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Eco-innovation Capability and Sustainability Driven Innovation Practices in Romanian SMEs

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Abstract: This study examines the influence of eco-innovation capability on sustainability driven innovation practices in SMEs. In this study, eco-innovation capability is represented by four factors—internal setting, strategies, operations and structure—while sustainability driven innovation practices are represented by three types of practices—process, organizational and product. The direct relationship between eco-innovation capability and sustainability driven innovation practices is statistically tested by using a sample of 397 Romanian manufacturing small and medium-sized enterprises using PLS–SEM and SmartPLS software. The results show that the development of eco-innovation capability has a direct and positive effect on sustainability driven innovation practices employed in manufacturing SMEs by encouraging them to get involved in cleaner production practices, waste handling and recycling on a regular basis or integrate eco-efficiency into their operations, develop new channels for sustainable products or integrate customers’ suggestions or complaints, implement environment management systems, use eco-friendly raw materials or focus on new product development, for instance. Therefore, the paper extends the literature dedicated to eco-innovation by shedding some light on what to focus on when building eco-innovation capability.

Keywords: eco-innovation; capability; sustainability driven innovation; innovation practices

1. Introduction

Sustainability literature has increasingly started to include eco-innovation as a topic of research [1–4]. However, even though various studies have analyzed eco-innovation and sustainability separately, only a handful integrate them both [5,6].

Recently, eco-innovation research began focusing on small and medium-sized enterprises (SMEs) [1,7,8]. SMEs are important players for the economy, with 99% of EU firms ranked in this category [8], and play a crucial role in employment creation [9], delivering a substantial contribution to national income [8]. SMEs are relevant to eco-innovation development, adoption and diffusion due to their unique characteristics, such as high flexibility, lean structures and local embeddedness [10–12]. Some SMEs have developed eco-innovations that have proved very important in the sustainable transformation of industries and societies [13–15]. Nevertheless, the literature on eco-innovation capability in SMEs is underdeveloped [11]. In terms of eco-innovation, previous studies [16–20] have focused on different topics on eco-innovation in SMEs but these do not address the relationship between eco-innovation capability and sustainability driven innovation practices.

In recent decades, small and medium-sized enterprises (SMEs) have increasingly started to focus on innovation to achieve their strategic goals. Innovation assumes new or improved products, processes

and organizational practices, making innovation more critical than ever [21]. One way for SMEs to have a chance in competing with large companies is to focus on sustainability driven innovation [22]. Although there is a considerable body of literature focusing on innovation, sustainability driven innovation is often ignored [23], even though, as SMEs began adopting it, it started being included in innovation-related research [24]. With ecological factors becoming part of innovation research [24], a stream of research on sustainability driven innovation with a broader focus on environmental, social and economic dimensions emerged [25].

Under these circumstances, the research aim of this paper is to prove that those SMEs willing to develop their eco-innovation capability have to improve their sustainability driven innovation practices as well.

The manuscript is structured as follows: after this introduction, Section 2 presents the literature review covering both eco-innovation capability and sustainability driven innovation practices in SMEs; Section 3 details the research methodology used, the sample and the research model; Section 4 presents the data analysis and the results; Section 5 summarizes conclusions, limitations and suggestions for further research.

2. Literature Review and Hypothesis Development

2.1. Eco-innovation Capability

Eco-innovation describes those innovations that contribute to a sustainable environment by developing ecological improvements [26,27]. It involves production, application or exploration of products, services, processes, organizational or managerial methods new to the company or to the customer [28].

SMEs eager to encompass sustainability in their operations begin adopting eco-innovation [6,16]. In time, eco-innovation evolved by including a larger array of themes; nowadays, it is usually associated with sustainability oriented innovation [6,29]. Although eco-innovation and sustainability oriented innovation are often used as synonyms, the first concept solely encompasses the environmental and economic dimensions, while the second also comprises social aspects [29,30].

Various scholars explored the relationship between environmental management as a framework for eco-innovation and organizational strategy [31,32], and the impact of firms' activities on the environment [33]. SMEs may engage in eco-innovation as an assumed strategy [6,16], seeking to improve their business performance [34,35] or looking to achieve better financial results and greater operational efficiency [36,37]. Moreover, some SMEs find it an efficient action to capitalize onto the growing environmental consciousness of consumers [5].

Some authors have also pointed out that when firms develop environmental focused capabilities, they tend to be more competitive through cost reduction, quality improvement and implementation of new processes and products [38]. In addition to these factors, eco-innovation capability may influence market share, a firm's image, risk portfolios, overall efficiency and sales growth [39–41]. Other studies provide evidence that collaboration with environmentally concerned stakeholders [41] and demand factors [42,43] may prove crucial in eco-innovation capability development. Still, societal pressure for environmentally-friendly products and processes may not necessarily be prerequisites to increase investments in eco-innovation capability development: many SMEs lacking resources therefore neglect such investments [44,45].

Research on eco-innovation capability in SMEs is its infancy [46–49]. The efforts toward a coherent approach of eco-innovation capability in SMEs are hampered by the fact that, for SMEs, eco-efficiency is not perceived as an incentive to improve competitiveness but rather to cut costs [11]. Some scholars emphasized the drivers leading to eco-innovation [50] as elements to focus on developing eco-innovation capability. Others employed eco-efficiency methods to identify those innovative environmental oriented processes [51,52] or to determine factors which make difficult eco-efficiency capability development in SMEs, such as limited financial resources, poor focus of SMEs toward radical innovations or the inability

to relate external stakeholders [47]. Other scholars emphasize the importance of environmental policy instruments [5,46] or the environmental regulatory requirements [50] to support implementation of eco-innovation in SMEs.

In our conceptualization of eco-innovation capability, we consider three theories: (a) the natural resource-based view (NRBV) pledges that the firm needs to realign its capabilities and resources to generate new sources of competitive advantage under environmental constraints [53]; (b) the resource-based view (RBV) theory pledges that the competitive advantage and innovation heavily depend on the organization's valuable, inimitable and non-substitutable resources or capabilities [54,55]. According to the RBV, resources and capabilities are accumulated over time and are "sticky", at least in the short term [56]; (c) the dynamic capabilities (DC) theory emphasizes the key role of strategic management in appropriating, adapting, integrating and reconfiguring the internal and external organizational skills, resources and functional competencies to match the requirements of a changing environment [56–59].

Recent studies build on the insights from dynamic capabilities literature to investigate the implications of firm capabilities for firms' environmental actions [60,61] by emphasizing their ability to integrate, build and reconfigure competencies and resources to embed environmental sustainability into their products or services. Various authors urge us to consider SMEs' eco-innovation orientation as part of their dynamic capabilities [62], relying on advanced technology, inter-firm collaborations and innovation capacity [63]. Others demonstrate that environmental capabilities positively affect innovation in several empirical studies [64,65].

Strategic management literature emphasizes the importance of internal capabilities in creating competitive advantage. These, such as environmental management capabilities development, are important in successful green product innovations [66]. Other scholars [67–70] suggest a wide array of internal capabilities (green management, HR, R&D or marketing) to be higher-order capabilities that enable firms to benefit from their eco-innovation strategies.

For eco-innovation capability, environmental strategy is critical. It refers to a firm's strategy to manage the interface between its business and the natural environment [71]. SMEs are motivated to adopt environmental strategies by either environmental regulation or by their stakeholders [72]. Our conceptualization relies on the internal side of capability development, including top management and employee commitment or managerial attitude and motivations [73–75].

SMEs should also consider developing environmental management systems because these will enable them to build unique environmental management capabilities [76]. Additionally, firms are only able to gain a competitive advantage when they build internal capabilities that align their implementation with a clear communication strategy with stakeholders [77]. The eco-innovation literature suggests that environmental management systems generally prove to be effective in strengthening eco-innovation capability and environmental performance, through facilitating environmental target setting and stimulating information flows [78–82].

Understanding the market is also important in eco-innovation capability development. Sensing the trends in the market is at least as important as technological capabilities, since awareness of changes in demand is crucial for business success [83,84]. Insufficiencies in understanding market signals and trends are known to be behind unsuccessful eco-innovation that is not well received by customers [85–87].

In this study, eco-innovation capability is conceived as the result of interplay between the internal setting, the strategic orientation, the focus of operations and the structure [88] (see Table 1).

Table 1. Eco-innovation capability construct.

Factor	Description	References
Internal setting	Availability of appropriate HR resources	[5,8,11,14,46–48,50,89–91]
	Past performance of the firm as a source for eco-innovation capability development	
Strategies	Availability of technological expertise	[5,11,14,46–50,90]
	Strategic relevance of eco-innovation for top management	
	Long term strategies focused on eco-innovation	
Operations	Commitment to eco-innovation implementation	[5,11,14,46–48,50,90]
	Cooperation within supply networks	
	Process flexibility supporting eco-innovation	
Structure	Recycling practices and reverse logistics processes	[5,11,14,46–51,88–90]
	Eco-innovation oriented methods	
	Organizational structure support for eco-innovation	
	Risk management to avoid negative environmental impact	

2.2. Sustainability Driven Innovation Practices and Eco-innovation

One way for SMEs to become competitive while simultaneously contributing to sustainable development is by adopting sustainability driven innovation practices [92]. With environmental factors increasingly included in innovation research [93], firms eager to encompass sustainable development in their operations adopted eco-innovation [6,16], which in time expanded its focus to include a wide range of themes such as sustainability related innovation [6] or sustainable innovation [29].

Sustainability driven innovation practices represent the renewal or improvement of products, services, technological or organizational processes to deliver not only an improved economic performance but also an enhanced environmental and social performance, both in the short and long terms [46].

By adopting sustainability driven innovation practices, SMEs minimize the environmentally negative effects of their operations [94]. It encompasses development or improvements in products, processes and organizational structures which aim to protect the natural environment [95] by minimizing resources consumption, and controlling waste and pollution [96].

Based on the literature review, we argue sustainability driven innovation practices consist of:

(a) Sustainable process innovation practices describe those production processes seeking to increase eco-efficiency and eco-effectiveness [97]. SMEs engaging in sustainable process innovation practices change their mechanisms of using resources and improve the overall eco-efficiency of their operations [98]. Sustainable process innovation practices ameliorate the overall innovative capability of SMEs, and their ability to reconfigure it to meet the requirements of sustainability [6]. The aim of sustainable process innovation practices is to improve production processes [99] by minimizing natural resources consumption, encouraging use of renewable resources and minimizing waste [6]. SMEs may seek to improve sustainable process innovation practices by recycling measures and ecological disposal of material [100]. In terms of eco-efficiency, implementation of energy saving measures [46], reduction of the amount of resources utilized [101], or replacement of inefficient equipment [102] are often cited in the literature.

(b) Sustainable organizational innovation practices determine the reorganization of SMEs' organizational practices, routines, procedures and structures and entail new forms of management, with a focus on environment [80], seeking to improve production processes [103]. Such improvements enable SMEs to simultaneously have economic benefits and reduce environmentally related hazardous operations [103]. More and more researchers have directed their attention towards sustainable

organizational innovation practices to realize their critical contributions to long-term firm success [104], exploring the implementation of total quality management (TQM), business process re-engineering, strategic change or customer relationship management programs [105], environmental management systems [106] or sustainability driven management system standards [107]. Sustainable organizational innovation practices may be improved by supply chain management, since SMEs can update their environmental management systems to better cope with supply chain requirements [46] or to start implementing sustainable supply chain management [108].

(c) Sustainable product innovation practices describe improvements or entirely new products, incorporating organic or recycled materials or requiring low energy consumption [80]. They may determine changes in the existing products' design; moreover, it contributes to the development of new products based on renewable or non-toxic materials, improving energy efficiency and minimizing the negative impact on the environment [109]. Sustainable product innovation practices were found to be an antecedent of product success [110], which in turn is highly associated with sustainable business success [111]. Sustainable product innovation practices are most often referred to as perceived newness, novelty, originality or uniqueness of products [111]. Sustainable and innovative products present good opportunities for SMEs in terms of growth and expansion into new areas; hence, they allow them to establish a strong competitive position in an existing market or gain a foothold in a new one [112]. In order to improve their products, SMEs may use eco-friendly [50] or refurbished and recycled materials [113], and reusable packaging for their products [50].

The overall construct is presented in Table 2.

Table 2. Sustainability driven innovation practices construct.

Factor	Items	References
Sustainable process innovation practices	Involvement in cleaner production practices	[6,46,50,96–102,114–116]
	Involvement in waste handling and recycling on a regular basis	
	Integration of eco-efficiency in its activities	
	Development of new channels for sustainable products	
	Integration of customers' suggestions or complaints	
Sustainable product innovation practices	Implementation of environment management system	[6,46,50,80,103–108,114–117]
	Implementation of ISO 14001 standards	
	Implementation of marketing innovations	
	Involvement in sustainable supply chain management practices	
	Implementation of managerial innovations	
Sustainable organizational innovation practices	Implementation of eco-design and eco-label actions	[6,50,80,109–111,113–116]
	Use of eco-friendly raw materials	
	Focus on new product development	
	Continuous adaptation of product design to meet customers' needs	
	Continuous improvement of old products and raise quality of new products	

Based on the previous two sections, we further advance the research hypothesis H1: eco-innovation capability development positively influences sustainability driven innovation practices in SMEs. Furthermore, the research model is presented in Figure 1.

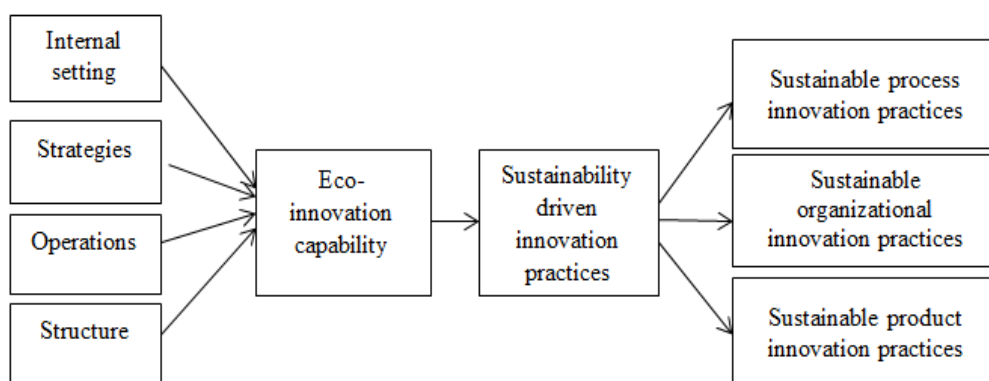


Figure 1. Operational model of analysis.

3. Materials and Methods

3.1. Questionnaire Development

To test the research hypothesis, we have conceptualized a questionnaire composed by four parts: the first one presents the aims and scopes of the research; the second one collects the data on the control variables regarding the firm size and age; the third part consists of eco-innovation capability items, grouped in four processes—internal setting, strategies, operations and structure; the fourth part consists of sustainability driven innovation items, grouped in three types—sustainable process, organizational and product innovation practices. The questionnaire was administered after a pilot study lasting one month which allowed questionnaire calibration. The questionnaires were delivered in 3 waves and collected over a period of eight months (January–August 2019), with most of them returned as hard copies. The questionnaire allowed the authors to obtain the variables used in the statistical analysis. The questionnaire variables in this study were developed from previous studies, as we will see in details below. Except for firm size and age, all questions were answered by using a 5-point Likert scale.

3.2. Sampling

A target sample of 970 manufacturing SMEs from two development regions (Bucharest–Ilfov and South) in Romania was used in the study. Romania is divided in 8 development regions (NUTS 2 level), comprising smaller administrative divisions called counties, with Bucharest–Ilfov region being the most developed at national level, while the South region comes second. The reasons for choosing the two development regions are: (a) both regions are the most developed regions of Romania, with Bucharest–Ilfov contributing 26.6% to national GDP and the South region contributing 12.3% to national GDP in 2018; (b) the entrepreneurial and innovation potential are the highest in these 2 regions; (c) GDP per capita in the Bucharest–Ilfov region, compared with the EU average (%), is 144%, the only region in Romania ranking that high, a signal of sophisticated customers who may be sensitive to green products and non-polluting manufacturing practices. For comparison, the South region stands at 50% GDP per capita ration compared with the EU average; (d) 35.78% of all Romanian SMEs are registered in these two regions, with 24.97% in Bucharest–Ilfov region and 10.82% in the South region, respectively.

All selected companies had to comply with EU recommendation 2003/361, dividing companies into medium-sized, small-sized and micro.

For sampling we used a mix of targeted and snowball sampling. Initially, we used a database comprising 380 manufacturing SMEs we previously surveyed in different past analyses. We asked these companies to recommend other SMEs (their business partners, suppliers, customers) fulfilling our sampling requirements. In the end, the target sample reached 970 SMEs.

Twenty entrepreneurs were selected as subjects of a pre-test on a preliminary version of the questionnaire. The recovered questionnaires confirmed the appropriateness of the wording of the items; furthermore, inappropriate items were deleted for the definitive compilation of the final version of the questionnaire. In the end, after 3 rounds of questionnaire delivery and collection, 403 questionnaires were returned (a response rate of 41.54%). By exploring the responses, we have selected 397 questionnaires, which have been found to be consistent and free of biases (an effective response rate of 40.92%). Table 3 provides the characteristics of the sample of 397 firms.

Table 3. Sample characteristics.

Surveyed SMEs (N = 397)		Frequency	%
Company size	Micro (<10)	58	14.61%
	Small (10–49)	236	59.45%
	Medium (50–249)	103	25.94%
Company age	<5 years old	73	18.39%
	5–10 years	105	26.45%
	10–15 years	116	29.22%
	>15 years old	103	25.94%

3.3. Common Method Bias

To cope with common method bias (CMB), the authors ensured anonymity and confidentiality of the participants. Moreover, we compared early respondents with late respondents from the sampling frame by running an independent-samples t-test on all included items. The results indicated no significant differences, so we are not concerned about a non-response bias. We further assessed CMB by comparing the means of the variables; then, the demographic profile of the first 25% responses was compared with that of the last 25% responses, and no significant differences were found. We also let respondents know that data gathered will be securely protected, aggregated and used only for research purposes.

Before further analysis, we checked the extracted factors for the potential of common method bias using Harman's single-factor test. First, all factors with eigenvalues greater than 1 were retained for further analysis. Second, no single factor retained for each of the constructs of this study accounts for the majority of their variance. Specifically, the explained variances of the first extracted factors in each factor analysis are as follows: internal setting (21.32%), strategies (21.67%), operations (18.23%), structure (19.15%), sustainable process innovation practices (31.32%), sustainable product innovation practices (34.42) and sustainable organizational innovation practices (35.19%). Therefore, we can assume that common method bias is not an issue in our study.

We also test the normality and reliability of our data. The Kolmogorov–Smirnov test for the main variables shows that their values are not significant (>0.05). Thus, we assumed that our data are normally distributed.

3.4. Method

The data were analyzed by means of the partial least squares–structural equation modeling (PLS–SEM) approach [118] and supported by SmartPLS. Two verification stages were performed in PLS–SEM for the measurement of the research model: assessment of both the measurement and the structural model [119].

4. Data Analysis and Results

4.1. Assessment of the Measurement Model

To validate the measurement model, the internal consistency (Cronbach's alpha and CR), convergent validity (loadings, AVE) and discriminant validity were analyzed [119]. In terms of internal consistency reliability, for all constructs Cronbach's alpha was above the minimum threshold (0.70) while the composite reliability (CR) varied between 0.834 and 0.914, an indication of high levels of reliability. CR is obtained by combining all of the true score variances and co-variances in the composite of indicator variables related to constructs, and by dividing this sum by the total variance in the composite. The recommended range for CR values is higher than 0.70 and lower than 0.95 [120], which are achieved by the constructs in the model. Convergent validity was verified by examining the factor item loadings (standardized loadings) to make sure that all the variables were higher than the 0.70 threshold [121]. Average variance extracted (AVE) is a measure of the amount of variance that is captured by a construct in relation to the amount of variance due to measurement error [122]. In this study, all the values of AVE were higher than 0.50 [120] (Table 4). The results provide consistent proofs that convergent validity was achieved.

Table 4. Results for the measurement model.

Construct	Items	Convergent Validity		Internal Consistency/Reliability			
		Loadings	AVE	Cronbach α	CR		
Eco-innovation capability	Internal setting	Availability of appropriate HR resources	IS1	0.738	0.621	0.878	0.908
		Past performance of the firm as a source for eco-innovation capability development	IS2	0.824			
	Strategies	Availability of technological expertise	IS3	0.730			
		Strategic relevance of eco-innovation for top management	S1	0.723			
		Long-term strategies focused on eco-innovation	S2	0.868			
	Operations	Commitment to eco-innovation implementation	S3	0.854			
		Cooperation within supply networks	O1	0.909			
		Process flexibility supporting eco-innovation	O2	0.928			
	Structure	Recycling practices and reverse logistics processes	O3	0.830			
		Eco-innovation oriented methods	ST1	0.852			
Organizational structure support for eco-innovation		ST2	0.842				
Sustainability driven innovation practices	Sustainable process innovation practices	Risk management to avoid negative environmental impact	ST3	0.867	0.796	0.914	0.922
		Involvement in cleaner production practices	PRIP1	0.819			
		Involvement in waste handling and recycling on a regular basis	PRIP2	0.888			
		Integration of eco-efficiency in its activities	PRIP3	0.879			
		Development of new channels for sustainable products	PRIP4	0.854			
	Sustainable product innovation practices	Integration of customers' suggestions or complaints	PRIP5	0.887			
		Implementation of environment management system	PIP1	0.874			
		Implementation of ISO 14001 standards	PIP2	0.944			
		Implementation of marketing innovations	PIP3	0.931			
		Involvement in sustainable supply chain management practices	PIP4	0.885			
Sustainable organizational innovation practices	Implementation of managerial innovations	PIP5	0.892				
	Implementation of eco-design and eco-label actions	OIP1	0.855				
	Use of eco-friendly raw materials	OIP2	0.857				
	Focus on new product development	OIP3	0.890				
	Continuous adaptation of product design to customers' needs	OIP4	0.921				
	Continuous improvement of old products and raise quality of new products	OIP5	0.914				

Discriminant validity represents the extent to which a construct is distinct from other constructs [119]. The comparison of the constructs in sharing variance (squared correlation) was performed through the AVE of each construct, also called the Fornell–Larcker criterion [122]. Table 5 displays the square roots of the AVE, demonstrating adequate discriminant validity.

Table 5. Correlation and average variance extracted (AVE).

Constructs	1	2	3	4	5	6	7
Internal setting	0.773	0.530	0.126	0.250	0.774	0.522	0.485
Strategies	0.530	0.788	0.313	0.793	0.116	0.250	0.392
Operations	0.126	0.313	0.892	0.564	0.522	0.265	0.530
Structure	0.250	0.793	0.564	0.864	0.313	0.009	0.421
Sustainable process innovation practices	0.774	0.116	0.522	0.313	0.859	0.319	0.485
Sustainable product innovation practices	0.522	0.250	0.265	0.009	0.319	0.911	0.141
Sustainable organizational innovation practices	0.485	0.392	0.530	0.421	0.485	0.141	0.889

4.2. Assessment of the Structural Model

The predictive capacity and the relationship between the constructs were tested by determining the coefficients of determination R^2 (explained variance) and f^2 (effect size) [120]. The multicollinearity tests for variance inflation factor (VIF) displayed values below 3, proving that multicollinearity is not an issue [120].

The coefficient of determination (R^2 value) represents a measure of the model's predictive power [123]. In our analysis, R^2 presented a value of 0.382 (see Table 6); this means that 38.2% of sustainability driven innovation practices was explained by eco-innovation capability. The f^2 effect size measures the strength of each construct in explaining endogenous variables [120]. Effect size values below 0.02 represent weak effects or indicate that there is no effect [120]. Table 6 shows that the latent variable R^2 for sustainability driven innovation practices is 0.382, which means that eco-innovation capability explains 38.2% of the sustainability driven innovation practices score. In this vein, the research hypothesis (H1) is validated ($\beta = 0.603$, $p = 0.000$) (see Table 7).

Table 6. Structural model assessment.

	VIF	Hypothesized Relationships	R^2	f^2
Internal setting → eco-innovation capability	1.453	0.115		884.876
Strategies → eco-innovation capability	1.882	0.244		2950.008
Operations → eco-innovation capability	2.665	0.303		3378.032
Structure → eco-innovation capability	2.180	0.287		3508.424
Sustainable process innovation practices → sustainability driven innovation practices	2.305	0.248		2564.975
Sustainable product innovation practices → sustainability driven innovation practices	1.277	0.187		2657.396
Sustainable organizational innovation practices → sustainability driven innovation practices	1.316	0.096		684.335
Eco-innovation capability → sustainability driven innovation practices	1.014	0.603	0.382	0.588

Table 7. General model resolution by SmartPLS using PLS algorithm.

	Path Coefficient	Standard Error	t-Value	p-Value	R ²
Internal setting → eco-innovation capability	0.115	0.115	5.010	0.000	
Strategies → eco-innovation capability	0.244	0.240	16.394	0.000	
Operations → eco-innovation capability	0.303	0.306	19.311	0.000	
Structure → eco-innovation capability	0.287	0.282	24.173	0.000	
Sustainable process innovation practices → sustainability driven innovation practices	0.248	0.248	19.931	0.000	
Sustainable product innovation practices → sustainability driven innovation practices	0.187	0.184	3.393	0.001	
Sustainable organizational innovation practices → sustainability driven innovation practices	0.096	0.096	3.443	0.001	
Eco-innovation capability → sustainability driven innovation practices	0.603	0.608	17.242	0.000	0.382

5. Discussion of the Empirical Findings

This study examined the relationship between eco-innovation capability and sustainability driven innovation practices. The results show that eco-innovation capability development positively influences adoption or enhancement of sustainability driven innovation practices in SMEs. By operationalizing eco-innovation capability, SMEs may put stronger focus on value creation for customers [124] which in turn may provide synergies between innovation and eco-sustainability initiatives [125–129].

Internal setting allows SMEs to gather expertise from sales and production, by creating a work environment that allows employees to exploit the existing resources; in so doing, internal setting is associated with the current state of the company. Internal setting is important not only in terms of technological innovation, but also in terms of process or organizational innovations. Availability of appropriate HR resources, past performance of the firm as a source for eco-innovation capability development and availability of technological expertise strengthen the organizational ability to use the natural resources in efficient manners and become environment-friendly. Since internal setting is determined by existing resources, SMEs have to permanently monitor the existing resources they possess and the unavailable ones in order to secure them. Internal setting facilitates the innovation process, enabling SMEs to produce by consuming reduced amounts of natural resources.

Strategies provide opportunities for SMEs to recombine existing resources and create new ones in a long-term approach. For SMEs, this process can be improved by providing strategic relevance of eco-innovation for top management, developing long-term strategies focused on eco-innovation and showing commitment to eco-innovation implementation. Strategic focus is an ongoing process; thus SMEs continuously have to gather information that is relevant for their business operations and activities regardless of its source, such as customers, partners and employees. As such, organizational long-term orientation toward eco-innovation significantly enhances organizational capabilities to improve environmental focus.

Operations are critically related for SMEs to the creation of the conditions for cooperation within supply networks, improving process flexibility in supporting eco-innovation and adopting environmentally friendly processes such as recycling practices and reverse logistics processes. While internal setting covers available resources and strategies emphasize long-term commitment to eco-innovation, operations prove the actual focus of SMEs toward sustainability driven innovation practices.

Structure enables SMEs to continuously transform their organizational expertise into processes, products or organizational practices. Structure is important in creating environmentally friendly organizations by use of eco-innovation oriented methods, setting up organizational structures

supportive of eco-innovation and employing risk management to avoid negative environmental impact. Moreover, it facilitates process and organizational innovations.

6. Conclusions

This study provides several theoretical contributions to the literature. Firstly, it highlights the relationship between eco-innovation and innovation practices, and explains how eco-innovation capability facilitates sustainability driven innovation practices. The study suggests that to improve innovation, SMEs should support building a strong eco-innovation capability.

Secondly, we extend the innovation related literature by unveiling how eco-innovation capability affects sustainability driven innovation practices in SMEs. So far, prior studies have largely been conceptual without empirically testing the role of eco-innovation in triggering a specific type of innovation practice, sustainably driven innovation ones. Sustainability driven innovation practices are, at their core, different than regular innovation practices. Accordingly, our study provides a starting point for better understanding how eco-innovation capability may foster sustainability driven innovation practices.

Thirdly, although SMEs are playing an important role in promoting environmental innovation practices, the literature is largely dominated by studies on large companies. This study contributes to the sustainability driven innovation practices literature by analyzing how eco-innovation enables sustainability driven innovation practices in the SME context.

The results can, to some extent, be generalized, at least at regional level, because SMEs in Romania and other neighboring countries share common similarities.

The relationship between eco-innovation and sustainability innovation practices is not only of theoretical interest but also of practical value. Sustainability driven innovation practices is a rather complex term, since it integrates eclectic items related to economic, social and environmental aspects of the business. Hence, SMEs able to develop eco-innovation capability may achieve positive results in terms of sustainability driven innovation practices operationalization.

The findings must take into account the limitations of the present study. Firstly, the results are context specific, since only Romanian SMEs were investigated. The specific differences between contexts—such as the structure of their economies, level of investments in green technologies, customers' preferences—between Romanian SMEs and those in other countries may lead to different outcomes, when the present analysis is proposed for other regional realities. Secondly, in conceptualization of eco-innovation capability we did not consider factors such as R&D investments, essential to build the technological capabilities required to innovate and to ensure the presence of absorptive capacity that can fuel further learning [130–132]. Thirdly, eco-innovation capability may have further implications for sustainability driven innovation practices in the long term; since the present study is not a longitudinal one, such long-term effects are here not assessed. Moreover, collecting data at several points in time would allow an in-depth analysis. Fourthly, this is an exploratory study. So, the findings discuss the so called directional effects—namely, the presence of the influence of a variable on another one—without paying attention to the intensity of such an influence.

In terms of future research avenues, extending the range of the investigated SMEs by including large companies may provide a more comprehensive view on the relationship between eco-innovation and sustainability innovation practices.

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