022).

Theme IV: Market Conditions

Subtheme i: customers and suppliers

Within the market, scholars (Álvarez Jaramillo et al., 2019; Neri et al., 2021) agree on the fact that a major deterrent factor for SMEs in implementing sustainability is the perception of the lack of demand, namely customers, disposed at paying a higher price for more sustainable goods or services. This barrier is linked with the difficulty to communicate properly and reporting the value of sustainability practices to stakeholders (especially to the local community), getting an improvement in the company's image (Costache et al., 2021) and, thus, on economic performance. Instead, SMEs perceive sustainability as an additional burden in unfair price competition with brown companies (Costache et al., 2021) and, for this

reason, they are often stuck by the fear of losing competitiveness (Cantele & Zardini, 2020) within market. They strictly related the intensity of this fear to the features of each country's institutional environment, since incentives or tax relief and sanction for unsustainable firms may correct these market conditions. Another obstacle for the achieving of sustainability within SMEs may be the supply chain: in fact, especially for smaller firms, to find suppliers with the same values and orientation towards sustainability can be difficult (Álvarez Jaramillo et al., 2019; Cantele & Zardini, 2020; Costache et al., 2021; Dasanayaka et al., 2022; Neri et al., 2021). In particular, research by Dasanayaka et al. (2022) found that this connect to legal constraints with suppliers, obliging SMEs to buy certain products or employ services at least until the expiry of the formal contract. For example, SMEs which are part of a multinational business or franchise can over-perceive these constraints, because firms must respect the guidelines set by parent companies (Dasanayaka et al., 2022).

Subtheme I: financial actors

Among the market actors that can represent an obstacle for the transition of SMEs, scholar name private financial investors (Neri et al., 2021). In fact, especially in turbulent time as the current one, the financial markets may be fearful of investing capital in sustainable SMEs, because of the perception of the presence of higher risks compared to short-term investment prospects. Consequently, public actors have to take into consideration the increased costs of introducing sustainable practices for SMEs that are worried to put their scarce resources into reused or more sustainable raw materials, which are not endorsed by their stakeholders (Cantele and Zardini, 2020).

Constraints	Themes	Themes
Internal	<i>I. Individual Features and Beliefs</i> a. owner/managers b. employees	<i>II. Organizational Constraints</i> c. human resources d. financial resources e. industry f. time
External	<i>III. Institutional Environment</i> g: regulations and bureaucracy h: subsidies, funds and taxations	<i>IV. Market conditions</i> i. customers and suppliers l. financial actors

TABLE 2. Overview of main findings

6. Discussion and Conclusion

The research aim of this study was to conduct an SLR of contemporary studies on barriers limiting the sustainable transition of SMEs with the method of TA, in order to pinpoint the key themes and to identify potential new research areas on this issue. To provide insight into the current knowledge may be useful, among others, to support public and industrial decision-makers setting clear leverage points against which policies for SMEs should be based. In this section, we discuss the main findings, suggest under-investigated paths for future research and, finally, outline the major limitation of this study. The selected sample of studies agree on attributing particular relevance to barriers related to financial (tangible) and human capital (intangible) resources (Barney, 1991) in the achievement of SMEs' sustainability goals.

Regarding the theme of *individual features and beliefs*, areas of research that appear to be under-explored are employees' motivations for resistance (e.g., lack of information on change, sense of precariousness regarding their own role in the company, lack of incentives, etc.) and the impact of sustainable changes on employees (e.g., re-skilling, outplacement, etc.), which have received less attention from scholars compared to the employer counterpart. This trajectory might instead be useful to investigate in-depth the role of employees in the implementation of sustainable transition and to pinpoint the most appropriate strategies to engage them. Thus, it may allow to catch better the features of the *labor-oriented* side of sustainable transition of SMEs. The selected researches seem to leave unaddressed if and how different managerial styles and governance systems within smaller firms may act as potential barriers in their sustainable development; this research trajectory may take also into consideration specific variables which mainstream literature recognizes as related to managerial style, such as gender, age and level of instruction- as also the study by Costache et al. (2021) does. In the selected sample, scholars mainly investigated barriers taking into consideration owner/managers' perception, assuming that these have a major impact on the practices towards sustainability. Thus, the theoretical lens of the *information theory of uncertainty* (Duncan, 1972) might be adopted to further investigate what kinds of information may reduce or foster owner/managers' sense of discouragement in implementing sustainability into their firms' strategies and to design policy tools to address this issue. Among the *organizational constraints*, the selected sample does not explore if and how the numbers, intensity and type (formal or informal) of networking relationships of smaller firms might represent potential obstacles, leaving this research area currently unaddressed. Another interesting aspect to investigate can be the association between the corporate form (for profit, no-profit or benefit) of a company and difficulties in the sustainable transition path as, to the best of our knowledge, it has never been discussed. Regarding the outcome of sustainable transition, further investigation from the research by Boons and Wagner (2009) according to which the introduction of sustainability never has a negative impact on companies, should be addressed. The selected panel of researchers pointed out that sustainable transition runs the actual risk of generating negative impacts for SMEs, especially when this process is not governed synergistically by all actors involved (companies, trade unions, business associations, state and market). As illustrated in the main findings of this study, among others factors, anticipating high costs for the implementation of sustainability risk not being adequately reflected in terms of revenues, due both to market demand and communication difficulties and, thus, being a negative influence for SMEs. Focusing on the external factors that may hinder the sustainable transition of SMEs, from the selected sample, the fundamental themes regard the *institutional environment* (coercive pressures) and *market conditions* (mimetic pressures) (DiMaggio & Powell, 1983); however, compared with *individual features and beliefs* and *organizational constraints*, these dimensions appeared to be less investigated. Further research on these factors has to be conducted to explore the impacts (type and intensity) of Covid-19 pandemic and the current socio-economic crisis on the perception of new and "old" barriers for SMEs, since none of the studies selected explicitly does it. To this purpose, this study might be useful as a "backbone" to assess which themes become more relevant for SMEs in the actual turmoil era. The selected panel does not include the role of industrial relations and social dialogue in each country as a potential barrier for the implementation of sustainability within the SMEs ecosystem. In Italy, research by Rugiero (2022) suggests that the presence or the absence of merged industrial relation influence the ability to govern the sustainable transition within SMEs 'value chains, avoiding massive socio-economic impacts. In fact, regarding the Italian context in which SMEs are the major part of socio-economic system, as well as at European level, in overcoming the current fragmentation and in avoiding a worsening of the actual condition of SMEs while, fostering the achieving of SDG, industrial relations may play a fundamental role. Concerning within *institutional environment's* related barriers also national or local employer associations may be included; hence, being embedded a professional network or interest group may mitigate the difficulty of accessing the information, reducing the perception of barriers of owner/managers. SMEs rarely have research and development (R&D) departments dedicated only to how to implement sustainability, organizational changes required, or market trends and financing opportunities. This organizational feature may be an additional deterrent factor which employer association might solve or reduce properly. In conclusion, since Trade organizations, Employer organizations and public Institutions are called to adopt a synergistic approach in order to properly

support SMEs in this challenging transition (Loorbach et al., 2010), industrial relations may be explored as one of the hidden variables that can strengthen or mitigate the barriers that SMEs encounter or perceive in a country or industry. A methodological suggestion may be to carry out comparative studies between smaller firms at different local, national or supra-national levels, which might offer interesting insights into specificities of institutional environments that activate/hinder entrepreneurial sustainability. Concerning the interrelationships between SMEs' barriers, even if they are mentioned (Dasanayaka et al., 2022), the selected sample do not explore deeply how these factors may reinforce each other's, neither investigate hidden variables or the most suitable professionals to deal with them. Scholars do not agree on recognizing one of the listed barriers as more relevant than the others. The research approaches of the selected studies are different (according to unit of analysis, methodology, research questions) and, thus, offer interesting suggestions on different aspects, even though none provides a comprehensive view of the topic; however, as suggested in the introduction, the greatest difficulty is related to the inherent complexity of the concept of sustainability, which makes it difficult to operationalize in academic research, but also to the heterogeneity of SMEs (according to sector, dimension, corporate form, location, etc.). For these reasons, to identify common problems for SMEs remain fundamental for decision-makers to design policies, even if generalizing on limiting factors for SMEs remain a highly complex task which, often, force researchers to focus on micro-level (e.g., few firms within a specific industry). In our opinion, comparative case studies should be carried out since this methodology allow to adopt a more holistic approach to address sustainability, exploring the explanatory links (barriers and solutions) by linking the aspects (*organizational constraints* and *individual features and beliefs*) of this multidimensional phenomenon within a single firm while considering exogenous factors (*institutional environment* and *market conditions*). In this way, the size of the sample analyzed will be obviously sacrificed for more in-depth knowledge of an emerging phenomenon, which still lacks a solid theoretical basis through the study of its dynamic processes. We relate the major limitations of this study to the methodological choice to consider only academic literature (articles, book chapters and review) written in the English language, published between 2019 and 2022, and present in the *Scopus* database. In addition, we fully analyzed a small sample of researches through TA, thus potentially excluding other themes not covered by them.

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