

Entrepreneurship, Knowledge, Innovation and Sustainable Development

M.A. Alba Kruja

*Epoka University, Lecturer
Dep. of Business Administration
Email: akruja@epoka.edu.al*

Abstract *Entrepreneurship is closely affiliated to knowledge, innovation and flexibility, factors that are directly related to competitiveness in the globalized economy. Obtaining prosperity in the globalized and liberalized world economy is related to the competitiveness degree of the country. Being competitive in the international markets by fostering entrepreneurship has become a primary concern of policy makers in the developed and developing countries too, which are trying to attain their competitiveness. For an economy to develop sustainable and shared increases in per capita income are needed. The increases in per capita income should be accompanied by movements of the economy's structural composition towards higher value added goods and more efficient production methods. Entrepreneurs can contribute to the economy through the allocation of resources in a more productive way, by giving support to changes in structures, by making discoveries in order to lower costs, increase efficiency, produce in a more effective way. The aim of this paper is to examine the recent advances in the understanding the relationship between knowledge, entrepreneurship and innovation in one hand, and how they relate to the sustainable development on the other. The methods of research are analysis and synthesis of the scientific literature discussing how entrepreneurship can contribute to the economy and society and how can it be fostered through knowledge and innovation.*

Keywords: *Entrepreneurship, knowledge, innovation, sustainable development, policy*

1. Introduction

Joseph Schumpeter pointed out a century ago that entrepreneurs are often innovators, bringing new goods and technologies to markets, opening up new markets, processes, and ideas, and commercializing new knowledge (Szimai et al., 2011: 3). Entrepreneurship has come to be perceived as an engine of economic and social development throughout the world. ... Today, entrepreneurship, and the impacts of entrepreneurship on society are the subject of a growing body of research primarily in the disciplines of economics, geography, management, finance, strategy, psychology and sociology (Acs et al., 2005: 3).

Entrepreneurship is closely affiliated to knowledge, innovation and flexibility, factors that are directly related to competitiveness in the globalized economy. Obtaining prosperity in the globalized and liberalized world economy is related to the competitiveness degree of the country. Being competitive in the international markets by fostering entrepreneurship has become a primary concern of policy makers in the developed and developing countries too, which are trying to attain their competitiveness. For an economy to develop sustainable and shared increases in per capita income are needed. The increases in per capita income should be accompanied by movements of the economy's structural composition towards higher value added goods and more efficient production methods. Entrepreneurs can contribute to the economy through the allocation of resources in a more productive way, by giving support to changes in structures, by making discoveries in order to lower costs, increase efficiency, produce in a more effective way.

This paper aims to examine the recent advances in the understanding the relationship between knowledge, entrepreneurship and innovation in one hand, and how they relate to the sustainable development on the other. After the introduction part, concepts and definitions of the terms entrepreneurship, knowledge, innovation and sustainable development takes place. The third chapter of the study links the impact of innovation on sustainable development. And the conclusion part contains a summary of the impact of entrepreneurship, knowledge, innovation on sustainable development.

2. Concepts & Definitions

2.1 Entrepreneurship

Entrepreneurship is studied from different disciplinary perspectives and there is found many definitions of it. The discipline of entrepreneurship generally studies the why, when and how of opportunity creation, recognition and utilization

(Szimai at al., 2011: 4). Entrepreneurial activity is the introduction of novel change into the economy, novel meaning not previously known in that context (Metcalfe, 2006: 77).

In the ancient and mediaeval worlds entrepreneurialism was hampered by the defense of vested interests by landed aristocrats, and by concepts such as just prices and usury (Casson at al., 2006:10). Since the beginning of the Industrial Revolution, economists have attempted to understand and incorporate the entrepreneur into economic literature (McDaniel, 2003:2). One of the earliest uses of the term “entrepreneur” (table 1), appears to have been introduced by Richard Cantillon, an Irish economist of French descent, in the 1700s. According to Cantillon, the entrepreneur is a specialist in taking risk (Casson at al., 2006:3). Cantillon correctly separated the activities of the capitalist from those of the entrepreneur (McDaniel, 2002:31). Adam Smith in his classic writing, *The Wealth of Nations*, discussed the entrepreneur, but associated activities with capitalist. Although Smith adequately described the activities of the entrepreneur, he missed a great opportunity to emphasize the separate nature and activities of the entrepreneur (McDaniel, 2003:3). The entrepreneur was seen as a capitalist who tried to gain profits by risk taking. By the end of the 1700s, the French economist Jean-Baptiste Say had developed the term “entrepreneur” to mean the changing of resources from a lower productive use to a higher productive use (McDaniel, 2002:31). John Stuard Mill by the mid1800s started to associate capitalist and entrepreneur together through risk. Risk was viewed as only one activity and the risk of each group was viewed as one collective risk assumed and directed by the capitalist (McDaniel, 2003:3).

Year	Economist	Contribution
1725	Richard Cantillon	Separated activities of capitalist from entrepreneur
1776	Adam Smith	Discussed entrepreneur but associated activities with capitalist
1803	Jean-Babtiste Say	Defined entrepreneur as improving the state of resources used in production
1871	John Stuard Mill	Associated capitalist and entrepreneur together through risk
1934	Joseph A. Schumpeter	Defined entrepreneur as sociologically distinct individuals; separated entrepreneurship from the role of the capitalist

Source: McDaniel, Bruce A., 2002:32

Neoclassical economics developed an entire theoretical body based on the efforts of the capitalist with the complete absence of the entrepreneur (McDaniel, 2002:32). Joseph Schumpeter classified the entrepreneur as one who identifies and seizes an opportunity, offers a new product to the market, improves the production process, or offers a new contribution to the economy. This activity was called to be “innovation”, and it leads to a new production function, cause of which he listed five specific acts (table 2).

Table 2: Joseph A. Schumpeter’s Five Innovations Leading to a New Production Function

1. The introduction of a new good
2. The introduction of new method of production
3. The opening of a new market
4. The conquest of a new source of supply of a raw material
5. The carrying out of a new organization of an industry

Source: McDaniel, Bruce A., 2002:58

2.2 Innovation

Innovation is the production, diffusion and use of new and economically useful knowledge, a key factor for competitiveness and growth while entrepreneurship the process of business start-up, business creation and growth, the entrepreneurial dynamism is key to economic renewal and growth (Lewrick at al., 2010:1). Innovation is the specific tool of entrepreneurs, the means by which they exploit changes as an opportunity for a different business or service (Drucker, 1985:32). In order for companies to compete and to give dynamism to the national economy, innovation together with technical development have become of the main sources. To be a leader in the market, or simply to stay alive, companies should constantly perform innovation activity. The origin of the term innovation comes from the Latin term “innovare” that means to make something new. Most of definitions regarding innovation point to the exploration of new knowledge.

An important distinction in the innovation literature is between innovations that are new to the world, innovations that are new to the domestic market or innovations that are new to the firm (Fagerberg 2005). Advanced economies are the

ones in which are mostly found innovations new to the world, innovations based on research and development. Innovations new to the domestic market or new to the firm are generally found in developing countries, as a result of the international diffusion and absorption of the technology.

According to OECD-Eurostat 2005, the factors that influence the innovation activities of a company are as follows:

- ✓ the institutional and infrastructural environment
- ✓ innovation policy (different supports, incentives)
- ✓ the education system and the R&D activity of the government (e.g. the activities of the universities)
- ✓ the innovation activity of other companies
- ✓ the interaction of the above in relation to demand

2.3 Knowledge

The economic role of knowledge and the ability to adapt to the faced paced environment has increased dramatically over the last decades (Nagy, 2008:8). Knowledge is the key element of the innovation systems.

The academic knowledge-transfer mechanism can be classified into four larger groups (Varga 2000):

- a) Knowledge-transfer by published research results and patents
- b) Knowledge-transfer by the formal or informal contact network of the academic and business experts
- c) Knowledge-transfer by formal business contacts (spin-off companies, sale of technology)
- d) Knowledge-transfer by enterprises using the universities' physical facilities (e.g. libraries, research laboratories)

2.4 Sustainable Development

Entrepreneurial activity is the introduction of novel change into the economy, novel meaning not previously known in that context (Metcalf, J.S. 2006: 77). Anyway not all the opportunity findings and novel changes brought up will be in the society's interest, sometimes their 'talent can be allocated in ways that retard economic development' (Ibid: 4), because their first objective will be to increase their own capital, esteem and reputation.

The concept of sustainable development has become a widely recognized goal for human society of the 21st century. One of the most commonly cited definitions stresses the economic aspects by defining sustainable development as 'economic development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs' (WCED, 1987). Another takes a broader view by defining sustainable development as 'the kind of human activity that nourishes and perpetuates the historical fulfillment of the whole community of life on earth' (Engel, 1990).

Sustainable development of human society has environmental, material, ecological, social, economic, legal, cultural, political and psychological dimensions that require attention: some forms of sustainable development can be expected to be much more acceptable to humans and, therefore, much further away from eventual collapse than others (Bossel, 1999:2).

Related to the concept of sustainable development arises also the concept of sustainable entrepreneurship which can be defined as innovative behavior of actors in the context of sustainability, who are seeing environmental or social issues as a core objective and competitive advantage. Sustainable entrepreneurs identify market opportunities for innovations concerning sustainability, successfully implement these innovations and create new products or services (Gerlach, 2003:3).

3. The Impact of Innovation on Sustainable Development

A successful sustainable innovation is accomplished when entrepreneurial actors achieve competitive advantages, i.e. economic success by applying innovative environmental and/or social practices (Gerlach, 2003:4).

Huber (1995) describes three main strategies to achieve sustainability through: sufficiency, efficiency and consistency (Gerlach, 2003:5).

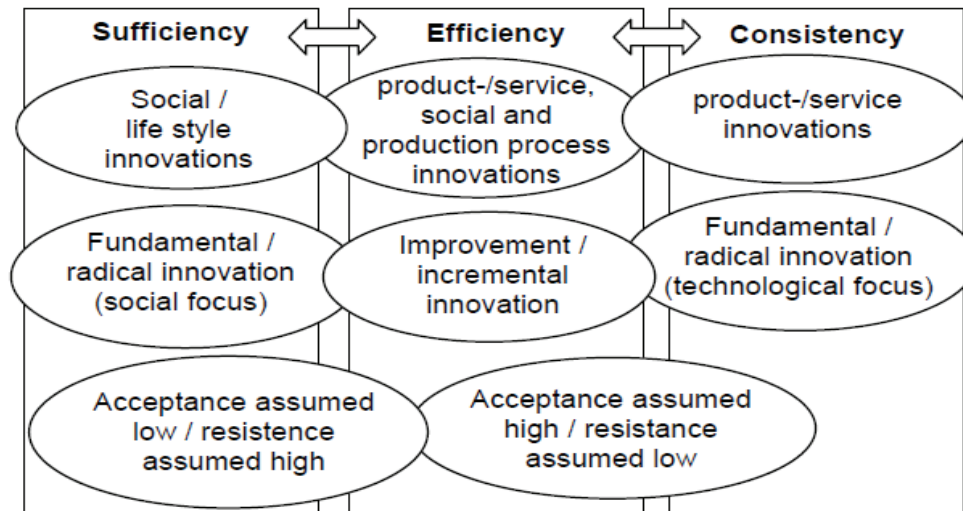
The central idea of the sufficiency strategy is that natural resources are limited which implies a restriction of economic growth (Sachs, 1999:39). They call for changes of current life styles based on principles of precaution, modesty and frugality in which they see a key to well-being (Sachs, 1999:209, Huber, 1995:123).

The efficiency strategy is based on the concept of resource productivity (Sachs, 1999:175). Concerning innovation, these approaches focus on improving current products and processes rather than searching for substitutes (Gerlach, 2003:5).

The consistency strategy – in contrast to the two strategies – does not focus on measures of quantitative growth but concentrates on the quality of materials and consumption patterns (Gerlach, 2003:6). Applied to the context of sustainable development, consistency refers to material flows that are compatible with the cycles of natural resources (Huber, 1995:138).

Figure 1 below shows the relation between innovation and the implementation of the three strategies.

Figure 1: The Role of Innovation for Implementation Strategies of Sustainable Development



Source: Gerlach, J. 1995:6

4. Conclusions

Entrepreneurship is closely affiliated to knowledge, innovation and flexibility, factors that are directly related to competitiveness in the globalized economy. Obtaining prosperity in the globalized and liberalized world economy is related to the competitiveness degree of the country. Economic development requires sustainable and shared increases in per capita income accompanied by changes in the structural composition of an economy towards higher value added goods and more efficient production methods (Szimai et al., 2011, p. 3). The contribution which entrepreneurs give to an economy can be through the allocation of resources in a more productive way, by giving support to changes in structures, by making discoveries in order to lower costs, increase efficiency and produce in a more effective way.

Sustainable entrepreneurship can be defined as innovative behavior of actors in the context of sustainability, who are seeing environmental or social issues as a core objective and competitive advantage.

The three main strategies described by Huber (1995), are a crucial point to achieve sustainable development and innovation.

References

- Acs, Z.J., and Audretsch, D.B. (2005), "Introduction to the Handbook of Entrepreneurship Research". In Z.J. Acs and D.B. Audretsch (eds.), *Handbook of Entrepreneurship Research – An Interdisciplinary survey and Introduction*. Springer Science & Business Media, Inc., USA, pp. 3-20.
- Bossel, H. (1999), "Indicators for Sustainable Development: Theory, Method, Applications", International Institute for Sustainable Development, Canada.
- Casson, M., Yeung, B., Basu, A., Wadeson, N. (2006), "The Oxford Handbook of Entrepreneurship", Oxford University Press Inc., New York, US, pp. 1-30.
- Drucker, P.F. (1985), "Innovation and Entrepreneurship", Harper & Row, New York.
- Engel, J. R. (1990), "Introduction: The ethics of sustainable development," In: J. R. Engel and J. G. Engel, (eds.): *Ethics of environment and development: Global challenge, international response*, London: Belhaven Press and Tucson: University of Arizona Press, p. 10-11.

- Fagerberg, J. (2005), "Innovation: A Guide to the Literature". In J. Fagerberg, D. C. Mowery, and R. R. Nelson (eds), *The Oxford Handbook of Innovation*. Oxford: Oxford University Press.
- Huber, J. (1995), "Nachhaltige Entwicklung: Sretegien fur Eine Okologische und Soziale Erdpolitik", Berlin, Ed. Sigma.
- Gerlach, A. (2003), "Sustainable Entrepreneurship and Innovation", Centre for Sustainability Management (CSM), University of Lueneburg.
- Lewrick, M., Omar, M., Raeside, R., Saier, K. (2010), "Education for Entrepreneurship and Innovation: `Management Capabilities for Sustainable Growth and Success`", *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol. 6, No. 1/2, 2010, pp. 1-18.
- McDaniel, Bruce A. (2002), "Entrepreneurship and Innovation: An Economic Approach", Armonk, NY, USA: M.E. Sharpe, Inc.
- McDaniel, Bruce A. (2003), "Differentiating Entrepreneurship and Capitalism", University of Northern Colorado, Colorado, URL: <https://www.usasbe.org/knowledge/proceedings/proceedingsDocs/USASBE2003proceedings-18.pdf> (accessed: 29.07.2011).
- Metcalfe, J.S. (2006), "Entrepreneurship: a Revolutionary Perspective". In M. Casson, B. Yeung, A. Basu and N. Wadeson (eds.), *The Oxford Handbook of Entrepreneurship*, Oxford University Press Inc., New York, pp. 59-90.
- Nagy, I. (2008), "Innovations and the Triple Helix Model", University of Debrecen, pp. 8-22.
- OECD – Eurostat (2005), *Oslo Manual Guidelines for Collecting and Interpreting Innovation Data*. _ird edition. <http://www.nkth.gov.hu/hivatal/elemzesek-hatteranyagok/oslo-manual-guidelines>. Downloaded: 30. 12. 2008.
- Pakucs János – Papanek Gábor (eds.) (2006): *Innováció menedzsment kézikönyv*. Magyar Innovációs Szövetség, Budapest.
- Sachs, W. (1999), "Planet Dialectics: Explorations in Environment and Development", London: Zed Books.
- Szirmai, A., Naude, W., Goedhuys, M. (2011), "Entrepreneurship, Innovation, and Economic Development", Oxford University Press, pp. 3-32.
- Varga Attila [2000]: *Local Academic Knowledge Spillovers and the Concentration of Economic Activity*. <http://66.102.1.104/scholar?hl=hu&lr=&q=cache:D2LSNRW0s3AJ:www.ersa.org/ersaconfs/ersa98/papers/493.pdf+Varga+Attila+Local+academic+knowledge>. Downloaded: 03. 01. 2009.
- World Commission on Environment and Development (WCED) (1987), "Our common future: The Brundtland report", Oxford: Oxford University Press.