Entrepreneurial Behaviour Identified among SME Members of an International Group with Sustainability-Oriented Strategy

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Abstract: The current development of energy management services is stimulated by a series of factors that are both external and industry-specific. One important external factor is the pressure coming from legal provisions in favour of sustainable development. This qualitative, descriptive research is focused on an international group with a strategic orientation to sustainability. The aim is to analyse the strategic changes of several group members over a period of 15 years (2004–2019) in order to identify their entrepreneurial behaviour (EB), contributing to scarce literature on EB of sustainability-oriented SMEs—medium-sized enterprises, in particular. The methodological approach included both secondary and primary research (direct observation and in-house interviews). The results match the research objectives and research questions in that they are able to identify different types and degrees of enterprise EB (EEB). The findings demonstrated here support a proposed finer EEB typology: independent EEB and induced EEB. Besides the natural limitations of the research (only comprising companies of a group and single industry), the main limitation of the study is its pre-pandemic characteristic, which is also a challenging research opportunity for further post-pandemic studies on EEB. The promising results of this exploratory research on EEB and novel EEB typology proposed should also be tested in more industries. The research results are useful for scholars, company managers, and entrepreneurs as well as for strategists involved in designing sustainable development policies.

Keywords: entrepreneurial behaviour (EB); enterprise entrepreneurial behaviour (EEB); independent EEB; induced EEB; strategic change; sustainability-oriented strategy; sustainable development; small and medium-sized enterprises (SMEs); international group; energy management services

1. Introduction

The development of services in the energy management sector is currently stimulated by a series of factors both industry-specific (as advance of the newer metering technologies) and external influences. The external pressure mainly comes from international and national legal provisions that are in favour of sustainable development, with environmental protection, green issues, and climate change being observed, [1] and [2] (pp. 4–6).

The uniform pressure that is exercised from the macro-level on the business community has differentiated effects at the micro-economic level. While many companies see the legal provisions targeting a cleaner environment in the future as a source of new operational problems and costly investments, other companies, many of whom have predicted the changes brought by newer technologies, have already considered in their strategies and have considered cleaner technologies in their investment plans.

This qualitative, descriptive research is focused on an international group that is active in the energy metering sector, with a strategic orientation to sustainability—according to its mission (posted on its website)—for the orientation of its line of products and services. The group is headquartered in Europe and owns companies in more than twenty countries spread over two continents (Europe and Asia), yet most of the offices are in Europe.
The aim of the present study is to analyse the strategic changes experienced by a set of selected group members from European, small- or medium-sized enterprises (SMEs) (specifically medium size organizations) over a period of 15 years (2004–2019) in order to identify their enterprise entrepreneurial behaviour (EEB) and eventually, their EEB peculiarities.

In this paper, the abbreviation EEB refers to the enterprise’s EB (particularly that medium size enterprises) and is defined in the sense of Howard Stevenson’s approach of corporate EB: the pursuance of opportunity beyond controlled resources [3–6].

The concept of entrepreneurship, which was originally related to business entrepreneurs as individuals, has grown both horizontally (to other activity areas of society) and vertically (to organizations). As (individual) entrepreneurship was the basis for developing corporate entrepreneurship [7–11], (individual) entrepreneurial behaviour represents corporate entrepreneurial behaviour. The literature on entrepreneurial behaviour (EB) is not that rich [12–14], and the references related to EB typology are even scarcer.

As far as small businesses are concerned, they are expected to be more entrepreneurial and more adaptable and flexible in chasing the opportunities identified by the entrepreneur for two reasons: the founding entrepreneur is leading the company directly, and because of the size, small businesses are easier to manage. According to these dynamics, the more entrepreneurial and more successful a small business is, the larger it will become. Additionally, while growing, the “seeds of destruction are sown”, and the “transition from an entrepreneurial growth firm to a “well-managed” business is often accompanied by a decreasing ability to identify and pursue opportunities” [3]—in other words, they become less entrepreneurial. For this very reason, it is important to take a closer look and examine the entrepreneurial behaviour of SMEs, primarily during the early stages of the organization’s lifecycle.

Thus, this study is focused on a homogeneous category of SMEs (medium size enterprises in early stages of lifecycle) that are active in a particular industry and that have a similar strategic orientation. More specifically, the selection criteria have narrowed the study area to the members of an international group that are (i) active in the same industry sector (energy management services); (ii) under the same strategy (sustainability-oriented strategy, openly declared); and (iii) medium-sized enterprises of a similar age.

The research findings encourage considering a novel EEB typology (including induced EEB and independent EEB) that contributes to the relatively scarce literature on EEB of the SMEs with a sustainability-oriented strategy.

The remainder of this paper is structured as follows: a short literature review on entrepreneurial behaviour and sustainability-oriented strategy is presented; the research methodology is discussed; the case is presented followed by the results and discussion, and finally, we provide the conclusion, research limitations, and future research avenues that have been opened as a result of this research.

2. Literature Survey: Entrepreneurial Behaviour and Sustainability-Oriented Strategy

The concepts of entrepreneurship and strategy are distinct but also seem even distant from each other. However, at least at the company level, they intersect in the organizational space even though they come coming from different plans. Additionally, the balance between them looks fairly equal, as demonstrated by the following inter-twinned syntagmas: strategic entrepreneurship [15], entrepreneurial strategy [16], or entrepreneurial school of strategic thought [17].

2.1. From “Entrepreneurship” to “Entrepreneurial Spirit” to “Entrepreneurial Behaviour”

In entrepreneurial studies, a key-issue is the capacity to predict an entrepreneur’s success. In order to identify the key-factors that drive the entrepreneur and his/her enterprise to success, two comments should be made: (i) nobody and nothing can accurately predict or guarantee success, as success is representative of a future situation and is a result of a swarm of risky factors; and (ii) it makes sense to conduct studies that aim to identify the factors that could increase the probability of success [18].
As typology, studies have focused on internal or external (environmental) factors: individual or organizational driving forces that are resource-based, process-based, or management-based key-to-success and that are able to analyse current or historical data.

The most successful theories [19–22] are those that come with possible answers and applicable solutions in many cases and were valid for a period of time and/or were only applicable in particular circumstances. Sooner or later, these theories were invalidated by subsequent business practices.

There are two lines of action that can be taken to assess the probability of success: the first is focused on the quality of the individual entrepreneur, and the second is focused on the business idea [23] (pp. 41–54), [24] (pp. 43–56). Obviously, these two paths are inter-twinned. Additionally, both lines of action are based on the same philosophy (“assess to improve”).

Particular attention can be paid to different methods and techniques that can be used to assess entrepreneurial skills, mostly of those young people, as early as possible, even before they start their real entrepreneurial and business lives. The advantage is twofold: this allows us to identify the entrepreneurial talents of an individual and to evaluate their chances of success in their future ventures—which are of significant importance, at least from that standpoint of wise resource use (individual profits aside). Therefore, finding suitable tools to assess entrepreneurial traits is of interest, those of higher educated young people in particular, both locally [25,26] and internationally [27].

The entrepreneurial spirit is a state of mind (therefore, it is sometimes identified as entrepreneurial mindset) comprising an active attitude to make things happen, to do the things better, and to permanently look for change and innovation—not for the sake of change per se but that is opportunity-oriented [4], and the ability to identify, to analyse, and evaluate the opportunity; to grasp it quickly; and turn it into a more profitable situation.

In line with Howard Stevenson’s theory [3–6], Stokes and Wilson [28] place the opportunity-orientation at the top of the first block of qualities of successful entrepreneurs (i.e., features of the entrepreneurial manager); the other three blocks refer to technical knowledge, strategic management competences, and personal skills. Each characteristic is associated with a number of attributes. Actually, some of these attributes are inter-dependent and/or overlapping. Therefore, the list is neither unique nor immutable.

Besides entrepreneurial attributes, entrepreneurial success depends on many factors, notably external factors, which are beyond the entrepreneur’s reach and will as well as their evolution. Hence, having the ability to predict the evolution of these external factors or, in other words, the entrepreneur’s talent to make the right decisions in conditions of risk and even uncertainty, is of great importance. The path to success is actually a succession of right decisions made by the entrepreneur while running his/her business. By law, the entrepreneur enjoys a dual quality: owner and, formally, manager [18]. Unfortunately, this is not always the reality, as there are entrepreneurs who do not display the necessary managerial characteristics (including strategic management competences and the ability to make the right decisions). It is this set of managerial features that makes the difference between business success and failure.

The concept of entrepreneurial studies originally encompassed the study individual entrepreneurs and their businesses [28–34]; later on, it expanded—both vertically and horizontally—as Table 1 depicts.

| Entrepreneurial Studies | The Purpose: |
|-------------------------|--------------|
|                         | Profit–Oriented | Other–Than–Profit |
| Organizational level    | Corporate entrepreneurship | Entrepreneurial not-for-profit organizations, NGOs |
| Individual level        | Traditional entrepreneurship | “Civic entrepreneurship” |

Table 1. The expansion of entrepreneurial studies—starting from initial “traditional entrepreneurship” (by authors).
Traditional entrepreneurial studies probably first extended to international entrepreneurship [35–38]; this extension was purely geographical in physical terms, but conceptually, it remained within the traditional borders of entrepreneurship (entrepreneurial business).

The most notable expansions happened towards corporate entrepreneurship [7–11] (vertically) and social entrepreneurship [39–41] (horizontally); both were breakthroughs from individual business to larger corporations, respectively, with changes in focus from profit-orientation to social goals. Socially oriented, social entrepreneurship continue to influence business principles; therefore, it is correct to consider them as intermediary forms horizontally between for-profit and not-for-profit entities.

The best examples of entrepreneurial not-for-profit organizations are probably entrepreneurial universities [42,43] and more and more non-governmental-organizations (NGOs) and public administration organizations [44,45]. Although the reciprocal statement is not always true: unfortunately, not all NGOs are entrepreneurial.

For the sake of entrepreneurial studies, it is worth mentioning that many entrepreneurially skilled individuals are not active as entrepreneurs nor do they work in entrepreneurial organizations (either corporations or not-for-profit organizations); they simply act as “civic entrepreneurs” [46,47].

The entrepreneurial behaviour (displayed in Table 2) follows the same typology pattern as entrepreneurial studies related to entrepreneurship. Corporate entrepreneurial behaviour is marked in light blue.

Table 2. A typology of entrepreneurial studies related to entrepreneurial behaviour.

| Entrepreneurial Behaviour | The Purpose: |
|---------------------------|--------------|
|                          | Profit–Oriented | Other–Than–Profit |
| Organizational level     | Corporate entrepreneurial behaviour | Entrepreneurial behaviour of not-for-profit organizations |
| Individual level         | Individual entrepreneurial behaviour | “Civic (individual) entrepreneurial behaviour” |

Corporate entrepreneurial behaviour is actually the entrepreneurial behaviour of business organizations. It displays the inclination of the organization to undertake invention and innovation, including the creation of something new as well as the distribution of this product to the members of society while also planning to profit from it. EB is a preference for innovation and a change in existing institutions [12–14].

As the corporate EB-related literature is growing [11], the in-between zone between the individual level and corporate level (the zone of SMEs) is being investigated less. This study deals with the entrepreneurial behaviour of medium size enterprises (i.e., EEB).

According to Hisrich and Kearney [10], there are three main elements of EB in an organization: opportunity identification, opportunity facilitation, and opportunity desire and motivation, and all of these elements are necessary when pursuing opportunity [3–6]. Therefore, it is understandable that EB is a stronger formulation than entrepreneurial orientation [48–51]: opportunity identification, opportunity facilitation, and opportunity desire and motivation are translated in out-ward oriented, clear, unambiguous, focused action, while entrepreneurial orientation is a company-level strategic orientation that captures an organization’s strategy-making practices, managerial philosophies, and firm behaviours that are entrepreneurial in nature [48] while still being in-ward oriented.

However, the entrepreneurial orientation (EO) is a well-established concept in entrepreneurship studies [49–51], and its three defining dimensions are innovativeness, proactiveness, and risk-taking, all of which are entrepreneurial attributes and the right qualities of a strategic decision making process.

There is no competition between the two concepts, but they refer to different processes. Both are entrepreneurship-related concepts, and both are meant to facilitate decisions: EB is a way of acting systematically, while EO provides the preparation for that action, after a decision has already been made. They do not always aligne with each other.
Besides EB and EO, two other related concepts ought to be clarified: entrepreneurial declaration (ED) and entrepreneurial intention (EI). While ED determines a possible way that someone may act (speaking only, not necessarily honestly), EI corresponds to a decision process that has already been started by setting the objective.

In conclusion, ED, EI, EO, and EB may all be related to business opportunity to certain degree in different aspects with different intensities, but according to Stevenson, only EB chases the opportunity [3–6].

Stevenson also arguably coined the term “intrapreneurship” for corporate entrepreneurship [52] to underline the permeability of the line between individual and corporate entrepreneurship as well as the line between individual and corporate entrepreneurial behaviour.

EEB is to be investigated in this study, and we hope that the findings that are discussed here are able to contribute to the relatively scarce literature on the EB of SMEs (medium-sized enterprises particularly). It specifically refers to the entrepreneurial behaviour of business (profit-oriented) organizations of average size—between entrepreneurial start-ups and large corporations.

2.2. From “Strategy” to “Entrepreneurial Strategy” to “Sustainability-Oriented Strategy”

Undoubtedly, “opportunity” is the crucial point where “entrepreneurship” and “strategy” meet: the pursuit of opportunity defines entrepreneurship, while the same opportunity is one of four pillars of SWOT analysis [53–57], which, when well-applied, is the framework for strategy design.

Amid vast literature on strategic thought, Mintzberg reveals the entrepreneurial school of strategic thought as one of the ten major schools of strategic thought that has been identified: “the strategy formation as a visionary process” [17].

Entrepreneurial strategy includes a variety of strategies within entrepreneurial firms. Kuratko and Welsch illustrate the diversity of entrepreneurial strategies through a number of cases [16] and focus on the entrepreneurial process, demonstrating that developing entrepreneurial strategies is a “multi-staged approach”; they observe that career stages and emerging entrepreneurial issues (as entrepreneurial careers, international entrepreneurship, women entrepreneurs, corporate entrepreneurship) are correspond to venture stages (from business idea and pre-venture to entrepreneurial growth and harvest).

Among the multiple perspectives of entrepreneurship [58], Meyer, Neck, and Meeks propose a classification of the domain of entrepreneurship that is contingent to strategic management [59], emphasizing the size of the firm as the criterion. Notably, they consider the intra- and entrepreneurial creation on the entrepreneurship side, while the firm’s performance is situated on the side of strategic management.

Acknowledging that performance is critical in assessing a company’s activity, the authors consider that EB is a matter of strategy as well—as long as practical situations display cases in which strategic changes happen when significant opportunities are identified and pursued following the decisions made by top management. Of course, not all opportunities cause strategic changes, and not all strategic changes are caused by an opportunity. A change is considered strategic if it impacts the entire business, so pursuing a business opportunity is a strategic change. It is linked to the top executive’s decision, needs significant resources, influences all organizational functions, and has long-term effects. Through these features, strategic changes differ from tactical changes—which have short-run effects and lower influence (e.g., function level), need fewer resources, and are linked to tactical decisions.

The literature on sustainability is growing massively [60–66]; however, there is not much about the EB of companies with a sustainability-oriented strategy, and even less is available in the case of SMEs. Sustainability literature covers a variety of issues, both at the macro- and microeconomic level. Notably, most of the titles are related to industries that are directly linked to the eco-environment—such as tourism and hospitality industries [60,61]—or hard-pollutants—such as plastics [62], or hard-polluting countries, such as those contributing
global CO₂ emissions from fossil fuel combustion [63]. Most notably, sustainability-related literature is focused on strategic issues in Europe and does not often refer to companies, but large majority is related to entire industries or economic sectors [64], such as the renewable energy sector and its role in a more competitive economy [65], renewable energy evolution and forecasting [66], etc.

The Sustainability orientation of a company is visible in two ways: (i) at a declarative level (more or less associated with corresponding concrete actions or possibly declarative only), regardless of the industry they belong to or (ii) through being active in an industry that is directly linked to sustainability issues (e.g., producing and/or selling devices for lowering pollution such as industrial filters for cleaning polluted air; producing “green” energy; providing services for energy metering, etc.). Following these sustainability lines, a group of companies that comply with both criteria was selective: the group is active in the energy metering industry, and its sustainability strategy is posted as such on its website.

In addition, it is an international group that is active in more than twenty countries on two continents: internationalization is an entrepreneurial attribute for any type of organization and not only universities [42].

In conclusion, this paper studies a less investigated subject (entrepreneurial behaviour of an international group of medium-sized enterprises) with a less studied strategic profile (sustainability-oriented strategy).

3. Methodology

As this paper reports partial results of a larger research project, it is a qualitative, explorative study.

The scope of the present work is defined as a group of companies, members of international group that is headquartered in the EU (European Union) and that is active in the energy metering industry, serving clients on two continents. For confidentiality reasons, this international group will be named “the group”, and the companies—members of the group—will be identified as “companies”.

The overall goal is rather ambitious: to contribute to bridging the gap between two concepts (entrepreneurial behaviour and strategy) both in terms of theoretical principles on the very practical grounds of information collected from the companies and homogeneously as a sector of activity (energy metering sector) as well as a sustainability-oriented strategy (as defined by their mission and products).

The aim is to analyse the strategic changes of several companies (group members) with relative homogeneity that are active in the same industry and in the same market (EU) and that are medium-sized companies of the same age (legally registered in about same period) in order to identify their entrepreneurial behaviour (EB) as defined by Howard Stevenson’s approach (pursue of opportunity).

Hence, there are two main objectives for the present work: (i) to identify the strategic changes that mirror entrepreneurial behaviour among group members and (ii) to identify the driving factors behind these strategic changes and their origin: company specific, group specific, industry-specific, or external pressure (legal provisions in favour of sustainable development).

In other words, given a homogeneous set of SMEs (in particular medium-sized enterprises) that are members of the same international group and that are active in the same industry, share similar sustainability-oriented strategy, we plan to screen their opportunity-oriented enterprise entrepreneurial behaviour (EEB) according to Howard Stevenson’s theory [3–6] over a relatively long period of 15 years (2004–2019). Four specific research questions were posed:

(Q1) How frequent were the group’s strategic changes that provided opportunities for EEB among the group members?

(Q2) Did these group’s strategic changes produce similar effects (as EEB) among the group members? Why?
(Q3) Were there any other opportunities (other than Q1) pursued by the group members demonstrating EEB? How frequent were these opportunities?

(Q4) Was this EEB identical among the group members? Why?

The methodological approach has involved data collection from both secondary sources (secondary research) as well as primary research by direct observation and in-house interviews with the company managers or the deputies appointed by them. The secondary sources include public information published by the companies (yearly reports) and the companies’ websites. The interviews were also an opportunity to clarify, double-check, and deepen issues resulting from the secondary research. During the first part of the data analysis phase, which followed data collection phases, the data collected from both primary and secondary sources were compared, and the most relevant information were then retained and aggregated (e.g., data shown in Tables).

The data were collected during the first semester of 2020, and a period of 15 years of scrutinized (2004–2019). Interviews were conducted according to a “map of interview” (tree-shaped semi-structured interview guide), as presented in Table 3.

Table 3. The general structure of the interview guide —the section related to EEB.

| Interview Section | Level I (Main) | Level II (Detailed) |
|-------------------|---------------|---------------------|
| Introductory      | Identification data | Company manager ...        |
|                   |                | Strategic changes—result of group’s strategy changes |
| Core-section      | Strategic changes in company | Strategic changes—result of the company’s initiatives ... |
|                   |                | Political environment changes (global, EU, country) impacting the company strategy |
|                   | Other: open commentaries about the company’s strategic changes (country and company specific) | Legal environment changes (global, EU, country) impacting the company strategy |
|                   |                | Economic environment changes (global, EU, country) impacting the company strategy |
|                   |                | Any other (global, EU, country) that triggered changes within company ... |
| Interview closing |                |                     |

1 The data displayed in this table are only the top titles of a tree-shaped semi-structured interview guide and is also restricted to the topic of this study (as this study is part of a larger research project).

Because the companies that were selected were located in different EU countries, only a smaller part of the interviews were conducted face-to-face; the majority were conducted by phone and/or via the internet. The COVID-19 crisis erupted in March 2020 during the period planned for interviews, so many interviews were fragmented and rescheduled, meaning that the interview durations range in length.

The interviews were agreed upon with the company executives and were conducted with them or their appointed deputies. The interview notes were processed and analysed in two post-interview phases. First, after each interview session, the completeness of the information was checked, and according to the outcome of the information completeness check, the next interview session was scheduled. Second, after finishing the entire interview, fragmented interview notes (associated with each company under study) were assembled and analysed as a whole.

As this paper refers to a study that is part of a larger research project, only the data that were relevant for the objectives of this paper were selected and presented.
4. The Case: The Group and the Companies

The group is a European, mature business with a long history that grew organically over time and expanded internationally by buying smaller companies according to the principle “one company in one country”. Nowadays, the group owns more than twenty companies, most of which are in Europe. It sells energy metering devices and provides services and solutions to clients on two continents. The devices that are offered to clients are designed to meter water, heat, and gas. Its largest market is Europe, and its clients are mostly individual dwellings and condominiums.

The group’s strategies have changed over the course of its history, as the owners have changed many times as well. Today, the group strategy is not only sustainability-declared and intended but explicitly sustainability-oriented as well.

The Sustainability orientation of the group is visible in two ways: (i) at the declarative level through posted documents and messages of the group and company members in an articulate style and (ii) through being active in an industry that is directly linked to sustainability issues: producing and/or selling devices and providing services for energy metering (heat, water, gas).

The group’s sustainability strategy is posted as such and includes keywords such as saving energy and valuable resources, smart devices, manage resources sustainably, climate protection, and sustainable actions. The group’s sustainability-oriented strategy is diffused to all member companies in a coherent manner, through well-a planned communication strategy, periodic team-building events, and training sessions. Following these sustainability lines, a set of companies was selected that complied with both sustainability criteria: (i) activity in the industry of energy metering and (ii) posting clear sustainability messages.

We also considered the age of the company during the company selection process in order to choose well-established companies that were at least 15 years old (for the sake of the scrutiny interval) and that were of a similar age in order to be mature enough and comparable age. The conditions were satisfied by three companies, all of which are located in three EU member states (Italy, Romania, and Spain, even sharing common roots of Latinity), covering Eastern, Central, and Western parts of Europe in a balanced manner. The list of the companies—all of whom are members of the group—that were selected for interviews is pictured in Table 4.

Table 4. The set of the companies selected.

| Company | Age (Year of Registration) | Size (No. of Employees) |
|---------|----------------------------|-------------------------|
| CMX     | 1995                       | 80                      |
| CMY     | 1995                       | 120                     |
| CMZ     | 1996                       | 245                     |

1 For confidentiality reasons, the names of the companies are not disclosed. 2 All companies under scrutiny reported growth trends along the years surveyed, so the number of employees was considered. Thus, the average number of employees during the last surveyed year (2019) is considered.

All three companies that were selected were of similar size (medium size companies) and were legally registered as limited liability companies (according to respective country legislation). The size categorization considered the European standard [67]. According to this standard, all of the selected companies qualified as medium size (50–250 employees).

It should be noted that Table 4 only displays the companies’ headcounts and that no financial figures (annual turnover and annual balance sheet included) were disclosed.
5. Results

The results of the study are synthesized and summarized, and the findings are presented in the tables (Tables 5–7) by company, respectively, CMX, CMY, CMZ, as determined by their size (Table 4).

All of the results are presented yearly, year by year, and associated with the reference period 2004–2019, and only the years when significant strategic changes and initiatives happened were selected, as reported by the respective company executives.

The results synthesized in Tables 5–7 highlight two types of strategic changes and initiatives:

- Strategic changes and initiatives taken at the company level (marked with C letter) during respective year, regardless of the changes and initiatives taken as result of strategic changes at the group level and that are still within the limits of group strategy (respective year is identified as marked in light blue colour);

- Strategic changes and initiatives produced at the company level as result of strategic changes at the group level (marked with G letter) during the respective year (left unmarked).

| Year | Strategic Change | G or C Level (Group/Company) | Comments |
|------|------------------|-----------------------------|----------|
| 2004 | Change of the strategic objectives: market penetration | G | CMX start selling heat cost allocators to new clients, stimulated by local legislation (delay: 1 year) |
|      |                  |                             | Changing the name was easy to implement because the new name was the name of the best sold product (the water meter) (delay: 6 months) |
| 2007 | Change of the strategic objectives | G | New product development (radio heat cost allocators), demand-driven/client comfort needs |
| 2008 | Decision: become profitable by acquisition of a local competitor | C | The market was stagnating, and company had no critical mass of clients in order to be profitable |
| 2011 | New product: combined energy supply & smart metering | G | No change in company strategy; Energy supplied by state-owned firms only—then no opportunities on the local market |
| 2012 | Outsourcing billing service to a newly created company | C | The new company (service center) will be servicing other group companies |
| 2013 | Market development: selling heat cost allocators to new clients (mandatory by EU law) | G | Even though the EU legislation was implemented locally, clients were not sensitive but reluctant to sub-metering |
| 2015 | Cross-selling a new product to existing clients | C | Pressure to increase profitability |
| 2017 | Change the focus on R&D, innovation and new technology (IoT) | G | No change in strategy; Radio-controlled thermostat for heat adjustment is evaluated to replace traditional thermostat |
Table 6. The summarized strategic changes and initiatives at CMY company.

| Year | Strategic Change                                                                 | G or C Level (Group/Company) | Comments                                                                 |
|------|----------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------|
| 2004 | Change of the strategic objectives                                              | G                            | Demand-driven market penetration                                          |
| 2005 | Rebranding                                                                       | G                            | Changing the name postponed because of bad connotation in local language  |
| 2007 | Change of the strategic objectives                                              | G                            | New product development (radio heat cost allocators), demand-driven/clients' comfort needs |
| 2011 | New product: combined energy supply & smart metering                             | G                            | No change in company strategy; Very high investment required              |
| 2013 | Market development: selling heat cost allocators to new clients (mandatory by EU law) | G                            | The EU legislation implemented locally with good result; population observed the legal obligations |
| 2014 | Decision to outsource billing service to CMX                                    | C                            | Pressure to increase profitability                                         |
| 2017 | Change the focus on R&D, innovation and new technology (IoT)                    | G                            | No change in strategy; Feasibility analysis to develop reading technology; legal aspects under evaluation |
| 2018 | Decision: taking clients from competition, offering reading services            | C                            | From stagnating market to market development                              |

Table 7. The summarized strategic changes and initiatives at company CMZ.

| Year | Strategic Change                                                                 | G or C Level (Group/Company) | Comments                                                                 |
|------|----------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------|
| 2004 | Change of the strategic objectives                                              | G                            | Demand-driven market penetration                                          |
| 2005 | Rebranding                                                                       | G                            | Quick change of name associated with intense promotion raised the awareness about new brand |
| 2007 | Change of the strategic objectives                                              | G                            | No significant change                                                      |
| 2011 | New product: combined energy supply & smart metering                             | G                            | No change in company strategy; No local know-how to be able to develop such complex project |
| 2012 | Diversification: Enter gas metering market                                       | C                            | Pursuit of business opportunity of an existing market                     |
| 2013 | Market development: selling heat cost allocators to new clients (mandatory by EU law) | G                            | Not successful strategy because no local legislation implementation       |
| 2017 | Change the focus on R&D, innovation, and new technology (IoT)                    | G                            | No change in strategy; waiting for mandatory sub-metering legislation to be implemented locally |
| 2019 | Diversification and Product development                                          | C                            | Pursuit of a business opportunity of a steadily growing, new market: Offering to existing and new clients the charging stations for electric cars to their homes |

It is significant to observe that the first type of initiatives are the results of company decisions to pursue opportunities (therefore, they are indicators of entrepreneurial behaviour of the respective company), regardless the changes and initiatives taken as result of strategic changes at the group level (then independently), which are fairly within the limits of group
strategy. When a company engages in this type of entrepreneurial behaviour, it is called independent EEB.

In the case of the CMX company, the indicators of independent EEB were identified three times (years 2008, 2012 and 2015)—highlighted in Table 5 in light blue.

The second type of company initiatives, which are still opportunistic (therefore they may also be considered indicators of entrepreneurial behaviour of the respective company) are the results of strategic changes at the group level; in other words, they are induced by the strategic changes produced at the group level. When a company engages in this type of entrepreneurial behaviour, it is called induced EEB.

For the CMX company (Table 5), the indicators of induced EEB are identified three times (years 2004, 2005 and 2007). Other opportunities offered by the group’s strategic changes remained unexploited for different reasons, although these reasons independent of company management and comprised local property laws (2011); reluctance of local market (2013); or delays (2017).

Table 6 displays both instances (independent and induced EEB) for the CMY company. Independent EEB was observed two times (years 2014 and 2018)—identified in Table 6 as marked in light blue.

The indicators of induced EEB in case of the CMY company were identified in three different years (2004, 2007, and 2013). Other opportunities offered by the group strategic changes remained unexploited for different reasons, although these reasons were independent of company management and comprised cultural rejection of the new brand name (2005); efficiency reasons (2011); or delays (2017).

The situations identified as the entrepreneurial behaviour of the company CMZ are presented in Table 7.

Strategic diversification decisions made by CMZ in the years 2012 and 2019 are clear indicators of independent EEB (2012 and 2019), as highlighted in light blue (Table 7).

Table 7 also shows the two years in which CMZ’s actions qualified for induced EEB (2004 and 2005), while in another four instances, the opportunities offered by the group’s strategic changes were not further exploited—either for reasons that were independent of the company management—such as legislation framework (2013 and 2017), or for probable (managerial and/or technological) flaws at the company level (2007 and 2011).

When considering the companies in more practical situations (as members of a group), their different strategic decisions and answers to similar opportunities may have additional reasons that are related to differences in technology and know-how [68] and/or the expertise of the human resources department—either experts or managers.

At first sight, the quantitative evaluation of strategic instances in which group members behave entrepreneurially shows pretty balanced results: between years with entrepreneurial activity and passivity (7–8 years out of 15); between independent and induced EEB; and among group members themselves.

In terms of the qualitative evaluation of EEB, the “rough” assessment might be developed more finely by pondering higher the independent EEB compared to induced EEB (e.g., 2 to 1 points). Even finer, the independent EEB may be assessed differently according to the distance to the opportunity identified (e.g., 2 points within group, 3 points within industry but out group, 4 points out industry). Table 8 demonstrates how the rather balanced “rough” assessment of the companies’ EEB becomes more inclined to ranking (“finer”)—as highlighted in light blue.

Notably, gradual assessment of the EEB (which stimulates and reckons the entrepreneurial initiative) shows a different ranking: while CMX is still on top, CMY and CMZ switch their positions; in addition, CMZ becomes almost levelled to CMX.
Table 8. Possible system for gradually assessing the EEB of the companies selected (an example).

| Company | Independent EEB | Induced EEB | Total |
|---------|-----------------|-------------|-------|
|         | Rough | Finer | Rough | Finer | Rough | Finer |
| CMX     | 3     | 8     | 3     | 3     | 6     | 11    |
| CMY     | 2     | 5     | 3     | 3     | 5     | 8     |
| CMZ     | 2     | 8     | 2     | 2     | 4     | 10    |

1 For confidentiality reasons, the names of the companies are not disclosed.

Additionally, we are able to observe gradual alternations to assessment systems in terms of increases, which only occur as an independent component of the entrepreneurial behaviour of the company.

Penalizing the company’s failures to pursue the opportunities offered by group strategic changes is another possible approach that can be used to assess the intensity of company EEB (certainly, excepting objective cases when the action is banned by local legal framework).

Table 9 shows the ranking of the same set of companies when applying such a penalty (e.g., −1 point on the same “finer” scale). Obviously, this kind of penalty only influences the induced component of EEB and does so negatively. CMX’s entrepreneurial behaviour is obvious compared to the other two group members. In spite of their close total EEB scores, CMY is better situated from the standpoint of induced EEB, while CMZ is better-off as far as independent EEB.

Table 9. Possible system for assessing EEB while penalizing the passivity of selected companies (example).

| Company | Independent EEB | Induced EEB | Total |
|---------|-----------------|-------------|-------|
|         | Rough | Finer | Rough | Finer & Penalty |
|         | Rough | Finer & Penalty | Rough | Finer & Penalty |
| CMX     | 3     | 8     | 3     | 6     | 11    |
| CMY     | 2     | 5     | 3     | 2     | 5     | 7     |
| CMZ     | 2     | 8     | 2     | 0     | 4     | 8     |

1 For confidentiality reasons, the names of the companies are not disclosed.

The results of this study (R1–R4) are summarized in a systematic manner below, according to the four research questions (Q1–Q4), respectively, as follows.

(R1) During the surveyed period of 15 years (2004–2019), six strategic changes were identified at the group level during the years 2004, 2005, 2007, 2011, 2013, and 2017 (Tables 5–7), i.e., frequency of one every 2.5 years on average. These strategic changes were opportunities that induced EEB among the three companies (members of the group) studied.

(R2) In terms of EEB, the effects of the group’s strategic changes were different from company to company because of both country-specific and company-specific reasons—from no effect (with objective or subjective motivation) to EEB of variable intensity from company to company (details in Tables 5–7 and associated comments).

This type of EEB was called induced EEB. A method to assess the induced EEB was proposed (Tables 8 and 9—Induced EEB columns—as well as the associated comments).

(R3) During the surveyed period of 15 years (2004–2019), seven different opportunities were identified in the local markets—which were pursued by the companies (two or three per company): CMX in 2008, 2012, and 2015 (Table 5, marked in light blue colour); CMY in 2014 and 2018 (Table 6, marked in light blue colour); and CMZ in 2012 and 2019 (Table 7, marked in light blue colour). All of these opportunities were pursued by the respective companies, demonstrating EEB. This type of EEB was called independent EEB.

(R4) The independent EEB was different form company to company, as the type of opportunity was different from country to country; the intensity of EEB was also dependent on both opportunity types and company-specific factors. A method to assess the independent EEB was proposed (Tables 8 and 9—Independent EEB column—and the associated comments).
6. Discussion

In principle, the higher intensity of the independent EEB shows a higher degree of entrepreneurial behaviour, while a higher intensity of induced EEB means a more coherent strategy within the group. The percentage of opportunities taken in the case of induced EEB (between 33—50% respective 3, 3 and 2 out of 6) does not have much relevance when the national legal system is the obstacle. However, it is worrying for the company (and the group) when the reasons for not pursuing the opportunity offered were technology-related and/or related to management flaws at the company level.

The identification of two types of measurable EEB (induced EEB and independent EEB) in case of a group of medium-sized companies that were active in the dynamic sector of energy metering services industry is a promising contribution as well as path for future studies.

It should be noted that the two types of entrepreneurial behaviour are not mutually exclusive and that the independent entrepreneurial behaviour demonstrates a higher degree of entrepreneurialism than induced entrepreneurial behaviour.

The main purpose of this explorative and descriptive study was not necessarily to rank companies by the EEB that they display; however, the ultimate findings of this study demonstrate that it is possible to build a such ranking instrument, which could also be used for self-analysis by measuring self-progress by the interested company managers.

The problem of assessing the entrepreneurial problem is difficult and complex because of the large number of factors and parameters to be considered. Therefore, from theoretical standpoint, the opportunity-based theory of entrepreneurship developed by Stevenson [3–6] is a rock-solid starting point for a working hypothesis.

Nevertheless, the authors’ approach of assessing entrepreneurial behaviour— EEB through the lens of strategic changes of companies while chasing opportunities—led to consistent results that were able to be measured by tangible decisions at the strategic level with the highest organizational impact.

It should be remarked that, when considering international groups of local (country) companies, induced entrepreneurial behaviour is generally associated with international opportunities, while independent entrepreneurial behaviour is because of local opportunities, which is a complex environment that can be investigated. Obviously, any group or company can pursue any kind of opportunity with equal merits; nonetheless, the group always has larger area of operations and freedom of decision.

In more specific terms, the study focused on the possibility of assessing entrepreneurial behaviour [68] and on finding a practical way to eventually measure its intensity (not only detecting its presence).

The data collected during interviews and discussions associated have also revealed the prospect of analysing the EEB actions on the time axis, with important consequences: the consideration of decision delays as a complementary indicator of EEB and the study of EEB in connection with the company growth phase [69,70] and/or stage of the company lifecycle [71].

7. Conclusions, Limitations and Further Studies

The objectives of this explorative study were fully matched, and satisfactory answers to the research questions were found.

The entrepreneurial behaviour of the set of companies, members of an international group, was emphasized; the strategic changes that mirror entrepreneurial behaviour among group members were identified; As such, the origin of these strategic changes was determined (company specific, group specific, industry-specific, or external pressure—as legal provisions in favour of sustainable development).

The strategic changes and initiatives related to opportunity pursuit reflect entrepreneurial behaviour. In the case of companies belonging to the same group, several types of EEB are identified and defined—among them: induced EEB and independent EEB.
The promising results of this exploratory research on EEB and the novel typology that was proposed should also be tested in more industries. The analysis of the EEB actions on the time axis is another open window for promising future studies.

The results of the present research are useful for theorists and practitioners (top managers and entrepreneurs) as well as for strategists and decision makers who are involved in sustainable development policies. In the particular case of international groups, slight differences among the reactions of the member companies at similar strategic changes made at the group level are weak but early warning signals of malfunctioning and/or various degrees of EEB or, possibly (at deeper investigation) caused by various degrees of individual EB by the managers of the company members; therefore, appropriate corrective decisions could be made at the group level in a timely manner or even proactively.

The ranking procedure exemplified in Tables 8 and 9 demonstrates that it is possible to use this procedure to build an EEB ranking instrument that can be used to measure self-progress by the interested company managers. Additionally, it could be used while conducting longitudinal, transversal, trans-industry, and/or cross-cultural studies, which are open research paths that can be further explored.

The limited number of companies (imposed by the homogeneity of the set of companies analysed) as well as the industrial sector that was investigated following the decision to conduct the research in an industrial sector representative for its declared and practiced sustainability orientation were the inherent limitations that allow the extensions of future research to larger numbers of companies under scrutiny as well as from other industries.

Besides the natural limitations of the research that have already been mentioned, the main limitation of the study is its pre-pandemic character—which also is a research opportunity for further studies regarding EEB under the conditions of the COVID-19 pandemic. The pandemic will probably influence the entire group, and different impacts will be seen from country to country. Pending the end of the pandemic, future studies on the same set of companies should find out if EEB is accentuated or moderated, accelerated, or slowed down as result of the pandemic.

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