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# Open and Responsible Innovation Concepts for Competitive Advantage

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# OPEN AND RESPONSIBLE INNOVATION CONCEPTS FOR COMPETITIVE ADVANTAGE

*Research in Progress*

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## **Abstract**

*In this paper we present two evolving concepts, Responsible Innovation and Open Innovation, aiming to deepen discussion on similarities and differences between the two. The idea for this conceptual paper is led by the need to elaborate the two concepts in order to allow easier alignment with organizational strategies. We begin by presenting the definitions of the concepts and contexts in which the notions were developed. Responsible Innovation is seen here as a potentially overarching notion that embeds the characteristics of Open Innovation, so the paper discussion is slightly positioned in favour of Responsible Innovation. Moreover, with this paper we want to make contribution on the two concepts in management and business literature.*

*Keywords: Management, Responsible, Open, Innovation.*

## 1 Introduction

Innovations were not always responsible, having negative impact on individuals, communities and eco-systems in favour of economic growth and shareholder value creation. Innovation may bring a lot of good to society, but history provides many examples of innovations and new technologies that have had serious negative consequences, or that just failed to make meaningful contributions to society. This puts a pressure to innovate differently in the 21st century. The challenge provides significant opportunities for creating alternative products and services, new business models and ways of working.

It was not until the recent decades that the terms ‘*responsible innovation*’, ‘*responsible research and innovation*’ (Blok et al., 2012) or ‘*open innovation*’ emerged in academic discussions. Terms draw attention of policy makers as well as business organizations in their response to increased attention to social and environmental impact of innovation processes.

Responsible Innovation is a term, a mind-set, developed within EU as a policy tool to tackle grand societal changes. It means involvement of all societal stakeholders (public, private, civic ...) with the innovators. It incorporates responsibility, ethical and moral values in the core process of innovation. As such, it represents governance of research or operational process where innovation’s direct and indirect socio-environmental impacts are evaluated throughout the innovation lifecycle.

Open Innovation, on the other side, presents managerial concept in which firms innovate more ‘openly’, developing new products and services jointly with other partners. Impulse for Open Innovation can come from different group of innovation stakeholders, for instance customers or suppliers, or it can be outcome of cooperation with research institutes or other enterprises.

This paper focuses on fundamental differences and collision points between ‘open’ and ‘responsible’ innovation. Although the two terms are contributing each other in several major points, there is a fine, subtle difference that needs to be explored.

Paper is organized as follows: next section analyses available definitions and characteristics of Responsible Innovation. Secondly, Open Innovation is presented. Following section after that is the discussion on the two concepts. Finally, concluding thought of the paper are presented.

## 2 RESPONSIBLE INNOVATION DEFINITION

In this section of the paper we will examine concept of Responsible Innovation. The guiding assumption of the concept is that “*right from the start, research, development and design [can] incorporate relevant ethical and societal aspects*” (Blok et al., 2012). Ethics in innovation has been discussed by many relevant scholars across disciplines (see in Van den Hooven et al., 2012).

European Commission (EC) workshop in Brussels presented a report in 2011 where Responsible Research and Innovation has emerged on the formal agenda because: “*innovation policy actors across sectors are drawing on past experiences in the hopes of motivating the development of technologies for social benefit, preventing both disasters and the loss of promising technological advances, and addressing public anxiety over unintended and irreversible consequences*”, (Guston et al., 2014).

As mentioned previously, Responsible Innovation is a concept developed within EU as a policy tool to tackle grand societal changes. And even though the concept was developed in the domain of the policy making, the researchers who were involved in the development of the concept started taking it one step further. Now there is evolving research community, research centres specialized in the questions of Responsible Innovation and its potential application in the vast number of disciplines. With evolving application scope, questions on the conceptualization and practical acceptability of the Responsible Innovation gain a momentum.

Moreover, there are distinguished streams of researchers who present Responsible Research and Innovation as a theoretical approach of governing the research (or innovation process), while second

stream presents Responsible Innovation as an operational process to anticipate direct and indirect impacts of innovation throughout its lifecycle, as a long term strategy.

Notable promoter of Responsible Research and Innovation is Renè von Schomberg, Dutchman with long term involvement in European Union policy making. According to him, Responsible Research and Innovation marks: “*a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)*” (Von Schomberg, 2011).

Xavier Pavie, business scholar in favour of Responsible Innovation as operational process, states: “*Responsible Innovation is an iterative process throughout which the project’s impacts on social, economic and environmental factors are, (...), measured and otherwise taken into account at each step of development of the project, thereby guaranteeing control over, (...), the innovation’s impacts throughout the entire lifecycle*” (Pavie et al., 2013).

In their paper, Pavie and Carthy (2014) discuss about the differences on definitions of evolving research community. As such, study presents that it is of utmost importance to dissociate ‘responsible innovation’ from the concept of ‘responsible research and innovation’ (a central theme in the context of the Horizon 2020 European program presented by Von Schomberg).

Unfortunately, there are still certain barriers concerning Responsible Innovation integration in business strategy. For instance, although well covered, there is still no authoritative definition of Responsible Innovation. But even though, for both described streams of researchers it is common that the idea lies in a more responsible adoption of innovation. The challenge of Responsible Innovation, therefore, lies in a more responsive, adaptive and integrated management of the innovation process.

Opening discussion on the concept is extremely utile in setting up a ground for popularizing Responsible Innovation, as well as existence of different funding programmes and conferences. One of the examples is spark of the Journal of Responsible Innovation, intended to link the concept with various scientific disciplines.

### **3 OPEN INNOVATION DEFINITION**

Open Innovation is a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization’s business model (see in West et al., 2014). In other words, this means that valuable ideas can come from inside or outside the company and can go to market from inside or outside the company as well.

Open Innovation at the time when it was presented introduced new terminology and offered breakthrough in how enterprises viewed innovation process. Most notable and cited promoter is Henry Chesbrough with his publication from 2003, book on ‘Open Innovation’. For many practitioners, concept of Open Innovation gave a new point of view on Research and Development (R&D), shifting dominant logic of R&D from internal discoveries to external engagements.

Open Innovation has offered a path for considerable impact on practice, primarily among industrial and consulting companies. Examples of use are LEGO, LG or Samsung. Basically, the concept incorporates share of risk among the relevant stakeholders, and as such, this approach spurred scope of new business models for generating revenue.

Future perspective can be seen as summing up debate for Open Innovation assessment, better understanding the role of appropriability and integrating Open Innovation with established theories of management and economics (West et al., 2014).

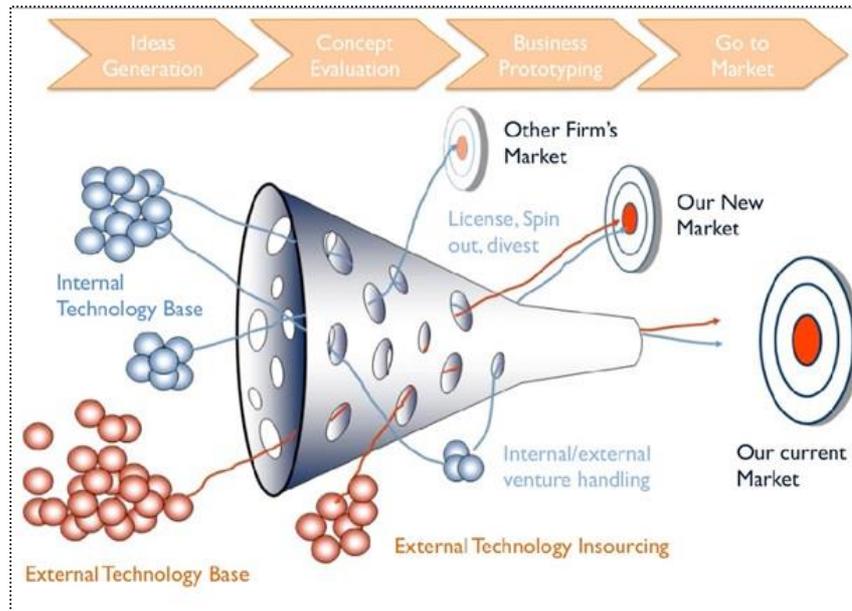


Figure 1. Chesbrough scheme of Open Innovation. (Chesbrough, 2004)

## 4 DISCUSSION ON THE TWO CONCEPTS

Innovation can be radical or incremental, and it can be applied to products, processes or services and in any organization. It can happen at all levels in an organization, from management teams to departments and on the level of individuals (O'Sullivan, Dooley, 2009).

Since innovation is the central topic both in Responsible Innovation and Open Innovation, can we speak about similarities and differences between the two concepts? Where do Responsible Innovation and Open Innovation intersect, where do they collide and whether they contribute each other? Moreover, do organizations need innovation in their capabilities in order to absorb the full potential of these concepts? There is a considerable overlap between the two concepts and it will be elaborated further in the text.

### 4.1 Differences

We start listing the differences and similarities on definitions of the concepts. As mentioned, Responsible Innovation presents inclusive approach to innovation, being open to public, private as well as to other (civic) stakeholders. Open innovation promotes openness to relevant stakeholders as well, but unfortunately, there is a gap between the openness towards relevant business partners or to external, university or non-governmental (NGO) partners.

Moreover, Responsible Innovation as a goal has creation of societal value of the innovation, while Open Innovation does not explicitly results in socially desirable outcome of the innovation. Questions on ethically acceptable and environmentally friendly innovation outcome are not priority conditions under Open Innovation concept. This leave space for blurry area of the overall impact of innovation, where hazardous and potentially dangerous outcomes can be neglected in pursue for sole shareholder benefit creation.

## 4.2 Similarities

Responsible Research and Innovation is a new approach in governing research. Moreover, Open Innovation is linked with theories of governance. As such, core definitions of the two concepts present a collision point. Both concepts incorporate the need for better governance of innovation process, promoting openness to relevant stakeholders.

Long term vision and alignment with organizational business strategy presents second collision point. In the case of Responsible Innovation, it means a proactive organizational response to face uncertainties in business, on a long term basis. Idea is to move towards shared notion of responsibility and to anticipate possible unintended impacts of new technology or process innovations, from the early beginning of innovation process.

On the other hand, Open Innovation is much more firm focused governance of research. Firms chose partial openness strategies to build reputation, gain market share and attract third party contributions (Owen et al., 2013).

Our brief summary of similarities and differences on the two concepts shows there are still open questions that need to be addressed. One is concerning Responsible Innovation, where more work is required on presenting practical benefits for industry partners. Concept still remains in the field of policy makers, and although future holds great promise when discussing this concept, we are witnessing lack of studies on that subject (Pavie, Carthy, 2014; Blaskó et al., 2014).

Moreover, Open Innovation is often misunderstood on how open firms need to be to relevant partners with regards on intellectual property. Open Innovation research still remains linked to interaction between two firms, while a shift to collaboration with external innovation networks, such as universities, NGO's and communication beyond the private sector is potential further development perspective of the concept (see in West, Lakhani, 2008).

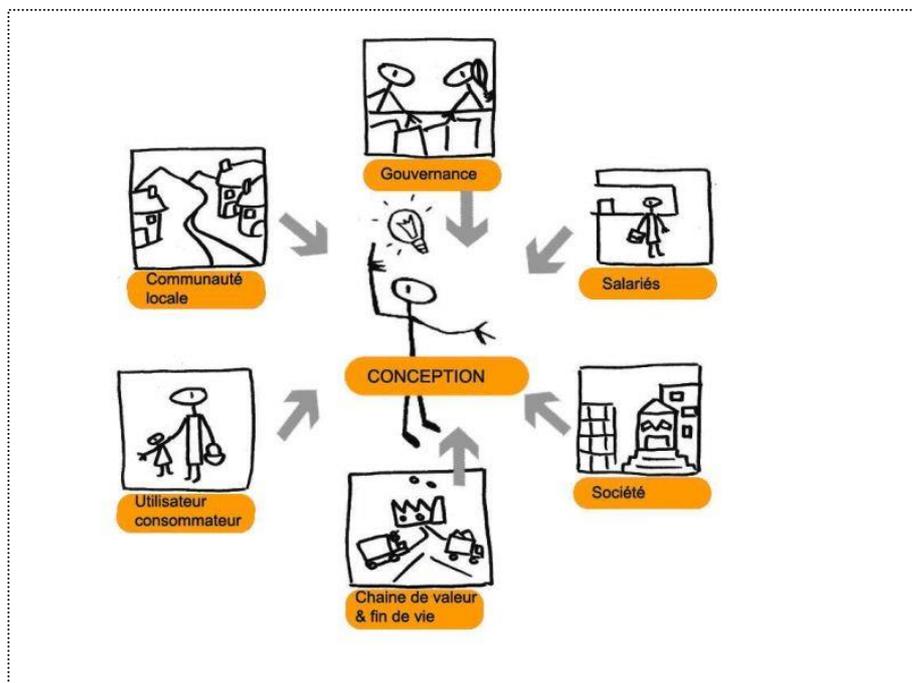


Figure 2. *Involvement of relevant stakeholders in Responsible Innovation is the basis for creating societal value of the innovation. Collaboration of companies with external networks (non-profit organizations) has been sceptically regarded by some Open Innovation scholars. (KARIM Project, 2011)*

### 4.3 Innovating for innovation concepts?

It is clear that two upper-mentioned concepts, in their cores, carry a notion of major impact on organizational practice when it comes to innovation. But the question is whether organizations have capabilities to innovate differently? Managers increasingly realize importance of developing specific organizational and managerial skills to effectively innovate differently. Unique technical and managerial competencies, along with organizational resources and capabilities require strategic alignment to facilitate concept adoption and knowledge transfer.

Innovating in management principles and processes can create long-lasting advantage and produce dramatic shifts in competitive position (Hamel, 2006). Management innovation has been marked as one of the tools to allow enterprises to achieve a new performance level. Management innovation involves introduction of novelty in an established organization, and as such it represents a particular form of organizational change (Birkinshaw et al., 2008), which would allow absorption of new innovation concepts.

Gary Hamel, scholar focusing on the questions of management innovation, states that companies today are lacking disciplined and organized process for management innovation (Hamel, 2011). Van de Ven (1986) study about problems in the management of innovation clarified four central problems:

- the human problem of managing attention,
- the process problem of managing ideas into good currency,
- the structural problem of managing part-whole relationship,
- the strategic problem of institutional leadership.

Although the innovation field has changed tremendously from the time their study was introduced, characterized by the birth of multiple waves of new innovation management concepts, it is hard to ignore the fact that the Van de Ven problems are still not accurately addressed. This is shown by the fact that 20 years later, Van de Ven and Engleman (2004) still considered them as central in managing corporate entrepreneurship and innovation (see in Vo et al., 2011).

With all of this said, we can state that both, Responsible and Open Innovation, concepts require more work on practical methodology of implementation across organization's managerial levels. Neglecting any further discussion on two relatively new research topics like Responsible or Open Innovation will most likely result in a loss of momentum for both innovation concepts and their adoption with industry sector, losing shared understanding for further development and transfer of knowledge.

## 5 Conclusion

So far, management in the 21<sup>st</sup> century isn't much different from management in the 20<sup>th</sup> century. Therein lies the opportunity for evolution. Forecasting changes in the *business-as-usual*, innovations in management are marked highly desirable to foster product and process innovations (Birkinshaw et al., 2008). In such a case, considering different principles of innovation can come as a handy tool not for short term profit creation, but long term investment in organizational change.

In this paper we have introduced interesting new concepts to govern innovation, and discussed the conditions for innovating responsibly and openly. We have brought definitions of Responsible and Open Innovation and hopefully opened debate on the two concepts.

In brief, both concepts have far-reaching implications on how innovation is performed. It is important to mention that Open Innovation and Responsible Innovation are not mutually exclusive. Hence some future research initiatives could focus on more detailed work of fusion between these two concepts, where companies could be invited to cooperate inside an open-innovation network. Companies require innovation in order to survive and remain profitable in an ever increasingly competitive environment. But becoming a 'responsible' or 'open' business requires integrating a concrete strategy and sustaina-

ble process to that purpose, which cannot happen overnight, and here lies the opportunity for further familiarization with the concepts like Responsible Innovation or Open Innovation.

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