An introduction to "Thoughts on Open Innovation"

By Karel De Vriendt

"If I have seen farther it is by standing on the shoulders of giants."
Sir Isaac Newton, 1676

Although the term "Open Innovation" is attributed to Prof. Henry Chesbrough, who used it in a book published in 2003, the concept is much older, as demonstrated by the quote of Sir Isaac Newton. Already in the 17th century, scientists all over Europe were in contact with each other, sharing the results of their experiments and the theories based on these results. Since then, collaboration and sharing has been the norm in scientific communities and limitations in the possibilities to do so – due to tensions or even wars between nations – have always been considered as hampering progress.

But, aside the "homo scientificus" for whom a better understanding of our world and sometimes also the potential advancement of humanity are sufficient drivers for devoting his life to science, there is also the "homo economicus", a rational person who's ultimate driver is self-interest. And, there is a widespread belief – at least as old as the idea of sharing and collaboration in scientific communities – that without proper protection to ensure that the inventor, via patents, has, for a limited period, exclusive rights on the usage of his/her invention, no rational person would invest in original work.

The "homo economicus", the rational thinking individual driven by self-interest is also at the basis of free market theories.

In many of these theories, free access to information and the absence of market-entry barriers are considered preconditions for real competition and it is real competition that ensures optimal use of natural, human and financial resources, generating maximum benefits for society as a whole. According to these theories, providing temporary monopolies to inventors is not needed, the rational homo economicus will also without such protection try to improve the goods or services he/she produces in order to gain a small, temporary advantage over the competition.

Back to "Open Innovation". When Prof. Chesbrough introduced the term, he was speaking about innovation strategies to be used by individual firms in order to gain a competitive advantage in the market. It is the recognition that no firm, however big it is, can only rely on internal innovation resources in our global world.

Today, "Open Innovation" has a broader meaning. It is part of a whole family of concepts that often share the word "open" and the concept of "openness".[1] Open Knowledge, Open Data, Open Source Software, Open Standards, Open Innovation but also the concepts behind the Creative Commons all are based on the same basic ideas: by collaborating with others, by re-using (and by being allowed to re-use) the results of the efforts of others and by allowing others to use and improve the results of our efforts, we all get better. We can use "Open Innovation" as a term encompassing most of the other "Open" things.

The debate is not only economical – is it beneficial for economical actors to be "more open"? – but also societal. While

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[1] The "European Interoperability Framework" (http://ec.europa.eu/isa/ documents/isa_annex_ii_eif_en.pdf) defines openness as "the willingness of persons, organizations or other members of a community of interest to share knowledge and stimulate debate within that community, the ultimate goal being to advance knowledge and to use that knowledge to solve problems."

there is little doubt that more openness will be beneficial to society, how can we balance openness with the need of companies to stay competitive and to make a profit (to survive and to invest) and provide enough incentives to bright spirits to continue to innovate? Is openness an absolute good: should all knowledge, all data, all software, all standards, etc. be open or are there situations where openness should be avoided – maybe for reasons of security or privacy or for reasons of economical self-interest? How do we organise the involvement of as many individuals or organisations as possible in efforts to solve societal issues using Open Innovation? How do we organise Open Innovation projects and ensure that such project are, and remain, "Open"?

That is what this collection of essays is about.

The book starts with two essays that give the bigger picture: Andy Updegrove describes how knowledge was shared in the past and how the arrival of the Internet changed drastically the process of sharing and reusing knowledge, making openness a central concept in this process. And Shane Coughlan starts from the definition of "Open Innovation" as introduced by Prof. Henry Chesbrough and extends then the concept to cover the current practice.

The two following essays describe examples on how Open Innovation works in practice: Peter Murray-Rust and other volunteers from the Open Knowledge Foundation describe examples from areas as diverse as chemistry, self-help and libraries. Also the concept of the "citizen scientist" is introduced. Coleman McCormick describes the very successful OpenStreetMap project.

The next group of essays touches some of the most widely debated topics in the world of Openness: Jochen Friedrich writes about the "contradiction" between Openness and Intellectual Property Rights ("patents") in ICT standardisation. Karsten

Gerloff writes about current public procurement practices that are often unfavourable to the offering and the use of Open Source Software in public administrations but also about how some public administrations have successfully introduced Open Source Software. Amanda Brock writes about working with Open Source Software in a commercial world.

The book finishes with two essays of a more philosophical and visionary nature: Simon Phipps presents the problem of the position and the rights of the individual – as user and buyer but also as creator or collaborator – in a world where the rules are tailored towards the needs of large corporations. And finally, Peter Langley sees possibilities of a patent system that is more favourable to Open Source and all other things Open;

I hope that you enjoy reading the essays in this book but, more importantly, I hope that the book can contribute to an "Open" debate about "Open Innovation".

Karel De Vriendt worked twenty five years (1987-2012) as an IT expert for the European Commission. From 2005 to 2011, he was leading the team responsible for the implementation of the IDABC programme and for the definition and implementation of the ISA programme. He was actively involved in initiatives such as the transeuropean network TESTA, the Open Source Observatory and Repository (OSOR) and the SemanticInteroperability Centre Europe (SEMIC) now both merged into Joinup and in the elaboration of the European Interoperability Strategy and the European Interoperability Framework. During his career, he also acquired a good practical experience in the public procurement of IT goods and services. Karel De Vriendt is now retired but has kept his interest in improving (computer based) public services via the collaboration between public and private partners and via the sharing and re-use of software based service components. He also remains a big supporter of open standards and open source software as essential elements to support collaboration, sharing and reuse.