

Steps for a Sustainable Entrepreneurship Model

— Contribution for a Method

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Abstract: Sustainability, seen as the implementation of environmental, social and ethical responsible practices by companies has gained relevance at firm and policy level. Sustainability strategies are today common in large companies, and several financial indexes annually evaluate listed companies on their performance in environmental, social, governance and ethical practices. At political level, OECD and European Commission are some of the organizations that have been working on the promotion of public policy that encourages a wide use of sustainable practices amongst companies. For instances, from 2016 onwards many European companies will be obliged to annually report on how they manage their non-financial aspects. Despite the fact that this obligation is only for companies listed in the stock exchange, or that are from the financial/credit/insurance sector, with more than 500 employees, it is possible to expect an impact on other companies. In fact, this requirement will trigger further development of these issues along the value-chain of large companies, which will also reach the smaller companies. At same time that larger companies are being obliged to incorporate sustainability issues in their management, there is also a growing movement from the smaller businesses towards the creation of business activities that aim to have a positive impact on society and the environment. Taking into account the European Union growth strategy for 2020 and the strong focus that the European commission has been giving to entrepreneurship, it makes sense to strengthen the connection between sustainability and entrepreneurship. As such, this paper analyses how innovative Portuguese small and medium-sized enterprises (SME) are incorporating sustainability issues in their management and if they are selling green products or green services. Since the linkage between sustainability and entrepreneurship is still recent, this paper also proposes a sustainable entrepreneurship business model that can help entrepreneurs to identify the business opportunities associated with the European Union Growth Strategy for 2020.

Key words: sustainability; green products; entrepreneurship; business model; Portugal

JEL codes: M10, O13, Q56, Q57

1. Introduction

The purpose of this paper is to propose a sustainable entrepreneurship business model that can help

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entrepreneurs to identify the business opportunities associated with the European Union Growth Strategy for 2020, which is mainly related with the ability that companies have in supplying the market with green products and services. In order to do this, the authors start by analyzing the existing literature on entrepreneurship and sustainable entrepreneurship. A linkage is made between these approaches and the theory developed by Drucker (1985) relating to innovation opportunities, and the “Business Design Thinking” theory (Vianna et al., 2011). After this theoretical framework has been expressed, the authors focused their analysis on a small sample of Portuguese SME companies that belong to COTEC Portugal, the Portuguese Business Association for Innovation, in order to analyze how these innovative SMEs were incorporating sustainability issues in their business and if they were already supplying the market with green services or products. For this study a questionnaire was developed which relates to previous research and was made available online for respondents. The results of the survey made a comparative analysis with the Euro barometer (2013) survey of SMEs and green markets. Building on the results obtained and previous scientific work in this area the authors propose a sustainable entrepreneurship model framework, which also have implications for policy makers and the entrepreneurial ecosystem as a whole.

2. Literature Review

2.1 From Entrepreneurship to Sustainable Entrepreneurship

The issues of entrepreneurship and sustainability have gained importance over the last decade. This has been made visible by the growing number of academic articles. However, there are few studies that analyze the relationship between sustainable development and entrepreneurship published in the mainstream entrepreneurship journals (Hall et al., 2010). In order to understand the meaning for sustainable entrepreneurship, one needs to recall the original concepts of entrepreneurship and sustainable development.

Despite the large enthusiasm for the entrepreneurship issue, there is no universally accepted definition (Tilley & Young, 2006). Many scholars, such as Bygrave and Hofer (1991), describe entrepreneurship as a process that “involves all the functions, activities, and actions associated with the perceiving of opportunities and the creation of organizations to pursue them” (p. 14). Policymaking entities such as the European Commission describe entrepreneurship as, “...the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organization” (Commission, 2003, p. 7), while the OECD definition states that “Entrepreneurs are agents of change and growth in a market economy and they can act to accelerate the generation, dissemination and application of innovative ideas. Entrepreneurs not only seek out and identify potentially profitable economic opportunities but are also willing to take risks to see if their hunches are right” (OECD, 1998, p. 11). Antoncic and Hisrich (2003) identified several dimensions including the: (1) creation of new ventures and pursuit of new businesses; (2) product/service and process innovativeness; (3) fostering self-renewal and risk taking; and, (4) stimulating proactive and competing aggressiveness. Beyond concepts and definitions, it is what entrepreneurship (and entrepreneurship) can do for an economy that is of most concern to politicians and members of the public who wish to see it further promoted and fostered.

The growing concerns with environmental and social issues have lead to the development of the concept of “green economy” by the United Nations and has been incorporated into the European 2020 strategy. In fact, the European growth strategy for 2020, aims to reach a smart, sustainable and inclusive economy. These facts make it most relevant to understanding of how entrepreneurship can also promote the green economy as well as the development of a more inclusive society.

According to Belz and Binder (2013) it is possible to identify three types of entrepreneurship: conventional entrepreneurship, social entrepreneurship and sustainability entrepreneurship. The conventional approach is based on Schumpeter (1942) and Kirzner (1973) works, already referred to, where either innovation or the identification of new opportunities can lead to entrepreneurial profits as the central idea for creating entrepreneurship. In this type of entrepreneurship the main drive is to maximize profits.

Nevertheless, nowadays it is possible to find what is called social entrepreneurship where the profit maximization approach is not the main driver for these entrepreneurs, being instead the social impact of the organization, where social impact can be defined as the impact that one or more people or groups (sources) have on an individual (Nowak et al., 1990). In this type of entrepreneurship the final goal of the organization is to maximize the social positive impact of the organization in society and when profits are generated they are used in favor of a specific disadvantaged group (Hibbert et al., 2002).

Finally, the third type of entrepreneurship is referred to as “sustainability entrepreneurship” or “sustainable entrepreneurship”. By sustainable one should understand an action, from an individual or an organization, that is concerned with sustainable development, i.e., that is, with “meeting the needs of the present without compromising the ability of future generations to meet their needs” (Bruntland, 1987). In this definition, it is clear that there is a trade off between the present and the future, by acknowledging that natural resources are limited and that their utilization needs to be done at a rate that allows for their regeneration. This in spite of the fact that the Bruntland definition for sustainable development can be perceived as only linked with natural resources by being concerned with future generations. This definition also includes the recognition for a balance between the environmental, social and economic aspects. Thus, any activity that aims to be sustainable, means that it is concerned with sustainable development and therefore aims to better incorporate environmental, social and economic aspects in their core activities. Taking this into consideration, it is easier to understand that sustainable entrepreneurship is related to the development of new activities that contribute to solving an environmental or societal problem while at the same time creating economic value. Belz and Binder (2013) define sustainability entrepreneurship as the process of recognizing, developing and exploiting entrepreneurial opportunities that create economic, ecological and social value. This leads to another discussion related to the tools available to attribute monetary value to ecological and social value, which has been discussed under the banner of “Social Return on Investment” approach, among others.

Taking into account that the ecological footprint of the planet, is close to 1.5 planets (WWF, 2012), and the negative consequences resulting from the intensive use of natural resources and the pollution usually associated with it, there is little doubt about the fact that the market economy has failed to develop an equilibrium between the price and the supply/demand of environmental goods.

An interesting debate is now taking place and is intrinsically linked with sustainable entrepreneurship. This is a complex debate that links macroeconomic theory, microeconomic theory and market failures with entrepreneurship. In fact, during the sixties, Baumol (1968) stated that entrepreneurship was critical to economic development, however, economic theory was limited in putting a calculus equation to the function of the entrepreneur, which is too focused on the “inputs” and tells us “...little about where they come from” (p. 69). This being stated, significant research has been achieved since the late 1960s that has established the importance of entrepreneurial activity in economic development and growth (Acs et al., 1999; Audretsch & Thurik, 2001a, 2001b; Kirchoff, 1994; Reynolds et al., 2000, 2004; Wennekers & Thurik, 1999). More recently, the debate on the role of entrepreneurship towards economic development has been reinforced with the idea that environmental

market failures can, in fact, promote environmental positive entrepreneurial behavior. This is of particular relevance since the classic economic theory argued that market failures prevent entrepreneurial action from solving environmental problems and instead can motivate environmental negative behavior (Pigou, 1932; Tietenberg, 2000; Cropper & Oates, 1992; Bator, 1958; cited in Dean & McMullen, 2007), that was why one needed regulations in order for companies to internalize such negative impacts on the environment. Nevertheless, other authors have an opposite view, arguing that market failures can be seen as business opportunities for entrepreneurs (Coase, 1974; Buchanan & Faith, 1981; North & Thomas, 1970; Demsetz, 1970; cited in Dean & McMullen, 2007). This debate has originated an interesting definition of sustainable entrepreneurship by Dean and McMullen (2007, p. 51) as being “... *the means by which entrepreneurial action can resolve environmental challenges by overcoming barriers to the efficient functioning of markets for environmental resources*”. These authors argue that the combination of an increasing number of people that want to see the levels of environmental degradation reduced, together with a growing number of citizens that are willing to pay more for environmentally related products, presents an entrepreneurial opportunity. They conclude that environmental entrepreneurs alleviate environmental market failures by discovering, evaluating and exploiting the opportunities of such market failures. According to Isaak (1998), this small group of change makers and the new, small businesses they found based on sustainable values or technologies — the “green-green” businesses — hold one of the keys to solving environmental challenges (OCDE, 2013).

Further, the theory of ecological modernization has been developed, arguing that environmental problems act as a driving force for future industrial activity and economic development (Tilley & Young, 2006). In fact, one can see this argument in the European growth strategy for 2020, where there is a strong focus on promoting a green economy that will lead to new industrial activity. The ecological modernization theory has been used to explain how entrepreneurship can reconcile sustainable development goals with wealth accumulation, which can lead to the conclusion that sustainable entrepreneurship could become the true wealth generators of the future (Tilley & Young, 2006).

Since it has been recognized that entrepreneurship is of fundamental importance for an economy (Bruyat & Julien, 2000) due to the considerable macro-level and micro-level effects (Henry et al., 2003), than sustainable entrepreneurship could become the next business model since it has the potential to induce sustainable production and consumption, which is at the core of the green economy concept. Taking into account that promoting entrepreneurship and facilitating the rapid growth of innovative SMEs are increasingly recognized by governments as an effective means for creating jobs, increasing productivity, creating competitiveness and alleviating unemployment and poverty, the potential socio-economic impact of sustainable entrepreneurship can also implicate a large increase in green job creation. In fact, OECD (2013) recognized that green entrepreneurs can identify new emerging niches in industries, as a result of changes in social values and consumption patterns or reforms in the legislative and regulatory environment. Entrepreneurs are leading the green business practices that eventually will be adopted by the wider business community. In this respect, role models and imitation effects can be effective in spreading new ideas and sustainable practices. The success of “green pioneers” can demonstrate the economic benefits that come from being “greener” and in this way provide guidance and motivation to other business people to go green, thus becoming sustainable entrepreneurs.

2.2 Interactive Co-creative Sustainable Products

In order to become a sustainable entrepreneur, or to understand how to best capture market failures and other opportunities, it is important to develop a sustainable entrepreneurship systems thinking model that can help

entrepreneurs in the identification of an opportunity and also on the implementation of the entrepreneurship process.

The model the authors proposed in this paper takes into consideration the seven sources of the innovation model identified by Drucker (1985), and builds on the work done by Beltz and Binder (2013), Tilley and Young (2006) and Young (2010). Therefore, the model proposed joins both the logical approach used by the first two authors with the interactive and systemic approach used by the Design Thinking approach expressed in Youngs (2010) work.

From the literature review on entrepreneurship it is clear that innovation is at the heart of entrepreneurship activity. Therefore, being able to be innovative becomes a central aspect to successful entrepreneurs. Drucker (1985) has identified seven opportunities that can lead to innovation which are identified in Table 1. The authors argue that “Changes in public perception” together with “new knowledge” are the main opportunities for innovation that originate sustainable entrepreneurs. In fact, as already referred, there is a growing change on the perceptions of the general population towards the need to improve environmental and social conditions. This, together with new scientific findings and technology can originate the creation of emerging green products and services.

Table 1 Opportunities for Innovation According to Drucker

The unexpected Incongruities Process needs Industry market and structures Demographic changes Changes in public perception New Knowledge, new technology and scientific findings
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It is also interesting to note that, Drucker’s Five Principles of Innovation are also very much related with the design thinking key factors for innovation, since they both argue for the need to look at people and understand their values and desires, as expressed on Table 2.

Table 2 Principles and Factors for Innovation

Drucker’s Five Principles of Innovation	Design Thinking Key factors for Innovation
Analyze the opportunities	Observation about what people want, need, desire Observation about what people like or dislike about how a product is made, packaged, sold and supported; Technical feasibility Business viability
Look at figures	
Look at people, to see what their expectations, their values, their needs are.	
To be simple and focused	
To start small	
Aiming leadership	

They both also take into consideration the business viability of the innovation. The design thinking approach attributes a special emphasis on technology and goes further to the values and wishes of people by looking at the value chain of the goods in a systemic way, which in turn implies the need to use collaborative and interdisciplinary approaches to problem solving. The design thinking approach is also based on a ongoing iterative process between those creating the good or service and those that will be using it, which implies the need to include in the process a moment that is designated to prototyping until the good or service is perceived as useful by the end-users, technically feasible and financially viable. According to Tim Brown, CEO and president of IDEO, the goal of design thinking is “*matching people’s needs with what is technologically feasible and viable as a business strategy*” (Brown, 2008, p. 2).

Design thinking is takes into consideration that creative outputs are dependent on divergent thinking and empathy for the problem at hand. This production of as many alternative solutions as possible is at the heart of

design thinking (Gardner, 1982; Gomez, 2007 cited in Penaluna et al., 2012) and is what is needed to come up with sustainable economic solutions. Quoting Sato (2009, p. 42) “The good news is that design thinking is systematic; the bad news is that it is not formulaic”.

This type of approach enhances capacity to make new connections and associations (Schumpeter, 1934), leading to skills in opportunity recognition and innovation. Moreover, there is no single correct answer, only one that suits a particular context and moment in time, so that recent trends and contextual decision-making can assist the development of a new sustainable entrepreneurship model. Taking into account the set of risks and opportunities that companies are facing in relation to their social and environmental impacts, together with driving forces such as legislation, global product impacts, innovation along the value chain of peer competitors, demand for transparency, consumer boycotts and media campaigns, environmental and social issues are becoming much more relevant for domestic and global economies (White & Stewart, 2008). In fact, many companies that started their journey in the environmental area, by becoming more eco-efficient, could now go a step further by “considering how to integrate the principles of sustainability into an existing manufacturing system”, which implies not only the need to think about the technology used to produce a specific good, but also on how objects might be designed and created in ways that are compatible with the principles of sustainability” (Walker, 2002, p. 4). By doing this, companies are also contributing towards the rise of sustainable production and consumption practices.

The capacity to identify new business opportunities is therefore central to entrepreneurship. Equally, the capacity to identify business opportunities that can contribute towards the resolution of environmental and social problems that exist in society is central to sustainable entrepreneurship. Taking into account that sustainability includes many variables and takes into account the future impact of today’s actions, a sustainable entrepreneur needs to be able to anticipate the future problems and to be able to convince today’s consumers about the relevance of such product or service. In order to do this, it is important not only to understand today’s consumer’s desires, but also what these desires might be in the future and what are the drivers that will make such change. To accomplish this, interdisciplinary skills needs will than have to focus on specific solutions that are marketable, technologically feasible and economically viable.

3. Sustainable Entrepreneurship amongst the Innovative Portuguese SMEs

3.1 Research Questions

Taking into account that Portugal, by being incorporated in the Mediterranean basin and in the Iberian Peninsula in particular, represents an outstanding “hotspot” of biological diversity with a long history of integration between natural ecosystems and human activity (Pascual et al., 2011), it would be expected that such opportunity would have been identified by entrepreneurs, or by Portuguese SMEs. Nevertheless, by researching the ecological area, it is possible to identify that it is also the Mediterranean basin countries, including Portugal, that present the highest ecological footprint levels and therefore the highest ecological deficits, which means that the environmental capacity of the region is used up more quickly than it is renewed (Bird Life International, 2010). This ecological data can be seen as an indication that both consumers and companies are consuming natural resources at a high rate and that they have not yet identified the market opportunity to develop green products and services. Therefore, it is important to understand how Portuguese innovative SMEs are incorporating environmental issues in their core business. Thus, the two main research questions this paper aims to respond are:

RQ1: Are Portuguese innovative SME incorporating sustainability in their core business?

RQ2: Are Portuguese innovative SME selling green products/services and promoting green jobs?

3.2 Method

The paper uses a mixed methods approach with both quantitative and qualitative analysis. The quantitative analysis was based on the results of a specific questionnaire created for the purpose of this paper. This was a close-ended questionnaire that each company could access via an Internet platform. The qualitative section is done via content analysis of published articles and relevant public information about sustainability and entrepreneurship in Portugal and in Europe.

In order to understand the behavior of entrepreneurs in Portugal, the authors opted to focus the analysis on the SME companies that were identified as innovative by COTEC Portugal, a Portuguese Business Association for Innovation. The complete list of these 225 companies is publicly available on COTEC's website¹. Some of these companies either did not have a website or it was not possible to find an email or phone number. Therefore, the final list of companies to which the questionnaire was sent was 209. For each of these companies the authors identified an email address and a telephone number. An email was sent to these companies explaining who the researchers were, the goal of the research, with the link to the web based questionnaire. Two days later, all companies received a phone call from the researcher team in order to emphasize the importance to respond to our questionnaire. Two days later another email was sent to all companies reinforcing the request. COTEC's intranet also included a special reference to this survey, encouraging their members to respond. The survey was online for two weeks. Despite all this effort, by July 2014 only 13 companies responded to the questionnaire, representing a low response rate. In October 2014 another attempt was done in order to obtain a larger response rate. The initial questionnaire was reduced to 16 questions from the initial 24. From this second application of the questionnaire 32 companies in total responded which represents a 15% response rate.

3.3 Results

It is important to understand what type of companies responded to our questionnaire. Approximately 63% of the companies had between 10 and 49 employees; 3% having a an annual turnover in 2013 between 100,000 and 500,000 Euros; 35% between 500,000 Euros and 2 million Euros; 41% between 2 and 10 million Euros; 13% between 10 and 50 million, and the remaining 3% did not respond. Close to 23% were companies the transformative industry; other 23% from other services; 13% from the construction sector and another 13% from the consultancy and technical and scientific areas. As explained in Graphic 1, this survey was answered by 9 sectors, which allows to state that the response were not biased towards one specific sector, which can be seen as a positive factor.

From the respondents, 91% stated that they incorporated sustainability principles in their management, and 50% stated that they were selling a green product. It is interesting to see that 23% of the respondents said that they incorporate sustainability principles in their business because they have a sustainability policy, and 37% because they have a certified quality policy. This might indicate that Portuguese innovative SME still see sustainability issues as a normative approach. In fact 39% say they are complying with the existing environmental legislation and intend to go further than what is required. It is also possible to understand that the main actions that these companies are doing towards more efficient resource are saving energy, minimizing waste and recycling. For 28% of these companies these practices have lead to a decrease in the production cost, but for 50% there was not impact on the cost structure.

Regarding the perceptions of these entrepreneurs in relation with the sustainability business case, 72% argued that there is a large lack of information about how to create green and social businesses, but 44% believe there is a

¹ Source: http://www.cotecportugal.pt/index.php?option=com_content&task=view&id=2119&Itemid=404.

large potential for such activities in Portugal. About 50% of these innovative SMEs sell green products such as solid waste management (27%), products with a high environmental component (17%) and environmental consultancy services (17%). Taking into account that 13% stated that they are not selling green products today, but are planning to do so in the next 2 years, it seems clear a majority of these Portuguese innovative SMEs (63%) are looking at the environment as business opportunities.

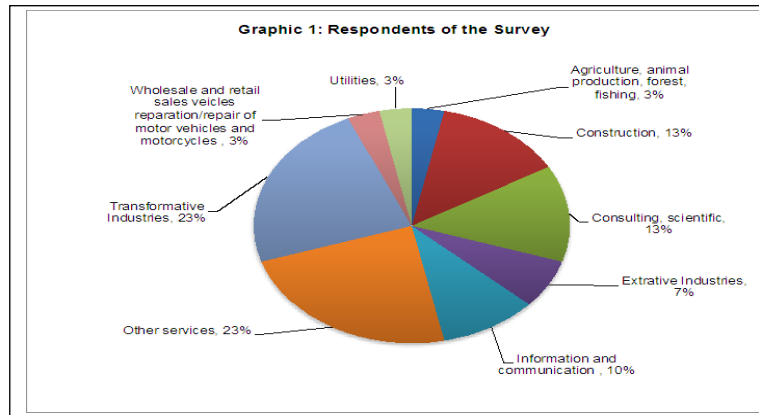


Figure 1 Respondents of the Survey

In fact, 53% of the companies say that the type of support they would need to expand their green products supply is related with having financial incentives to develop products, services and new production processes, followed by financial incentives to help them identifying potential markets and clients (23%) and by financial incentive that would allow them to obtain help on technical and consulting services related with the product development, services and production process (20%). This might indicate that the European Horizon 2020 funding could be very useful for the innovative Portuguese SMEs.

Regarding the existing labor force that is working on the green products and green process of the company, 9 companies (28%) said that they did not have any green job in their company; 13 (41%) saying they had between 1 and 2 people; 2 companies (6%) had between 3 and 5 people; 4 companies (13%) between 6 and 10 people; and 4 companies (13%) with more than 10 employees working on green issues.

In order to understand what the innovative Portuguese SMEs were thinking about the competences that they would need to have from their employees in order to expand their green products, this questionnaire also tried to understand what were the main “green skills” that these companies would look. The three main skills found were: ability to think about the future; capacity to think strategically and good interpersonal skills.

Knowing that these are the most important skills associated with green jobs for these companies, 58% said that when they need to find an employee with “green job” skills they receive a large number of applications but few candidates with the skills needed. That is why 78% of the respondents say it would be important to include the subjects of sustainability and entrepreneurship as obligatory in secondary school curriculum.

3.4 Discussion

From the results it is possible to understand that from the sample analyzed, the 32 innovative SMEs included in COTEC’s SME innovative program, 50% of the companies are offering green products or services, which is higher than the 26% European average obtained in the Eurobarometer survey (2013) on SMEs, Resource Efficiency and Green Markets. In the Eurobarometer (2013), also 25% of the Portuguese companies respondents indicated they were offering green products or services. This indicates that Portuguese innovate SMEs are identifying green

business opportunities better than the average SME. In fact, at the European level the majority of SMEs do not offer green products or services, and have no plans to do so (59%).

The lack of information felt by the innovative Portuguese SMEs about how to develop a green product is confirmed with the fact that 53% of the Portuguese SME, instead of an average of 46% at European level, stated that having financial incentives to develop new products, services or production process would be the main trigger to expand their green product or service offering. Looking at the European level of green job creation amongst SMEs, one can conclude that 52% of European SMEs do not have any green jobs, 35% has between 1 and 5 workers, and only 3% said they had between 6 to 9 green job employees. Once again, and taking into consideration our sample, one can say that Portuguese innovative SMEs also create a higher level of green jobs than the European SME average.

The difficulty to find candidates with green jobs skills that was identified by the Portuguese Innovative SMEs, is also a common feature in Europe. In fact the European Commission launched the “New Skills for New Jobs’ initiative” in 2008, which sets out the Commission’s agenda for better skills upgrading, anticipation and matching. This effort to match future needed skills with the existing young people qualifications’ has expanded towards the European 2020 strategy, which has lead to a generalized recognition from Europe that there is a lack of green job skills amongst the present labor supply. Such situations need to be changed, since, and according to European documentation data, the green economy in Europe could create over 20 million jobs between 2012 and 2020. In fact, to accomplish the 2020 EU Growth Strategy goal to become a sustainable inclusive and smart economy, smart investment plans are needed to capitalize on job opportunities arising through the greening of the economy. This includes investment in new skills to prepare and match jobseekers with “green” potential vacancies.

In summary, from the sample obtained from the questionnaire to Portuguese innovative SMEs, it is possible to conclude that these companies indicate a higher level of integration of environmental issues in their product offer and a higher level of green job creation when compared with European and Portuguese SMEs in general. Therefore, one could state that Portuguese innovative SMEs are identifying green products as a business opportunity faster than the other companies.

Taking into consideration that 53% stated that having financial incentives to promote de development of new products, services and production processes could help to expand their green product supply, and taking into account that part of the European financial program for 2014-2020 is based on the green economy, one might expect to see funds available for these companies. If this happens, than one would see an increase in the demand for “green jobs” where the skills related with the ability to think about the future; the capacity to think strategically and good interpersonal skills would be the main competences needed.

Taking this into consideration, the authors conclude that there is a need to help entrepreneurs on how to identify, create and develop green business in order to use the business opportunities that will result from the 2020 European Growth Strategy. Therefore, the authors propose a “2020 Sustainable Entrepreneurship Model” that could be used by entrepreneurs.

4. The Model: 2020 Sustainable Entrepreneurship Model

As referred previously, there is limited research done on the linkage between sustainability and entrepreneurship. The two main models identified in the literature are those developed by Beltz and Binder (2013) and Tilley and Young (2009). These two models have different approaches. The former focused on the sustainability entrepreneurship process and the later develops a framework for individuals who want to start up a sustainable enterprise. Table 3, compares the two approaches together with the design thinking process.

Table 3 Comparing Sustainable Entrepreneurship Models and Design Thinking Process

Beltz and Binder (2013) 6 Phases for a Sustainable Entrepreneurship Model	Tilley and Young (2009) 12 Elements of the Sustainability Entrepreneurship Model	Young (2010) 7 Phases for Design thinking interactive process
Recognizing socio-ecological problems Recognizing entrepreneurial opportunities Aligning socio-ecological problems and entrepreneurial opportunities Developing integral sustainability market solutions Forming a sustainability enterprise Entering the sustainability market	Eco-effectiveness Eco-Efficiency Socio-efficiency Socio-Effectiveness Ecological equity Sufficiency Economic equity Environmental Stability Social responsibility Environmental sustainability Intergenerational equity Futurity	Define (Brief) Research (Background) Ideate (Solutions) Prototype (Resolve) Select (Rationale) Implement (Delivery) Learn (Feedback)

Based on these three models, on the responses obtained from Portuguese Innovate SMEs and on the need for green skills, the authors have created a model that takes into consideration both the work developed Beltz and Binder (2013) and the design thinking approach. Some of the elements of a sustainable entrepreneurship model identified by Tilley and Young (2009) are also included in the model, namely in the identification of the driving macroforces, in the implementation of sustainable production and product usage.

The “2020 Sustainable Entrepreneurship Model” proposed can be used by those entrepreneurs that are able to identify a concrete product/service to sell to the final consumer. We believe this model is relevant for those SMEs who want to apply for the Horizon 2020 funding.

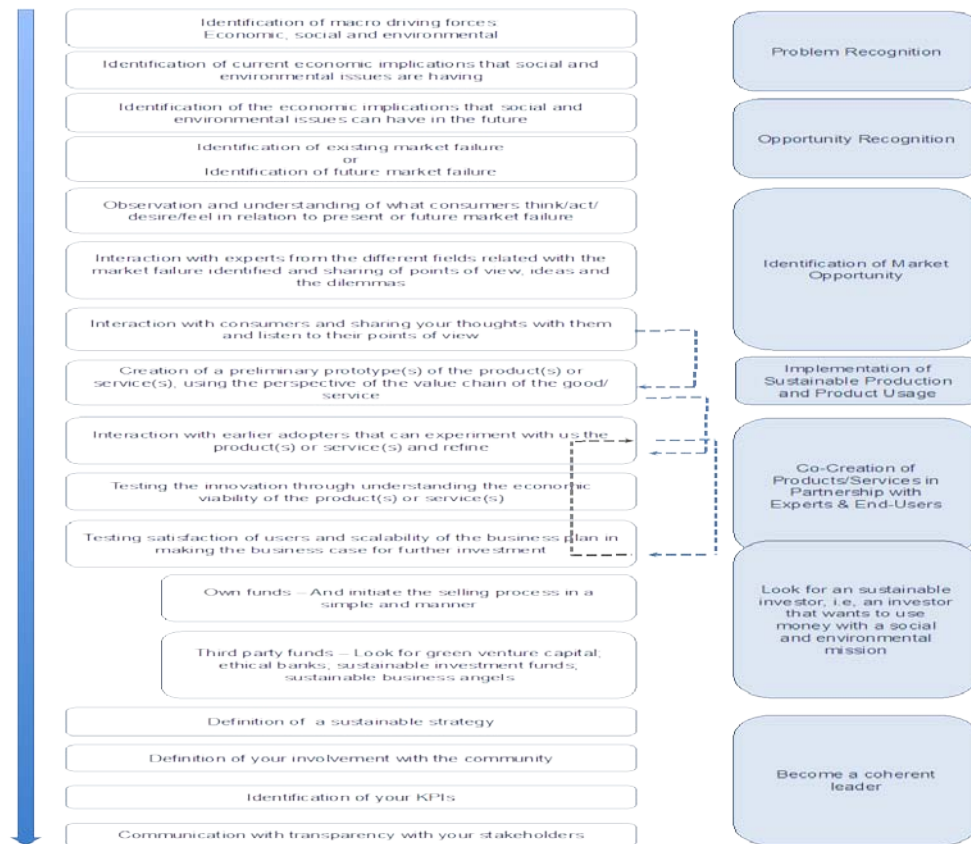


Figure 2 2020 Sustainable Entrepreneurship Model

5. Conclusions

This paper presents the results of a survey answered by 32 Portuguese innovative SME, in 2014, concluding that these innovative companies are already picking up the relevance that green products and green economy can have in their business growth in the future. This survey concluded that the Portuguese innovative SMEs have higher levels of green product supply and green jobs workers than the average European SME (Eurobarometer, 2013).

Despite this positive conclusion, these Portuguese innovative SMEs also state that there is a generalized lack of knowledge about the possibilities to create green and social businesses. At same time, they stated that the main support they would like to have in order to expand their green product supply would be to have access to financial incentives that could help them to develop new products, services and new production processes. These companies also identified that the main skills needed from the labor force to expand their green product supply are ability to think about the future; capacity to think strategically and good interpersonal skills. As a result of this, the authors propose a “sustainable entrepreneurship model” that could be used by sustainable entrepreneurs to implement their activities in consistency with their environmental and social values. This model can be used by those entrepreneurs that are able to identify a concrete product/service to sell to the final consumer. Since this model includes a ecosystem approach to business and a long term vision, we believe this model can be seen as a useful tool for those innovative sustainable or “green” entrepreneurs who want to apply for the Horizon 2020 funding. This model also induces the development of sustainable and green finance, by including the need to look for investors who share the same environmental and social values as the entrepreneurs. Only by doing this we believe the entrepreneurs are able to obtain a complete and consistent sustainable business case.

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