



Micro-foundations of environmental entrepreneurship resistance in SMEs

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Abstract

This article characterizes theoretical problems regarding the essence of environmental entrepreneurship resistance. The objective of the current research was to search for micro-foundations of environmental entrepreneurship resistance occurring in SME. We relate the concept of resistance in entrepreneurship with the idea of micro-foundations, thus creating new opportunities for analysis in two areas: conceptual view that interprets the phenomenon of resistance in relation to the organization's activities in the field of entrepreneurship, and cognitive supplementary knowledge of micro-foundations, which affect the entrepreneurial behavior of employees. Environmental entrepreneurship resistance in SMEs has been defined in our interpretation as targeted individual or collective daily activities, implemented from the perspective of various intentions, motivations and other internal and external premises, which are in opposition to commonly used pro-environmental activities constituting the CER component of small and medium business. In addition, we identified a group of 20 micro-foundations, which from the level of an individual or organization may constitute the initiation of entrepreneurial activities, focused on environmental protection in SME. The indicated group was examined on a sample of 122 employees of the SME sector in Poland. After performing qualitative and quantitative analyses, it turned out that eight elements could be considered as micro-foundations of environmental entrepreneurship resistance.

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Introduction

Modern companies are increasingly being carried away by the environmental current. The necessity of taking obligatory actions in this respect is enforced by applicable laws and regulations. In fulfilling such actions, large corporations often take actions related to environmental protection and report on them alongside other corporate social responsibility (CSR) activities. The concept, introduced in the 70 s (Davis, 1973) both in society (Jamali et al., 2017; Caroll & Buchholtz, 2014) and in corporations (Jones et al., 2014; Bair & Palpacuer, 2015) has had a wider dimension since then. The analysis of CSR definitions carried out by Dahlsrud (2008) shows that literature identifies this term in five key dimensions, namely stakeholders, social, economic, voluntariness and environment. The author, however, in summarizing his research affirms the role of the environment in understanding CSR at par with its social dimension. On the other hand, other researchers use the concept of corporate environmental responsibility (CER) (Sindhi & Kumar, 2012) in reference to caring for the environment, which thus constitute the premise of our considerations.

Implementing a CER strategy is not easy. Researchers analyze them from the perspective of various fields of knowledge. In the area of business, management, and finance, there are publications exploring barriers related to the implementation of the green strategy (Chen, 2022), environmental efficiency (Ramya & Baral, 2019; Testa & D'Amato, 2017); relations between corporate environmental responsibility and government environmental responsibility (Chen et al., 2020); cooperation in the field of CRS implementation, industry-specific CRS activities (Kibwami & Tutesigensi, 2015; Stekelorum et al., 2020).

There is no research on CRS in the SME sector in the literature. The analysis of the Scopus database from the perspective of combining the CRS and MSP keywords returns only 35 records, which is not much because, in Europe, this sector accounts for over 90%, contributing a dominant share of its GDP (Stec et al., 2014), besides being a significant source of innovation (Krawczyk-Sokołowska, 2012).

Like many activities in the area of management, CER has its specificity concerning SMEs (Jenkins, 2004; Li, 2019). Its implementation is recognized in the literature as an element of CSR (Morsing & Perrini, 2009; Murillo & Lozano, 2006). Other authors analyze the CER in SMEs in the context of product and process innovation (Nguyen & Vu, 2022); the role of CER in supply chains, taking into account the client's capital (Aguado & Holl, 2018; Stekelorum et al., 2020); adoption of green electricity by SME (Rahbauer et al., 2016). These studies are detailed and relate to specific activities of the CRS, and it is challenging to generalize.

Holtbrügge and Dögl (2012) found that most of the research on CRS is mononational. They postulate, increasing their universality. By contrast, (Banerjee et al., 2019) points to the need for research in one country because only then can one capture enterprise-level policy initiatives that effectively promote environmentally sustainable strategies. When designing our research, we took these postulates into account, preparing a broad set of universal factors that can be analyzed in international study. Because of Banerjee et al. (2019) suggestions, we want to indicate the

ranking of micro-foundations of environmental entrepreneurship resistance appropriate for Polish SMEs.

We propose to extend the research on the resistance to environmental entrepreneurship with a broad group of factors partially identified in studies by Albrecht et al. (2021) and Gao et al. (2019). We also assume the adoption of an individual level of analysis, considering Barnard (1968) as the strategic role of an individual in an organization. The contemporary research trend focuses on factors and mechanisms occurring at the microanalysis level (Felin & Foss, 2005; Foss, 2010). Such a research perspective enriches knowledge (Winter, 2013) and enables the identification of the root causes of events at the organizational level (Coleman, 1990; Felin et al., 2012).

The purpose of the article is to identify micro-foundations of environmental entrepreneurship resistance in SMEs. Our research will concentrate on w search for key micro-foundations inherent in SMEs and their assessment from the perspective of environmental resistance. We are looking for an answer to the question: *Which of the micro-foundations most inhibit the environmental entrepreneurship of SME employees?*

The first part, our research question, is about how to understand the concept of entrepreneurship and resilience, identifying it as an ontological context and mutual relations (ontological context). The second will be the search for key micro-foundations inherent in SMEs and their assessment from the perspective of environmental resistance. Ultimately, we intend to provide answers to the question: Which of the identified micro-foundations most inhibit environmental entrepreneurship of SME employees?

The article is divided into five parts. In the first part of the article, we present definitions of basic concepts such as environmental entrepreneurship and resistance, determining their identity and meaning to understand what they relate to and which areas of the organization and its functioning they can be associated with. The second theoretical part concerns the definition of micro-foundations as a primary phenomenon occurring in the organization, identified from an individual perspective. In this part, we present 20 specific examples of activities at the individual and organizational level, which can be important elements enhancing or mitigating against environmental entrepreneurship, and explain their significance. The third part is the research methodology containing individual steps taken to assess the significance of the micro-foundations identified earlier and to seek examples of elements of environmental entrepreneurship resistance in SME. The next sections present the results of the research as well as discussions and conclusions.

The idea of environmental entrepreneurship resistance

Environmental protection is nowadays the primary task of every person and enterprise that regulates and supports the strategies defined at the global level. Corporate environmental responsibility (CER) is an essential topic for the business world and academic literature (Gunningham, 2009; Holtbrügge & Dögl, 2012; Khan et al., 2020). The idea of this concept is regulated by European Commission (2011) by

definition, where social responsibility comprises environmental responsibility. However, the word "environment" has not been included in the acronym CSR. In the literature on the subject, CER is defined as the duties of managers to take actions aimed at protecting and improving the state of the environment as wholes that are also in line with their interests (Hatmanu et al., 2019); environmentally beneficial practices beyond those that companies are legally required to do Gunningham (2009). Both CSR and CER play a significant role in developing efficient and effective company strategies. CSR focuses on social and environmental aspects, while CER is linked to economic and environmental elements (Hatmanu et al., 2019). The practice of CRS is the activities undertaken by companies to protect the environment. These activities are usually tailored to the company's capabilities and its stakeholders. These activities can be identified as entrepreneurial.

The term 'environmental entrepreneurship is not new. But, usually, this concept is indicated in the literature most often as an activity focused on business activities related to the environment (Anderson & Huggins, 2008; Meek et al., 2010). Dean and McMullen (2007), in developing the concept, suggested that market failures such as public goods and externalities serve as sources and opportunities for entrepreneurship. An analysis of the literature on environmental entrepreneurship by Lenox and York (2011) indicates that researchers focus on analyzing entrepreneurial discovery efforts (Shane & Venkataraman, 2000) as well as on creating (Sarasvathy & Dew, 2005) opportunity for new products, services, and markets. These issues are usually analyzed in accordance with sociology-based institutional theory and economics-based institutional economics conventions. We, however, propose a different approach to understanding entrepreneurship environment. Our intention is to link them with the individual's entrepreneurial activity, focused on activities related to the protection of the natural environment.

The current research concerning the analysis of the CER phenomenon is not extensive. Until 2022, 326 articles were published in the Scopus database, of which only 51 deal with this topic concerning SMEs. Research in SME activity in the area of CER is focused on many threads. In the subject of interest to us, CERs are analyzed in various aspects, such as technological innovations (Zhang et al., 2022) 1, the impact of green strategy on enterprises (Chen, 2022), (Rahbauer et al., 2016), circular economy (Birgovan et al., 2022).

A group of studies on barriers in SMEs related to environmental responsibility also emerged from the literature review (Graafland & Gerlagh, 2019; Kasych et al., 2020; Stekelorum et al., 2020).

In particular, research on specific factors influencing the implementation of the CER strategy is undertaken by Albrecht et al. (2021). He analyzes organizational and professional resources and personal motivation concerning increasing employee involvement in pro-environmental activities of SMEs in Australia. Gao et al. (2019) explore the role of institutional pressure in CER, and Yu et al. (2020) analyze the benefits and costs of CERs from the perspective of stakeholders in South Korean family businesses. Most of this research focuses on looking for factors in a general context, not always considering the level of their identification.

We search for the individual-level factors that block the CER strategy implementation at the enterprise level to realize our goal. In stopping, locking, and creating barriers, we use

"resistance." This is due, not only to the difficulty in giving it a clear definition but also as Weitz writes (2001) "The term resistance remains loosely defined, allowing some scholars to see it almost everywhere and others almost nowhere". Such intuitive approach arises when the ambiguity of a term described causes difficulties in its interpretation. Nonetheless, even very complex concepts can be interpreted through core elements and dimensions of variation. Hollander and Einwohner (2004) had, in their qualitative review of literature from 1985, enumerated such elements for the term 'resistance'. It follows from these considerations that the key features of this concept are action and opposition. When interpreting action, it is important to note that the essence of action within resistance requires some active behavior, verbal, cognitive or physical (Conde, 2017). Opposition, on the other hand, seems obvious for the concept of "resistance" as it connotes negativity of the element within the context of opposition to someone or something, i.e. a target. Specifying the target for these activities requires object identification. This is important from the perspective of action (orientation) and behavior (determination of attitude). However, the assessment of these activities contained resistance requires the identification of the addressees of such resistance, the so-called observers. These are groups for whom actions taken in the context of the identified target will be of an opposing nature (Johansson & Vinthagen, 2016).

Another more complicated feature of resistance is recognition (Hollander & Einwohner, 2004). Basically, resistance can be either just demonstrative or purposefully concealed or obfuscated. Demonstration is associated with a clearly defined goal, while the so-called everyday activities concern the general direction of resistance and are seen more from an ideological and practical perspective. At the same time, the fact of concealing resistance may raise the question of what one wants to possibly hide? These considerations prompt us to expand the interpretation of action. Undertaking an intention may not only involve concrete actions, but also an attitude that determines our behavior. Linking behavior with resistance takes us to an individual area that concerns a single person and his behavior.

An interesting multidimensional feature pointed out by the authors (Hollander & Einwohner, 2004) may also be the intention of resistance. Its application for the understanding of the term "resistance" is ambiguous. Some think that intention is more than a possibility, while others think that there are occasions when a person who engages in behavior or resistance may not be aware of it. From the perspective of management sciences (managerial), the category of intention is closer to motivation along with the mechanisms of its strengthening or weakening.

Summing up this part of considerations on environmental entrepreneurship resistance with regards to SME, we can understand it as targeted daily individual or collective actions, implemented from the perspective of various intentions, motivations and other internal and external premises, which are in opposition to commonly used pro-environmental activities, constituting elements of CER in small and medium businesses.

Micro-foundations as research areas

Knowledge about modern organizations is becoming complicated not only because of development in its subsequent areas, but primarily because of increasing analytical capabilities, new data processing techniques and modern methods of analysis

(advanced models and statistical analysis). In information synthesis, the idea one often wants to study is often lost. This (macro) approach often lacks any analysis of the phenomenon at the individual level, which seems crucial in management sciences, because as Felin et al. (2012) claim, macro-level studies do not provide information on primary explanatory factors. Many researchers point out that the organization consists of individual units (Felin & Foss, 2006; Gilstrap & Hart, 2020; Stelmasczyk, 2020) and that explanations should be sought at this level. The individual level in management sciences is the level of micro-foundations.

The concept originates from economics that attempts to explain micro- and macroeconomic phenomena in similar categories (which did not end successfully) and from the scientific work of economists and sociologists promoting reductionism in describing and explaining phenomena (Curry-Roper & McGuire, 1993), where this reductionism is understood as the process of explaining a specific phenomenon by means of a more basic phenomenon (Piórkowska, 2014). The focus of researchers' studies on micro-foundations is associated with the belief that employee interactions are not insignificant for the results achieved by the organization (Klimas & Wójcik, 2016).

Micro-foundations have been defined in many different ways. They are identified as the cause of a collective organizational phenomenon, considered at the level of individual units (employees), whose task is to explain any collective phenomena (Felin et al., 2012); basic elements and the allowable operations that can be performed using these elements (Lippman & Rumelt, 2003; Foss et al., 2012); action and interaction and ultimately in terms of human cognition and affect (Nickerson & Zenger, 2008) or a particular type of antecedence considered on an individual level (Czakon, 2015). The analysis of the presented definitions draws attention to the fact that although micro-foundations can be identified in various forms, only their basic level is relevant to more complex phenomena occurring in the organization.

Many researchers point to premises for the study of micro-foundations in general, in their interpretation of basic organizational phenomena (Barney & Felin, 2013; Felin et al., 2015; Vora & Kostova, 2019), or in expanding knowledge in specific areas, e.g. the decision-making process (Hodgkinson & Sadler-Smith, 2018); development or building organizational competences (Akhtar et al., 2018), inter-organizational cooperation (Czakon, 2015).

In the area of CSR, research on micro-foundations is also carried out, e.g., the motivation of managers to implement the CER principles is recognized more deeply in the literature as the effect of CSR engagement (Hafenbrädl & Waeger, 2017; Gao et al., 2019). Hafenbrädl and Waeger (2017) explain the attitude and beliefs of executives and explain link becomes materialized in CSR activities at the firm level. This knowledge develops theories of micro-foundations (Foss, 2010). Another direction of research related to this area is the presentation of attitudes associated with implementing individual roles of a client, investor, or potential employee. The authors combine it with the stakeholders' theory (Bhattacharyya & Jha, 2020).

The ambiguity in determining the micro-foundations poses difficulties for the researcher to identify them in the organization. The recognition of these elements in the organization will facilitate their assessment from three perspective aspects (Klimas & Wójcik, 2016) time shifts, chronologically considered higher

than other collective phenomena that we want to analyze; level of analysis, where most researchers point to the individual level (units or employee); the limit of analytical refinement, in which the key area for micro-foundations is micro-outcomes, defined according to Coleman's concept (Raub et al., 2011) whose explanations comprise assumptions on individual behavior. Therefore, when searching for micro-foundations, one must reach the primary phenomena occurring in the organization, identified from individual's perspective. The link between attitude and action was explored in the paper by Cassells and Lewis (2011) through the examination of interrelationships between awareness of environmental impacts, attitudes towards environmental issues, and the adoption of environmental practices.

Cuervo (2005) postulates that identifying an individual's attitudes, the features of the environment in terms of resource availability, and the conditions of institutions regulating economic activity is necessary to understanding entrepreneurial activities. It inspires our research, which, like (Teece, 2007), we will also locate at the organizational level, while the institutional context we will search similarly to (Stenholm et al., 2013; Gao et al., 2019).

Taking into account the conclusions of this literature review, and the adopted research perspective we attempt to identify micro-foundations relating to environmental entrepreneurship in SMEs.

Micro-foundations in environmental entrepreneurship in SMEs

The small and medium-sized enterprise sector is often referred to as "difficult to achieve" and delayed in terms of "green business" due to limited opportunities for environmental management and resource poverty (Cassells & Lewis, 2011). In this context, the search for micro-foundations affecting the use of measures to facilitate environmental protection at the employee level in this sector is a challenge that we looked into. The literature review reveals that Lewin et al. researched micro-foundation as "decision-making procedures, standard operating programs, procedures, norms, and habits" (2011). Teece studied the micro-basis of dynamic abilities, pointing to "distinct skills, processes, procedures, organizational structures, decision rules and disciplines" (2007). Our approach is an attempt to define micro-foundations as entrepreneurial activities contributing to environmental protection, undertaken by the employee and the organization. In analyzing the functioning of an enterprise in the SME sector, we designated an initial list of variables, focusing on their location in the process of environmental entrepreneurship in its initial activity phase (time shift) and the level of microanalysis (employee or organization), with reference to individualism of behaviors (Klimas & Wójcik, 2016; Raub et al., 2011). We confronted our observations with achievements in related literature, while undertaking a review applying the "scoping review" method, using the mapping technique of literature from a given field of study (Arksey & O'Malley, 2005) (Table 1).

When analyzing the activities of SMEs in the field of environmental protection, and in particular identifying the micro-foundations of these activities, we pay attention to several characteristic areas that allow us to describe these activities. One of the key areas is knowledge concerning environmental protection (no.8), identified

not only as a resource that an employee has about the nature of environmental protection or its effects (no.10), but also in the context of the process in which this resource is acquired (no.4), or the effects of this process, which are the awareness of actions protecting the natural environment (no.9) or understanding this rather complicated concept (no.1). The element of knowledge seems important because according to research conducted among companies from the SME sector about 50% have no associations with the abbreviation CER, and only 3.6% associate it with the natural environment (CSR w MŚP. Pod lupą. Raport, 2019). Therefore, it seems logical that the lack of any broad understanding of knowledge may be a factor blocking environmental entrepreneurship.

Another area important for employee behavior related to environmental protection are personal factors such as character traits, value system and motivation, which may have negative impacts on the implementation of activities supporting the natural environment in the workplace. One of them is the employee's pro-ecological attitude (no.2), which the employee wants to disclose in the workplace. This attitude can be contrasted with the tendency of the employee to be submissive to behaviors of others, which may be forced (no.3) e.g. by belonging to a group or a service relationship. Another manifestation of imitative actions may be trust in the opinions of others (no.5), which makes the employee carry out tasks that are pro- environmental or not, depending on the attitude of others whom he trusts to be behaving properly. In the analyzed area, the motivation for entrepreneurial actions in protecting the environment in the workplace also seems to be important. According to the theory of motivation, it may result from internal factors (no.6), being convinced of the rightness of undertaking pro-entrepreneurial activities geared towards environmental protection or can be strengthened by external factors (no.7), whose strength and meaning depend on many other elements.

Legal aspects are an important element in business operations. Legal provisions are not stable, especially in terms of environmental aspects. Governments are increasingly introducing changes adapting their regulations to global regulations or, as in Europe, to EU guidelines. Changes in the laws at the national level forces changes at the level of the organization to the notice of employee (no.11), which becomes associated with changes in his behavior and habits (no.12), and making additional effort (no.13). In the context of the analyzed topic micro-foundations of environmental entrepreneurship resistance, we also pay attention to the fact that the employee's behavior includes additional activity related to the change in environmental protection regulations in three situations that may occur in practice: under penalty (no.14), with the possibility of obtaining the profit (no.15) or without consequences (no.16).

Each task carried out in the workplace requires specific infrastructure and equipment that will facilitate or even enable these tasks. In undertaking entrepreneurial activities in concern for environmental protection, the employee should have access to devices facilitating such protection (no.18) but it is also important for the employee to have the skills to operate such devices (no.19). In this area, it is also necessary to pay attention to organization of work, routines and principles that form the organizational culture. Its orientation towards the principles of environmental protection, may facilitate the employee's daily performance of his tasks at the workplace (no.20).

Table 1 Groups of micro-foundations related to environmental entrepreneurship area in SMEs

Micro-foundations	Interpretation	Source
1.Understanding the CER concept	Convince an employee to understand the idea of CER related to environmental protection as a priority in business	Nicolaides (2018)
2.Pro-environmental attitude	Employee activity in undertaking activities related to environmental protection	Grant and Ashford (2008), Siebert and Kunz (2016)
3.Forced behaviours in work place	Adaptation of employee behavior in the workplace to the type of environmental activities that others prefer	Reio and Ghosh (2009)
4.Education based on environmental concerns	Employees having education related to environmental protection	Rich et al. (2010)
5.Confidence in the opinions of others	Employee's trust in the opinions of experts, superiors, colleagues who support environmental protection	Ahmad et al. (2017)
6.Intrinsic motivation	Employee intrinsic motivation to perform tasks at the workplace while maintaining the principles of environmental protection in the workplace	Newman et al. (2018), Williamson et al. (2006)
7.External motivation	Employee external motivation (on the part of the company, on the part of the family) to preserve the principles of environmental protection in the workplace	Porter and van der Linde (1995), Flammer and Luo (2017)
8. CER knowledge	Employee's knowledge of the activities that business can undertake in the context of corporate social responsibility (in particular in the environmental field)	Lazányi and Bilan (2017)
9.Awareness of practices in CER	Being aware of the possibility of taking action at the workplace to protect the environment	Fuente et al. (2017)
10.Knowledge of the impacts of environmentally friendly activities	Employee's knowledge of the effects of environmental protection measures acquired at school, through self-study or otherwise	Chen et al. (2015)
11*.Changes in regulations concerning environmentally friendly behavior	The employee notices significant changes in regulations and guidelines to which the employee should apply in the workplace	Wilson et al. (2012)

Table 1 (continued)

Micro-foundations	Interpretation	Source
12.Necessity of change in behavior and habits	Forced by external factors, a change in employee behavior that leads to environmental protection in the workplace	López-Pérez et al. (2007)
13.Need for extra efforts	Additional activity at the workplace related to environmental protection forced by various factors	López-Pérez et al. (2007)
14*.Implementation of laws and regulations (penalty)	Employee's application of provisions related to environmental protection under penalty	Bachnik (2017)
15*.Implementation of laws and regulations (profit)	Employee's application of environmental protection regulations from the perspective of receiving a profit	Grabiec and Jędraszczyk-Katwak (2017)
16*.Implementation of regulations without consequences	Employee's application of environmental protection regulations without any specific positive or negative consequences	Jones et al. (2014)
17*.Environment friendly organizational culture	Tasks carried out at the workplace are organized so that they help the employee protect the environment	Harris and Crane (2002)
18*.Equipped with devices for saving environmental resource	Employee's access to devices facilitating environmental protection in the workplace ensured by the company owner	Torugsa et al. (2012), Watanabe and Salmador (2014)
19.Ability to use environment friendly devices	Employee skills related to the operation of equipment that can contribute to environmental protection	Torugsa et al. (2012)
20*.Real time information activities	The employee may use reminders about activities related to environmental protection in the workplace	Marin et al. (2012)

The symbol * indicates that the factor data can be interpreted from the organizational perspective at the strategic or operational level

We have considered all of the above-mentioned factors as micro-foundations of environmental entrepreneurship that may constitute obstacles/impediments in the implementation of entrepreneurial activities concerning environmental protection by employees of the SME sector.

Methodology

In our attempt to provide answers to the research question: *Which of the micro-foundations indicated in Table 1 most inhibit environmental entrepreneurship of SME employees?* we used a model based on the simplified exploration analysis, whose usefulness for the study of entrepreneurial phenomena is corroborated by Wennberg and Anderson (2020). It consists of probing new areas that illuminate entrepreneurial phenomena without regard to offering any specific a priori reason for doing so (Van de Ven et al., 2015). Hence, without hypothesizing, we presume that the micro-foundations identified in the study do to certain extent inhibit entrepreneurial activities of SME employees.

A questionnaire survey method was applied to estimate the nature of the micro-foundations indicated in Table 1. The PAPI (Paper and Pen Personal Interview) technique was used to collect empirical data. The research tool was a questionnaire, consisting of 40 questions. The questions concerned the activities of employees in relation to natural environmental protection (saving energy, water, paper, taking care of air quality, limiting plastic use, and waste segregation). In addition, the respondents were asked to assign one of three options (negative, positive, and neutral) to the micro-foundations and determine the strength of this assessment on a scale, ranging from 1 (minimum) to 5 (maximum) points. The study was conducted between January and March 2020. The response rate was 87%. The environment is the SME sector in three selected regions of Poland, concentrated around the cities of Kielce (Świętokrzyskie Province), Tarnobrzeg (Podkarpackie Province), Częstochowa (Śląskie Province). The rationale for the selection of the cities was their regional differentiation. The research sample consisted of 122 employees of SMEs participating in the process of improving their professional qualifications as part of the second-cycle degree studies and post-graduate studies. The study used a non-random sample selection, based on the availability of data.

The characteristics of the sample are not homogeneous, but by analyzing its structure one can indicate its characteristic features. The study sample included 68% women and 32% men. Most respondents were young people, less than 30 years old (85%). The vast majority of employees came from service companies (56%) but there were also people from commercial companies (22%) or manufacturing companies (19%). The research was carried out at the significance level of $\alpha=0.05$. The confidence interval adopted for the research is 95%.

The analysis was conducted from two qualitative and quantitative perspectives. The premise for conducting qualitative analysis was the assessment of the status of the indicated micro-foundations. Due to the lack of clarity of indications, a quantitative analysis was also carried out, involving dividing the micro-foundations more precisely into those interpreted as positive, as well as those that can inhibit

behaviors and activities in the area of environmental entrepreneurship. Since ambiguous results were obtained, it was decided to combine both rankings to create a two-dimensional space, whose interpretation allows the determination of those factors that despite occupying the lowest positions in the rankings, can be considered as elements of environmental entrepreneurship resistance. Spearman rank correlations and two tests were used in the analysis: independence Pearson’s chi square test and nonparametric test ANOVA Kruskal– Wallisa.

Findings

As a result of the qualitative assessment, respondents assigned the statuses of Fig. 1. to all micro-foundations indicated in the survey.

In the employees in SME opinion, each element was included in the negative (-), neutral (0) or positive (+) group. Analyzing the percentage indications, it can be seen that all micro-foundations are assessed as (+) actions supporting environmental entrepreneurship by a vast majority of respondents (60% to 89%). Analyzing the (-) negative (inhibiting) status, the respondents also noticed this element in each micro-foundation, but it is definitely a smaller group (from 3 to 18%). Also neutral (0) was found in the examined population of supporters. Each micro-foundation is also seen as neutral (0), with the number of respondents who think so is between 7 and 22%. The exception is the micro-foundation no. 3, forced

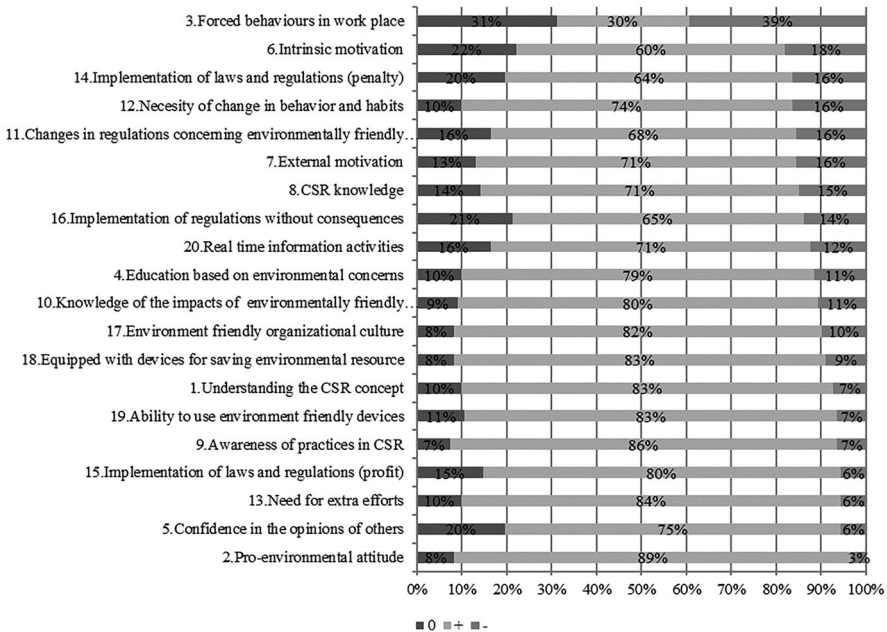


Fig. 1 Assessment of the status of micro-foundations from the perspective of environmental entrepreneurship—percentage shares. Source: own study

behaviours in work place, which was indicated by almost 40% of respondents as having a negative impact. Its status is unclear because a similar number of respondents consider it both positive (about 30%) and negative about 30%.

The qualitative analysis carried out above did not bring a satisfactory decision regarding the assessment of the status of micro-foundations. A quantitative analysis was carried out to better estimate it. First, basic descriptive statistics were computed. They were aimed to present the most important information relating to the individual factors and the collected statistical data (Table 2).

Analyzing the data, it was noticed that for those factors that were assigned negative status, most respondents also attributed lower strength. Thus, assuming the force scales (in the survey from 1 min to 5 max), the means for individual micro-foundations were determined (Fig. 2).

By calculating the average of all indications a critical point was determined. The micro-foundations that obtained the average were recognized as inhibiting activities of environmental entrepreneurship (no. 3,11,6,16,8,20,14, 5,12), while those that obtained higher averages (no. 1,7,4,17,9,15,10,2,18,19,13) were recognized as favorable micro-foundations.

Analyzing descriptive statistics, the most diverse in assessment is the micro-foundation no.3, which has the largest coefficient of variation $V_z=59.73\%$, and the largest standard deviation $\sigma=1.51$. The modal value was 1, so most often respondents rated this micro-foundation at 1—there were 25 such people.

It was checked if there were differences in the assessment of individual factors from a qualitative and quantitative perspective, broken down into features from the record (Table 3). The non-parametric ANOVA Kruskal–Wallis test was used for the tests, which allows the assessment of relationships (differences) between mixed (quantitative and qualitative) features.

Analyzing the relationship between sex and micro-foundations, we note that from a qualitative perspective, gender was associated with CER knowledge $p < \alpha$ ($p=0.0287$). Both women and men rate it definitely positive (71%) but among women as much as 19% think that it is a limiting factor while in the group of men 24% think it is a neutral factor. From a quantitative perspective, gender was associated with the need for extra efforts (no. 13) $p < \alpha$ ($p=0.0312$). Men pay less attention to the need for extra effort.

Analyzing the significant relationships between age and 20 micro-foundations, it was found that from a qualitative perspective it occurs only in one case: forced behaviours in work place $p < \alpha$ ($p=0.0252$). People aged 30 and less consider this factor limiting in 41%, while in the group of people over 30, most say that it is a positive factor (60%). Analyzing these relationships from a quantitative perspective, one can observe many more differences between age and strength assessment. This is noticeable in the case of 7 features. These include understanding the CER concept (no.1), $p < \alpha$ ($p=0.0295$); pro-environmental attitude (no.2) $p < \alpha$ ($p=0.0048$); awareness of practices in CER (no. 9) $p < \alpha$ ($p=0.0009$); necessity of change in behavior and habits (no.12) $p < \alpha$ ($p=0.0319$); equipped with devices for saving the environment (no.18) $p < \alpha$ ($p=0.0072$); ability to use environmental friendly devices $p < \alpha$ ($p=0.0300$) and real time information activities (no.20) $p < \alpha$ ($p=0.0003$). All micro-foundations were rated lower by younger people under the age of 30.

Table 2 Basic descriptive statistics

	\bar{x}	Me	Mo	N_{Mo}	σ	Vz	S	K
1.Understanding the CER concept	3,38	3	3	43	1,17	34,49	-0,59	0,28
2.Pro-environmental attitude	3,62	4	4	42	1,20	33,11	-0,92	0,72
3.Forced behaviours in work place	2,53	3	1	25	1,51	59,73	0,09	-1,08
4.Education based on environmental concerns	3,41	4	5	32	1,40	41,14	-0,67	-0,29
5.Confidence in the opinions of others	3,25	3	3	35	1,42	43,65	-0,83	0,05
6.Intrinsic motivation	2,94	3	3	35	1,42	48,40	-0,49	-0,47
7.External motivation	3,40	4	5	35	1,48	43,54	-0,73	-0,38
8.CER knowledge	3,12	3	3	40	1,31	42,03	-0,58	-0,01
9.Awareness of practices in CER	3,49	4	4	38	1,30	37,22	-0,88	0,46
10.Knowledge of the impacts of environmentally friendly activities	3,62	4	4	41	1,15	31,69	-1,01	1,54
11.Changes in regulations concerning environmentally friendly behavior	2,92	3	4	34	1,30	44,30	-0,53	-0,15
12.Necessity of change in behavior and habits	3,27	3	4	36	1,31	39,90	-0,49	-0,46
13.Need for extra efforts	3,67	4	-	-	1,21	32,90	-0,96	1,03
14.Implementation of laws and regulations (penalty)	3,22	3	4	30	1,51	47,08	-0,64	-0,49
15.Implementation of laws and regulations (profit)	3,59	4	5	37	1,39	38,68	-0,96	0,41
16.Implementation of regulations without consequences	3,12	3	3	33	1,44	46,33	-0,40	-0,51
17.Environment friendly organizational culture	3,46	4	4	36	1,29	37,37	-0,80	0,24
18.Equipped with devices for saving environmental resource	3,63	4	5	40	1,36	37,32	-0,87	0,09
19.Ability to use environment friendly devices	3,66	4	5	41	1,33	36,46	-0,92	0,46
20.Real time information activities	3,18	3	3	35	1,43	45,13	-0,64	-0,31

\bar{x} -average, Me Median, Mo mode, N_{Mo} Vz coefficient of variation, σ standard deviation, S skewness, K kurtosis

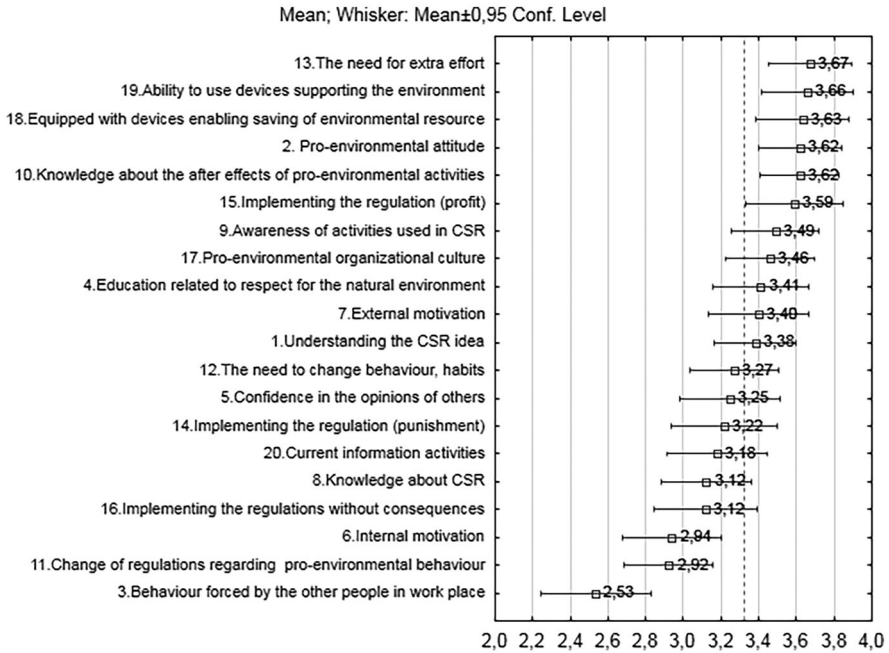


Fig. 2 Arithmetic means of the analyzed micro-foundations – quantitative assessment. Source: own study

Analyzing the relationship between the level of education and micro-foundations, it was found that from a qualitative perspective, there were two statistically significant differences in the assessment of the status of the examined elements: forced behaviors in work place (no.1) $p < \alpha$ ($p = 0.0395$) and education based on environmental concerns (no.4) $p < \alpha$ ($p = 0.0413$). From the quantitative perspective, no significant correlations were found.

Analyzing the relationship between the type of activity and microfoundations, it was noticed that it occurs only from a qualitative perspective and concerns understanding the CER concept (no.1) $p < \alpha$ ($p = 0.2792$). The largest percentage of people who claimed that it was a negative (limiting) factor was in commercial companies 11%, in service companies it is 7% and in production 4%.

In the next stage of the analysis, we checked whether the qualitative assessment coincides with the quantitative one. For this purpose, Spearman’s rank correlation analysis was used and the correlation was examined in qualitative and quantitative ranking. In the qualitative assessment, a ranking was established according to the percentage of restrictive responses. The greater the negative (limiting) color, the higher the ranking position. In the quantitative assessment, a ranking was determined according to the arithmetic average of the ratings obtained, and similarly the highest rank was determined for the factors with the lowest average (most restrictive for a given question). The results of the ranking are presented on the scatter chart (Fig. 3).

Comparing both rankings, the correlation coefficient was $r = 0.75$. The relationship is high, so the higher the feature was in the qualitative ranking, the higher it

Table 3 Identified relationships between micro-foundations and metric features—appearing in a qualitative or quantitative perspective

Micro-foundations	Gender	Age	Education	Type of business activity
	<i>p</i> –value			
1.Understanding the CER concept	$p > \alpha$	0.0295*	$p > \alpha$	0.0279*
2.Pro-environmental attitude	$p > \alpha$	0.0048**	$p > \alpha$	$p > \alpha$
3.Forced behaviours in work place	$p > \alpha$	0.0252*	0.0395*	$p > \alpha$
4.Education based on environmental concerns	$p > \alpha$	$p > \alpha$	0.0413*	$p > \alpha$
8. CER knowledge	0.0287*	$p > \alpha$	$p > \alpha$	$p > \alpha$
9.Awareness of practices in CER	$p > \alpha$	0.0090**	$p > \alpha$	$p > \alpha$
12.Necessity of change in behavior and habits	$p > \alpha$	0.0319*	$p > \alpha$	$p > \alpha$
13.Need for extra efforts	0.0312*	$p > \alpha$	$p > \alpha$	$p > \alpha$
18.Equipped with devices for saving environmental resource	$p > \alpha$	0.0072**	$p > \alpha$	$p > \alpha$
19.Ability to use environment friendly devices	$p > \alpha$	0.0300*	$p > \alpha$	$p > \alpha$
20.Real time information activities	$p > \alpha$	0.0003***	$p > \alpha$	$p > \alpha$

Assumed: $p < \alpha = 0.05$, there is a statistically significant relationship (marked with *); $p < \alpha = 0.01$, there is a highly significant relationship (**); $p < \alpha = 0.001$, there is a very high statistically significant relationship (***)

was in quantitative. Looking for micro-foundations that can inhibit environmental entrepreneurship activities, our interest focused on those that were rated the lowest in both rankings. Analysis of Fig. 3 showed that micro-foundations forced behaviors in work place (no.3); intrinsic motivation (no.6); CER knowledge (no.8); knowledge of the impacts of environmentally friendly activities (no.11); necessity of change in behavior and habits (no.12); Implementation of laws and regulations (penalty (no.14); implementation of regulations without consequences (no.16); and real time information activities (no.20) were such.

Discussion

In the research methodology presented, we have assessed the status of micro-foundations from two qualitative and quantitative perspectives. This was forced due to the difficulty of unequivocal interpretation of the results obtained in the qualitative analysis, for which we were prepared after a thorough review of the literature. Our considerations confirm the fact of difficulties related to the identification and interpretation of test results (Helfat & Peteraf, 2015; Klimas & Wójcik, 2016). This is also visible in the discrepancies in Table 3 where we present the relationships between micro-foundations and features of the record. The quantitative analysis used in the second phase of the research provided the tools for a more unequivocal determination of the group of micro-foundations of environmental entrepreneurship resistance, however, due to the contractual role we assigned the arithmetic

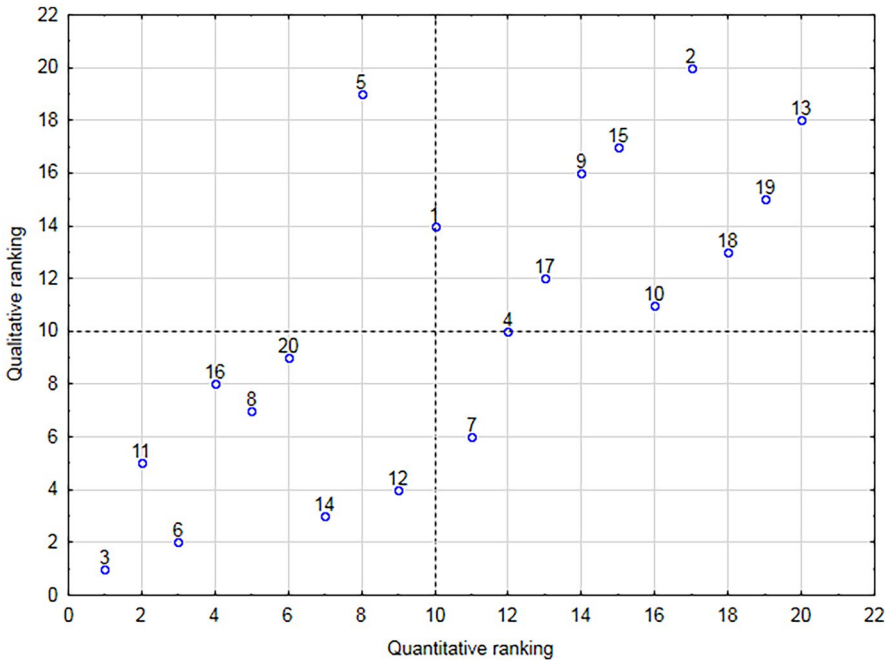


Fig. 3 A scatter chart between the qualitative and quantitative ranking of the analyzed micro-foundations. Source: own study

average, as we did not want to base our findings only on the quantitative results, hence the link between these methods.

Based on the discussion of the results obtained, it is worth noting that the analytical process led us to identify a group that, according to the adopted criteria, constitutes the environmental entrepreneurship resistance micro-foundations for our sample. This group includes micro-foundations related to the legal environment: changes in regulations concerning environmentally friendly behavior (no.11), implementation of laws and regulations—penalty (no.14); and implementation of regulations without consequences (no.16). Their occurrence may discourage or inhibit actions directed at protecting the natural environment. Personal factors such as CER knowledge (no.8) are the second subset as well as intrinsic motivation (no.6), lack of which may be associated with the reduction or discontinuation of entrepreneurial activities. An inhibiting element is also the necessity of change in behavior and habits (no.12); however, the respondents considered forced behaviors in work place to be the most negative for undertaking activities related to environmental protection (no.3) which we interpreted as the need to adapt our behavior to the behavior of others.

The concept of environmental entrepreneurship resistance is not new, but its association with the idea of micro-foundations creates new possibilities for analysis in two areas: conceptual related to the interpretation of the phenomenon of resistance in relation to the activities of the organization in the field of entrepreneurship

and cognitive supplementing knowledge about micro-foundations that influence the entrepreneurial behavior of employees.

Referring to the conceptual area of building the concept of "environmental entrepreneurship resistance" as a methodical sequence of actions related to the identification of its essential components (component words), we can see that the formulated construction is complete. The adopted research methodology enables one to identify important components of the analyzed keywords and clarify their significance in the context of "environmental entrepreneurship resistance". The presented literature review for Hollander and Einwohner (2004) indicates three aspects of the concept of "resistance": opposition, recognition and intention. On this basis, we assume that the concept we define is negative and that its recognition may be limited by conscious or unconscious intentions. Analysis of intent actions indicates that resistance can be considered in terms of forced attitudes or arising from belief, motivation, awareness building or trust, which was included in the identification of micro-foundations (Table 1). From the interpretation of the word "entrepreneurship" we adopted elements such as action, activity, knowledge used in a creative way to achieve specific goals. This allowed us to include conscious or forced actions in the collection of micro-foundations or to direct our attention to the manifestations of activity focused in our case on environmental protection. Environmental is the object to which our considerations relate, the background of actions and activities undertaken, providing a reference point for the general elements indicated in the definition and protects the logic of the considerations.

The process of cognition the concept of "environmental entrepreneurship resistance" presented by us is very similar to the second stage of the methodology of designing and building the ontology proposed by Bravo et al. (2019). The phase consists of the following procedures: term elicitation, ontology modules identification, individual ontology design. Identification of key elements of the extracted concepts resembles the logic of describing its characteristic elements, the transfer of features of these elements to the defined object, which allows a better understanding of its ontological meaning. A similar process of cognition is also presented by Margolis and Laurence (2007), emphasizing that concepts for better understanding should be identified with mental representations or abstract objects. Our approach is deductive in nature because it concerns the adoption of some general principles and their adaptive application to build ontology of a complex concept focused on a specific case (Holsapple & Joshi, 2002). The similarity of our reasoning to the stages of processes and models describing the ontological explanation of complex phenomena presented in the literature, on the one hand, testifies to the maintenance of standards for creating new knowledge, while on the other hand, it shows how procedures and models used in philosophy or technical sciences to explain social phenomena can be adapted.

When discussing the subject of environmental entrepreneurship resistance, it is worth addressing several issues such as the conceptualization of micro-foundations, research methodology and interpretation of the results analyzed. The conceptualization of the micro-foundations concept is not obvious and the interpretation we adopt is one of the possibilities that takes into account not only the individual but also the organizational perspective. Our attempt to indicate specific identifiable objects is a new element

of knowledge (the literature lacks precisely formulated micro-foundations in the field we analyzed, which is based on the "frame of reference" and can be treated as an info-logical interpretation (Kettinger & Li, 2010) that is, the subjective perspective of the studied phenomenon. This, for many researchers, the questionable approach to building knowledge is justified by the desirability of joining the trend of linking theory and practice (Oon & Ling, 2019).

Conclusion

Contemporary reality is increasingly generalized, classified and simplified to formulate general conclusions, and the requirement of precise explicit inference gives priority to quantitative methods in research methodologies. We have found that this approach does not work with respect to micro-foundation testing. By addressing the challenge of identifying micro-foundations in environmental entrepreneurship, reference was made to contemporary challenges and the focus of the current research was to assess the factors inhibiting these behaviors in SME.

Following the analysis of the research outcomes in the discussed area, the authors have not found any similar works that can be directly comparable with the present paper. The research results, thus lead us to formulate few conclusions. **First**, environmental entrepreneurship resistance in relation to SME, has been defined in our interpretation as targeted individual or collective daily activities, implemented from the perspective of various intentions, motivations and other internal and external premises, which are in opposition to commonly applied pro-environmental activities constituting the CER element of small and medium businesses. By examining the related micro-foundations, we have generalized them to factors at the micro level that may inhibit entrepreneurial activities. **Second**, after conducting the research and analyzing the results, it is concluded that it is difficult to clearly determine the direction of the impact of environmental entrepreneurship micro-foundations due to their specificity and the need to measure assessments of respondents, based on the subjective. They can take a positive, negative or indifferent forms. **Third**, using the related quantitative and qualitative analysis of the results obtained, it was determined that the most likely micro-foundations of environmental entrepreneurship resistance include forced behaviors in work place (no.3); intrinsic motivation (no.6), CER knowledge (no.8) changes in regulations concerning environmentally friendly behaviors (no.11), necessity of change in behavior and habits (no.12); implementation of laws and regulations—penalty (no.14); implementation of regulations without consequences (no.16), as well as real time information activities (no.20).

Managerial implications and theoretical contribution

The knowledge presented in the paper can be put to use by managers in varied aspects. The indication of 20 micro-foundations preceding the use of CER in the company serve as useful components in developing managerial awareness towards activating measures, important for strengthening employees' behavior in

implementing tasks under the CER strategy. The presented list may help managers become aware that in implementing CER-related activities, it is not enough to "manage the implementation of such tasks." Beyond that, it is also worth paying attention to whether the employees and the organization are prepared for it and have the appropriate micro-foundations for implementing such activities.

Another practical value of the findings is providing managers with information regarding which of the micro-foundations thus indicated can be perceived as an element of resistance and could have negative impacts on the employee, limiting his entrepreneurial activity regarding the implementation of pro-environmental activities in his company.

Our considerations explain the concept of environmental entrepreneurship (Dean & McMullen, 2007), which was created based on a synthesis of such theories as to the economics of entrepreneurship, the environment, and the well-being (Hörisch et al., 2017; Piwowar-Sulej et al., 2021; Schaltegger & Wagner, 2011). Research on micro-foundations related to environmental entrepreneurship in SMEs fits into the development of behavioral theory, especially the trend in which micro-foundations (Foss, 2010) explaining organizational heterogeneity have been exposed (Felin et al., 2012; Klimas & Wójcik, 2016). The standards and rules of processes in the identified micro-foundations broaden the knowledge about the CRS ideas' institutional factors. Thus, it develops institutional theories similarly to works (Gao et al. 2019; Gunningham, 2009). Focusing on environmental factors creates a micro-scale aspect of the Triple Bottom Line Theory (Elkington, 1998), one of the key theoretical concepts of CSR (Brin & Nehme, 2019).

Limitation

The conducted analyses have their limitations. One of such is the limitation of the list of micro-foundations to 20 items. Another, rather significant limitation, is the selection of the research sample. It is not representative, so the results cannot be generalized. Therefore, the presented results can only serve as inspiration to designing research hypotheses in which specific status can be assigned to the impact of individual micro-foundations.

Futures research direction

The considerations presented relate to the understanding the concept of EER from an ontological perspective and can be treated as an introduction to further solutions, aimed at clarifying the meaning of specific groups of micro-foundations, e.g., from the perspective of an employee or an organization. Another direction of research is identifying EER components from the perspective of different age groups, analysis it from the perspective of generational characteristics (X, Y, Z). This is essential as they present different values, develop their ecological knowledge in different ways, and have a different approach to environmental protection. Yet another challenge is to measure the strength of the negative impact of the identified micro-foundations

on entrepreneurial activities related to environmental protection by employees from the SME sector.

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