

Article

Towards Sustainable Innovative Business Models

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Abstract: This paper addresses two research questions: (1) How do firms innovate their business models to deal with the economic, environmental and social aspects of sustainability, and their interconnections? (2) How do managers design the process toward more sustainable innovative business models? Starting from the triple-layered canvas as a theoretical framework, a pattern matching technique is used to compare that theoretical pattern to the empirical pattern observed. The study is based on qualitative methods and data from a Spanish company in the wine sector. The findings indicate that the triple-layered canvas is applicable and useful for micro firms, although the process to design sustainable innovative business models might be even more important. A new theoretical model is inferred and proposed to incorporate the perspective of the process of the business model innovations for sustainability, and to add several relevant aspects to make the process more successful. Besides this, non-family firms introducing sustainable business model innovations in their economic, ecological, and social aspects move closer to family firms' distinctive behavior. Finally, the implications and future lines of research are summarized.

Keywords: sustainable business model; business model innovation; wine business; Spain; social business model; ecological business model



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1. Introduction

Today, organizations are being urged to innovate their business models so that they generate sustainable value on the economic, social and environmental levels. Researchers have devoted significant attention to business models and business model innovation in the last decade [1]. Despite lacking a unique conceptualization of a business model, most studies use the definition given by Teece [2] (p. 172): “design or architecture of the value creation, delivery, and capture mechanisms”. Business model innovation refers to significant changes to the key elements of a firm's business model and/or the architecture linking these elements [3]. Our time demands new sustainable value be generated [4], and business model innovation can contribute to generating and consolidating this sustainable value both for established organizations and for new entrepreneurial initiatives [5].

Firms are being encouraged to integrate sustainable innovations into their business models [6]. Practices of sustainability have been associated with family firms due to their longer-term orientation and social dealing with multiple stakeholders [7]. Many innovations seeking more sustainable business models fail [8]. The challenge that companies face to strongly integrate social and environmental objectives into the fundamental way of doing business is increasingly evident [9], especially in non-family firms whose innovative behavior is different [10]. This effort probably implies a comprehensive rethinking of companies' business models and a new questioning both of the value that is created and the way in which it is captured [11]. However, the ways in which managers can manage and design that process is unclear.

Some research attempts have been made to describe a unified perspective on business model innovation for sustainability [12]. One example is the triple-layered canvas by [13],

which extends the original economic business canvas model [14], a widely adopted framework to support and develop economic business model innovation. The model reflects two new layers (environmental and social) and highlights the need for horizontal and vertical coherence within and between the economic, ecological and social layers of a firm's business model. However, the generation of sustainable business models is a complex task, with multiple dimensions for which a sufficient number of success stories have not yet been documented [15,16]. Despite the relevance of the business model innovation process to the success of the firm [17], few studies go beyond a simple inventory of business model components and neglect the specificities of the process behind them. A holistic, systematic, new approach to business practices is needed in order to deal with sustainable development [18] and to help hybrid companies facing the challenges and tensions associated with economic, ecological and social issues [19].

This paper aims to fill this gap by addressing two research questions: (1) How do firms innovate their business models to deal with the economic, environmental and social aspects of sustainability, and their interconnections? (2) How do managers design the process toward more sustainable innovative business models? The study shows in detail an illustrative case of a successful, sustainable and innovative business model supporting the theoretical model of the triple-layered canvas proposed by [13]. That model has been applied mainly to large companies like Nespresso worldwide in 2015 [13], ignoring the potential for successful business model innovations for sustainability in smaller firms. Furthermore, the triple bottom line has been studied in medium and large corporations. Firm size may influence sustainable business model innovation, and further research is needed [20]. We use a qualitative methodology and pattern matching principles to compare the predicted conceptual pattern with the observed empirical pattern [21]. Specifically, flexible pattern matching was used due to the exploratory nature of the research design [22]. The evidence collected from personal interviews, private information, and public data is analyzed and confronted with the pattern, and a new proposal is made with regards to the iterative process through which companies should travel towards sustainable innovative business models.

Our study contributes to academia and practice in several ways: (1) by analyzing in detail how business model innovations in one layer provoke changes in the other layers of the business model; (2) by showing how any company (even our studied case, a small Spanish firm) can innovate its business model from diverse perspectives other than the economic dimension, and also by changing the environmental and/or social components of the business model; (3) by showing that the triple-layered canvas should represent not only the static picture of the current situation of the firm's business model innovation from the three perspectives but also the trajectory over time; and (4) by showing that a non-family firm introducing business model innovations for sustainability moves closer to family firms' distinctive behavior.

2. Theoretical Background

2.1. Business Model Innovation for Sustainability

Business model innovation is defined as "designed, novel, and non-trivial changes to the key elements of a firm's business model and/or the architecture linking these elements" [3]. In today's turbulent environments, the innovation of a firm's business model is a must to survival [23], a source of a firm's competitive advantage [24], a significant driver of higher firm performance [25], and an effective mechanism to create customer and social value by integrating environmental, social and business activities [26].

It is well known that innovation is an especially difficult activity, as well being as costly in economic terms, and it has been recognized for decades as one of the drivers of organizational growth [27]. Innovation can help create unique, novel capabilities in organizations which may be difficult to develop, and that may therefore enhance new competitive advantages [28]. Innovation applied to sustainable development can also

provide companies with valuable resources that help them develop new competitive advantages [29].

All business models are susceptible to being modified over time, and in fact, this is one of the fundamental courses of action to introduce innovations in favor of improving sustainability in organizations [12]. Innovation in business models has recently become an efficient manner to achieve the objective of integrating the values, actions and results associated with sustainability in the business operations of companies [26]. A conventional business model aims to achieve customer satisfaction, ensure regulatory compliance and achieve the economic benefit of the organization [30].

A business model for sustainability can be defined as “supporting voluntary, or mainly voluntary, activities which solve or moderate social and/or environmental problems” [26] (p. 112). Three elements are stated to be required in order to move from a business model to a sustainable business model: sustainable values, pro-active multi-stakeholder management, and a long-term perspective [7]. Practices of sustainability have been associated with family firms due to their longer-term orientation and social dealing with multiple stakeholders [6]. Non-family firms show different innovative behaviors [9] which may affect the modifications implemented to innovate their business models for sustainability. Sustainable business models are given a greater capacity to obtain achievements that generate an impact of a social or environmental nature [9], and this may be due to the fact that they transcend the customer orientation of conventional business models because they pursue a positive impact on a greater number of stakeholders, on society and on the environment [30]. Its implementation means the achievement of beneficial effects on the business that, in any case, can always be evaluated, measured and discussed within the organization.

Thus, the research shows that sustainable business model innovation constitutes one of the fundamental change processes that companies need to apply to their activity, and even their very purpose, in order to broaden their prospects for improvement in multiple areas [31,32]. This process of improvement through innovation affects the development of new value proposals, value creation, delivery networks and value capture procedures [2]. In fact, action networks must be expanded to reach governments, customers, companies, charities, suppliers, partners, or any other type of organization [6]. Innovation in sustainable business models, therefore, aims at an action that transcends the company and puts its focus beyond its organizational borders, assuming that it will be necessary to interact with networks of stakeholders not only because the developed business model affects them but also because those stakeholders will also contribute to it [9].

Sustainability is one of the fundamental elements for organizations and for the development of their businesses [33]. Likewise, it is verifiable that it not only constitutes a core element of their activity but also represents an opportunity to grow and transition towards new paths in organizations [34]. The discipline of business strategy and management is gradually incorporating the development of sustainability as one of its long-term postulates, rethinking the theoretical and practical foundations of strategic management [35] and giving rise to new and interesting lines of work and research [36]. Besides this, running sustainable development activities provides organizations with especially valuable resources that may bring the opportunity to develop new competitive advantages, as well as to generate “radical new ideas for products, services, and business models” [29] (p. 15).

The literature on sustainability includes a multitude of new proposals related to the archetypes of sustainable business models [20,35,37–41]. Circular business models are one of them [42]. However, the problem of determining how the development of innovation inside organizations can lead to more sustainable societies remains unresolved [43]. Although it seems clear that a more sustainable society cannot be achieved without significant changes in companies, it is not clear enough how social, economic and environmental policies, and interactions among them, will be deployed and integrated within organizations [44].

One of the research focus points has been to analyze the different mechanisms that explain the degree of integration accredited by organizations between the management of their environmental activities and their economic performance [44]. The integration of environmental management processes into the business model fosters multiple benefits of a strategic nature, such as reducing inefficiencies caused by divergent objectives, enhancing value creation, and improving the visibility of organizations [45].

It is known that more innovative work approaches, based on business models in general or on product-service systems in particular, allow organizations to lead their activity to obtain greater environmental benefits [46,47]. Sustainable business models take into consideration different perspectives of sustainability itself, fundamentally at social and environmental levels, in order to integrate them with the strategic and economic objectives of the organizations [42]. This integration is carried out both in companies themselves and in the value networks in which they participate [12]. The so-called triple bottom line is generally used to evaluate their performance [20].

Additionally, the triple-layered canvas by [13] proposes a model to design innovative and sustainable business models by complementing the economic traditional canvas given by [14], with two additional perspectives: the environmental layer and the social layer. The combination of these three layers leads to the more effective capture of the way an organization generates value at different levels, i.e., at the economic, social, and environmental levels [13], as they represent the three basic pillars of sustainability. The triple-layered canvas is recognized as a significant contribution to the field of sustainable business model innovation [48]. In fact, both scholars and practitioners have already paid attention to the development of business model innovation through the triple-layered canvas, because it is a practical tool with a small learning curve, contributing to the development, visualization and communication of sustainable innovations in the business model [49].

The use of tools such as the triple-layered canvas provides special utility to obtain a more comprehensive view of the business model, as well as to facilitate the creative process that can lead to the innovation of the business model and make it more sustainable. This tool provides two new analysis dynamics, horizontal coherence (within each layer) and vertical coherence (across different layers), and contributes to research on sustainable business models by incorporating sustainability-related issues as part of the business model innovation process [13].

By reflecting the life cycle and the stakeholder dimensions together with the economic perspective, the triple-layered business model canvas is a tool that is used to investigate and explore the innovation of sustainability-oriented business models. The ecological and social issues are further explained in the next section and will be analyzed in the case study research later.

2.2. Environmental and Social Issues for Sustainability

According to [50], issues of social and environmental impacts are increasingly being considered in organizations. However, these authors also express their concern about the existence of impediments in the definition of business models that could limit the further development of sustainability in companies. It is true that the interest of companies in sustainable development has increased significantly, and that those companies have been moderately successful in enhancing their efficiency in environmental matters, but this achievement is overshadowed by the greater growth in their activity and production, which inevitably entails a greater environmental footprint [51]. Thus, organizations are called upon to consider the environmental and social perspectives of their business models, along with their economic performance, in order to achieve sustainability. For instance, [13] propose the triple-layered canvas, which consists of the economic, environmental and social layers of a firm's business model.

Regarding the environmental issues, it is becoming increasingly clear that there is a growing need for the more efficient use of resources and materials [52]. The capacity of our planet is being exceeded, and this is causing various environmental problems [53,54].

The reasons could be multiple, but according to [55], companies are primarily responsible for problems of both environmental and social nature, and are therefore also the main responsible actors for the lack of sustainability that current society evinces [55].

The potential benefits that can be derived from the introduction of environmental policies or practices in organizations are [56]: better access to certain markets; differentiating products; selling pollution-control technology; risk management and relations with external stakeholders; the costs of material, energy and services; the cost of capital; and the cost of labor.

Among the organizations that voluntarily undertake the adoption of measures or policies of an environmental or social nature, it is obvious that some do so solely because of their obligation to comply with legal precepts. Those that go beyond what the legislation requires of them show that they have a certain extra motivation, probably because they expect that such investment in sustainable developments will bring them some competitive advantage, economic benefit, greater visibility in the market, or a better corporate image [51].

In recent years there has been a progressive understanding of how new technologies and activities of a social nature contribute to making societies more and more sustainable. To some extent, this is due to a rapid expansion of the research on sustainable innovations over the past two decades [6]. The result of the accumulated research implies a greater knowledge of the factors that favor the development of sustainable innovations, such as the regulation or characteristics of organizations, as well as a study of the interaction between different elements related to innovation and society, and that can lead to the difficult transformation of new ideas into real products and services [57]. For instance, [58] assessed social sustainability in the construction sector.

Despite the importance and value of the social issues of firms' innovative business models, few social benefits are monetized or considered in corporate analysis, mainly due to the scarce incentives for firms to adjust their business models to social regulations and frameworks [59]. Besides this, measuring the benefits in the environment, economy, and society of business model innovations is difficult [12].

In addition, interconnections between the three layers (economic, ecological and social) exist. For instance, changes in a firm's business model due to environmental issues may affect social factors as well [59]. In other cases, the sustainability of the business model becomes overfocused on environmental issues, dodging social and economic layers [60]. This is why an appropriate combination of economic, environmental and social issues in business model innovation for sustainability is needed [12,13]. The question is, therefore, how to get to the required balance between those diverse aspects, and how innovations in the economic, ecological and social layers can leverage value for the firm. Illustrative cases of organizations working to successfully encompass the three issues can contribute to assist managers in doing so.

3. Materials and Methods

The empirical study used is based on qualitative methods. Due to the explorative nature of the phenomenon and the type of research questions used, the case study research methodology is the most appropriate. This method may offer insights that might not be achieved with other approaches [61]. Rather than making statistical generalizations, our intention is to deeply understand each firm individually [62], collecting evidence from different sources and analyzing the preliminary theoretical framework within each individual case. Moreover, case studies can be a useful tool for the preliminary, exploratory stage of a research project [61–63]. A summary of the method is detailed in Table 1.

Table 1. Summary of methodology used.

Methodological approach	Qualitative exploratory research Content analysis Pattern matching
Technique	Case study
Number of cases	One
Case selection	Purposive sampling Theoretical sampling strategy
Field work	Interviews: February–April 2021 Secondary data: February–April 2021.
Primary source of information	In-depth interviews with the CEO
Instrument used	Case study protocol Semi-structured questionnaires
Number and duration of interviews	Three interviews 70 min, 53 min, 55 min.
Main topics of the interview	Economic business model and business model innovations Business model and business model innovation: ecological and social layers Interconnections between the three layers Process of decision making toward sustainable innovative business models
Setting and data collection	Interviews conducted at the workplace and videoconferencing Interview guide provided in advance Field notes by authors during and after interviews Additional/missing/incomplete information requested after the interviews
Data analysis	Authors classified, categorized and analyzed information Key informant participated by checking and combining perspectives with researchers
Secondary sources of information	Public data: website, presentations, press news, regional TV and radio media, events. Private data: sales volume, products catalogues, observation.

Case studies as a research method have traditionally been viewed as lacking rigor and objectivity when compared with other social research methods [61]. For that reason, special attention to the research design and implementation stages has been paid in our research. Before collecting the data, a case study protocol was prepared, containing the instrument, procedures and general rules that should be followed in collecting and analyzing the evidence from the cases. This protocol was established by researchers working in the frame of a European research project (H2020) and approved by the European Commission. The project was a three-year research action aiming at understanding and supporting BMI in SMEs. The case study protocol is essential when using a multiple case study because it is a major tactic in increasing the reliability of case study research and is intended to guide the investigator in carrying out the case study [63]. Although the European project consisted of dozens of cases, the case company studied here is only one. Qualitative research based on single cases allows greater depth [64], opportunity for unusual research access to revelatory cases [63], and extensive description and analysis for theory refinement or extension [62,64]. One single case may be a very powerful illustrative example and the preferable methodology in this context [65]. The selection of the case is based on purposive sampling resting on the researchers' judgments aligned with the research goal. Therefore, the theoretical sampling strategy was used to make sure that the selected firm was particularly suitable for studying and illuminating the specific phenomenon under analysis, as other researchers recommend [62].

Following the detailed protocol, a team of researchers collected evidence from different sources: semi-structured interviews and questionnaires addressed to the management team, observation, archival data and documents provided by firms. The triangulation of data from multiple sources was used because that technique is essential in organizational

diagnosis [66] and reduces respondent bias [67]. The analysis results were shown in a draft report that the key informants (interviewees) reviewed. This tactic increases the construct validity.

The data from the studied case was gathered by conducting individual, in-depth interviews with the CEO, i.e., the person with the most experience in management, the strategic domain, and innovation. Three interviews were performed, and the average duration of the interviews was 60 min, ranging from 53 to 70 min. According to the research model, the information was collected using open questions with regards to the changes the company has made on different components of its business model, as identified by the literature [3,13,14,68]. In addition, other sources of evidence were used, as explained earlier in this section, in order to increase the rigor of the qualitative methodology.

Data analysis is based mainly on content analysis and the pattern matching approach. Regarding the content analysis, no software (e.g., MaxQDA or NVivo) was used to code and analyze the qualitative interviews and responses to the questionnaire because only one case was studied. The researchers did, however, follow a systematic analysis of the evidence collected from triangulated sources. The information of the selected case was classified according to a set of categories extracted from the literature, the conceptualization of business model innovation, and the triple-layered canvas by segmenting the data into units and rearranging them into categories that facilitated insight, comparison, and the development of the theory [69]. The manager of the studied company participated in checking some steps of the analysis and categorization so that the perspectives of the informant and researcher could be combined, thus increasing the rigor and quality of the qualitative research [70]. Additionally, we used pattern matching which “involves the comparison of a predicted theoretical pattern with an observed empirical pattern” [21]. This approach is especially appropriate for single-case studies [22].

The studied case was a Spanish importer of European wine brands and an exporter of Spanish wines, with its own brands from four different Designations of Origin (Rioja, Jumilla, Alicante, La Mancha). They also sell Spanish food specialties (Tapas & Gourmet Catalogue). The firm, created in 2014, introduced several innovations into its business model in the last five years. The company has eight employees, and its turnover last year was €900,000. The sales volume comes from retail (including the Horeca channel), internationalization, regional distributors and e-commerce.

4. Results

In the interviews, the studied firm stated that it is highly customer-centric, with a business model centered on very close customer relationships and a value proposition oriented to providing clients with (personalized) solutions to their problems. The CEO described the following (note: Horeca refers to the segment of hotels, restaurants, and café bars):

We have approximately 70% of sales from retail, we decided to go for this channel because it was where I came from with more contacts and experience after my years at a multinational group of beverage distribution, as well as being the channel that allowed us to work with more payment guarantees and lower marketing structure costs. The difficult part of this strategy is to enter, to know how to get to Key Accountants (there are many companies that get lost because they do not know how to handle negotiations with large supermarkets in terms of promotional concessions and commercial approaches, especially Trade Marketing). The positive thing is that once you enter, volumes are generated, and you can start working with sales planning. The Horeca channel is more unstable (imagine if by chance there is a pandemic!). It also requires more sales structure, sales force, more prospecting, travel expenses, representation expenses, etc. Another 20% of sales come from the internationalization of the company. These are sales to importers who represent us in other countries. (Germany, Mexico, Brazil, Nigeria). Classic export formula, an importer comes to us and we sell him by 20” containers (14,000 Bottles approx.) per shipment. The importer in the destination market buys in bulk and then resells to supermarket chains

and/or regional distributors. The last 10% comes from regional distributors within Spain (Mallorca, Ibiza, Malaga, Madrid) and also from Ecommerce, wine clubs specialized in the online channel. The latter, together with exports, is where the company has identified its sales growth channels for the next few years.

The company sells and distributes products that are produced by their allies (vineyards). Reliance on critical partners is especially relevant in this case to obtain wines of the highest quality. Competition is fierce, and each value proposition is somehow related to competitors' offerings. Although the wine industry is formed by many producers, the CEO is optimistic:

... There are many competitors in this sector, especially in the production sector. However, the company has a lot of experience in the wine sector. I have been working for many years in this industry before creating my own company.

The firm's competitive strategy is differentiation based on customer relationships, product quality, uniqueness, innovation, and exclusiveness. Its corporate strategy is growth based on product development and market development. The CEO stated that:

... Despite the Covid-19 pandemic, we had a very good year, much better than our competitors because of our multifocal approach. In 2020, the company's sales increased.

The decisions and innovations made by the firm in each component of the economic, environmental, and social layers of the case's business model are shown in Figures 1–3. The business model innovations are presented in the boxes with highlighted colors.

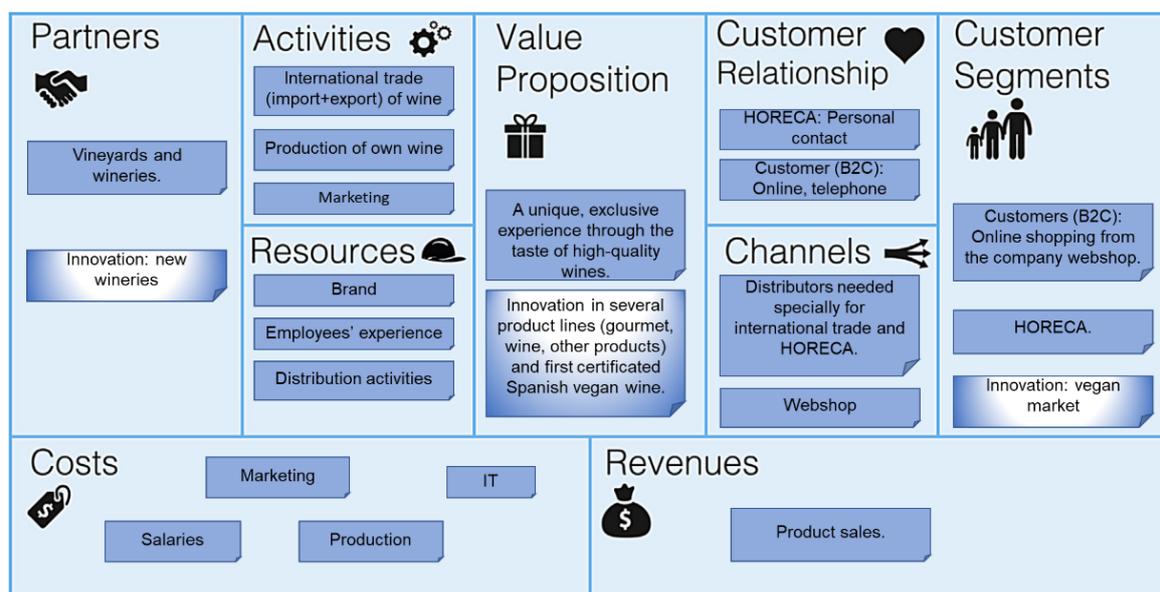


Figure 1. Economic canvas of the studied case.

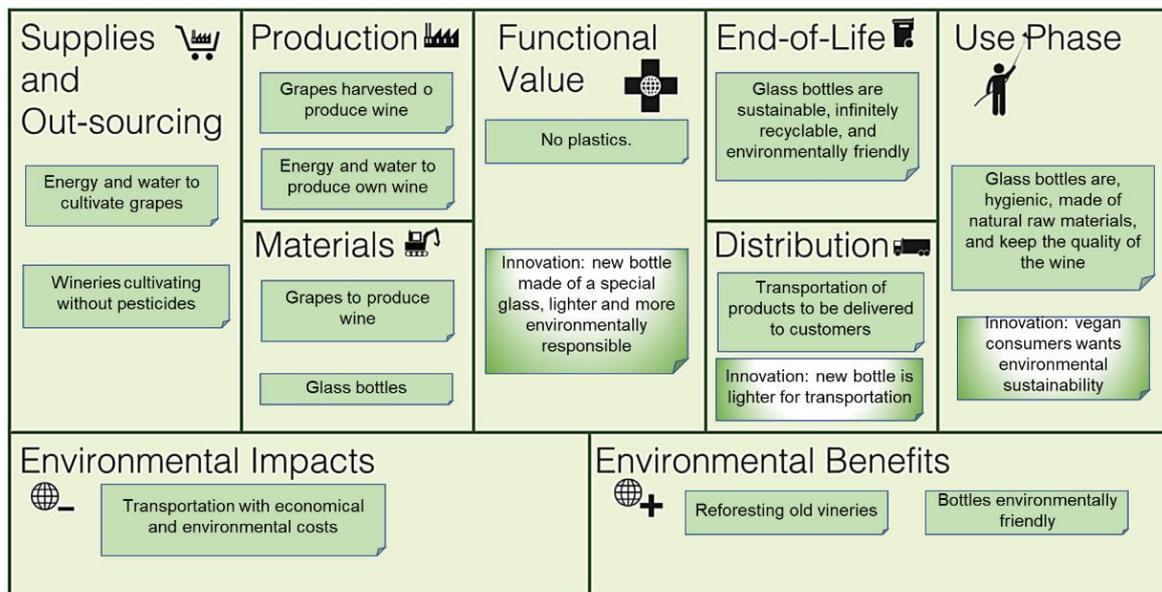


Figure 2. Environmental canvas of the studied case.

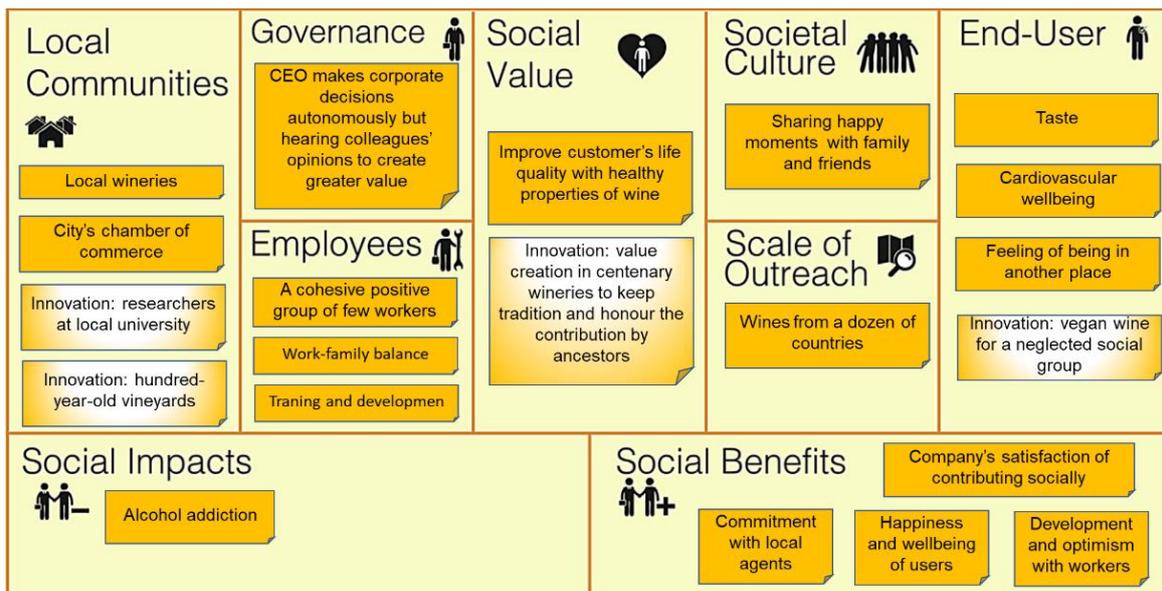


Figure 3. Social canvas of the studied case.

4.1. Research Question 1: How Do Firms Innovate Their Business Models to Deal with the Economic, Environmental and Social Aspects of Sustainability and Their Interconnections?

The original economic business model consisted of a value proposition dealing with providing customers with a unique, exclusive experience through the taste of high-quality wines. Distributors were needed especially for international trade, and the company needed to invest heavily in the relationships with distributors in order to reach the highest number of clients possible. As the CEO explained above, the customer segments were mainly retail (including the Horeca channel), followed by international and end-users who bought online from the company webshop. For the creation of value, the firm depends on vineyards and captured value from product sales in those segments.

Usually, innovation occurs in several product lines, such as gourmet foods, wine and other products. The product range is in constant development, launching new products

and incorporating wines into the product catalogue. Different products are in diverse lifecycle phases. The CEO highlighted the launch of the first vegan wine certified in the industry and market in 2016. Although nowadays there are hundreds of vegan wines offered in the Spanish market, five years ago the studied firm launched the first vegan wine with an official certification within the Spanish industry. The new value proposition included the vegan wine for a new market segment that had been long neglected in the wine industry: vegan people. This business model innovation provoked major changes in other economic components. New partnerships with vegan wine producers were required and key resources were committed to the new product and segment. The cost structure and income stream were not affected. This innovation in the firm's economic business model was considered successful in terms of sales volume, growth, awareness in the new market segment (specialization) and differentiation against competitors. As the CEO said:

... We became unique.

As a result, the business model innovations in the economic perspective resulted in higher sales volume, and also improved strategic flexibility. The CEO summarised that issue as follows:

... After the business model innovation process, we are better able to identify innovation opportunities, commit resources to new courses of action. In fact, the new segment also brought the opportunity to increase the number of product lines.

The ecological aspects of the business model of the firm are presented in Figure 2. The studied case was proud of offering a high-quality product with no contaminating elements. No plastics were used as the bottles were made of glass, which is sustainable, infinitely recyclable and environmentally friendly, making customers' experience a hygienic and natural use of the products and maintaining the wine quality at the highest level.

The distribution of the offerings in trucks and container ships has, however, an important ecological cost. One of the innovations that is currently being introduced is a new bottle made of a special glass which lighter and more environmentally responsible as the transportation of the products will have a lower ecological impact and the functional value will be greater.

One business model innovation mentioned in the economic canvas, the launch of the first certificated vegan wine, had an effect on the environmental perspective of the firm's business model. The interviewee stated:

... Vegan consumers seem to be more motivated by sustainability, by preserving nature from animals.

Therefore, there is an interrelation between the economic and environmental layers. Additionally, the CEO states that:

... We already sell organic wine provided by a winery in Jumilla using no pesticides. Currently, we are starting a collaboration with the local university for developing a certificate of non-genetically modified wine which is promising for the European wine industry and market.

The environmental innovations in the firm's business model are seen as especially relevant, and a significant impact on ecological cost reduction is expected. It is too early, though, to measure the exact impact of the new bottle.

The company has long been highly committed to local vinerias, a member of the city's chamber of commerce, and affiliated to diverse social initiatives such as Camino de la Cruz (routes for pilgrims from all over Spain to the Jubilee city of Caravaca de la Cruz) or the Rotaract project "A wine, a smile" in collaboration with the Rotary Club in the city. The regional media have echoed the firm's dedication to the development of the region. Recently, the company modified its social business model by signing a new strategic alliance with a hundred-old winery located in an area of special environmental sensitivity. They have embarked on a project to reorganise the cellar, improve the control of the historic product, reorganize the pipes, protect its organoleptic properties, and launch

of its new brand, which is being developed by the studied case that will internationalize the brand. This business model innovation aims to highlight the extraordinary heritage of the winery and the effort to maintain and update this tradition of the culture of the region. Additionally, this project includes reforesting old lands where a unique type of grapes grow to make a special wine, Louis XIV, named after the French monarch who was among the most famous followers of Fondillón wine. The alliance with that hundred-year-old winery does not only intend to exploit this discovery but to keep it alive, cultivating old Monastrell wines and making wine suitable for Fondillón, protected by the DO, which feeds those old soleras as it has for a century.

Moreover, collaboration with the local university is becoming stronger, and the studied firm organizes events with researchers and society to transfer their expertise and scientific results with the local community. Various local media (TV, radio, and newspapers) usually release pieces of news on those events, highlighting the firm's participation in a new session of the university "wine club project" with the objective of disseminating the culture of grapevines and wine among interested people. The company stated that they prefer to work with local researchers and contribute to their academic careers, instead of working with more salient professors who do not know the singularities of the local environment and community.

Another innovation, coming from the economic canvas, was the launch of the first vegan wine, thus targeting a social group and a customer segment that had been long ignored with regard to wine products.

Additionally, with regards to employees as a social element of the firm's business model, the CEO explained that:

We help employees in balancing work-family life, support regular training of the workers in new technologies and activities. For instance, we are now using lean management among office employees, and before the implementation, workers were trained in this way of doing things.

With regards to the interconnections between the layers, Figure 4 represents the chronological steps of the firm's journey to sustainability by highlighting the innovations made in each layer (blue = economic, green = ecological, and yellow = social) over time. The bold square represents the new changes incorporated.

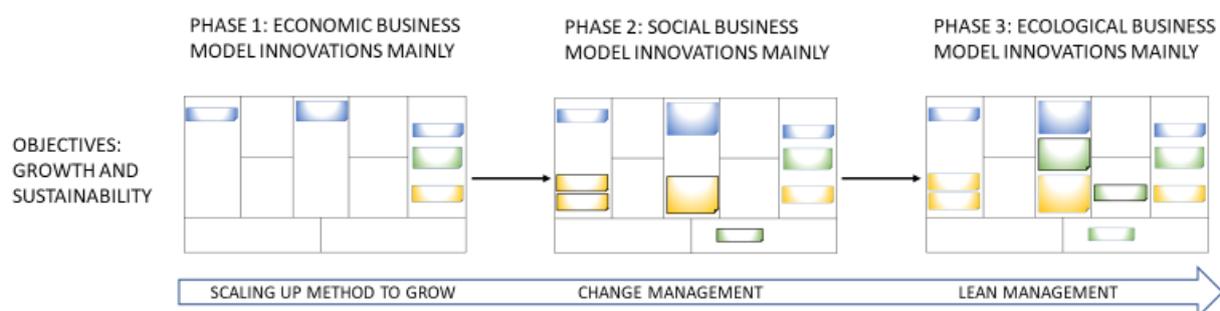


Figure 4. The studied firm's journey to sustainability.

4.2. Research Question 2: How Do Managers Design the Process toward More Sustainable Innovative Business Models?

The empirical study also focused on understanding how the company is designing the different changes and modifications to the three perspectives of its business models. The CEO explained the following:

The changes mentioned are management decisions, I take all these types of decisions, as they are strategic, in economic terms, any approach that may arise, I devise it and then I look at it tactically and in terms of implementation with each person responsible for the

affected area to see if it is viable. It must be like this, even if we are few, as it implies more work for each area and I always have to see if it can be implemented or not, the current structure of the company is tight in terms of personnel, as the budgets are tight from one year to the next.

Hence, some activities, even informally, are recommended for management changes when a new decision has been made. The CEO usually explains the activities implied in the change:

... If I need to introduce any of the changes mentioned that involve more people, they are normally changes that do not automatically result in direct sales and therefore these jobs are not clearly amortized until after a time when these changes are reflected in the company's results.

Often, the CEO questioned himself and his workers about the future of the company:

... Lately I am especially wondering how will the company be in the future? What do we want to be when we grow up?.

The owner relied on scaling up the method articulated by [71–73] for the growth of the firm, and usually gave much thought about the four components of that tool (namely: people, strategy, execution, and cash) to make decisions with regards to the design of the firm's business model innovation and sustainability.

Continuous questioning about its identity and future has led and will lead the firm to include more nonprofit purposes in the ecological and social layers of its business model, without leaving behind the economic perspective. The CEO stated that:

The company is not an NGO, but in our case, the management is clear that being updated in terms of ecological, social, etc. is a necessary and an advantage to be shown as a current company and with projection, in addition, we work with large customers in which we have to be aligned in these terms. Furthermore, what we explain at the University, and what I put a lot of emphasis on with the kids, which is Marketing that is concerned not only with the consumer but with society as a whole, is going to be key for companies in the medium term. The consumer is going to force all companies to make this adaptation, the first large companies to implement it are the big ones, and then behind them, whether they are convinced or not, the SMEs will follow suit. It is a change produced mainly by the incessant growth of consumer power in their ability to give their opinion and co-create products and services thanks to the technological change of the digitalization of the economy.

The process toward innovative and sustainable business models within the company is also supported by lean management concepts. The CEO said that:

... Last year we began to use lean management among the five office employees, and it is working so well.

As mentioned earlier, the interviewee insisted that:

... After the business model innovation process, we are better able to identify innovation opportunities, commit resources to new courses of action.

Finally, the use of the triple-layered canvas, as explained in this paper, was a useful experience for the company to identify the three perspectives of its business model. In the words of the CEO:

... The scaling up method we usually trust on is a bit limited with regards to the ecological and social aspects pursued by a company like most, looking for profit.

5. Discussion, Implications and Future Research

5.1. Findings Discussion

The firm is an example of companies following a pivoting business model innovation strategy, as the company refined its original economic business model by changing the value

creation and/or value capture dimensions, instead of making significant modifications to their unique value proposition [72]. The studied case illustrates a focused business model innovation [3] because the changes in its economic business model are new to the industry and only affect two business model components. This is a low-complexity business model innovation [68]. The studied firm made modular changes in its value offering by focusing on wine and launching the first vegan wine certified in the country, meaning that this type of innovation is new to the industry. The vegan wine enlarged and enriched the value proposition, and is targeted towards a new market segment (vegan consumers) which has been ignored by the wine industry in the past. No changes occurred in the other value proposition elements. The value capture mechanisms suffered no changes due to the implementation of the economic business model innovations. The case is illustrative in the sense that the firm succeeded in its product innovation and launched the first vegan wine with certification. This contrasts with the idea that the wine industry is characterized by core products remaining unchanged for hundreds of years [73].

Meeting vegan users' needs was the primary external aim of this business model innovation, together with looking for specialization and differentiation from competitors. Thus, the innovations in the economic canvas in the studied firm are consistent with its business strategy. This finding supports the idea that business model innovation and the firm's strategy cannot be taken in isolation; otherwise, firm's competitiveness and sustainability may be hindered [74].

The reality of the Covid-19 pandemic urges firms to innovate in their traditional business models and transform themselves digitally [75]. The studied firm, however, introduced economic, ecological and social innovations with no digital transformation, and achieved very successful performance. This case is a lesson learned about how to successfully design business model innovations for sustainability without digitalization in the current era.

With regard to Research Question 1, the pattern matching technique applied shows that the triple-layered canvas is applicable to and useful for micro firms, such as the one studied here. The case also illustrates how innovations in the economic perspective of the firm's business model happen in parallel to changes in the environmental and social layers of its business model. Hence, companies pursuing economic objectives can, simultaneously, make social and ecological changes in their business models toward sustainability, thus turning into hybrid business models defined as "businesses that pursue social and/or ecological goals while being guided by a distinct business mindset and some form of commercial orientation, which follow shared values and principles of sustainability" [35].

As presented in Figures 1–3, the innovations in the three perspectives show horizontal and vertical coherence. The evidence collected from the studied case illustrates how the components and innovations in the economic canvas are consistent with the firm's business strategy (differentiation). Furthermore, the elements and changes in the ecological and social layers of the firm's business model are sometimes driven by economic business model innovations which may offer new opportunities to solve social and ecological inefficiencies, increasing horizontal coherence [13].

In addition, this illustrative case presents a high consistency and alignment between layers. The business model innovations implemented in the firm occur in the equivalent components in each perspective, as highlighted in the three figures, i.e., the value proposition, functional value, and social value; or customer segments, use phase, and end-user. The interrelations between the components and layers of the business models are illustrated in the studied firms, and were commented upon earlier. Prior research suggests that business model innovation's goal is to increase performance through an improved fit between the business model and the market [17], but our findings reveal that the fit among the three layers of the business model innovation is especially successful to achieve economic, social and ecological coherence and sustainability. The studied firm usually revisits its business model to check that the adjustment and coherence are appropriate.

That is a recommended practice to other companies willing to innovate their business models to gain fit, coherence and adjustment.

The company analyzed here has combined the three elements which are stated to be required for moving from a business model to a sustainable business model: sustainable value, pro-active multi-stakeholder management, and a long-term perspective [8]. Those three requirements have been specially identified in family firms of which the innovative behavior is different from that seen in non-family businesses [10]. Therefore, the findings presented here suggest that when a non-family company focuses on a triple-layered business model and introduces business model innovations for sustainability, as the studied case is doing, then its way of doing business becomes closer to family firms' behavior, featuring a longer-term perspective, having relationships with multiple stakeholders, and being oriented to sustainable value.

Despite prior studies showing that economic issues were ranked as most important, followed by social aspects and environmental perspectives as the least important [76], the studied firm illustrates how the key to success may rely on the equal importance placed upon the three layers for sustainable business models, with relevant and coherent innovations in economic, ecological and social perspectives.

Regarding Research Question 2, the analysis of the evidence collected from the studied firm suggests that the process to design sustainable innovative business models might be even more important than the innovation itself, or the elements or layers of the business model in isolation. By the pattern matching technique, we can infer that the triple-layered canvas theoretical pattern is somehow limited and does not represent exactly the empirical pattern observed in the case with regards to the process towards sustainable innovative business models. Conversely, a new theoretical pattern has been proposed to incorporate the perspective of the process of the business model innovations for sustainability and to add several relevant aspects to make the process more successful. The description of the studied firm regarding the different elements of the process used to design business model innovations in the three layers shows that the empirical pattern can help in refining the original theoretical pattern towards a new model in which additional issues are represented to assist organizations in their initiatives toward sustainable innovative business models (Figure 5).

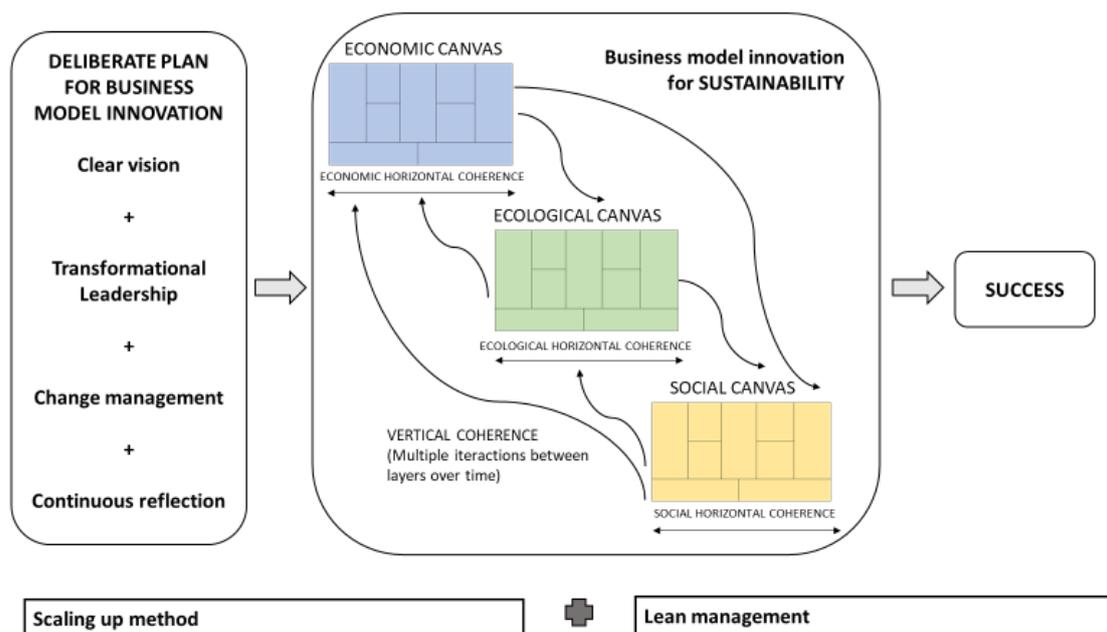


Figure 5. Proposed theoretical model.

The refined theoretical model extends the extremely limited literature on business model innovation process toward sustainability and growth by highlighting the importance of doing so in a formal, deliberate and planned way, based on the regular and constant rethinking of the elements, layers and timing of the business model innovations within the organization. Most of the existing tools provide limited guidance along with the specificities of the process toward sustainable innovative business models [8] and adopt a static perspective [24]. The effectiveness and efficiency of business model innovation highly depends on the process [17]; hence, it is vital to envision a holistic framework so that firms can overcome challenges and tension related to hybridity and achieve economic stability at the same time that they positively impact nature and society [19].

As the firm described, organizational decisions are mainly made by the CEO, and are then explained to the workers; sometimes, training programs are needed. For business model innovation, proper internal change management is critical, especially when dealing with established and mature companies [17] and/or when it is desired to reach circular and sustainable value chains and business models [42]. Moreover, this is achieved with the support of the top management through transformational leadership, proper change management and high commitment to the change to be made [77]. Furthermore, [17] considers that this change management must be professional and prior to the innovation of the business model for it to be successful. In the studied firm, the CEO has the professional and academic qualifications to manage and lead the changes related to business model innovation for sustainability and growth based upon scaling up methods [71] and a clear vision of where he wants the company to be in the future. The use of the triple-layered canvas might be somewhat overwhelming to any firm at the beginning [13]. The studied company had the guidance and help of the researchers to understand the tool and identify the components, layers and innovations in its business model for sustainability. Additionally, the evidence reveals that combining lean management principles with sustainability is another key element to the success of the innovation process under study. This is consistent with the recent research recommending the interplay of lean manufacturing and sustainability [78].

5.2. Implications

Our study contributes to research and practice in several ways. First, the paper addressed two research questions which are relevant to academics and managers. The study described and analyzed in detail the ways in which innovations in one layer provoke changes in the other layers of the business model. The findings suggest that the economic, ecological, and social layers should be considered simultaneously when designing business model innovations for sustainability. The interactive relationships between the three layers in the bottom line logic have often been ignored in previous studies, undermining the potential success of firms' efforts [76].

Another implication is that the present study constitutes an illustrative example of the use of the flexible pattern matching approach. Conducting empirical research using qualitative methods proves useful not only to academics but also to practitioners, and more specifically to managers in the wine industry, by showing them with profuse detail how a company has successfully implemented sustainable and innovative business models. Prior research has used quantitative methods with statistical results [73], which may be understood less by practitioners. Additionally, the flexible pattern matching technique was used, an approach which "allows the interaction of deductive and inductive components, thus combining rigor with a high level of flexibility" [22]. Beginning with the theoretical pattern represented in the triple-layered business model canvas, the empirical study showed that the model is applicable and useful to micro firms, but is limited with regards to the business model innovation process toward sustainability and growth.

Specifically, innovations in the triple-layered business model for sustainability may also be implemented successfully in micro or small companies, as the studied firm is doing.

To the best of our knowledge, this is the first attempt to apply the triple-layered business model canvas in a small Spanish firm, which is another contribution of the paper.

The proposed pattern highlights the importance of a formal, deliberate and planned process, based on the regular and constant rethinking of the elements, layers, and timing of the business model innovations within the company. The triple-layered canvas proposed by [13] usually represents only the current situation of the company's business model from the three perspectives, but not the chronological changes and innovations with regards to the economic, environmental and social issues of the business model. The present paper contributes to that idea by analyzing the original elements of the economic, social, and ecological business model, and the innovations introduced by the firm over time. As a result, horizontal and vertical coherence is better assessed.

Finally, managers and academics now have detailed evidence on how a non-family firm introducing sustainable business model innovations in its economic, ecological and social perspectives moves closer to family firms' distinctive behavior.

5.3. Future Research Directions

The main limitation of the research is its reliance on a single case. Although the case selection motivations were articulated in Section 3 and several mechanisms were used to enhance the research rigor and validity, in the future, a multiple case study should be used in order to compare the evidence presented here with the business model innovations for sustainability introduced in other companies.

The present study considered the business model innovations for sustainability implemented in a firm in the last five years. However, a proper longitudinal analysis should be performed in the future in order to understand the evolution of the diverse elements over time.

Furthermore, recent research has demonstrated that the manager's gender influences a firm's business model innovations [79]. Further investigation is needed in companies run by a female CEO and/or by women in the management team.

Finally, business model innovation for sustainability in family firms and non-family firms should be compared further in order to confirm our exploratory findings in that regard.

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