

Facts on Sustainable Entrepreneurship

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Abstract – Entrepreneurship is recognized like a behavior and an outcome of ability to identify and exploit opportunities and motivation. Both elements are important in the decision to start a business. In addition, entrepreneurship phenomenon is associated with the creation of wealth, technological innovation and increased social welfare so, entrepreneurs are important to a country's economic development. Despite their constructive contributions on economic development, entrepreneurial activities have also led to environmental degradation. In this context, the present paper aims to demonstrate that this disadvantage could be transformed into new business ideas. We believe that environmental issues should be solved by entrepreneurs themselves. In recent years, linking entrepreneurial activity and sustainable development has become a vital practice for all organizations. In this context, the paper's main objective is to present some relevant facts of sustainable entrepreneurship based on the literature review.

Keywords: Entrepreneurship, statistics, analysis

I. INTRODUCTION

Entrepreneurship is the most powerful economic force known to humankind! The "entrepreneurial revolution" that captured our imagination during the 1990s has now permeated every aspect of business thinking and planning. As exemplified by the dynasty builders of the previous decades, such as Sam Walton of Walmart, Fred Smith of FedEx, Bill Gates of Microsoft, Michael Dell of Dell Computers, Steve Jobs of Apple, and Andy Grove of Intel, the applications of creativity, risk taking, innovation, and passion led the way to economic development far greater than anyone could imagine. Today we witness the immense impact of entrepreneurial companies such as Google, Amazon, Facebook, Twitter, and LinkedIn, which have produced technological breakthrough after breakthrough. As the twenty-first century unfolds, we will continue to encounter newer and sometimes more complex challenges and pressures than ever before in the form of green technologies, social entrepreneurship, sustainability, and technological

change. The entrepreneurial drive and determination of yet to be discovered dynasty builders will be our greatest solution to all these challenges.

The process of transforming creative ideas into commercially viable business continues to be a major force in today's world economy. Successful entrepreneurship requires more than merely luck and money. It is a cohesive process of creativity, risk taking and planning. Students today need courses and programs that set forth a basic framework for understanding the discipline of entrepreneurship in a manner that is unique and creative as entrepreneurship itself. Entrepreneurship has long been promoted and encouraged in the modern society (Tilley and Young, 2009). For instance, universities are offering entrepreneurship courses and various efforts to develop young entrepreneurs have also been carried out by the government. No doubts, it is hard to separate economic development and globalization from entrepreneurial activities. Some researchers have named entrepreneurs as "engines of economic growth" (Baron and Shane, 2008) and (Mellor et al., 2009) and it has been linked to wealth generation and economic growth for many years. Among the well acknowledged contributions of entrepreneurs are such as job creation, product and process innovation, enterprise establishments and other. Despite all these positive contributions, the entrepreneurial business activities have also contributed to environmental degradation (Cohen and Winn, 2007).

In this context, the main objective of this paper is to present some relevant fact of sustainable entrepreneurship that could be considered for counterbalancing the huge resources consumption and environment degradation through the entrepreneurial activities. The paper structure consists of the following parts: a literature review for the characterization of the sustainable entrepreneurship concept and phenomenon and then a debate on the competencies needed for this category of businesspeople are presented, also based on the literature review.

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II. THE RESEARCH CONTEXT FRAMEWORK

Business activities from entrepreneurial practices have contributed to environmental degradation (Cohen and Winn, 2007), causing environmental problems such as pollutions, green house effects and ecosystem imbalance. Therefore, some researchers suggest that entrepreneurs should help to resolve the environmental problems (Dean and McMullen, 2007). Specifically, they point out that linking economic and environmental interests to create benefit for the whole society has become a vital practice among corporations nowadays. In other words, business organizations nowadays are required to perform in an equal footing between economic gains and sustainable practices. As mentioned by Schaltegger and Synnestvedt (2001), being “green” and being “economically successful” should be at the central attention of all company leaders of today. In addition, Schaper (2002) also mentions that entrepreneurs nowadays are playing a leading role in adoption of green or sustainable businesses. In short, economic gain is no longer the only objective of entrepreneurship. Indeed, due to the increasing awareness and rapid development of concepts related to corporate social responsibility (CSR), ecological modernization and sustainability development, many business firms have re-examined their roles on social-economic issues. In many cases, the term “corporate sustainability” is a synonym for “corporate social responsibility” (Hall et al., 2010). As such, adopting sustainable practices is not only a trend, but also a must, for most current entrepreneurs. Although Friedman (1970) has mentioned that “the social responsibility of business is to increase its profits”; his viewpoint deserves a re-evaluation in today’s business world. Currently, the concept of triple-bottom-line (TBL or 3BL) coined by John Elkington in 1994, which emphasizes on balancing economic health, social equity and environmental resilience through entrepreneurship, has received much attention. Linking entrepreneurial activities to sustainability development has changed the ways businesses are performed. Entrepreneurship is experiencing a shift from emphasizing on wealth creation and profit accumulation to environmental concern and sustainable development (Smith and Sharicz, 2011; Tilley and Young, 2009). The shift towards sustainable development has created a new field in entrepreneurship known as sustainable entrepreneurship (Cohen and Winn, 2007; Gibbs, 2009; Hall et al., 2010; Richomme-Huet and Freyman, 2011; Shepherd and Patzelt, 2011).

The transition of entrepreneurship towards sustainability has undoubtedly become a challenge to most entrepreneurs. As Kuckertz and Wagner (2010) mention, sustainable entrepreneurship which bears additional potential for both society and environment adds new promise to the traditional entrepreneurship. Although the concept of triple-bottom-line has been stressed by researchers in sustainability study, it

remains as an under researched area, particularly regarding entrepreneurship. To date, studies on entrepreneurship intention has captured the attention of various researchers in entrepreneurship field, for examples, Moriano et al., (2011); Shook and Bratianu, (2010) and Schwarz et al. (2009), just to name a few. However, studies focusing on intention towards sustainable entrepreneurship are still very lacking, especially in the local setting. Nothing much has known regarding the antecedents of intention towards sustainable entrepreneurship in our motherland.

Quite several past literatures have investigated sustainable practices and development among students (Fielding et al., 2008; Kasier et al. 2005), household (Tonglet et al., 2004) and individuals (Bamberg and Möser, 2007; Kaiser and Gutscher, 2003; Vermeir and Verbeke, 2008). However, perceptions among current practicing entrepreneurs on sustainable practices are still less understood. As Hall et al. (2010) mention, there are scant empirical studies exploring the likelihood of entrepreneurship roles in transforming current economies into more sustainable system. Small and medium enterprises (SMEs) are often associated with entrepreneurship. As sustainable entrepreneurship could be regarded as an extension or sub-form of entrepreneurship (Levinsohn and Brundin, 2011; Schlange, 2006), studies on SMEs regarding sustainable entrepreneurship remains low.

Therefore, questions such as “are SMEs owners intending to engage with sustainable entrepreneurship?” and “what cause SMEs owners to engage with sustainable entrepreneurship?” are indeed require further investigation. Furthermore, it is also worthwhile to investigate “are novice and veteran SMEs owners having different intention towards sustainable entrepreneurship?”

III. A LITERATURE REVIEW ON SUSTAINABLE ENTREPRENEURSHIP

Throughout the years, many researchers have tried to defined entrepreneurship; however, the efforts have not received any promising results. To date, researchers found that there is no universally accepted definition of it (Carsrud and Brännback, 2007; Gartner, 1988; Veciana, 2007). Thus, for the purpose of this study, entrepreneurship can be defined as “a process in which enterprising individuals identify an unmet need or want and grasp the opportunity by turning ideas into commercial reality” (Schaper, 2002). As mentioned earlier, entrepreneurship is facing a shift or transition in its objectives. It should not be associated to solely on profit generation or wealth accumulation. Due to the increased awareness of environmental and social problems, entrepreneurs are expected to reconcile the twin goals of sustainable development and wealth accumulation (Tilley and Young, 2009). Over the years, many fields of entrepreneurship that are related to sustainability development have emerged as important areas in the study. For instance, environmental entrepreneurship, social

entrepreneurship and sustainable entrepreneurship are among the current development in this study (Richomme-Huet and De Freyman, 2011; Tilley and Young, 2009). However, sustainable entrepreneurship remains as a popular field due to the activity such as “greening the industry” which took place in Europe and other industrialized countries around the world in mid-1990s (Schick et al., 2005) and increasing awareness of sustainability development among entrepreneurs (Hall et al., 2010). Graham (2010) mentions that sustainability management emerged in 1970s and it has undoubtedly changed the ways people perceived on environmental resources issue. Sustainability can be defined as “the result of the activities of an organization, voluntary or governed by law, that demonstrate the ability of the organization to maintain viable its business operations whilst not negatively impacting any social or ecological systems” (Smith and Sharicz, 2011). Meanwhile, sustainable development can be defined as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (WCED, 1987). It can be said that sustainable entrepreneurship is a concept that links entrepreneurship to sustainability development. As discussed before, environmental entrepreneurship, social entrepreneurship and sustainable entrepreneurship are among the current development in the study of entrepreneurship. However, these terms are ambiguous (Hall et al., 2010), overlapping and difficult to be differentiated (Gibbs, 2009). Even though the definition of sustainable entrepreneur is not remained static, Schlange (2006) attempted to describe sustainable entrepreneur as “someone having a strong emphasis on ecological aspects in the business vision as opposed to the traditional entrepreneurial aspirations”. In defining sustainable entrepreneurship, this study adopts Shepherd and Patzelt’s (2011) definition, as “focused on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes and services for gain, where gain is broadly construed to include economic and non-economic gains to individuals, the economy and society.”

Based on the above considerations we will focus, in the next section of the article, on the presentation of the competencies needed for entrepreneurs to allow them to act as sustainable one.

IV. COMPETENCIES NEEDED FOR SUSTAINABLE ENTREPRENEURS AS CHANGE AGENTS

A. Competencies for Change Agents

According to Svanström, Lozano-García, and Rowe (2008) a successful change agent for sustainability must have knowledge of environmental-, of economic-, and of social issues related to sustainability (i.e., knowledge element of competence). Furthermore, the change agent must have a value system to support their actions (i.e., attitude

element of competence). In addition, the change agent must have the ability to perform sustainability tasks (i.e., skills element of competence).

Considerable, though mostly conceptual, efforts in translating these abilities for change agents into competencies have been made over the past decade (de Haan, 2006; Rieckmann, 2012; Svanström et al., 2008; Wiek et al., 2011). Derived from research on competencies for sustainable development in higher education, various scholars have identified competencies for sustainable development in a work/business context (Table 1).

Most of these studies applied the comprehensive or multimethod-oriented approach to competence in applying these competencies in the business context. For example, the work of Hesselbarth and Schaltegger (2014) focusses on contextualizing competencies for sustainable development in a work context. Based on experiences of MBA alumni, they propose five key competencies for change agents for sustainability. Osagie et al. (2016) combined results from a systematic literature review with results from 28 interviews with Corporate Social Responsibility (CSR) managers to compile a set of eight CSR-related competencies. In the field of CSR, Wesselink et al. (2015) performed an empirical study to analyze individual competencies for managers engaged in corporate sustainable management practices and identified five competencies that highly correspond with core tasks performed by CSR managers.

Finally, Lans et al. (2014) identified a framework of seven competencies for sustainable entrepreneurship based on focus groups with teachers involved in entrepreneurship education and by performing an exploratory factor analysis on the survey in which the seven competencies were queried. Table 1 provides an overview of the different competencies mentioned in the four different studies.

Despite the use of some of the same initial competencies, the inclusion of key competencies differs among the different studies. Three competencies are included in all four studies, namely, strategic (management) competence, systems thinking competence, and interpersonal competence. Where Hesselbarth and Schaltegger (2014), Lans et al. (2014), and Osagie et al. (2016) underpin the importance of normative competence, the empirical study performed by Wesselink et al. (2015) did not point in this direction. They argue that this could be a result of either normative competence already being internalized in the behavior of CSR managers, or the structural lack of normative behavior in this specific work/business context (Wesselink et al., 2015). Another competency that has been subject to debate is anticipatory/foresighted thinking competence (both words are used for the same construct). Rieckmann (2012) identifies this as one of the most important competencies, and it is also empirically found in the work of Hesselbarth and Schaltegger (2014), Osagie et al. (2016), and Lans et al. (2014). However, Wesselink et al. (2015) did not include this competency as a key

competency. The reason for not including this competency seems to be directly related to the specific CSR context in which they have researched the enactment of the competencies (Wesselink et al., 2015). They argue that in the more mature phases of the CSR implementation process, foresighted thinking is less important than in the starting phases. Their sample consisted of companies in the more mature

phases, which could explain the absence of foresighted thinking competence. In addition, embracing diversity and interdisciplinarity competence is not supported by all four researchers. Lans et al. (2014) and Wesselink et al. (2015) acknowledge the importance of this competence but it is not included in the studies by Hesselbarth and Schaltegger (2014) and Osagie et al. (2016).

Table 1 A set of competencies for sustainable development – a literature review

Reference	Competencies for sustainable entrepreneurs
Hesselbarth and Schaltegger (2014)	<ol style="list-style-type: none"> 1. Strategic competence 2. Systems-thinking competence 3. Anticipatory competence 4. Normative competence 5. Interpersonal competence
Osagie et al. (2016)	<ol style="list-style-type: none"> 1. Anticipating CSR challenges 2. Understanding CSR-relevant systems and subsystems 3. Understanding CSR-relevant standards 4. CSR management competencies 5. Realizing CSR-supportive interpersonal processes 6. Employing CSR-supportive personal characteristics and attitudes 7. Personal value-driven competencies 8. Reflecting on personal CSR views and experiences
Wesselink et al. (2015)	<ol style="list-style-type: none"> 1. Systems thinking competence 2. Embracing diversity and interdisciplinarity competence 3. Interpersonal competence 4. Action competence 5. Strategic management competence
Lans et al. (2014)	<ol style="list-style-type: none"> 1. Systems-thinking competence 2. Embracing diversity and interdisciplinarity competence 3. Foresighted thinking competence 4. Normative competence 5. Action competence 6. Interpersonal competence 7. Strategic management competence

The fourth and last competence up for debate is action competence. In the literature this competence is widely considered as one of the most important competencies for sustainable development (Blok, et al., 2015; de Haan, 2006; Ellis and Weekes, 2008), but in practice this does not always show. Even though Lans et al. (2014) tend to keep action competence included, the results of their exploratory analysis show significant overlap with strategic management competence.

In addition, Hesselbarth and Schaltegger (2014) and Osagie et al. (2016) encounter difficulties with the concept of action competence. The latter encourage a more practical interpretation of the concept and see it merely as “actively engaging oneself in the process of CSR implementation” (Osagie et al., 2016, p. 17). This calls for a more in depth and empirical analysis of the competencies at stake when dealing with sustainability challenges.

B. Sustainable Entrepreneurs as Change Agents

An example of a promising work context in which competencies for sustainable development are truly at the forefront, enacted (and contested), is the field of

sustainable entrepreneurship. The emerging stream of academic literature on sustainable entrepreneurship adds a new dimension to the promise of entrepreneurship being an attractive way of generating competitive advantage and resulting in economic gain. Entrepreneurship for sustainable development is supposed to result in more than economic success. Sustainable entrepreneurs try to manage the “triple bottom line” (Patzelt and Shepherd, 2011); in other words, they balance economic health, social equity, and environmental resilience through their entrepreneurial behavior. Sustainable entrepreneurship is not only associated with the promise of more traditional concepts of entrepreneurship but also has additional potential both for society and the environment. The term sustainable entrepreneurship is an overarching concept looking at the contribution of entrepreneurs to social, environmental, and economic aspects (Schaltegger and Wagner, 2011). Sustainable entrepreneurs initiate those activities and processes that lead to identifying, evaluating, and exploiting business opportunities to contribute to sustainability and profitability (Patzelt and Shepherd, 2011; Schaltegger and Wagner, 2011). In this respect, sustainable

entrepreneurship is seen as a way of generating competitive advantage by recognizing new business opportunities resulting in new products, new methods of production, new markets or new ways of organizing business processes more sustainably (Patzelt and Shepherd, 2011). Thus, the recognition of opportunities is an important element of (sustainable) entrepreneurship (Gaglio and Katz, 2001; Shane and Venkataraman, 2000). Therefore, sustainability is not only something to act on, comply with, or engage in, but a major source for change and opportunities (Dean and McMullen, 2007). According to Hesselbarth and Schaltegger (2014), sustainable entrepreneurs act as change agents as they develop sustainability as a factor of success in their working environment, integrate sustainability criteria into business processes, and transfer the vision of sustainable development to society. Nevertheless, becoming a successful sustainable entrepreneur does not happen overnight. The Global Entrepreneurship Monitor defines four entrepreneurial stages (Kelley et al., 2011):

1. Potential entrepreneurs who intend to start a business in the future;
2. Nascent entrepreneurs who are involved in setting up a business;
3. New entrepreneurs who have just started a business;
4. Established entrepreneurs who own and manage an established business.

The role of higher education in this process is widely recognized as education can play a significant role in stimulating and fostering Phases 1 and 2. These individuals who have the intention to become a sustainable entrepreneur are labelled as would-be (sustainable) entrepreneurs (i.e., Baron and Ensley, 2006; Dimov, 2007). Furthermore, competence development usually is strongest in a context in which learning is central, which also emphasizes the role of higher education.

In this study, we focus on these would-be sustainable entrepreneurs as they have an important role as future change agents and are in the stage of developing competencies and an entrepreneurial intention. To bridge the gap between conceptual and empirical research on competencies for sustainable entrepreneurship, Lans et al. (2014) developed a competence framework. This framework is, to the best of our knowledge, the only framework that specifically addresses competencies for sustainable entrepreneurship. The competence framework consists of key competencies from entrepreneurship literature and key competencies from education for sustainable development (ESD) literature, which makes it a unique and innovative overview. The competence framework as proposed by Lans et al. (2014) includes 7 key competencies that are described in Table 2.

Table 2 A set of competencies for sustainable entrepreneurs to become change agents in a specific business context – a literature review

Competence	Description
1. Systems thinking competence:	The ability to identify and analyze all relevant (sub)systems across different domains (people, planet, profit) and disciplines, including their boundaries (Wiek et al., 2011).
2. Embracing diversity and interdisciplinary competence	The ability to structure relationships, spot issues, and recognize the legitimacy of other viewpoints in business decision-making processes; be it about environmental, social, and/or economic issues (de Haan, 2006; Ellis and Weekes, 2008).
3. Foresighted thinking competence	The ability to collectively analyze, evaluate, and craft “pictures” of the future in which the impact of local and/or short-term decisions on environmental, social, and economic issues is viewed on a global/cosmopolitan scale and in the long term (Wiek et al., 2011).
4. Normative competence	The ability to map, apply, and reconcile sustainability values, principles, and targets with internal and external stakeholders, without embracing any given norm but based on the good character of the one who is involved in sustainability issues (Blok et al., 2015; Wiek et al., 2011).
5. Action competence	The ability to actively involve oneself in responsible actions for the improvement of the sustainability of social–ecological systems (de Haan, 2006; Mogensen and Schnack, 2010).
6. Interpersonal competence	The ability to motivate, enable, and facilitate collaborative and participatory sustainability activities and research (Schlange, 2009; Wiek et al., 2011).
7. Strategic management competence	The ability to collectively design projects, implement interventions, transitions, and strategies for sustainable development practices (de Haan, 2006; Wiek et al., 2011).

V. CONCLUSIONS

It is expected that the sustainable entrepreneurship framework can demonstrate that SMEs owners are showing a significant level of intention towards

environment, social and economic issues of today’s society. Even if the research of ours is based only on the literature review, there are several facts that proved the importance of the concept and its practical actions.

The contributions of this paper are two-folds. On the theoretical side, it helps to flourish the existing collection of literature by filling up the gaps identified. Moreover, it also develops a framework of sustainable entrepreneurship competencies that can be used to train, educate or learning programs in this entrepreneurship field.

On the other hand, it is hoped that it can shed light on practicing entrepreneurs' intention to become sustainable entrepreneurs. On the practical side, it is to incorporate the areas of sustainable entrepreneurship into the business and management education curriculum. In addition, it provides some useful information to promote sustainability entrepreneurship among SMEs, which is in line with the actual concerned on green society, circular economy and equity together with the governments' objectives to build a "green society".

REFERENCES

- [1] Bamberg, S. and Möser, G. (2007). Twenty Years after Hines, Hungerford, and Tomera: A New Meta-analysis of Psycho-social Determinants of Proenvironmental Behavior. *Journal of Environmental Psychology*, 27, 14–25.
- [2] Baron, R. A., and Ensley, M. D. (2006). Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management Science*, 52, 1331-1344.
- [3] Baron, R.A. and Shane, S.A. (2008). *Entrepreneurship: A Process Perspective* (2nd Ed.). Mason, OH: Thomson South-Western.
- [4] Blok, V., Gremmen, B., & Wesselink, R. (2015). Dealing with the wicked problem of sustainable development: The necessity virtuous competence. *Business and Professional Ethics Journal*, 34, 297-327.
- [5] Carsrud, A. L. and Brännback, M. E. (2007). *Entrepreneurship*. London: Greenwood Press.
- [6] Cohen, B. and Winn, M.I. (2007). Market Imperfections, Opportunity and Sustainable Entrepreneurship. *Journal of Business Venturing*, 22, 29-49.
- [7] Dean, T.J. and McMullen, J.S. (2007). Toward a Theory of Sustainable Entrepreneurship: Reducing Environmental Degradation through Entrepreneurial Action. *Journal of Business Venturing*, 22, 50-76.
- [8] de Haan, G. (2006). The BLK "21" programme in Germany: A "Gestaltungskompetenz" based model for education for sustainable development. *Environmental Education Research*, 12, 19-32.
- [9] Dimov, D. (2007). Beyond the single-person, single-insight attribution in understanding entrepreneurial opportunities. *Entrepreneurship Theory and Practice*, 31, 713-731.
- [10] Ellis, G., & Weekes, T. (2008). Making sustainability "real": Using group-enquiry to promote education for sustainable development. *Environmental Education Research*, 14, 482-500.
- [11] Fielding, K.S., McDonald, R. and Louis, W.R. (2008). Theory of Planned Behavior, Identity and Intentions to Engage in Environmental Activism. *Journal of Environmental Psychology*, 28, 318–326.
- [12] Friedman, M. (1970). The Social Responsibility of Business is to Increase its Profits. *The New York Times Magazine*. September 13.
- [13] Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16, 95-111.
- [14] Gartner, W.B. (1988). Who is an Entrepreneur? Is the Wrong Question. *American Journal of Small Business*, 12(4), 11-31.
- [15] Gibbs, D. (2009). Sustainability Entrepreneurs, Ecopreneurs and the Development of a Sustainable Economy. *Greener Management International*, 55, 63-78.
- [16] Graham, S. (2010). What is Sustainable Entrepreneurship? Retrieved June 8, 2011, from <http://biznik.com/articles/what-is-sustainable-entrepreneurship>.
- [17] Hall, J.K., Daneke, G.A. and Lenox, M.J. (2010). Sustainable Development and Entrepreneurship: Past Contributions and Future Directions. *Journal of Business Venturing*, 25, 439-448.
- [18] Hesselbarth, C., and Schaltegger, S. (2014). Education future change agents for sustainability-learnings from the first sustainability management Master of Business Administration. *Journal of Cleaner Production*, 62, 24-36
- [19] Kaiser, F.G. and Gutscher, H. (2003). The Proposition of a General Version of the Theory of Planned Behavior: Predicting Ecological Behavior. *Journal of Applied Social Psychology*, 33(3), 586-603.
- [20] Kasier, F.G., Hübner, G. and Bogner, F.X. (2005). Contrasting the Theory of Planned Behavior with the Value-Belief-Norm Model in Explaining Conservation Behavior. *Journal of Applied Social Psychology*, 35(10), 2150-2170.
- [21] Kelley, D. J., Bosma, N., & Amorós, J. E. (2011). Global entrepreneurship monitor: 2010 global report. Retrieved from <http://gemconsortium.org/report/47109>
- [22] Kuckertz, A. and Wagner, M. (2010). The Influence of Sustainability Orientation on entrepreneurial Intentions: Investigating the Role of Business Experience. *Journal of Business Venturing*, 25(5), 524-539.
- [23] Lans, T., Blok, V., & Wesselink, R. (2014). Learning apart together: Towards an integrated framework for sustainable entrepreneurship competence in higher education. *Journal of Cleaner Production*, 62, 37-47.
- [24] Levinsohn, D.S. and Brundin, E. (2011). Beyond "Shades of Green" - Opportunities for a Renewed Conceptualization of Entrepreneurial Sustainability in SMEs: A Literature Review. 56th Annual International Council for Small Business (ICSB) World Conference, June 15-18, Stockholm, Sweden.
- [25] Mellor, R., Coulton, G., Chick, A. Bifulco, A., Mellor, N. and Fisher, A. (2009). *Entrepreneurship for Everyone*. London: SAGE Publications.
- [26] Mogensen, F., & Schnack, K. (2010). The action competence approach and the "new" discourses of education for sustainable development, competence and quality criteria. *Environmental Education Research*, 16, 59-74.
- [27] Moriano, J.A., Gorgievski, M., Laguna, M., Stephan, U. and Zarafshani, K. (2011). A Cross-cultural Approach to Understanding Entrepreneurial Intention, *Journal of Career Development*, Published online 6 January 2011.
- [28] Osagie, E. R., Wesselink, R., Blok, V., Lans, T., & Mulder, M. (2016). Individual competencies for corporate social responsibility: A literature and practice perspective. *Journal of Business Ethics*, 135, 233- 252.
- [29] Patzelt, H., & Shepherd, D. A. (2011). Recognizing opportunities for sustainable development. *Entrepreneurship Theory and Practice*, 35, 631-652.
- [30] Rieckmann, M. (2012). Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, 44, 127-135.
- [31] Richomme-Huet, K. and Freyman, J.D. (2011). What Sustainable Entrepreneurship Looks Like: An Exploratory Study from a Student Perspective. 56th Annual International Council for Small Business (ICSB) World Conference, June 15-18, Stockholm, Sweden.
- [32] Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. *Business Strategy and the Environment*, 20, 222-237.
- [33] Schaltegger, S. and Synnestvedt, T. (2001). The Forgotten Link between "Green" Economic Success: Environmental Management as the Crucial Trigger between Environmental and Economic Performance.

- Center for Sustainability Management: University of Lueneburg.
- [34] Schlange, L. E. (2009). Stakeholder identification in sustainability entrepreneurship. *Greener Management International*, 55, 13-32.
- [35] Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, 217-226.
- [36] Schaper, M. (2002). The Essence of Ecopreneurship. *Greener Management International*, 38, 26-30.
- [37] Schlange, L.E. (2006). What Drives Sustainable Entrepreneurs? 3rd Applied Business and Entrepreneurship Association International (ABEAI) Conference, Kona, Hawaii.
- [38] Schwarz, E.J., Wdowiak, M.A., Almer-Jarz, D.A. and Breiteneker, R.J. (2009). The Effects of Attitudes and Perceived Environment Conditions on Students' Entrepreneurial Intent: An Austrian Perspective. *Education + Training*, 51(4), 272-291.
- [39] Shepherd, D. A. and Patzelt, H. (2011). The New Field of Sustainable Entrepreneurship: Studying Entrepreneurial Action Linking "What is to be Sustained" With "What is to be Developed". *Entrepreneurship Theory and Practice*, January, 137-163.
- [40] Shook, C.L. and Bratianu, C. (2010). Entrepreneurial Intent in a Transitional Economy: An Application of the Theory of Planned Behavior to Romanian Students. *International Entrepreneurship Management Journal*, 6, 231-347.
- [41] Smith, P.A.C. and Sharicz, C. (2011). The Shift Needed for Sustainability. *The Learning Organization*, 18(1), 73-86.
- [42] Svanström, M., Lozano-García, F. J., & Rowe, D. (2008). Learning outcomes for sustainable development in higher education. *International Journal of Sustainability in Higher Education*, 9, 339-351.
- [43] Tilley, F. and Young, W. (2009). Sustainability Entrepreneurs: Could They be the True Wealth Generators of the Future. *Greener Management International*, 55, 79-92.
- [44] Tonglet, M., Philips, P.S. and Read, A.D. (2004). Using the Theory of Planned Behaviour to Investigate the Determinants of Recycling Behavior: A Case Study from Brixworth, UK. *Resources, Conservation and Recycling*, 41, 191-214.
- [45] Veciana, J.M. (2007). Entrepreneurship as a Scientific Research Program. In Cuervo, Á, Ribeiro, D. and Roig, S. (Eds.), *Entrepreneurship: Concepts, Theory and Perspective* (pp. 23-71). Berlin, Heidelberg: Springer-Verlag.
- [46] Vermeir, I. and Verbeke, W. (2008). Sustainable Food Consumption among Young Adults in Belgium: Theory of Planned Behavior and the Role of Confidence and Values. *Ecological Economics*, 64, 542 – 553.
- [47] Wesselink, R., De Jong, C., & Biemans, H. J. A. (2010). Aspects of competence-based education as footholds to improve the connectivity between learning in school and in the workplace. *Vocations and Learning*, 3(1), 19-38.
- [48] Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability Science*, 6, 203-218.
- [49] WCED. (1987). *World Commission on Environment and Development: Our Common Future*. Oxford, UK: Oxford University Press.