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# Innovation and entrepreneurship – new themes for new times

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EDITORIAL

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# Innovation and entrepreneurship – new themes for new times

Throughout history, innovators and entrepreneurs have had a tremendous impact on development, exploration, trade, education, science, and integration. During the 20th century, innovation and entrepreneurship have been regarded as key drivers in technological progress and productivity development worldwide. New radical innovations from new fields of knowledge such as information and communication technologies and biotechnology have emerged to influence everyday life for most people. Realizing this, policy makers as well as individuals argue that innovative and entrepreneurial change processes need to be further implemented on the micro as well as macro levels in society (Abouzeedan, Busler, & Hedner, 2009; Busenitz, Gomez, & Spencer, 2000). The study of innovation is therefore likely to be an increasingly important topic in, for example, economics, business, entrepreneurship, technology, engineering, medicine, environmental biology, sociology, design, and regional development (cf. Etzkowitz & Klofsten, 2005).

Innovation refers to radically new or incremental changes in ideas, products, processes or services. Following Joseph Schumpeter's (1934) original work, an invention is related to a new idea or concept, while an innovation refers to such ideas applied in practice. In 'Theorie der Wirtschaftlichen Entwicklung' (1912) or 'The Theory of Economic Development' (1934), Schumpeter defined innovation from an economic perspective as the introduction of a new good – or of a new quality of a good, the introduction of a new method of production, the opening of a new market, the conquest of a new source of supply of raw materials or half-manufactured goods, and the carrying out of a new organization of an industry.

On the individual level, innovation comprises the origination of an idea through to its implementation, at which point it can be transformed into something useful. Since innovation is also considered a major driver of the economy, especially when it leads to new product or service categories, or to increasing productivity, the factors that stimulate individuals or groups to innovate should be of major interest to policy makers. In particular, public-policy incentives could be implemented to spur innovation and growth. On the organizational level, innovation may be used to improve performance and growth through new concepts and methods that increase efficiency, productivity, quality, competitive positioning, and market share. Innovation policies and practices may be implemented in a variety of organizations, such as industries, hospitals, universities, as well as local governments.

While most forms and practices of innovation aim to add value, radical innovation may also result in a negative or destructive effect for some. Many new developments clear away or change aging practices, and those organizations that do not innovate effectively may be substituted by new organizations and firms that do. It is not only our understanding of the importance of innovations for development that is changing, but also the concept of how innovations are formed. New models of innovation are emerging that are shifting the concept of innovation from being shaped by a closed to an open paradigm (Hedner, Maack, Abouzeedan, & Klofsten, 2010). Such forms of innovation include, for example, user innovation, open innovation, crowd-sourcing, and crowd-casting, which all represent novel and interesting phenomena that may change our conception of how innovation of use, innovation in services, innovation in configuration of technologies, as well as innovation of novel technologies themselves are formed. In agreement with such open concepts of innovation, loosely formed groups of customers, users, scientific communities, or experts/researchers may collectively shape product or process innovations within a variety of sectors.

Entrepreneurship is the act of being an entrepreneur. According to the French tradition, this implies 'one who undertakes innovations, finance and business acumen in an effort to transform innovations into economic goods.' Entrepreneurs undertake such tasks in response to a perceived opportunity which in its most obvious form may be a new start-up company. However, the entrepreneurship concept has in recent years been extended to also include other forms of activity, such as social, political, and international entrepreneurship. Some of these new fields of entrepreneurship research and practice are to a large extent driven by e-globalization processes which are facilitated by new information technology tools (Etemad & Lee, 2003). Social entrepreneurship, focusing on non-profit entrepreneurial activities, is a new area which is currently attracting more research (Corner & Ho, 2010). Other, developing perspectives include academic entrepreneurship (Klofsten & Jones-Evans, 2000), women entrepreneurship (cf. Kyro & Hyrsky, 2008; Thompson & Jones-Evans, 2009), as well as ethnic





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entrepreneurship, the latter focusing on the role of immigrants as entrepreneurs in their new home countries (cf. Clark & Drinkwater, 2010; Smallbone, Kitching, & Athaya, 2010).

In addition, there is also an increasing emphasis on specific sectors where entrepreneurs are active, such as in the medical, life sciences, services, and technology areas, with new paradigms emerging as a result. Needless to say, other new paradigms and concepts within the field of entrepreneurship will appear in the future as the concept of entrepreneurship takes on new forms and shifts into new frontiers. Certainly, it is within the nature of the metaphor 'entrepreneurship' that such creativity and development should be anticipated. As such, the research in the entrepreneurship field needs to develop a better understanding of the important relationship between innovation, entrepreneurial activities, and economic development (Acs & Storey, 2004; Acs & Szerb, 2007; Carlsson, Acs, Audretsch, & Braunerhjelm, 2009; Reynolds, 1997; Reynolds, Carter, Gartner, & Greene, 2004; Stough, Haynes, & Campbell, 1998).

The entrepreneur is an actor in microeconomics and, according to Schumpeter (1934), is a person who is willing and able to convert a new idea or invention into a successful innovation. In the classical sense, entrepreneurship employs what Schumpeter called 'the gale of creative destruction' which means that entrepreneurial activities may partly or fully replace inferior practices across markets and industries, while new products or new business models are created simultaneously. According to this perspective, creative destruction is a driver of the dynamism of industries and long-term economic growth. A vital ingredient in entrepreneurship is therefore risk-taking. Knight (1961) classified three types of uncertainty facing an entrepreneur: risk, which could be measured statistically; ambiguity, which is difficult to measure statistically; and true uncertainty or Knightian uncertainty, which is impossible to statistically estimate or predict. Entrepreneurship is often associated with true uncertainty, in particular when it involves new-to-the-world innovations.

Innovation and technological change is developed and implemented more rapidly today than ever before. Entrepreneurs across the globe implement the process of commercialization resulting from innovation and technological change. Over several decades, our concepts of the innovation process have transitioned from being based on a 'technology push' and 'need pull' model of the 1960s and early 1970s, through the 'coupling model' of the late 1970s to early 1980s, to today's 'integrated' model. Thus, our concept of the innovation process has shifted from one that presented innovation as a linear sequential process to our current perception of innovation as a shifting, parallel, networking and open phenomenon. As a result of internetization, communication, and e-globalization, innovation is moving more rapidly, is more dispersed, and increasingly involves inter-company and inter-personal networking (Abouzeedan et al., 2009; Hedner et al., 2010). As a result, entrepreneurs are needed to develop and implement innovation. Needless to say, innovation and entrepreneurship policies need to be supported and firmly embedded in society (Norrman & Klofsten, 2009). Since entrepreneurship may be translated into economic growth, governments increasingly support the development of an entrepreneurial culture by integrating entrepreneurship into educational systems, encouraging business risk-taking in start-ups, as well as national campaigns supporting a range of public entrepreneurship incentives.

Over the last century, Alfred Nobel, the famous Swedish inventor and philanthropist, has personified the concept of innovation and entrepreneurship on the individual level (Jorpes, 1959; Schück & Sohlman, 1929). Nobel (1833–1896) pursued a career as a chemist, engineer, innovator, and entrepreneur and became one of the great philanthropists of our time. Nobel held 355 different patents, including that of dynamite. He created an enormous fortune during his lifetime, and in his final will and testament he instituted the Nobel Prizes, the most prestigious scientific prizes of all time. From early on in his career, Nobel gained an international perspective. He studied chemistry under Professor Nikolay Nikolaevich Zinin (Николай Николаевич Зинин) in St Petersburg and also at other universities in Europe. At the age of 18, Nobel went to the USA to continue his studies in chemistry, where he also worked for a short period under John Ericsson, the Swedish-born American inventor and mechanical engineer. After returning to Sweden, Nobel focused entirely on the study of explosives, and in particular on how nitroglycerine, which was discovered in 1847 by Ascanio Sobrero, could be safely manufactured and used. In 1895, the foundations of the Nobel Prize were formed when Alfred Nobel wrote his final will, leaving much of his wealth to establish the prize. Since 1901, the Nobel Prize has honored men and women for outstanding achievements in medicine, physics, chemistry, literature, and for work in peace. The Nobel Memorial Prize in Economic Sciences, also referred to as the Nobel Prize in Economics, was subsequently added in 1968 by the Central Bank of Sweden through a donation in the name of Alfred Nobel (Lindbeck, 2007). The Nobel laureates in economics, like those in chemistry and physics, are selected by the Royal Swedish Academy of Sciences, the Nobel Prize in Medicine by the Karolinska Institute, and the Peace Prize by the Norwegian parliament. The prizes awarded are for eminence in physical science, in chemistry, and in medical science or physiology, while the fourth is for literary work 'in an ideal direction,' and the fifth prize is to be given to the person or society that renders the



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greatest service to the cause of international fraternity, in the suppression or reduction of standing armies, or in the establishment or furtherance of peace congresses. In his one-page testament, Nobel decided that the prizes should be awarded to discoveries or inventions in the physical sciences and to discoveries or improvements in chemistry. Interestingly, Nobel gave no clear instructions on how to deal with the distinction between science and technology. However, over the years, the deciding bodies interpreting his testament were more concerned with science than technology, and therefore the Nobel Prizes have been awarded to scientists and not to engineers, technicians or other inventors.

In the original tradition of Alfred Nobel, the new open access journal *Annals of Innovation & Entrepreneurship* (AIE) will deal with discoveries and improvements within its core subject areas, to the benefit of science as well as technology. Further, being primarily a web-based journal, AIE seeks to achieve a rapid editorial process with an aim to provide a final decision within 3 months, based on the quality and originality of the content of submissions and not upon an annual pre-determined number of printed pages that should comprise the journal. Also in the original Nobel spirit, the new journal will focus on the translation of academic knowledge into innovation and entrepreneurship practice for value creation. As an open access journal, we also aim to fulfill a philanthropic mission, to open up the scholarly world within this field of science to a global community. Finally, in the Nobel spirit, we see it as one of our missions to welcome the creative contributions of scholars, practitioners, entrepreneurs, and philanthropists, for whom AIE will be a platform to communicate their ideas.

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