

## **PROMOTING SUSTAINABLE ENTREPRENEURSHIP IN HIGHER EDUCATION**

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### **Abstract**

How can we empower students to become sustainable entrepreneurs? Higher education is uniquely positioned to play a leading role in supporting sustainable entrepreneurship. Sustainable entrepreneurship refers to the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability. Sustainable entrepreneurs destroy existing conventional production methods, products, market structures and consumption patterns, and replace them with superior environmental and social products and services. Therefore, sustainable entrepreneurs create the market dynamics of environmental and societal progress. This article contributes to the ongoing academic discussion on how to prepare business students to adapt their business strategies to sustainable development priorities, especially, by promoting student creative thinking towards solving social and environmental challenges. This analytical paper addresses the main themes referring to sustainable entrepreneurship with a particular focus on how to improve curriculum for advancing sustainable entrepreneurship among students.

Keywords: sustainable entrepreneurship, sustainability, Corporate Social Responsibility (CSR), higher education.

### **Introduction**

Higher education is uniquely positioned to play a leading role in supporting sustainable entrepreneurship. Sustainable entrepreneurship refers to the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability. Sustainable entrepreneurs destroy existing conventional production methods, products, market structures and consumption patterns, and replace them with superior environmental and social products and services. Therefore, sustainable entrepreneurs create the market dynamics of environmental and societal progress and enhance more sustainable development.

In this discourse it may be argued that sustainable entrepreneurship also requires many changes in education and its curricula, especially with a focus on business education. Literature review suggests that education is critical for promoting sustainable development by improving the capacity to address environment, social, cultural and development issues. In this respect, higher education institutions are uniquely positioned for transitioning students towards more sustainable goals and future, especially, by enhancing their competences to develop such ideas and economic ventures that are not only economically viable, but also contributes towards environmental and social goals. Therefore, higher education institutions have a potential to play a leading role in supporting sustainable entrepreneurship, especially by promoting new student competences, attitudes, values, innovation-driven thinking and creative problem solving towards solving social and environmental challenges.

This analytical paper addresses the main themes referring to sustainable entrepreneurship with a particular focus on how to improve curriculum for advancing sustainable entrepreneurship among students. The purpose of this paper is to contribute to the ongoing academic discussion on how to prepare entrepreneurship-oriented and business students to adapt their business strategies to sustainable development priorities and develop competences for sustainable entrepreneurship. This paper argues that by promoting student sustainability-oriented, students develop a better understanding and competences on how to align their business strategies and new business ventures with macro-level social and environmental needs. Therefore, the authors argue that the curriculum related to sustainable entrepreneurship should highlight the multi-directionality and multi-dimensionality of sustainability discourse.



### **Sustainable Entrepreneurship: the Conceptual Dynamics**

Entrepreneurship has been a key subject of business studies for many years. The early definitions of entrepreneurship come from the works of Schumpeter (1942) and Kirzner (1973). For Schumpeter, an entrepreneur is able to change the status quo at the market through the process of creative destruction and innovation; in this respect, the economic growth is built by creating entrepreneurial opportunity. For Kirzner, the very alertness to identify new opportunities is a more important prerequisite for entrepreneurship than innovation, meaning that the entrepreneurial opportunity is discovered, rather than created. Today there are many competing and inter-relating definitions of entrepreneurship depending on its context and research discourse.

In general, entrepreneurship focuses on identifying new opportunities in order to create value and profit (Shane and Venkataraman 2000). From a wider perspective, entrepreneurs could be viewed as the catalysts that bring all resources together: money, people, ideas, networks and their combinations. Indeed, the opportunities identified by entrepreneurs can have a wide range: new products or services, new markets, new production processes, new raw materials, or new ways of organizing existing technologies (Schumpeter, 1934). While entrepreneurs can be driven by non-economic motives such as a desire for creativity or power, the economic theories of entrepreneurship tend to emphasize the role of profit as one of the major goals of entrepreneurs and investors in developing a new business opportunity. As it was indicated before, the literature review on the concept of entrepreneurship suggests that this concept encompasses many different phenomena (Lambing and Kuehl, 1997). Many authors concentrate on the process of a start-up company (Bennett, 1991), where entrepreneurs are viewed as actors opening a new company. Another aspect of entrepreneurship is entrepreneur's striving for growth (Kyrö, 2001), where entrepreneurs are viewed as actors enlarging companies and expanding businesses. Sometimes entrepreneurship is characterized by the personal characteristics of a leader like leadership, team building and commitment (Prahalad, 2005; 2006).

More and more research has developed approaches for linking sustainability to entrepreneurship to forward the theory of sustainable entrepreneurship. Indeed, sustainability has become a multidimensional concept that extends beyond environmental protection to economic development and social equity (Gladwin et al., 1995). The concept of sustainability has expanded towards different directions and applications, including the business sector. The review of literature suggests that the relationship between entrepreneurship and sustainability has been addressed by various streams of partially overlapping conceptual theories such as eco-preneurship (Blue, 1990; Bennett, 1991; Cohen, 2006) and social entrepreneurship (Prahalad and Hammond, 2002; Mair et al., 2005; Brinckerhoff, 2000; Mair et al., 2005; Ridley-Duff, 2008; Bull, 2008). Social entrepreneurship encompasses the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner (Zahra, 2009).

There are many overlapping definitions of sustainable entrepreneurship depending on the context of its usage. In a more generalized way, sustainable entrepreneurship refers to the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability in a way that generates social and environmental gains for others in society (Shepherd and Patzelt, 2011). Some authors emphasize Entrepreneurship is increasingly being cited as a significant conduit for bringing about a transformation to sustainable products and processes (Hall et al.; 2010). Sustainable entrepreneurship could be described as an innovative, market-oriented and personality driven form of creating economic and societal value by means of sustainable innovations. Sustainable entrepreneurs tend to destroy existing conventional production methods, products, market structures and consumption patterns, and replace them with superior environmental and social products and services, and in this, create new and more sustainability-oriented market dynamics.

The discourse of sustainable entrepreneurship is highly complex. Some authors have tried to conceptualize the process of social entrepreneurship as particular stages in order to illustrate its market dynamics and growth. For instance, Hockerts and Wüstenhagen (2010) have developed a four-stage approach to social entrepreneurship:

**The first stage** - a sustainable entrepreneur (who is likely to be an idealist) launches a sustainability-oriented innovation and, in doing so, initiates the transformation of an industry towards sustainability.

**The second stage** - the sustainable entrepreneur grows business and is followed by incumbents that catch up with the growing trend; the transformation of an industry towards sustainability continues.

**The third stage** - business-minded sustainable entrepreneurs emerge with start-ups backed up by professional investors. These understand their market niche well, and they are able to implement both product innovation as well as process innovation. These sustainable entrepreneurs achieve profitable growth and will extend market share, while defending it against incumbents.

**The fourth stage** - in this maturity stage mass-market brands see the growing competitive threat from the sustainable entrepreneurs and they will try to gain market share as well, taking the transformation of an industry towards sustainability further.

This approach of Hockerts and Wüstenhagen (2010) shows how sustainable entrepreneurship gains its market momentum and, even, becomes a business trend. Therefore, sustainable entrepreneurship may start from an ideological point of view (as the high values of an entrepreneur to advance sustainability); nevertheless, during the course of market-dynamics, sustainable entrepreneurship becomes certain business logic of its own and gains its own momentum. The next section analyzes the role of education in promoting sustainable entrepreneurship. The educational discourse may have very similar implications of starting from an idealistic point of view and developing towards an educational trend and necessity of the future.

### **Sustainable Entrepreneurship in Education: Advancing the Business Curriculum**

Higher education institutions have a profound responsibility to increase the awareness, knowledge, skills, and values needed to create a sustainable future, and promote value orientation towards sustainable development. Furthermore, higher education has a unique position to forward the discussion of society and environment and promote discussion of sustainability (Meadows, 1997). UNESCO (1997) stated that education is the most effective means that society possesses for confronting the challenges of the future. Indeed, education will shape the world of tomorrow. Progress and development depend upon the products of educated minds: upon new research, new invention, new innovation and resilient adaptation. In this context, it could be argued that education is a key advancer of sustainable development and sustainable entrepreneurship by being a source of knowledge transmission, acquisition, and creation. Orr (1994) stated that we need such education that recognizes the crisis of global ecology and a crisis of values, ideas, perspectives, and knowledge, that makes it a crisis of education, not one in education.

Sustainable entrepreneurship is a concept in progress; therefore, the curriculum on sustainable entrepreneurship should emphasize both the evolving, multi-cultural aspect of this concept. In this respect, the role of case studies in the curriculum is highly important since case studies may be particularly useful where the issues of sustainability are highly complex, and where the links with sustainable development are not immediately obvious. Case studies can provide a detailed example

of opportunities for students to engage in research with complex human-environment systems (Scholz et al, 2006). Case studies provide students with qualitatively deep descriptions of situations, their settings, problems, and controversies. In this respect, case studies provide an opportunity to study some topic or context of sustainability holistically, thus providing possibilities for interdisciplinary thinking. The case study approach is highly important for advancing student sustainable entrepreneurship skills, since it helps them to understand the uniqueness and specificity of each case as real-life opportunities. As entrepreneurship is all about opportunities, students have to develop such insight and competences that would let them identify and develop on those opportunities; and each successfully-exploited opportunity is a case study of its own.

In order to develop skills that are necessary for real life environment, the education and curriculum for sustainable entrepreneurship should emphasize project (problem) based learning. Project-based learning and problem-based learning are broadly overlapping approaches to education that emphasize the value of working on complex, real-world problems when the problems or the projects represent interdisciplinary sustainability challenges (Wiek et al.,2014) This approach lets students work in self-directed, collaborative groups, and may engage stakeholders in community, different organizations, or business partnerships to address problems through inquiry under conditions similar to professional consultation (Brundiars, Wiek, Redman, 2010). Project-based learning and problem-based learning help develop student focused thinking on sustainable development issues and advance the development of students' own attitudes.

Lecturing and knowledge acquisition is also highly important in promoting sustainable entrepreneurship since in order to identify sustainability-oriented opportunities; students must have a wide range of knowledge on complex sustainability issues. As an example, students must be aware of the concept of life cycle thinking. The complexity of sustainability education stresses the importance for students to adopt life cycle thinking since it is essential to sustainable development (Brazdauskas, 2015). Life cycle thinking refers to going beyond the traditional focus on production and manufacturing processes, and it considers the environmental, social, and economic impacts of a product over its entire life cycle. The main objective of life cycle thinking is the aim to reduce product's resource use and emissions to the environment as well as improve its socio-economic performance throughout its life cycle. Lifecycle thinking is also very important for identifying sustainability-oriented opportunities, especially those that are related with the reduction of resource consumption and the improvement of the performance of products. Life cycle thinking involves the following preferred action directions, which should be emphasized in order to develop student competencies for sustainable entrepreneurship:

- Rethinking the product and its functions;
- Reducing energy, material consumption and socio-economic impacts throughout a product's life cycle;
- Recycling or selecting materials that can be recycled;
- Reusing or designing the product for disassembly so parts can be reused;
- Replacing harmful substances with safer alternatives;
- Repairing and making the product easy to repair.

In addition, the development of curriculum on sustainable entrepreneurship for business students should emphasize the following content directions of business sustainability; thus, even further extending the content directions of sustainability (Brazdauskas, 2015):

– **Sustainable production** referring to industrial processes that transform natural resources into products that society needs in ways that minimize the resources and energy used, the wastes produced and the effects of work practices and wastes on communities.

– **Sustainable consumption** as the use of services and related products in such a manner that satisfies basic human needs and brings a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product.

– **Eco-efficiency** as the strategy for maximizing the productivity of material and energy inputs to a production process while reducing resource consumption and waste production and generating cost savings and competitive advantage.

– **Lifecycle analysis** as a management tool for identifying the net flows of resource and energy used in the production, consumption and disposal of a product or service in order to leverage eco-efficiency gains. In turn, life cycle management aims to minimize the environmental and socio-economic burdens associated with product throughout its entire life cycle and value chain.

Sustainable entrepreneurship requires developing substantial student competences in order to tackle the complexity of sustainability field. In turn, the following competence guidelines are being proposed in order to educate students to be the sustainable and creative power of upcoming generation that forwards innovative and creative sustainable solutions into our reality (Brazdauskas, 2015):

– To promote student understanding of sustainability and sustainable entrepreneurship as multi-dimensional and multi-level concepts involving innovative and creative thinking;

– To promote student creative problem solving skills that could potentially address sustainability-based issues;

– To promote student knowledge of the ecological and social problems facing local and global communities and recognize opportunities in this context;

– To promote student insight into sustainable development trends and knowledge on how to use them to their creative or entrepreneurial advantage;

– To promote student awareness on how local actions, impact global situations and, in turn, how global challenges should be solved locally;

– To promote student understanding and competence on how to align business strategies with macro-level social and environmental priorities;

– To promote student personal responsibility by emphasizing that the starting point of change and behaviour is within personal motivation;

– To promote student self-directed continuous education in advancing sustainable business goals and the importance of life-long learning in order to be a frontrunner of innovative thinking and creative problem solving for sustainable development.

Recently, much attention has been given to competence-based and competence-oriented education. Therefore, the domain of sustainable sustainability also emphasizes the competence-based approach (Wiek et al., 2011). Many authors have developed different approaches to promote sustainability-oriented competences; for instance, De Haan (2006) developed a ‘Gestaltungskompetenz’-based model for education for sustainable development (ESD) comprising competences in:

- foresighted thinking;
- interdisciplinary work;
- cosmopolitan perception, transcultural understanding and cooperation;
- learning participatory skills;
- planning and implementation skills;
- empathy, compassion and solidarity;
- self-motivation and motivating others;
- reflection on individual and cultural models.

Roorda (2010) has defined several competences for sustainable development in six clusters:

- Responsibility;
- Emotional intelligence;
- Systems thinking;
- Future thinking;
- Personal involvement;

– Action skills.

The incorporation of sustainable development and sustainable entrepreneurship into curricula requires systems thinking and interdisciplinary (trans-disciplinary) approaches and calls for educational innovations that provide transformative and real-world learning.

*Table 1. Competences for sustainable development and, in turn, for sustainable entrepreneurship. (Source: adapted from Rieckmann, 2012; cited in Lambrechts, 2016).*

<b>Competence</b>	<b>Description</b>
<b>Systemic thinking and handling of complexity</b>	ability to identify and understand connections; think connectively; be able to deal with uncertainty.
<b>Anticipatory thinking</b>	develop visions, apply precautionary principle, and predict flows of (re-)action; be able to deal with risks and changes.
<b>Critical thinking</b>	ability to look at the world, challenge norms, practices, and opinions; reflect on one's own values and actions; give opinions to others; understand external perspectives.
<b>Acting fairly and ecologically</b>	know alternative actions; be able to orientate oneself in regards to justice, solidarity, and conservation values; reflect on possible outcomes of one's actions; take responsibility for one's actions.
<b>Cooperation in (heterogeneous) groups</b>	ability to deal with conflicts; to learn from others; be able to show understanding/sympathy.
<b>Participation</b>	ability to identify scopes of creativity and participation; be able to participate in the creation of initiatives.
<b>Empathy and change of perspective</b>	Ability to identify one's own external perspectives; to deal with one's own and external value orientation; to put oneself in someone else's position; be able to accept diversity.
<b>Interdisciplinary work</b>	ability to deal with knowledge and methods of different disciplines and be able to work on complex problems in interdisciplinary contexts.
<b>Communication and use of media</b>	ability to communicate in intercultural contexts; to deal with IT; to be able to pass criticism on media.
<b>Planning and realizing innovative projects</b>	develop ideas and strategies; plan and execute projects; show willingness to learn for innovation; ability to deal with and reflect on possible risks.
<b>Evaluation</b>	ability to elaborate evaluation standards and carry out independent evaluations with respect to conflicts of interest and goals, uncertain knowledge, and contradictions.
<b>Ambiguity and frustration tolerance</b>	conflicts, competing goals and interests, contradictions, and setbacks.

Competence-based education focuses on the ability of students to develop important knowledge, sustainability-oriented values and attitudes, and skills necessary to address complex issues. Apart from sustainability-specific knowledge as domain knowledge, students should develop such competences which would help them advance the sustainability discourse in general. Table 1 introduces more expansive student competences related to sustainable development and, in turn, for sustainable entrepreneurship.

## **Conclusions**

Sustainable entrepreneurship requires developing highly innovative sustainability-oriented curricula that enhances such student competences which makes them more easily manage the complexity and inter-disciplinary of sustainability field. Promoting sustainable entrepreneurship in higher education is essential in creating the sustainable and creative power of upcoming generation that forwards innovative and sustainable solutions into our reality.

The concept of sustainable entrepreneurship is increasingly becoming more complex; thus, requiring different kinds of skills and competencies. In this discourse, education and continuous development of competencies are of key importance. Following this perspective, business students are encouraged to develop a better understanding and competence on how to identify sustainability-oriented opportunities, and then align their business strategies with social and environmental needs in order to create successful and sustainable business models.

The first section of this paper investigated the complexity and conceptual multi-directionality of social entrepreneurship by providing the implications for educational complexity. The second section of this paper addressed the role of higher education in advancing sustainable entrepreneurship by developing such sustainability-oriented curricula that focuses on student competences.

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