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Theoretical framework of sustainable value creation by companies. What do we know so far?

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Abstract

In conditions of limited natural resources, growing social awareness, and ESG risk, sustainability and the pressure to be sustainable are gaining importance. Legislative requirements, good practices and recommendations as well as the stakeholders themselves expect from market participants, especially from the enterprise sector, that they will incorporate sustainability in their activities. Enterprises undertake adaptation activities towards sustainability by creating sustainable value based on their business models. The article aims to systematize the state of knowledge on how companies create sustainable value. Research results in this area are dispersed, and more studies discussing this topic comprehensively are needed. The article fills the gap in research by reviewing the existing studies on creating sustainable value. The analysis of publications was based on the academic databases of Elsevier Scopus and Web-of-Science. 101 publications were reviewed, and 31 categorization variables related to the area of research and issues addressed in scientific publications were created. Using a multidimensional correspondence analysis, three homogeneous clusters of publications were obtained: group I refers to articles concerning enterprises of various sizes (micro, small, SME, and start-up); group II includes publications on Asia and Australia, which appeared in 2020 or later; group III concerns articles related to the research of large production companies in developed European countries. The result shows that companies build sustainable value in various ways, influenced by company's location and size. Among the dominant patterns of incorporating sustainable value, the following are indicated: building a sustainable supply chain, innovations, building relationships with stakeholders and consumers, sharing economy.

KEYWORDS
companies, ESG, SME, sustainability, sustainable value

1 | INTRODUCTION

The growing role and impact of non-financial factors on the economy and society in limited resources and growing social awareness mean that economic entities face new challenges. The ESG risk and legislative solutions aimed at mitigating it mean that the pressure to implement activities supporting the concept and goals of sustainable development is growing. Companies are the key drivers of sustainability (Hahn & Figge, 2007). Sustainability is incorporated by enterprises in many ways and is related to building sustainable value and transformation towards sustainable business models (Hristov et al., 2019). Sustainable value creation (SVC) involves structuring of all aspects of the core

business, seeking to generate economic, social, and environmental value simultaneously (D'heur, 2015). SVC requires new system thinking that contributes to maximizing the total value captured; and the collaboration at a multi-stakeholder level (D'heur, 2015; Vincenza Ciasullo & Troisi, 2013). Sustainable value is a critical concept in business models, but according to Lüdeke-Freund et al. (2020) it still remains a black box (especially in the scope of definitions and explanations of this concept). Treptow et al. (2022) analyze how the business model contributes to creating sustainable value through innovations. According to Elkington (1997), business models should generate social, environmental, and economic value (SVC), to contribute to sustainable development, and provide SVC to the whole range of the stakeholders (Freeman, 2010). It has been proven that a holistic integration of corporate sustainability increases the stakeholder value (Nadeem, 2013). The research in the field of business models has focused intensely on sustainability management (Schaltegger et al., 2016), at the same time, company business models need to be revised to be in line with CS (Boons & Lüdeke-Freund, 2013). Many studies and publications have been devoted to creating sustainable value by enterprises. These are most often publications presenting case studies for a specific sector of enterprises (e.g., manufacturing) or focusing, among others, on research on the role of innovation, knowledge, R&D, management solutions, and cooperation in creating sustainable value. Much space is also devoted to discussion on key concepts for sustainable value creation (Evans, Fernando, & Yang, 2017; Lüdeke-Freund, 2020; Lüdeke-Freund et al., 2020). However, few studies comprehensively collect and discuss the research results on the sustainable value. The paper fills this research gap. The study aims to systematize the state of knowledge on how enterprises create sustainable value and what factors have impact on building this value, with particular emphasis on the role of financial institutions in this process. The paper tries to address the following questions:

- How do companies from different sectors incorporate sustainability?
- Is it possible to distinguish types of enterprises from the way of building sustainable value?
- Do the size and location of the company matter for creating sustainable value?
- Does cooperation with a financial institution have impact on building sustainable value for the company?

To answer these questions, the authors conducted a systematic literature review. For this purpose, the academic databases Elsevier Scopus and Web-of-Science were used.

In addition, multivariate correspondence analysis was used to look for relationships between selected keywords describing ways of creating sustainable value in companies. A total of 101 scientific publications were accepted for the study, on the basis of which 31 categorization variables related to the research area and the issues addressed in the scientific publications were created. The application of this method made it possible to distinguish groups of scientific articles similar in terms of the analyzed issues.

The paper is organized as follows: the introduction is Section 1; in Section 2, the theoretical aspects related to sustainable value and incorporating sustainability by companies are presented. Section 3 the methodological approach, data collection procedure, and description of the methods are described. Section 4 discusses the research results, and Section 5 is the conclusion.

2 | LITERATURE REVIEW

The term value theory originates from neoclassical economics, in which value theory is explanation of the exchange value (or value in exchange), or price, of goods and services. Each value creation is a contractual exchange, creating value added for all parties of exchange. Operation of a company is creating the value for its stakeholders, for example, customers, employees, and owners (Laursen & Svejvig, 2016).

In the literature on the subject, the term "sustainable value" is not clearly defined. It is often used interchangeably with "social value," "environmental value" or "co-creation value." Table 1 presents the definitions of sustainable value proposed by selected authors.

Referring to the definitions of sustainable value from Table 1, it can be seen that this concept is inextricably linked to economic, social and environmental value, and the creation of sustainable value brings benefits to stakeholders. Initially, stakeholders were identified as shareholders, and sustainable value creation meant maintaining and increasing shareholder value through business contributions to sustainable development (Hart & Milstein, 2003). With the development of research, the group of stakeholders for whom sustainable value is created was expanded and now includes entities directly and indirectly related to the company (Baumgartner & Rauter, 2017). This approach implies the need to identify individual stakeholder groups and to analyze the processes of creating sustainable value at various levels and the variety of forms of sustainable value at these levels. Stakeholder groups and sustainable value creation for stakeholders are presented in Figure 1.

The business model is closely related to the concept of value (Amit & Zott, 2012). It describes how a company creates, delivers and captures value (Geissdoerfer et al., 2016; Osterwalder & Pigneur, 2010; Richardson, 2008).

Abdelkafi et al. (2013) indicates that the value creation requires activities that should be arranged in processes. Freudenreich et al. (2020) points out that it can be unidirectional, that is, company–customer (Stubbs & Cocklin, 2008; Upward & Jones, 2016) or multidirectional: company–stakeholders. From the perspective of stakeholder theory, the company and stakeholders (external and internal) should have common goals that will motivate them to cooperate in value creation process (Breuer & Lüdeke-Freund, 2017).

Laukkanen and Tura (2020) created a conceptual framework for analyzing sustainable value creation. Referring to the concept of sustainable development, business models aimed at creating sustainable value in the environmental dimension most often include increasing resource efficiency by: using renewable energy sources (Khan et al., 2020; Wadin et al., 2017; Zhao et al., 2022), biodegradability (Addison et al., 2020; Crenna et al., 2020; Lange et al., 2021) materials and natural resources-savings (Pandit et al., 2019; Perey et al., 2018), reducing or eliminating the negative impact on environment (Oláh et al., 2020; Pal & Gander, 2018; Roscoe et al., 2019). Creating sustainable value in the social dimension may be realized by caring for

TABLE 1 Definition of sustainable value according to selected Authors.

Authors and year of publication	Characteristic of sustainable value creation
Wheeler et al. (2003)	Includes economic, social and ecological value
Rana et al. (2013)	Refers to a wide range of benefits for a stakeholder from an exchange, which, includes not only a monetary profit, but also social and environmental aspects
Bocken et al. (2013)	The scope of value creation is determined by the relationships, interactions and exchanges among stakeholders (Allee & Schwabe, 2015), which are represented by value flows within stakeholders network (Den Ouden, 2012). Development of sustainable value propositions includes taking into account the destroyed value (negative outcomes), the missed value (currently non-captured value) and new value creation opportunities
Yang et al. (2014)	Sustainable value creation could be integrated into PSS development in order to also consider environmental and social aspects of benefit
Bocken et al. (2015)	Value that combines social and environmental goals in order to ensure all stakeholder interests are aligned and balanced
Upward and Jones (2016)	Value is defined as "the perception by a human (or non-human) actor of a "fundamental need" (Max-Neef, 1991, p. 8) Value is created when needs are met via "satisfiers" (Max-Neef, 1991, p. 16) that align with the recipient's worldview." Sustainable business model must provide the entity a basis for guiding the co-creation of value with all stakeholders: customers, shareholders, social, and environmental constituents and other actors in the organization's value sphere (Hörisch et al., 2014)
Adams et al. (2016)	Creating and realizing social and environmental value in addition to economic returns "sustainable value is created collaboratively rather than individually"
Evans, Fernando, and Yang (2017); Evans, Vladimirova, et al. (2017)	Economic, environmental and social flows of value that are created, delivered and captured in a value network. sustainable value creates exchange among multiple stakeholders
Brennan and Tennant (2018)	"Sustainable value is created when tangible factors of production (structural resources), including processes, business models, products, services and infrastructure, are brought into particular combinations with ideas of sustainability impact and sustainability values (cultural resources)"
Lüdeke-Freund et al. (2020)	Value creation for customers and with them, and all other stakeholders. "A business model for sustainability captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries"
Laukkanen and Tura (2020)	Sustainable value creation is understood through economic, environmental and social value creation

the health and safety of employees (Amrutha & Geetha, 2020; Venkatesh et al., 2020), customers and communities (Dempsey et al., 2011; Evans, Fernando, & Yang, 2017; Evans, Vladimirova, et al., 2017), as well as by respecting ethical principles (De Bakker et al., 2019; Di Vaio et al., 2020). Creation of sustainable value can lead to improvement of the financial result (Alshehhi et al., 2018; Ilyas & Osiyevskyy, 2022) and profitability of the company (D'heur, 2015) and to its competitive advantage in the market (Hamadamin & Atan, 2019; Haseeb et al., 2019).

Sustainable value creation is essential for a sustainable business model (Baldassarre et al., 2017). The sustainable business model is the subject of many studies, that focus on the analysis of the concept and essence of the sustainable business model (Nosratabadi et al., 2019; Stubbs & Cocklin, 2008), archetypes (Bocken et al., 2014; Yip & Bocken, 2018), the relationship between the sustainable business model and financial performance (Aggarwal, 2013; Boons et al., 2013) and competitive advantage (Cantele & Zardini, 2018).

There are many factors influencing the enterprises' decisions to transform their business models towards sustainable business models. Generally, they can be divided into external, for example, legal regulations, and internal, for example, organizational culture of the company, values, and reputation. One of key factors is access to finance. According to research, ESG score plays important role in obtaining finance. High ESC score of enterprise may provide it cheaper loans, higher credit rankings and lower cost of equity capital (Eliwa et al., 2019; Henriksson et al., 2018). Scatigna et al. (2021) on the example of social bonds and conventional securities issued by corporates demonstrated investors readiness to pay a premium for holding social bonds and that companies from carbon-intensive industries are associated with higher credit risk and have slightly higher risk-adjusted debt financing costs. Investors on the capital market increasingly want to invest their capital in sustainable financial products. Mati (2021) showed that portfolios formed on social and governance factors provide better investment performance than traditional size and value-based portfolios.

The transformation of the business model towards a sustainable business model requires adaptation activities. In the literature on the subject, the issue of sustainable adaptation is considered from a macroeconomic perspective (Brown, 2011; Eriksen et al., 2011). Sustainable adaptation should therefore be perceived through participation in the process of sustainable development in the form of activities affecting the environmental and social pillar of this development, taking into account and meeting the criteria of social equity and environmental integrity at the same time (Eriksen et al., 2011). It should be emphasized that the effects of adaptation can be positive or negative. The process of incorporating ESG factors into the business model is

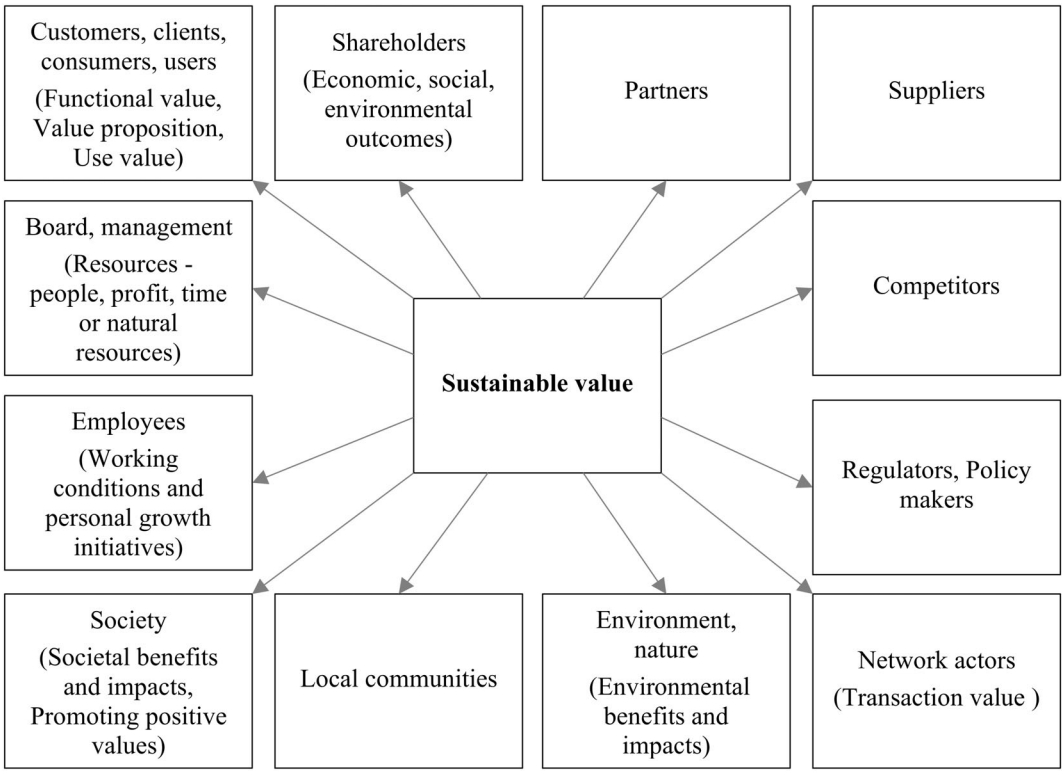

FIGURE 1 Stakeholder groups and value created for these groups. *Source*: Own elaboration based on: Lüdeke-Freund et al. (2020).

described using a case study, so its examples are limited to selected enterprises.

Creating sustainable value by enterprises requires financial outlays that often exceed the capabilities of enterprises, hence the need to obtain external financing. Depending on the model of the banking system (German-Japanese or Anglo-Saxon), this funding may come from banks or the capital market. Playing the role of creditors, investors, heads of supply chain and advisors, banks may make their clients more sensitive to environmental issues or encourage them to take pro-ecological actions. For example, the World Bank has announced its intention to stop supporting corporations that care less of the environment (Urban & Wójcik, 2019). Similar steps have been taken by commercial banks such as Societe Generale, Hong Kong-Shanghai Banking Corporation (HSBC), Deutsche Bank, BNP Paribas and Credit Agricole, which have declared to not finance individuals and corporate entities whose activities are harmful to the environment (Sanchez-Roger et al., 2018). The research of Akomea-Frimpong et al. (2022) shows that green securities, green investments, climate finance, carbon finance, green insurance, green loans and green infrastructure bonds are the key green financial products of banks through which banking institutions can influence the sustainable transformation enterprises. Peng et al. (2022), based on financial data of Chinese listed companies from 2006 to 2018, showed that the green credit policy encourages heavy-polluting companies to invest more in R&D and fixed assets to obtain long-term credit support with short-term investment. Similar results were obtained by Hu et al. (2021) who demonstrated that green credit policy affects the growth of green innovation in heavily polluting enterprises (HPEs). Xu and Li (2020) studied the relationship between green credits and debt financing cost. Their research on 52 green enterprises and 81 high-pollution and high-emissions (referred to as "two-high") enterprises in China in 2001–2017, showed that green credit policy and green credit development increase the debt financing cost of "two-high" enterprises, but decrease this cost of green enterprises.ESG scores of enterprises impact the cost of raising capital. Apergis et al. (2022) showed that firms with low ESG scores are perceived as riskier, in the sense of being exposed to liabilities related to Environmental, Social and Corporate factors that highly increase their probability of default, therefore their cost of debts is higher.

Sustainable investing becomes crucial for the allocation of capital in capital markets. Increasing pressure from stakeholders to adopt sustainable behavior and adequately represent sustainability practices, hence the importance of their non-financial disclosures grows. Raimo et al. (2021) examined the impact of nonfinancial information on the cost of debt. On the sample of 919 firms in the period 2010–2019, they showed a negative effect of the ESG disclosure on the cost of debt financing. The negative effect of web-based disclosure on the cost of debt was also confirmed by Abdi and Omri (2020). Nonfinacial disclosure of companies affects their market value and investor interest (Spandel et al., 2020).

The studies published so far on sustainable value focus on defining it and describing how companies create it. Individual publications are dedicated to specific methods of building sustainable value and often present them through examples of selected companies or

TABLE 2 Numbers and types of documents under examination—Scopus.

Search string	Area of search	Elsevier Scopus	Type of document	
"sustainable value*" AND sustainab* AND business	Article title and Abstract, Keywords	410	Article	236
			Proceeding/Conference Paper	53
			Book chapter	76
			Book	18
			Conference review	4
			Review	23
"sustainable value" AND enterprises	Article title and Abstract, Keywords	109	Article	69
			Proceeding/Conference Paper	20
			Book chapter	8
			Book	2
			Conference review	2
			Review	7
			Editorial	1
"sustainable value*" AND compan* and sustainability	Article title and Abstract, Keywords	189	Article	111
			Proceeding/Conference Paper	31
			Book chapter	37
			Book	3
			Review	7

industries. However, there is a lack of comprehensive publications containing compilations of various methods of creating sustainable value in relation to factors such as industry, size, or location of the company. Our study addresses this gap by analyzing how companies of different sizes, located on different continents, operating in countries at different levels of development, and in service or manufacturing sectors create sustainable value. The result of this analysis allowed us to distinguish groups of companies that employ similar methods of creating sustainable value.

3 | METHODOLOGY AND RESULTS

The first stage of the research was a literature review on the subject to identify ways to create sustainable value in companies. For this purpose, the academic databases of Elsevier Scopus and Web-of-Science were used. The articles were searched according to the methodology used by Pittaway et al. (2004) the following word strings ("sustainable value" AND sustainab* AND business; "sustainable value" AND sustainab* AND enterprises, "sustainable value" AND sustainab* AND compan*, "sustainable value*" AND compan* and sustainability). Table 2 presents the research sample obtained from Scopus database as a result of the applied search criteria.

The corresponding sample obtained from Web-of-Science database is presented in Table 3.

A graphical summary of the number of publications found in both databases is shown in Figure 2.

After eliminating duplicate titles, 307 titles remained for review. The analysis of the content of the entire publication reduced the sample to 101 references. The characteristics of the research sample are included in the Table 4.

Graphical presentation of selected characteristics of the research sample is presented in Figure 3.

The article used a multidimensional analysis of correspondence to search for the relationship between selected keywords describing ways of creating sustainable value in enterprises. For this purpose, 31 categorization variables related to the area of research and issues raised in scientific publications were created. These included: the size and type of enterprises and the determinants of sustainable value creation. All variables have two categories of "yes" and "no," which were assigned ranks of 1 when the phenomenon occurs or 0 when the phenomenon does not occur, respectively:

The following variables and their categories were adopted for the study: X_1—the release year 2020 or later; X_2—microenterprises; X_3—small enterprises; X_4—SME sector; X_5—sharing economy; X_6—start-up; X_7—large enterprise; X_8—production/industry; X_9—service; X_{10}—Europe; X_{11}—North America; X_{12}—Latin America; X_{13}—Asia and Australia; X_{14}—Africa; X_{15}—developing countries; X_{16}—developed countries; X_{17}—regulations; X_{18}—green supply chain; X_{19}—cost reduction; X_{20}—technological innovation (pro-ecological technology); X_{21}—communication/ relation with stakeholders; X_{22}—eco-product; X_{23}—communication/relation with consumers; X_{24}—materials and energy consumption reduction; X_{25}—waste recycling; X_{26}—renewable resource; X_{27}—employees engagement; X_{28}—efficient production; X_{29}—social engagement; X_{30}—financial performance; X_{31}—reducing emission, noise (reduction in negative environmental impact).

The Correspondence Analysis module in the Statistica 13.0 package was used for calculations and the graphical presentation of results.

Correspondence analysis is one of the methods of multidimensional statistical analysis. This method accurately recognizes the co-occurrence of categories of variables (or objects) measured on a nominal scale (Beh & Lombardo, 2014; Greenacre, 1994, 2007; Lebart et al., 1984).

Correspondence analysis was carried out based on Burt's matrix measuring 62×62 formed from 31 variables whose categories are defined above. The dimension of the actual space of co-occurrence of responses to the analyzed questions was 31 and was determined by the formula:

$$K = \sum_{q=1}^{Q} (J_q - 1), \quad (1)$$

where, J_q—the number of feature categories q ($q = 1, 2, \ldots, Q$), Q—the number of variables.

In the next stage, it was checked to what extent the eigenvalues of the smaller dimensions explain the total inertia ($\lambda = 10{,}000$). For this purpose, the Greenacre criterion was applied, according to which principal inertias greater than $\frac{1}{Q} = \frac{1}{31} = 0.0322$ are considered relevant to the study. Based on Table 5, it is clear that these are inertia for K taking values of at most 12. For these dimensions, the values of the measure τ_k were analyzed, and it was found that the degree of explanation of inertia in two-dimensional space is 18.71%, and in three-dimensional space, it is 26.64%. In order to unambiguously identify the presentation space of the co-occurrence of variable variants, an eigenvalue chart was drawn up, and it was determined, using the "elbow" criterion, that it should be four-dimensional (Figure 4).

In order to increase the quality of the representation in the four-dimensional space, a modification of the eigenvalues was carried out according to Greenacre's proposal as follows:

$$\tilde{\lambda}_k = \left(\frac{Q}{q-1}\right)^2 \cdot \left(\sqrt{\lambda_{B,k}} - \frac{1}{Q}\right)^2,$$

where, Q—the number of analyzed variables, $\lambda_{B,k}$—the kth eigenvalue of ($k = 1, 2, \ldots, K$), ($\sqrt{\lambda_{B,k}} = \gamma_{B,k}$), $\gamma_{B,k}$—the kth singular value of matrix Burt B.

After the modification, the degree of explanation of inertia improved, and it exceeded 41% for four-dimensional space.

TABLE 3 Numbers and types of documents under examination—Web-of-Science.

Search string	Area of search	Web-of-Science	Type of document	
"sustainable value*" AND sustainab* AND business	Article title and Abstract, Keywords	138	Article	85
			Proceeding/Conference Paper	23
			Book chapter	17
			Book	4
			Review	9
"sustainable value" AND enterprises	Article title and Abstract, Keywords	23	Article	10
			Proceeding/Conference Paper	10
			Book chapter	1
			Review	1
			Editorial	1
"sustainable value*" AND compan* and sustainability	Article title and Abstract, Keywords	50	Article	35
			Proceeding/Conference Paper	10
			Book chapter	4
			Review	1

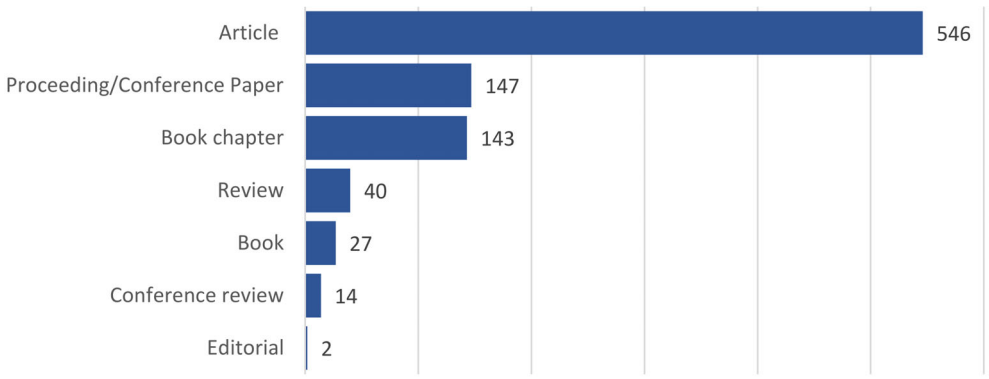

FIGURE 2 Numbers of found publications by type. *Source*: Own elaboration.

Due to the inability to graphically represent the variables and their variants in a four-dimensional space, one of the agglomerative clustering methods—Ward's method (Eszergár-Kiss & Caesar, 2017; Kaufman & Rousseeuw, 2008)—was used, which made it possible to determine the links between the variants of the variables. The optimal number of clusters was determined based on the first apparent increase in the agglomeration distance for the subsequent bonding steps. In Figure 5, showing the merging of categories into classes, a horizontal line marks the stage at which the merging of classes was discontinued.

TABLE 4 The characteristics of the research sample.

Description	Structure of the studied publications	
Year of publication	2022	14%
	2021	19%
	2020	20%
	2019	11%
	2018	13%
	2017	8%
	2016	8%
	2015	6%
Methodology	Literature review	11%
	Based on data	78%
	Case study	11%
Regions where the headquarters of the surveyed companies are located	Europe	56%
	North America	14%
	Latin America	16%
	Asia and Australia	22%
	Africa	6%
The level of the country's development	Developing countries	24%
	Developed countries	61%
The size of the companies	Micro enterprises	12%
	Small enterprises	22%
	SME	37%
	Large enterprises	58%
	Start-up	6%
	Sharing economy	2%
The industry in which the company operates	Manufacturing/ production	82%
	Service	33%

Note: In some publications, various types of enterprises were the subject of the study, hence the total percentage in individual categories may be higher than 100.

Based on this criterion, the dendrogram was trimmed at the binding height of 4.52, and 3 homogeneous clusters were distinguished. When discussing each of these, the categories of variables that fell into a particular cluster are given in brackets.

Group I (X15:1, X12:1, X14:1, X18:1, X11:1, X6:1, X4:1, X3:1, X2:1) refers to articles on enterprises of various sizes (micro, small, SME and start-ups). These articles relate to green supply chains and include studies that were conducted in developing countries from Latin America and Africa, and in North America (Table 6).

In the case of small and medium-sized enterprises, the creation of sustainable value is done through direct impact on suppliers (creating a green supply chain), stakeholders and customers (building sustainable awareness among customers). These enterprises take actions aimed at reducing costs by maximizing material and energy efficiency, using renewable energy.

Group II (X21:1, X22:0, X24:0, X28:0, X20:0, X31:0, X25:0, X19:1, X9:1, X23:1, X8:0, X29:1, X7:0, X5:1, X17:1, X13:1, X16:0, X10:0, X30:1, X1:1) includes publications associated with Asia and Australia that appeared in 2020 and beyond. They deal with issues related to the service sector and the sharing economy. They pay attention to communication (relations) with both stakeholders and consumers. Issues related to legal regulations, social commitment and cost reduction are also discussed (Table 7).

Companies from Group II pay special attention to relations with stakeholders and consumers in the process of creating sustainable value. Responding to the needs of more and more aware customers, they offer increasingly innovative and pro-ecological products using more environmentally friendly technologies. These enterprises are aware of the direction of the introduced legal regulations and the development of the correlation between

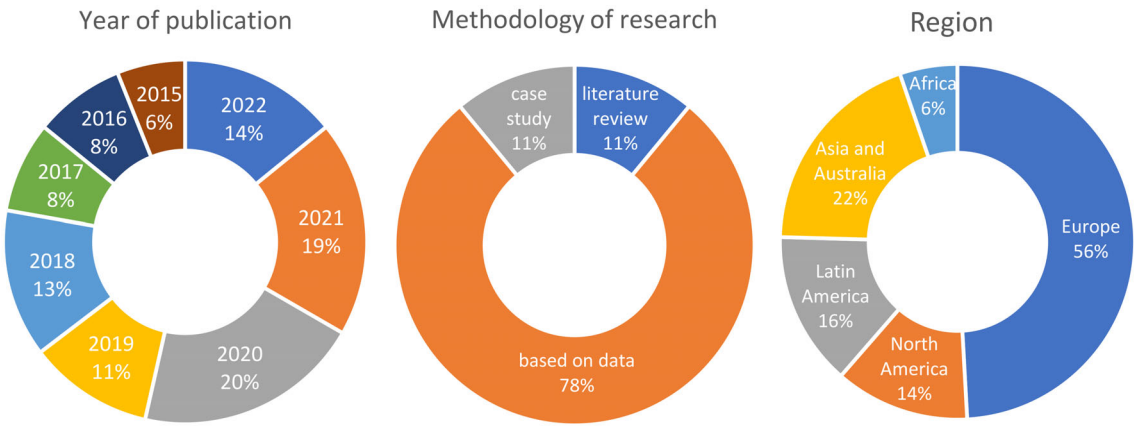

FIGURE 3 Selected characteristics of the research sample. *Source*: Own elaboration.

TABLE 5 Singular values and eigenvalues, together with the degree of explanation of the total inertia in the original and modified versions.

K	Singular values γ_k	Eigenvalues λ_k	λ_k/λ	τ_k	$\tilde{\lambda}_k$	$\tilde{\lambda}_k/\tilde{\lambda}$	$\tilde{\tau}_k$
1	0.3174	0.1007	10.0733	10.0733	0.3022	0.1145	0.1145
2	0.2939	0.0864	86.374	18.7107	0.2786	0.1056	0.2201
3	0.2815	0.0792	79.248	26.6355	0.2662	0.1009	0.3209
4	0.2505	0.0627	62.728	32.9083	0.2351	0.0891	0.4100
5	0.2398	0.0575	57.504	38.6587	0.2244	0.0850	0.4951
6	0.2305	0.0531	53.148	43.9735	0.2152	0.0815	0.5766
7	0.2196	0.0482	48.232	48.7967	0.2043	0.0774	0.6541
8	0.2109	0.0445	44.484	53.2450	0.1957	0.0742	0.7282
9	0.2063	0.0426	42.569	57.5019	0.1911	0.0724	0.8006
10	0.1957	0.0383	38.312	61.3331	0.1806	0.0684	0.8691
11	0.1903	0.0362	36.222	64.9553	0.1753	0.0664	0.9355
12	0.1852	0.0343	34.317	68.3870	0.1702	0.0645	10.000
13	0.1751	0.0307	30.657	71.4528	$\tilde{\lambda}_k = 2.6389$		

Source: Own calculations.

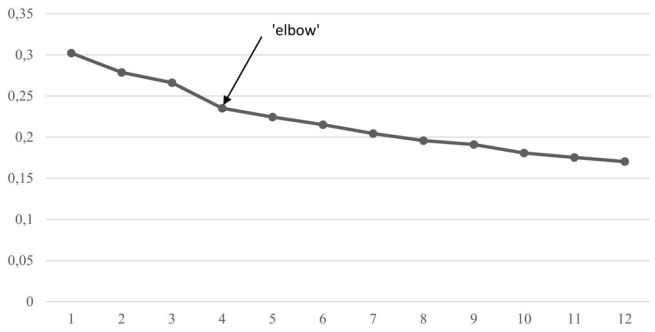

FIGURE 4 Eigenvalue—"elbow" criterion. *Source*: own elaboration.

the company's sustainability and the possibility of obtaining financing and reducing the cost of capital.

Group III (X26:1, X31:1, X24:1, X25:1, X13:0, X15:0, X27:1, X12:0, X18:0, X14:0, X11:0, X19:0, X17:0, X30:0, X26:0, X6:0, X29:0, X27:0, X5:0, X28:1, X22:1, X9:0, X21:0, X20:1, X23:0, X8:1, X7:1, X4:0, X3:0, X2:0, X16:1, X10:1, X1:0) includes articles related to research on large production companies in developed European countries. They address issues related to the various determinants of sustainable value creation, such as renewable resource, reducing emission, noise (reduction in negative environmental impact), materials and energy consumption reduction, waste recycling, ecoproduct, employees engagement, efficient production, innovative technology (proecological technology) (Table 8).

The third group of enterprises consists in the vast majority of large enterprises from developed countries. They create sustainable value through a wide range of activities: greening the manufactured products and services, introducing more ecological and modern production techniques, rising sustainable awareness of employees, build of green supply chain, creating a sustainable organizational culture. These activities are capital-intensive and time-consuming. Such a wide spectrum of actions taken proves the inclusion of ESG factors in the business model of enterprises and in the implemented strategy.

4 | DISCUSSION AND CASE STUDY

To the best of the authors' knowledge, there are no corresponding studies in the literature to which the obtained results could be compared. The review of the state of knowledge on the concept of sustainability was carried out in the following areas: sustainable supply chain (Govindan et al., 2020; Patel & Desai, 2019), relationship between environmental sustainability and behavioral science, ESG disclosure and enterprise performance (Khan, 2022), corporate governance and environmental social governance disclosure (Lagasio & Cucari, 2019), innovation and environmental, social, and governance factors influencing sustainable business models (Kluza et al., 2021), green and sustainable business models (Mondal et al., 2022), the relationship between innovation and sustainability (Kuzma et al., 2020).

Cardoni et al. (2020) reviewed the literature on sustainable value, and revealed that sustainable value is not used as a concept but as the general term describing positive business results. In-depth analysis of sustainable value provided by scholars, does not emphasize the time horizon of sustainable value as its specific property while broad stakeholder surrounding is presented as an important feature. In addition, environmental factors are no longer strategic for sustainability as in Hart and Milstein's (2003) concept, and globalization, economic fluctuations, and knowledge innovation are now as important as green technologies and policies for carbon-reduction.

In turn, the study by Evans, Fernando and Yang (2017) aimed at understanding of key concepts of sustainable value and developing tools that aid practitioners in sustainable value creation

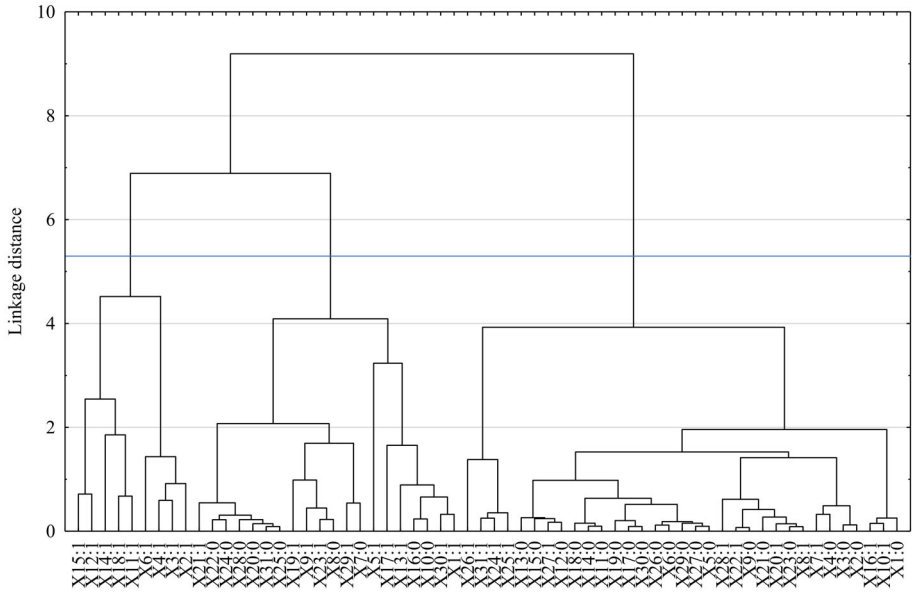

FIGURE 5 Hierarchical classification of variable categories performed with the use of Ward's method. *Source*: Own elaboration.

TABLE 6 Characteristics of publications in group I.

No.	Article title	Authors and year of publication	Size of companies	Continent	Country development level	Industry	Determinants of creating sustainable value
1	Sustainable value chain management based on dynamic capabilities in small and medium-sized enterprises (SMEs)	de Moura and Saroli (2021)	Microenterprises, SME	Latin America	Developed	Service	Customer oriented, reducing cost of supply chain, green supply chain
2	Operationalizing business model innovation through big data analytics for sustainable organizations	Minatogawa et al. (2020)	Small enterprises	Latin America	Developing	Manufacturing	Reducing costs, creating revenue from waste, enhancing brand image, and finding new customers natural resources reducing environmentally harmful emissions from waste, communication with different stakeholder groups and increasing awareness of the food waste issue in society
3	Scoping research on sustainability performance from manufacturing industry sector	Adam et al. (2019)	Small enterprises	Latin America, North America, Africa	Developed	Manufacturing	Maximize material and energy efficiency; green supply chain, create value from "waste"; substitute with renewables and natural processes; increasing the efficiency of resource use
4	An exploratory study of the mechanism of sustainable value creation in the luxury fashion industry	Yang et al. (2017)	Small enterprises	North America	Developed	Manufacturing	Integrates the environment, innovation, stakeholder management and potential for growth, eco-friendly production process, green supply chain

manufacturing. The Sustainable Value Analysis Tool was proposed to help manufacturers to identify opportunities for creation of sustainable value using analysis of the captured and uncaptured value in the entire life cycle of products (Yang, 2015).

The finding of this study shows that enterprises taking broad range of activities for creating of sustainable value are mainly large companies from European, developed countries, and from US. They employ capital and time-intensive means to create sustainable value

TABLE 7 Characteristics of publications in group II.

No.	Article title	Authors and year of publication	Size of companies	Continent	Country development level	Industry	Determinants of creating sustainable value
1	An impact of environment on consumer loyalty towards sustainable businesses in India	Tiwari et al. (2022)	Large	Asia and Australia	Developing	Manufacturing	Digitization of production processes and product innovation, network in internet, risk in internet
2	Fintech and SMEs sustainable business models: Reflections and considerations for a circular economy	Pizzi et al. (2021)	SME	Asia and Australia	Developing	Service	Reducing cost, oriented for stakeholders, relation with clients
3	Integrated capitals reporting and companies' sustainable value: evidence from the Asian continent	Anifowose et al. (2020)	Large	Asia and Australia	Developed	Manufacturing	Regulation, disclosure capital has a significant positive effect on the revenue growth, care of human capital and natural capital disclosure have an indirect effect on the cost of financing
4	Can an integrated reporting system in Thai context create sustainable value to users?	Petcharat (2020)	Large	Asia and Australia	Developing	Manufacturing	Material reuse business model affects value creation in terms of: financial structure and viability of the case company, employment creation and value for partners in the value chain network, customer value, environmental impact reductions, multiple stakeholders (i.e., customers, value chain partners, the environment)
5	Does mandatory CSR provide long-term benefits to shareholders	Juniarti (2020)	Large	Asia and Australia	Developed, developing	Manufacturing	Eco innovation process, communication with personnel, communication with customers

and include ESG factors in their business models. This may result from the high awareness of European and US companies of issues related to transformation to sustainability. The awareness, may be confirmed by results of a study conducted by Marczewska and Kostrzewski (2020), who provided a bibliometric performance analysis of academic research on sustainable business models. They revealed that the majority of publications on sustainable business models are affiliated in US and Europe (developed countries).

The results of our research show that large enterprises from developed European countries create sustainable value through activities such as using renewable resource, reducing emission, noise (reduction in negative environmental impact), materials and energy consumption reduction, waste recycling, ecoproduct, employees engagement, efficient production, innovative technology (proecological technology). The adequacy of the obtained results was verified based on case studies of three companies.

The company which corresponds to the characteristics of Group I is Infantium Victoria GmbH. It is a German textile company that specializes in the design of high-end organic and vegan fashion for kids. Infantium Victoria designs its products sustainably, which involves using the most eco-friendly materials, planning the most effective way to make clothing, minimizing unnecessary cut waste, and engaging in carbon emission reduction techniques. The company received a Global Organic Textile Standard (GOTS) certificate in 2019 and most of its products have already been processed in GOTS certified factories using GOTS certified materials. Since 2015, the entire product line of Infantium Victoria has received PETA approval.

Infantium Victoria bases its activity on traceability of the supply chain, transparency of productive processes and social responsibility. The list of used materials, their suppliers, name and location of the production facility, and labor intensity are provided for every product. Regular work hours and fair pay reflect the company's commitment to social responsibility.

Infantium Victoria attaches the utmost importance to efficient use of materials and their recycling. The majority of the textiles that the company uses are made to order, and the remaining fabrics are used in the following collections. The company recycles its cut waste and does not produce any deadstock fabrics. Plastic-free, biodegradable packaging is used for all shipments to wholesale and retail destinations. Additionally, Infantium Victoria offers a recycling solution to its customers by selling used clothes after they have been checked, washed and any necessary amendments were made.

The Pan Pacific hotel in Melbourne, Australia, represents Group II. The hotel undertakes many sustainability initiatives and is one of the greenest hotels in Melbourne. Sustainable practises are driven by awareness of climate change and guest demands for sustainable tourism. The hotel responds to these demands by implementing solutions such as:

- recycling of waste including fluorescent tubes, light bulbs, batteries, scrap metal and electronic devices,
- great reduction of use of plastic by replacing plastic cups, takeaway containers, straws, and so forth by 100% biodegradable materials

TABLE 8 Characteristics of publications in group III.

No.	Article title	Authors and year of publication	Size of companies	Continent	Country development level	Industry	Determinants of creating sustainable value
1	The business model in sustainability transitions: A conceptualization	Hernández-Chea et al. (2021)	Large	Europe	Developed, developing	Manufacturing	Technology change from black to green, R&D, green supply chain, increasing the number of female directors and continuous engagement with these directors and the operations teams for making Ørsted a green business
2	Assessment of the current state of sustainability in a manufacturing firm	Pande and Adil (2022)	Large	Europe, North America	Developed	Manufacturing	Proecological production, green supply chain
3	Reinventing the Portuguese knitwear industry: the case of Pedrosa & Rodrigues private label management model	Guedes and Vaz (2021)	Large	Europe	Developed	Manufacturing	Proecological production process, supply chain, communication with stakeholders
4	Establishing Public Biodiversity Commitments within an Oil & Gas Company	Dickinson et al. (2020)	Large	Europe	Developed	Manufacturing	Biodiversity, green supply chain, ecological awareness of employees, stakeholders
5	Sustainability transition in industry 4.0 and smart manufacturing with the triple-layered business model canvas	García-Muiña et al. (2020)	Large	Europe	Developed	Manufacturing	Proecological innovation reducing costs
6	A sustainable value generator in the Italian wine industry: Casa E. di Mirafiore e Fontanafredda winery	Gromis di Trana et al. (2020)	Large	Europe	Developed	Manufacturing	Innovation production production, innovation product
7	Creating sustainable value through remanufacturing: Three industry cases	Jensen et al. (2019)	Large	Europe	Developed	Manufacturing	Increasing resource efficiency, responsible use of resources, no harmful environmental impacts and emissions, Increasing social well-being
8	Berry supply chain management: an empirical approach	Segovia-Villarreal et al. (2019)	Large, SME	Europe	Developed	Manufacturing	Recycling materials, innovation product, supplier development, channel distribution development
9	Closing the Loop: Circular Economy Through Sustainable Innovation Lens	Aluchna and Rok (2019)	Large	Europe	Developed	Manufacturing	Management of stable relationships, stable labor workforce, better allocations resources
10	An overview of business models in the Czech chemical industry: A sustainable multiple value creation perspective	Kita and Šimberová (2018)	Large, SME	Europe	Developed	Manufacturing	B2B resource sharing, centralized waste treatment, and usage of energy saving equipment, ensure environmental safety of their products, industrial safety, and avoidance of hazardous substances in their production
11	Sustainable value stream mapping and technologies of Industry 4.0 in manufacturing process reconfiguration: A case study in an apparel company	Phuong and Guidat (2018)	Large	Europe	Developed	Manufacturing	Corporate governance to sustainable value

TABLE 8 (Continued)

No.	Article title	Authors and year of publication	Size of companies	Continent	Country development level	Industry	Determinants of creating sustainable value
12	An Exploratory Empirical Examination of the Integrated Sustainability Framework via Case Study	Dao and Abraham (2018)	Large	Europe	Developed	Manufacturing	Reducing the level of consumption of materials and the pollution derived from the rapid industrialization, operating at greater levels of transparency and responsiveness, driven by civil society developing new technologies that can reduce the size of the human footprint on the planet, satisfying the person at the bottom of the world income pyramid in an inclusive manner, which facilitates the creation of wealth and income distribution
13	Is sustainability in business strategy factual or figurative?	de Oliveira et al. (2017)	Large	Europe	Developed	Service	Modification in operational processes for the improvement of the environment, environmental education for employees, sub-contractors, freelancers and entity administrators
14	Effective disclosure in the fast-fashion industry: From sustainability reporting to action	Garcia-Torres et al. (2017)	Large	Europe	Developed	Manufacturing	Working closely with everyone in the supply chain
15	Skills and capabilities for a sustainable and circular economy: The changing role of design	De los Rios and Charnley (2017)	Large	Europe	Developed	Manufacturing	Integrates the environment, innovation, stakeholder management and potential for growth, eco-friendly process, product, supply chain
16	Luxury products and services and the sustainable value chain: Six management lessons from Gucci	Armitage et al. (2017)	Large	Europe	Developed	Manufacturing	Industry's companies support closure of material loops, proecological product to customers' needs
17	An approach to integrate parameters and indicators of sustainability management into value stream mapping	Edtmayr et al. (2016)	Large	Europe	Developed	Manufacturing	Reducing emission, material consumption at process, waste o material, reducing cost
18	Loewe: luxury and sustainable management	Gardetti (2016)	Large	Europe	Developed	Manufacturing	Reducing cost, reducing cost for customers
19	Sustainable value co-creation in business networks	Lacoste (2016)	Large	Europe	Developed	Service	Environmental innovation, stakeholder management, economic value and potential of growth, proecological product, proecological production, RES
20	Nanogate AG: Sustainable Value Creation in Technology Companies	Zastrau (2015)	Large	Europe	Developed	Manufacturing	Sustainable supply chain, suppliers co-create value with their customer's customers or end users, suppliers co-create with their direct customers, either a sustainable hybrid offering (a service bundled with a product) or an extended sustainable service
21	Nestlé: Sustainable value chain management from the farm to the Fork	Bee et al. (2015)	Large	Europe	Developed	Manufacturing	Green supply chain, multi-stakeholder partnership
22	Embedding Sustainability: How the Field of Organization Development and Change can Help Companies Harness the Next Big Competitive Advantage	Ludema et al. (2012)	Large	Europe, North America	Developed	Manufacturing	Proecological production process, consumer orientation, rising sustainable awareness of employees, regulation, reducing water, proecological product, green label

based on bamboo, but also by removing plastic bottles and providing plastic-free delivery of laundry and slippers,
- use of energy-efficient lights, including LED light bulbs and light sensors that will turn lights off when not in use,
- Soap Aid, an environmental impact reduction programme, through which 1664 kg of soap bars have been collected from guest rooms, cleaned, repurposed into full-size bars of soap, and then donated to communities in developing countries,
- repurposing used furniture—used beds, along with desk chairs and televisions, were donated to the Salvation Army after the hotel's renovations in 2018.

The Pan Pacific hotel contributes to raising environmental awareness among associates, guests and business partners. To help create a more sustainable and responsible hotel environment for the present and the future, the hotel's team is constantly adapting to new technologies, systems, and practises.

An example of a company belonging to Group III is Engie, a French company from the energy sector. Its strategy is in line with the concept of sustainable development, and their business activity is focused on renewable energy and low carbon distributed energy infrastructures. Engie creates its sustainable value in environmental dimension by reducing carbon intensity of energy production and greenhouse gas emissions with target of Net Zero by 2045 (reduction from 348 gCO_2e/kWh and 79 $MtCO_2\_e$ in 2017 to 158 gCO_2e/kWh and 52 $MtCO_2\_e$ in 2030). The company's goal is to phase out coal by 2025 in Europe and 2027 globally. In the years 2015–2020, they reduced the coal power generation from 15.1 GW@100% by 72%, achieving 4.3 GW@100%. At the same time, the company increases the share of renewable energy sources in its portfolio, for example, in Chile from 1% in 2018 to 59% in 2025, and introduced the use of biomass (from 0% in 2018 to 10% in 2025).

Taking into account the social impact of the transition to a low-carbon economy the company undertakes activities in the following areas:

- employment—boosting job opportunities, skills development, and employee retention;
- regional benefits—initiatives to create benefits for regions and communities;
- stakeholder inclusion—cooperation between the company, government and civil society.

Engie's commitment to social improvement includes gender diversity (planned increase in share of women in management from 24.1% in 2020 to 50% in 2030) and employees training (planned increase in employees trained from 70% in 2020 to 100% in 2030). The company also assures safe work environment by implementation of "No life at risk" and "No mind at risk" programs, and reduction of injury frequency rate. Employee engagement is another important aspect of social improvement. This is confirmed by high rate of employees (90%) proud to work for Engie.

The company identifies and manages ESG risk. It monitors main CSR risks in its activities: health and safety, climate change, water stresses, and so forth, and identifies risks within the supply chain and prevents violations. To mitigate risk the company participate in public debate, directly or via business associations, engages stakeholders on each project, includes CSR risk analysis in the nonfinancial statement.

Engie is a CSR company that cares about the transparency of its activities. In compliance with regulations it publishes the company's strategy, financial statement, and sustainability books. The company also supports European initiatives and regulations for sustainable development. Engie is a member of European Financial Reporting Advisory Group (EFRAG) Taskforce on non-financial reporting (CSRD).

Engie supports its clients in achieving their decarbonisation targets, helping them to reduce carbon emissions by about 20 $MtCO_2\_e$ in 2020 and forecasted 45 $MtCO_2\_e$ in 2030.

5 | CONCLUSION

The problem of creating sustainable value by enterprises is known in the literature on the subject. Still, it constantly requires research due to the existing research gaps, especially in terms of definition and theory (Lüdeke-Freund et al., 2020). It was the motivation and justification for developing a study summarizing the current research on creating sustainable value in enterprises.

The aim of the paper is to systematize the state of knowledge on how enterprises create sustainable value and which factors have impact on building this value, with particular emphasis on the role of financial institutions in this process. The paper reviews 101 research on creating sustainable value. The analysis of the publications was based on the Elsevier Scopus and Web-of-Science academic databases. The paper uses a multidimensional correspondence analysis based on 31 categorization variables. As a result, three homogeneous clusters were obtained: group I refers to the articles concerning enterprises of various size (micro, small, SME, and start-up); group II includes publications on Asia and Australia, which appeared in 2020 and later; group III concerns the articles related to the research of large production companies in developed European countries.

They identified several practices regarding creation of sustainable value. These practices were impacted mainly by company size and geographic location. In the case of small and medium-sized enterprises being the subject of the research in the 1st Group of articles, the creation of sustainable value occurs due to the influence of external entities, such as suppliers, stakeholders, or customers. The creation of sustainable value is based on cost reduction, energy saving, and transformation towards renewable energy sources.

The second group of studies concerned enterprises located in Asia and Australia, and these publications were published after 2020. In the enterprises analyzed within this group of publications, the creation of sustainable value was diagnosed primarily based on interpersonal relations, mainly with the stakeholders and consumers. These companies also use digitization, eco-innovations, cost reduction, and recycling. They are aware of the impact of sustainability on financial

performance, which they transfer to the relationship with financial institutions from which they raise capital. It is closely related to the relational method of creating value adopted by these enterprises, which coincides with financial institutions' approach, for example, the concept of relationship between banking or sustainable financial markets.

Group III concerns publications on large enterprises operating in Europe. This group of enterprises used the broadest and most complex spectrum of instruments in the creation of sustainable value. In addition to the methods of creating sustainable value described for Groups I and II, these companies additionally used, among other things, technology change from black to green, R&D, green (sustainable) supply chain, gender parities (female directors), pro-ecological production and innovation, management of stable relationships, or corporate governance. The analysis of previous research shows that companies know the need and benefits of creating sustainable value. Still, not all companies see the possibility of creating sustainable value through cooperation with financial institutions.

There are also stages of creating the sustainable value in the analyzed companies, depending on the size of the company, and phases of creating sustainable value through cost reduction and cooperation (green behavior spreading from suppliers, stakeholders and customers); building relational relations, including with financial institutions, and using the positive link between sustainability and financial performance; and finally creating sustainable value by reducing costs, increasing energy efficiency, building relationships, cooperation, R&D, pro-ecological production solutions and technologies, sustainable friendly management solutions.

The results of the study can be related to the groups of companies involved, which, however, does not allow generalizing the results of the study and is an important limitation of the study. Future research will include the analysis of enterprises from a sectoral perspective, which allows diagnosing the specificity of creating sustainable value in enterprises according to sector-diversified ESG risk. The research results are of application nature and have practical significance for the stakeholders representing both public and private sectors. In particular, as a result of the conducted research, companies gain new knowledge about which activities are used to build sustainable value in the enterprise sector. Thanks to the results obtained for the three groups of articles, a benchmark for companies from each of these three groups is created. Benchmark allows companies to position themselves and evaluate their activities against the background of a given group. Such activities allow companies to define their competitive/market position, and take action and strategy to reach the benchmark in the field of sustainable value. The research results can be used in the decision-making processes of companies in the field of sustainable value, as well as in CSR strategies and corporate strategies for sustainable development. In the context of managerial decisions, the research results allow to obtain information on the methods of ESG risk management and cost management by companies, depending on their size, sector and business location. The research results are important for decision-makers in the public sector in the context of shaping policies to support entrepreneurship, innovation, and knowledge transfer. Public authorities responsible for supporting companies, on the basis of the results of research from the first, second and third groups of articles, may define activities conducive to building sustainable value for each of the groups of companies to which the articles refer, and specify the rules and types of public support for entrepreneurs. In the case of the first group, for which an external impulse plays a role in building sustainable value, it is crucial to create a business environment that initiates such impulses, for example, clusters, networking structures, initiatives to support and promote CSR. An important issue is the tax issue, and here is the role of public decision-makers to create an external impulse in the form of a sustainable taxes system that will affect consumers' purchasing decisions, as well as suppliers and other stakeholders and their decisions in the field of sustainable consumerism. Therefore, for the first group of companies and decision-makers responsible for building policies and strategies based on external impulses in building sustainable value, it will be important to track and know the process of sustainable behavior spreading, in order to incorporate and reduce ESG and decide on activities that are conducive to sustainable value. The second group of companies for which financial performance is important in building sustainable value, may base their strategies of reaching the benchmark on cooperation with financial institutions that support maximization of financial performance by offering sustainable products and services and knowledge transfer. These companies can build their policies and strategies through cooperation with financial institutions which, through advisory functions and an offer dedicated to entrepreneurs, will support the creation of sustainable value in these companies, for example, by financing eco-innovations or the capital for impact investment. At the same time, ESG risk management systems in financial institutions and companies cooperating with a financial institution are strongly interconnected, because financial institutions differentiate cooperation and costs for companies with different exposure to ESG risk. The higher the company's ESG risk, the higher the costs of cooperation or the inability to cooperate with a financial institution, and the low degree of ESG risk incorporation into the business model. Financial institutions expect from companies an integrated ESG risk management system, and in the case of its positive verification, financial institutions provide companies with favorable price and non-price terms of cooperation as a bonus for lower risk. Thus, thanks to such activities, financial institutions strengthen the creation of sustainable value in companies from the second group, and reduce their reputation risk, which is important from the perspective of cooperation with the stakeholders. In the case of the third group of papers and companies belonging to this group, large companies, the previously discussed aspects of cooperation with the public sector and financial institutions are important, for example, in the context of tax strategies and models of cooperation with the financial market, but also the aspect of governance, that is, the role of women emerges in the decision-making process regarding ESG risk. This is important because it affects the reputational and financial risk, especially in the case of large companies, because it appears in their case as an important issue of board composition. The diversified approach of women and men to risk, including ESG risk, affects the propensity

to risk and financial performance, therefore it is worth ensuring diversified board composition. An important tip for decision-makers and the stakeholders is, therefore, to analyze the composition of boards and select cooperating entities in which the principle of gender diversity is met, because gender diversity is associated with better ESG performance.

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REFERENCES

Abdelkafi, N., Makhotin, S., & Posselt, T. (2013). Business models innovations for electric mobility – What can be learned from existing business model patterns? *International Journal of Innovation Management*, *17*(1), 1–41. https://doi.org/10.1142/S1363919613400033

Abdi, H., & Omri, M. A. B. (2020). Web-based disclosure and the cost of debt: MENA countries evidence. *Journal of Financial Reporting and Accounting*, *18*(3), 533–561. https://doi.org/10.1108/JFRA-07-2019-0088

Adam, I. H. D., Jusoh, A., Mardani, A., Streimikiene, D., & Nor, K. M. (2019). Scoping research on sustainability performance from manufacturing industry sector. *Problems and Perspectives in Management*, *17*(2), 134–146. https://doi.org/10.21511/ppm.17(2).2019.10

Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D., & Overy, P. (2016). Sustainability-oriented innovation: A systematic review. *International Journal of Management Review*, *18*, 180–205. https://doi.org/10.1111/ijmr.12068

Addison, P. F. E., Stephenson, P. J., Bull, J. W., Carbone, G., Burgman, M., Burgass, M., Gerber, L. R., Howard, P., McCormick, N., McRae, L., Reuter, K. E., Starkey, M., & Milner-Gulland, E. J. (2020). Bringing sustainability to life: A framework to guide biodiversity indicator development for business performance management. *Business Strategy and the Environment*, *29*(8), 3303–3313. https://doi.org/10.1002/bse.2573

Aggarwal, P. (2013). Impact of sustainability performance of company on its financial performance: A study of listed Indian companies. *Global Journal of Management and Business Research C: Finance*, *13*(11), 61–70. https://ssrn.com/abstract=3131923

Akomea-Frimpong, I., Adeabah, D., Ofosu, D., & Tenakwah, E. J. (2022). A review of studies on green finance of banks, research gaps and future directions. *Journal of Sustainable Finance & Investment*, *12*(4), 1241–1264. https://doi.org/10.1080/20430795.2020.1870202

Allee, V., & Schwabe, O. (2015). *Value networks and the true nature of collaboration*. Meghan-Kiffer Press.

Alshehhi, A., Nobanee, H., & Khare, N. (2018). The impact of sustainability practices on corporate financial performance: Literature trends and future research potential. *Sustainability*, *10*(2), 494. https://doi.org/10.3390/su10020494

Aluchna, M., & Rok, B. (2019). Closing the loop: Circular economy through sustainable innovation lens. In N. Capaldi, S. O. Idowu, R. Schmidpeter, & M. Brueckner (Eds.), *Responsible business in uncertain times and for a sustainable future. CSR, sustainability, ethics & governance* (pp. 19–36). Springer. https://doi.org/10.1007/978-3-030-11217-2_2

Amit, R., & Zott, C. (2012). Creating value through business model innovation. *MIT Slogan Management Review*, *53*, 41–49.

Amrutha, V. N., & Geetha, S. N. (2020). A systematic review on green human resource management: Implications for social sustainability. *Journal of Cleaner Production*, *247*, 119131. https://doi.org/10.1016/j.jclepro.2019.119131

Anifowose, M., Abang, S., & Zakari, M. A. (2020). Integrated capitals reporting and companies' sustainable value: Evidence from the Asian continent. *Asian Review of Accounting*, *28*(4), 567–589. https://doi.org/10.1108/ARA-10-2019-0184

Apergis, N., Poufinas, T., & Antonopoulos, A. (2022). ESG scores and cost of debt. *Energy Economics*, *112*, 106186. https://doi.org/10.1016/j.eneco.2022.106186

Armitage, J., Roberts, J., & Sekhon, Y. (2017). Luxury products and services and the sustainable value chain: Six management lessons from Gucci. In M. Gardetti (Ed.), *Sustainable management of luxury. Environmental footprints and eco-design of products and processes* (pp. 259–279). Springer. https://doi.org/10.1007/978-981-10-2917-2_12

Baldassarre, B., Calabretta, G., Bocken, N. M. P., & Jaskiewicz, T. (2017). Bridging sustainable business model innovation and user-driven innovation: A process for sustainable value proposition design. *Journal of Cleaner Production*, *147*, 175–186. https://doi.org/10.1016/j.jclepro.2017.01.081

Baumgartner, R. J., & Rauter, R. (2017). Strategic perspectives of corporate sustainability management to develop a sustainable organization. *Journal of Cleaner Production*, *140*, 81–92. https://doi.org/10.1016/j.jclepro.2016.04.146

Bee, J., Diby, P., Mbacké, B., & Wettstein, B. (2015). Nestlé: Sustainable value chain management from the farm to the Fork. In M. D'heur (Ed.), *Sustainable value chain management* (pp. 313–325). Springer. https://doi.org/10.1007/978-3-319-12142-0

Beh, E. J., & Lombardo, R. (2014). *Correspondence analysis. Theory, practice and new strategies* (1st ed.). John Wiley & Sons, Ltd.

Bocken, N. M. P., Rana, P., & Short, S. W. (2015). Value mapping for sustainable business thinking. *Journal of Industrial and Production Engineering*, *32*(1), 67–81. https://doi.org/10.1080/21681015.2014.1000399

Bocken, N. M., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production*, *65*, 42–56. https://doi.org/10.1016/j.jclepro.2013.11.039

Bocken, N., Short, S., Rana, P., & Evans, S. (2013). A value mapping tool for sustainable business modeling. *Corporate Governance*, *13*(5), 482–497. https://doi.org/10.1108/CG-06-2013-0078

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*, 9–19. https://doi.org/10.1016/j.jclepro.2012.07.007

Boons, F., Montalvo, C., Quist, J., & Wagner, M. (2013). Sustainable innovation, business models and economic performance: An overview. *Journal of Cleaner Production*, *45*, 1–8. https://doi.org/10.1016/j.jclepro.2012.08.013

Brennan, G., & Tennant, M. (2018). Sustainable value and trade-offs: Exploring situational logics and power relations in a UK brewery's malt supply network business model. *Business Strategy and the Environment*, *27*(5), 621–630. https://doi.org/10.1002/bse.2067

Breuer, H., & Lüdeke-Freund, F. (2017). Values-based network and business model innovation. *International Journal of Innovation Management*, *21*(3), 1750028. https://doi.org/10.1142/S1363919617500281

Brown, K. (2011). Sustainable adaptation: An oxymoron? *Climate and Development*, *3*(1), 21–31.

Cantele, S., & Zardini, A. (2018). Is sustainability a competitive advantage for small businesses? An empirical analysis of possible mediators in the sustainability–financial performance relationship. *Journal of Cleaner Production*, *182*, 166–176. https://doi.org/10.1016/j.jclepro.2018.02.016

Cardoni, A., Kiseleva, E., & Taticchi, P. (2020). In search of sustainable value: A structured literature review. *Sustainability*, *12*(2), 615. https://doi.org/10.3390/su12020615

Crenna, E., Marques, A., La Notte, A., & Sala, S. (2020). Biodiversity assessment of value chains: State of the art and emerging challenges.

Environmental Science & Technology, *54*(16), 9715–9728. https://doi.org/10.1021/acs.est.9b05153

Dao, V. T., & Abraham, T. (2018). An exploratory empirical examination of the integrated sustainability framework via case study. In *Proceedings of the Americas conference on information systems* (Vol. 2018, p. 10). https://aisel.aisnet.org/amcis2018/GreenIS/Presentations/10

De Bakker, F. G., Rasche, A., & Ponte, S. (2019). Multi-stakeholder initiatives on sustainability: A cross-disciplinary review and research agenda for business ethics. *Business Ethics Quarterly*, *29*(3), 343–383. https://doi.org/10.1017/beq.2019.10

De los Rios, I. C., & Charnley, F. J. (2017). Skills and capabilities for a sustainable and circular economy: The changing role of design. *Journal of Cleaner Production*, *160*, 109–122. https://doi.org/10.1016/j.jclepro.2016.10.130

de Moura, G. B., & Saroli, L. G. (2021). Sustainable value chain management based on dynamic capabilities in small and medium-sized enterprises (SMEs). *The International Journal of Logistics Management*, *32*(1), 168–189. https://doi.org/10.1108/IJLM-01-2020-0044

de Oliveira, M. C., Portella, A. R., Rover, S., Ferreira, D. D. M., & Borba, J. A. (2017). Is sustainability in business strategy factual or figurative? *Race: Revista de Administração, Contabilidade e Economia*, *16*(2), 427–454. https://doi.org/10.18593/race.v16i2.12053

Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development*, *19*, 289–300. https://doi.org/10.1002/sd.417

Den Ouden, E. (2012). *Innovation design: Creating value for people, organizations and society*. Springer. https://doi.org/10.1007/978-1-4471-2268-5

D'heur, M. (2015). Shared value chain: Profitable growth through sustainable value creation. In M. D'heur (Ed.), *Sustainable value chain management* (pp. 1–107). Springer.

Di Vaio, A., Palladino, R., Hassan, R., & Escobar, O. (2020). Artificial intelligence and business models in the sustainable development goals perspective: A systematic literature review. *Journal of Business Research*, *121*, 283–314. https://doi.org/10.1016/j.jbusres.2020.08.019

Dickinson, S., Plisson-Saune, S., & Mani, P. (2020). Establishing public biodiversity commitments within an oil & gas company [Conference presentation]. In *SPE international conference and exhibition on health, safety, environment, and sustainability, virtual*. https://doi.org/10.2118/199508-MS

Edtmayr, T., Sunk, A., & Sihn, W. (2016). An approach to integrate parameters and indicators of sustainability management into value stream mapping. *Procedia CIRP*, *41*, 289–294. https://doi.org/10.1016/j.procir.2015.08.037

Eliwa, Y., Aboud, A., & Saleh, A. (2019). ESG practices and the cost of debt: Evidence from EU countries. *Critical Perspectives on Accounting*, *70*, 102097. https://doi.org/10.1016/j.cpa.2019.102097

Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone Publishing.

Eriksen, S., Aldunce, P., Bahinipati, C. S., Martins, R. D. A., Molefe, J. I., Nhemachena, C., Molefe, J., Olorunfemi, F., Park, J., Bahinipati, C. S., & Ulsrud, K. (2011). When not every response to climate change is a good one: Identifying principles for sustainable adaptation. *Climate and Development*, *3*(1), 7–20. https://doi.org/10.3763/cdev.2010.0060

Eszergár-Kiss, D., & Caesar, B. (2017). Definition of user groups applying Ward's method. *Transportation Research Procedia*, *22*, 25–34. https://doi.org/10.1016/j.trpro.2017.03.004

Evans, S., Fernando, L., & Yang, M. (2017). Sustainable value creation—From concept towards implementation. In R. Stark, G. Seliger, & J. Bonvoisin (Eds.), *Sustainable manufacturing. Sustainable production. Life cycle engineering and management* (pp. 203–220). Springer, Cham. https://doi.org/10.1007/978-3-319-48514-0_13

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

Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge University Press.

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

Garcia-Torres, S., Rey-Garcia, M., & Albareda-Vivo, L. (2017). Effective disclosure in the fast-fashion industry: From sustainability reporting to action. *Sustainability*, *9*(12), 2256. https://doi.org/10.3390/su9122256

García-Muiña, F. E., Medina-Salgado, M. S., Ferrari, A. M., & Cucchi, M. (2020). Sustainability transition in industry 4.0 and smart manufacturing with the triple-layered business model canvas. *Sustainability*, *12*(6), 2364. https://doi.org/10.3390/su12062364

Gardetti, M. A. (2016). Loewe: Luxury and sustainable management. In M. Gardetti & S. Muthu (Eds.), *Handbook of sustainable luxury textiles and fashion. Environmental footprints and eco-design of products and processes* (pp. 1–16). Springer. https://doi.org/10.1007/978-981-287-742-0_1

Geissdoerfer, M., Bocken, N. M. P., & Hultink, E. J. (2016). Design thinking to enhance the sustainable business modeling process. *Journal of Cleaner Production*, *135*, 1218–1232. https://doi.org/10.1016/j.jclepro.2016.07.020

Govindan, K., Rajeev, A., Padhi, S. S., & Pati, R. K. (2020). Supply chain sustainability and performance of firms: A meta-analysis of the literature. *Transportation Research Part E: Logistics and Transportation Review*, *137*, 101923. https://doi.org/10.1016/j.tre.2020.101923

Greenacre, M. (1994). Multiple and joint correspondence analysis. In M. Greenacre & J. Blasius (Eds.), *Correspondence analysis in social sciences. Recent developments and applications* (pp. 141–161). Academic Press.

Greenacre, M. (2007). *Correspondence analysis in practice* (2nd ed.). Chapman & Hall/CRC. https://doi.org/10.1201/9781420011234

Gromis di Trana, M., Bava, F., & Pisoni, P. (2020). A sustainable value generator in the Italian wine industry: Casa E. di Mirafiore e Fontanafredda winery. *British Food Journal*, *122*(5), 1321–1340. https://doi.org/10.1108/BFJ-03-2019-0209

Guedes, M. G., & Vaz, P. (2021). Reinventing the Portuguese knitwear industry: The case of Pedrosa & Rodrigues private label management model. *Industria Textila*, *72*, 469–476. https://doi.org/10.35530/IT.072.05.202035

Hahn, T., & Figge, F. (2007). Sustainable value creation among companies in the manufacturing sector. *International Journal of Environmental Technology and Management*, *7*(5/6), 496–511.

Hamadamin, H. H., & Atan, T. (2019). The impact of strategic human resource management practices on competitive advantage sustainability: The mediation of human capital development and employee commitment. *Sustainability*, *11*(20), 5782. https://doi.org/10.3390/su11205782

Hart, S. L., & Milstein, M. B. (2003). Creating sustainable value. *Academy of Management Executive*, *17*(2), 56–69. https://doi.org/10.5465/ame.2003.10025194

Haseeb, M., Hussain, H. I., Kot, S., Androniceanu, A., & Jermsittiparsert, K. (2019). Role of social and technological challenges in achieving a sustainable competitive advantage and sustainable business performance. *Sustainability*, *11*(14), 3811. https://doi.org/10.3390/su11143811

Henriksson, R., Livnat, J., Pfeifer, P., Stumpp, M., & Zeng, G. (2018). ESG literature review. *SSRN Electronic Journal*, 1–14.

Hernández-Chea, R., Jain, A., Bocken, N. M., & Gurtoo, A. (2021). The business model in sustainability transitions: A conceptualization. *Sustainability*, *13*(11), 5763. https://doi.org/10.3390/su13115763

Hörisch, J., Freeman, R. E., & Schaltegger, S. (2014). Applying stakeholder theory in sustainability management: Links, similarities, dissimilarities,

and a conceptual framework. *Organization & Environment*, *27*(4), 328–346. https://doi.org/10.1177/1086026614535786

Hristov, I., Chirico, A., & Appolloni, A. (2019). Sustainability value creation, survival, and growth of the company: A critical perspective in the sustainability balanced scorecard (SBSC). *Sustainability*, *11*(7), 2119. https://doi.org/10.3390/su11072119

Hu, G., Wang, X., & Wang, Y. (2021). Can the green credit policy stimulate green innovation in heavily polluting enterprises? Evidence from a quasi-natural experiment in China. *Energy Economics*, *98*, 05134. https://doi.org/10.1016/j.eneco.2021.105134

Ilyas, I. M., & Osiyevskyy, O. (2022). Exploring the impact of sustainable value proposition on firm performance. *European Management Journal*, *40*(5), 729–740. https://doi.org/10.1016/j.emj.2021.09.009

Jensen, J. P., Prendeville, S. M., Bocken, N. M., & Peck, D. (2019). Creating sustainable value through remanufacturing: Three industry cases. *Journal of Cleaner Production*, *218*, 304–314.

Juniarti, J. (2020). Does mandatory CSR provide long-term benefits to shareholders. *Social Responsibility Journal*, *17*(6), 776–794. https://doi.org/10.1108/SRJ-03-2019-0114

Kaufman, L., & Rousseeuw, P. J. (2008). *Finding groups in data: An introduction to cluster analysis*. Wiley.

Khan, M. A. (2022). ESG disclosure and firm performance: A bibliometric and meta analysis. *Research in International Business and Finance*, *61*, 101668. https://doi.org/10.1016/j.ribaf.2022.101668

Khan, S. A. R., Zhang, Y., Kumar, A., Zavadskas, E., & Streimikiene, D. (2020). Measuring the impact of renewable energy, public health expenditure, logistics, and environmental performance on sustainable economic growth. *Sustainable Development*, *28*(4), 833–843. https://doi.org/10.1002/sd.2034

Kita, P., & Šimberová, I. (2018). An overview of business models in the Czech chemical industry: A sustainable multiple value creation perspective. *Entrepreneurship and Sustainability Issues*, *6*(2), 662–676. https://doi.org/10.9770/jesi.2018.6.2(14)

Kluza, K., Ziolo, M., & Spoz, A. (2021). Innovation and environmental, social, and governance factors influencing sustainable business models – Meta-analysis. *Journal of Cleaner Production*, *303*, 127015. https://doi.org/10.1016/j.jclepro.2021.127015

Kuzma, E., Padilha, L. S., Sehnem, S., Julkovski, D. J., & Roman, D. J. (2020). The relationship between innovation and sustainability: A meta-analytic study. *Journal of Cleaner Production*, *259*, 120745.

Lacoste, S. (2016). Sustainable value co-creation in business networks. *Industrial Marketing Management*, *52*, 151–162. https://doi.org/10.1016/j.indmarman.2015.05.018

Lagasio, V., & Cucari, N. (2019). Corporate governance and environmental social governance disclosure: A meta-analytical review. *Corporate Social Responsibility and Environmental Management*, *26*(4), 701–711. https://doi.org/10.1002/csr.1716

Lange, L., Connor, K. O., Arason, S., Bundgård-Jørgensen, U., Canalis, A., Carrez, D., Gallagher, J., Gøtke, N., Huyghe, C., Jarry, B., Llorente, P., Marinova, M., Martins, L. O., Mengal, P., Paiano, P., Panoutsou, C., Rodrigues, L., Stengel, D. B., van der Meer, Y., & Vieira, H. (2021). Developing a sustainable and circular bio-based economy in EU: By partnering across sectors, upscaling and using new knowledge faster, and for the benefit of climate, environment & biodiversity, and people & business. *Frontiers in Bioengineering and Biotechnology*, *8*, 619066. https://doi.org/10.3389/fbioe.2020.619066

Laukkanen, M., & Tura, N. (2020). The potential of sharing economy business models for sustainable value creation. *Journal of Cleaner Production*, *253*, 120004. https://doi.org/10.1016/j.jclepro.2020.120004

Laursen, M., & Svejvig, P. (2016). Taking stock of project value creation: A structured literature review with future directions for research and practice. *International Journal of Project Management*, *34*(4), 736–747. https://doi.org/10.1016/j.ijproman.2015.06.007

Lebart, L., Morineau, A., & Warwick, K. M. (1984). *Multivariate descriptive statistical analysis. Correspondence analysis and related techniques for large matrices*. John Wiley & Sons, Inc.

Ludema, J. D., Laszlo, C., & Lynch, K. D. (2012). Embedding sustainability: How the field of organization development and change can help companies harness the next big competitive advantage. In A. B. (Rami) Shani, W. A. Pasmore, & R. W. Woodman (Eds.), *Research in organizational change and development* (Vol. 20, pp. 265–299). Emerald Group Publishing Limited. https://doi.org/10.1108/S0897-3016(2012)0000020011

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

Lüdeke-Freund, F., Rauter, R., Pedersen, E., & Nielsen, C. (2020). Sustainable value creation through business models: The what, the who and the how. *Journal of Business Models*, *8*, 62–90.

Marczewska, M., & Kostrzewski, M. (2020). Sustainable business models: A bibliometric performance analysis. *Energies*, *13*(22), 6062. https://doi.org/10.3390/en13226062

Mati, B. N. (2021). *An examination of the effect of impact investment instruments on sustainable development financing in Kenya* [Doctoral dissertation]. Strathmore University. http://hdl.handle.net/11071/12946

Max-Neef, M. (1991). *Human scale development: Conception, application and further reflections*. The Apex Press.

Minatogawa, V. L. F., Franco, M. M. V., Rampasso, I. S., Anholon, R., Quadros, R., Durán, O., & Batocchio, A. (2020). Operationalizing business model innovation through big data analytics for sustainable organizations. *Sustainability*, *12*(1), 277. https://doi.org/10.3390/su12010277

Mondal, S., Singh, S., & Gupta, H. (2022). A meta-analysis of green and sustainable business models: A comprehensive approach. *Journal of Cleaner Production*, *371*, 133623. https://doi.org/10.1016/j.jclepro.2022.133623

Nadeem, M. (2013). Emerging markets: Corporate sustainability or maximize stakeholder value? *International Journal of Humanities and Social Science*, *3*(5), 91–107.

Nosratabadi, S., Mosavi, A., Shamshirband, S., Zavadskas, E. K., Rakotonirainy, A., & Chau, K. W. (2019). Sustainable business models: A review. *Sustainability*, *11*(6), 1663.

Oláh, J., Aburumman, N., Popp, J., Khan, M. A., Haddad, H., & Kitukutha, N. (2020). Impact of industry 4.0 on environmental sustainability. *Sustainability*, *12*(11), 4674.

Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley & Sons.

Pal, R., & Gander, J. (2018). Modeling environmental value: An examination of sustainable business models within the fashion industry. *Journal of Cleaner Production*, *184*, 251–263.

Pande, B., & Adil, G. K. (2022). Assessment of the current state of sustainability in a manufacturing firm. *International Journal of Productivity and Performance Management*, *71*(4), 1254–1276. https://doi.org/10.1108/IJPPM-04-2020-0151

Pandit, P., Nadathur, G. T., & Jose, S. (2019). Upcycled and low-cost sustainable business for value-added textiles and fashion. In *The textile institute book series, circular economy in textiles and apparel* (pp. 95–122). Woodhead Publishing. https://doi.org/10.1016/B978-0-08-102630-4.00005-4

Patel, A. B., & Desai, T. N. (2019). A systematic review and meta-analysis of recent developments in sustainable supply chain management. *International Journal of Logistics Research and Applications*, *22*(4), 349–370. https://doi.org/10.1080/13675567.2018.1534946

Peng, B., Yan, W., Elahi, E., & Wan, A. (2022). Does the green credit policy affect the scale of corporate debt financing? Evidence from listed companies in heavy pollution industries in China. *Environmental Science and Pollution Research*, *29*(1), 755–767. https://doi.org/10.1007/s11356-021-15587-7

Perey, R., Benn, S., Agarwal, R., & Edwards, M. (2018). The place of waste: Changing business value for the circular economy. *Business Strategy and the Environment*, *27*(5), 631–642.

Petcharat, N. (2020). Can an integrated reporting system in Thai context create sustainable value to users? *International Journal of Monetary Economics and Finance*, *13*(3), 253–259. https://doi.org/10.1504/IJMEF.2020.108827

Phuong, N. A., & Guidat, T. (2018). Sustainable value stream mapping and technologies of industry 4.0 in manufacturing process reconfiguration: A case study in an apparel company [Conference presentation]. In *2018 IEEE international conference on service operations and logistics, and informatics (SOLI)*. IEEE.

Pittaway, L., Robertson, M., Munir, K., Denyer, D., & Neely, A. (2004). Networking and innovation: A systematic review of the evidence. *International Journal of Management Reviews*, *5-6*, 137–168. https://doi.org/10.1111/j.1460-8545.2004.00101.x

Pizzi, S., Corbo, L., & Caputo, A. (2021). Fintech and SMEs sustainable business models: Reflections and considerations for a circular economy. *Journal of Cleaner Production*, *281*, 125217. https://doi.org/10.1016/j.jclepro.2020.125217

Raimo, N., Caragnano, A., Zito, M., Vitolla, F., & Mariani, M. (2021). Extending the benefits of ESG disclosure: The effect on the cost of debt financing. *Corporate Social Responsibility and Environmental Management*, *28*(4), 1412–1421. https://doi.org/10.1002/csr.2134

Rana, P., Short, S. W., Bocken, N., & Evans, S. (2013). Towards a sustainable business form: A business modelling process and tools. In *Sustainable consumption research and action initiative (SCORAI) conference: The future of consumerism and well-being in a world of ecological constraints*. Clark University.

Richardson, J. (2008). The business model: An integrative framework for strategy execution. *Strategic Change*, *17*, 133–144. https://doi.org/10.1002/jsc.821

Roscoe, S., Subramanian, N., Jabbour, C. J., & Chong, T. (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. *Business Strategy and the Environment*, *28*(5), 737–749. https://doi.org/10.1002/bse.2277

Sanchez-Roger, M., Oliver-Alfonso, M. D., & Sanchís-Pedregosa, C. (2018). Bail-In: A sustainable mechanism for rescuing banks. *Sustainability*, *10*(10), 3789. https://doi.org/10.3390/su10103789

Scatigna, M., Xia, D., Zabai, A., & Zulaica, O. (2021). Achievements and challenges in ESG markets. *BIS Quarterly Review*. https://www.bis.org/publ/qtrpdf/r_qt2112f.htm

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

Segovia-Villarreal, M., Florez-Lopez, R., & Ramon-Jeronimo, J. M. (2019). Berry supply chain management: An empirical approach. *Sustainability*, *11*(10), 2862. https://doi.org/10.3390/su11102862

Spandel, T., Schiemann, F., & Hoepner, A. G. (2020). *Capital market effects of ESG materiality standards*. SSRN. https://doi.org/10.2139/ssrn.3694285

Stubbs, W., & Cocklin, C. (2008). Conceptualizing a "sustainability business model". *Organization & Environment*, *21*(2), 103–127.

Tiwari, S., Dharwal, M., & Fulzele, R. (2022). An impact of environment on consumer loyalty towards sustainable businesses in India. *Materials Today: Proceedings*, *60*, 911–916. https://doi.org/10.1016/j.matpr.2021.10.249

Treptow, I. C., Kneipp, J. M., Gomes, C. M., Kruglianskas, I., Favarin, R. R., & Fernandez-Jardón, C. M. (2022). Business model innovation for sustainable value creation in construction companies. *Sustainability*, *14*(16), 10101. https://doi.org/10.3390/su141610101

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

Urban, M. A., & Wójcik, D. (2019). Dirty banking: Probing the gap in sustainable finance. *Sustainability*, *11*(6), 1745. https://doi.org/10.3390/su11061745

Venkatesh, V. G., Kang, K., Wang, B., Zhong, R. Y., & Zhang, A. (2020). System architecture for blockchain based transparency of supply chain social sustainability. *Robotics and Computer-Integrated Manufacturing*, *63*, 101896. https://doi.org/10.1016/j.rcim.2019.101896

Vincenza Ciasullo, M., & Troisi, O. (2013). Sustainable value creation in SMEs: A case study. *TQM Journal*, *25*(1), 44–61. https://doi.org/10.1108/17542731311286423

Wadin, J. L., Ahlgren, K., & Bengtsson, L. (2017). Joint business model innovation for sustainable transformation of industries – A large multinational utility in alliance with a small solar energy company. *Journal of Cleaner Production*, *160*, 139–150. https://doi.org/10.1016/j.jclepro.2017.03.151

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

Xu, X., & Li, J. (2020). Asymmetric impacts of the policy and development of green credit on the debt financing cost and maturity of different types of enterprises in China. *Journal of Cleaner Production*, *264*, 121574.

Yang, M. (2015). *Sustainable value creation for product-service systems (PSS)* [Doctoral dissertation]. University of Cambridge, Apollo. https://doi.org/10.17863/CAM.13773

Yang, M., Vladimirova, D., Rana, P., & Evans, S. (2014). Sustainable value analysis tool for value creation. *Asian Journal of Management Science and Applications*, *1*(4), 312–332. https://doi.org/10.1504/ajmsa.2014.070649

Yang, Y., Han, H., & Lee, P. (2017). An exploratory study of the mechanism of sustainable value creation in the luxury fashion industry. *Sustainability*, *9*(4), 483. https://doi.org/10.3390/su9040483

Yip, A. W., & Bocken, N. M. (2018). Sustainable business model archetypes for the banking industry. *Journal of Cleaner Production*, *174*, 150–169.

Zastrau, R. (2015). Nanogate AG: Sustainable value creation in technology companies. In M. D'heur (Ed.), *Sustainable value chain management. CSR, sustainability, ethics & governance* (pp. 157–165). Springer. https://doi.org/10.1007/978-3-319-12142-0_5

Zhao, J., Patwary, A. K., Qayyum, A., Alharthi, M., Bashir, F., Mohsin, M., Hanif, I., & Abbas, Q. (2022). The determinants of renewable energy sources for the fueling of green and sustainable economy. *Energy*, *238*, 122029. https://doi.org/10.1016/j.energy.2021.122029

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