

How to negotiate risks and benefits in open science - IP in Horizon Europe

What will you learn in this module?

In this module you will learn about ...

- The concept of risks in project management
- The particulars of risk in Open Science and Innovation projects
- Data protection in EU Horizon projects
- Risks associated with Intellectual Property
- The benefits of Open Science & Innovation approach to your project

Every project manager knows that there are risks inherent in the project management process. A good project manager at the initiation of any project will immediately begin pondering 'what can go wrong?'. The primary risks in any project can be grouped under the following main headings:

- Cost Risk
- Schedule Risk
- Performance Risk
- Operational Risk
- Market Risk
- Governance Risk
- Strategic Risk
- Legal Risk
- External Hazard Risks

The job of the project manager is to (the hint is in the title) **MANAGE** each of those risks and ensure the project comes in on-time, under budget and the end-product matches the expectation. But how does one achieve this?

Many good project managers take a lifecycle approach to risk management, with constant review of potential risks – it is not a one time operation but rather a process that is ongoing through the life of the project.

A good visualisation (Figure 25) is given by the project management company zilicus.com.



Figure 25 Project Lifecycle Process (Source: zilicus.com)

This circular process of assessing, evaluating, managing and measuring provides an excellent mindset to managing the inherent risk in any project.

There are a number of general project management tools out there to assist. Some are free, others have a charge. It is really worthwhile to spend time exploring potential tools. Ask colleagues what they are using, check on-line etc. etc.

Suggested reading

Risk Management process – [link](#)

An elaborate description of the Risk Management Process in Project Management.

Suggested reading**A guide to Open Innovation and Crowd Sourcing – [link](#)**

Advice from leading experts in the field of open innovation and crowdsourcing

The Open Innovation Revolution – [link](#)

A practical guide to open innovation

SMEs and Open Innovation – [link](#)

Description of the processes used to implement open innovation in SMEs specifically.

Tools**Best free project management tools – [link](#)**

A list of some of the most popular free project management tools.

The particulars of risk in Open Science and Innovation projects

Risk, as we have seen, is endemic in projects. However, what is the effect of introducing another variable into the equation? There are many successful examples of open innovation, innovation in general has a lot of unknown areas and risks, and open innovation isn't any different. You will have heard about Henry Chesbrough (2006), the father of Open Innovation, in previous modules where he defined Open Innovation as referring *"to the collaboration between companies, individuals, and other types of institutions to develop innovative products and services and, in the process, share the risks and rewards of research, development, and commercialisation."* For the purposes of risk though he further elaborated "Open innovation is not about outsourcing R&D to somebody else. It's really all about leveraging and enhancing your

internal capabilities.". Many researchers when first encountering 'open innovation' are really concerned about the notion of 'outsourcing' and consequent potential of disaster befalling their project because of this 'outsourcing'. But what are the real risks associated with Open Innovation and Open Science based projects? How does one manage these risks?

According to www.viima.com "The popularity of open innovation doesn't come as a surprise as the use of external sources can expand the innovation potential of an organization. In fact, according to PwC's global study of 1200 executives, over 60 % of respondents are embracing open innovation to generate new ideas. Organizations use open innovation to access more diverse source of ideas and talent with little investment to create value they wouldn't necessarily be able to create by themselves"

So, what are the primary risk elements in open innovation over and above the 'normal' risks inherent in any technical project?

Viima.com in their excellent Open Innovations Challenge blogpost categorise these risks as follows:

- Strategic challenges
- Operational and structural challenges
- Legal challenges
- Cultural challenges

The strategic challenges are primarily focused on the internal processes within an organisation. If there is a loose or ill defined innovation strategy within the company, introducing another variable into the equation is really going to make the situation worse. There must be clear goals and processes in place to manage the innovation process.

It is also critical that the correct partners are chosen from an operational perspective. Do they have the right skill sets to match those available in the company? Is there a complementary culture? Decide what you need and then be clinical about evaluating any potential partner.

You need to ensure that the time spent managing external partnerships is not greater than the potential benefits. The law of diminishing returns can quickly become apparent if the wrong type and number of partners is wrong. Is the project likely to become unwieldy?

From a legal perspective it is necessary of course to have robust processes and agreements in place regarding any potential Intellectual Property before any joint work is undertaken. In this case professional advice should be sought. It is much faster (and cheaper !!!) to address this at the beginning of a project than at the mid-way or end point. This will be particularly critical if potential customers appear on the scene, or any potential buy-out.

The last, but probably the most critical, challenge of open innovation is the lack of collaborative, cross-functional company culture. Often, people may have a fixed, “this is how things are done here”-mindset. This type of culture might be problematic if people aren’t committed to executing ideas that are coming from outside of the organization.

The goal for many is to find opportunities to solve unmet needs with the help of the right partnerships. Although there are many successful examples of open innovation, innovation in general has a lot of unknown areas and risks, and open innovation isn’t any different. While some of the risks cannot be predicted, and therefore avoided, there are some challenges organizations face more frequently than others. Identifying and properly addressing these challenges early on can help you to avoid costly mistakes and unnecessary hurdles in the future. In the first suggest reading below, open innovation challenges are reviewed.

Suggested reading

Challenges of Open Innovation blogpost – [link](#)

Review of the innovation challenges

Innovator community – [link](#)

Be part of the largest innovator community



Tip for HEIs

When dealing with SMEs, do not frighten them with overly complex legal agreements.



Tip for SMEs

SMEs need to be very careful about ownership of any Intellectual Property developed as part of any agreement. This needs to be watertight at the beginning of the project. Typically, the SME will not have the resources to fight possible infringements

Tools

Toolkit for Innovation Management – [link](#)

Toolkit including 15+ tools and templates to plan and execute innovation activities.

Data protection in EU Horizon projects

Privacy and data protection are fundamental rights, which need to be protected. Privacy can mean different things in different contexts and cultures. It is therefore important to detail the purpose of the research according to the different understandings of privacy. For example, in ‘covert research’ researchers should take into account the meanings of public and private in the contexts they are studying. Covert observation should only proceed if researchers can demonstrate clear benefits of the research, when no other research

approach seems possible and when it is reasonably certain that no one will be harmed or suffer as a result of the observation.

Data protection aims at guaranteeing the individual's right to privacy. It refers to the technical and legal framework designed to ensure that personal data are safe from unforeseen, unintended or malevolent use. Data protection therefore includes e.g., measures concerning collection, access to data, communication and conservation of data. In addition, a data protection strategy can also include measures to assure the accuracy of the data. In the context of research privacy issues arise whenever data relating to persons are collected and stored, in digital form or otherwise. The main challenge for research is to use and share the data, and at the same time protect personal privacy.

As a source of general reference, the EU General Data protection Regulation (GDPR) contains a number of key principles for the processing of personal data. This Regulation provides the legislative framework for data protection and privacy issues in the Member States of the European Union. In the same way, EU Regulation 1725/2018 provides the rules for the processing of personal data by the EU institutions, bodies, offices and agencies. When the planned research includes processing of data carried out in an EU-Member State, applicants need to identify the applicable local or national legal requirements and the competent authorities, which can provide any necessary authorisations.

There are a number of key regulations that must be adhered to, but there are resources available to assist researchers. One of the most relevant – and respected - respected sources is the EU University Association. Their “Guide on good data protection practice in research” is the ‘bible’ for researchers in European Universities.

Suggested reading

Research Data Guide – [link](#)

Most recent guide by the EUI.

Risks associated with Intellectual property

It is in the very nature of collaborative research and innovation projects that different partners with varying mindsets and interests come to sit at one table. Against this backdrop, properly managing and protecting knowledge and know-how should be an integral part of the overall management of a project to ensure:

- disclosure of knowledge and ideas safely
- proof the ownership
- profit from commercial exploitation
- prevent of unauthorised use by others.

Furthermore, with the emphasis of Horizon 2020 on better and more effectively exploiting project results, an efficient and strategic knowledge management including the safeguarding and protection of intangible assets through Intellectual Property Rights (IPR) and confidentiality becomes more pressing than ever. Relevant IP questions will arise throughout the lifecycle of your project: from the very first idea and conceptualisation of the project, throughout its execution, until the end and the potential exploitation and commercialization of the results (European Commission, 2019a).

The administration and lifecycle management of IP rights in companies and other entities involved in filing patents to protect their innovations is commonly referred to as IP Management.

Traditionally, inventions are developed in a closed and secure environment and in most cases entirely in-house. Over time such closed approaches have acceded to collaborations. Such co-inventive and co-development contracts have become common among established players in the industry. Usually, these agreements presume subsequent licensing accord with a third party or co-promotional agreement between the collaborating companies if they plan for commercializing the product or service developed through their coordinated endeavors.

In most cases, it is far more effective for multiple organizations to work together in developing a

complex technology rather than attempting such a huge task in-house individually. Collaboration allows a group of corporations to work up to their full individual strengths at a much lower expense. This results in a superior product with a larger commercial perspective.

Need for Collaborative IP

The key driving factors here are cost-sharing and faster time to market. Collaborating with a player having analogous needs helps in cost-reduction; allowing all the parties to share development risks and embark on projects that might otherwise be considered too risky. The drivers for collaboration in IP depend on the industry type.

In the 20th century, the manufacturing sector was heavily involved in IP collaborations, while the early 21st century has seen a rise of the ICT (Information and Communication Technology) industry into the Collaborative IP sector. For the past two decades, the ICT industry accounts for most of the patent pools, there can be more such arrangements in near future. For example, the biomedical research community has expressed a deep interest in the development of patent pools for biomarkers for cancer, HIV, and SARS, and biotechnologies applied to agriculture and animal cloning.

Advantages of IP Collaboration

Key benefits of IP Collaboration include complimentary development of the involved parties, creation of a new market, superior technological advancement, better product/service, and customer satisfaction. Patent pooling offers a variety of benefits and paybacks for organizations to cooperate leading to a successful IP collaboration. Collaboration divides the effort and increases the efficiency of the firms exploring the same technological area. Even in the automotive industry, the 'Big Four' Japanese motorcycle brands – Honda, Yamaha, Suzuki, and Kawasaki are collaborating in IP regarding the development of electric vehicle – battery swapping technology.

Challenges with IP Collaboration

A fair, reasonable, and non-discriminatory association of organizations lead to successful IP collaboration. However, like most associations, collaborative IP also has some issues to deal with. Some of the main problems faced by the involving parties include information sharing, revenue sharing, portfolio management, potential knowledge leakage, confidentiality breach, collaboration expansion, and anti-competitive practices. Intellectual property is overlooked in many instances of IP collaborations. Sometimes, the big players in collaboration might be the key holders of a patent or might enjoy at the cost of the small ones. Often, collaborations' negligence to the questions like ownership of IP involved or who will manage what part of the portfolio, can have serious and costly consequences where extensive collaboration and co-inventions are involved (Patseer, n.d.).

The benefits of Open Science & Innovation approach to your project

Open innovation is all about combining internal and external resources to build better, faster, cheaper products, processes and services. If your open innovation project is not doing that you need to go back to the drawing board. Assuming all is good in that regard, what are the real benefits to this process? Having focused on the risks inherent in open innovation, let's take time to review some of the potential benefits (see Figure 26).

Suggested reading

Benefits of Open Innovation – [link](#)

Introduction to Open Innovation.

Why now? – [link](#)

Article by HBR why now is the time for Open Innovation.

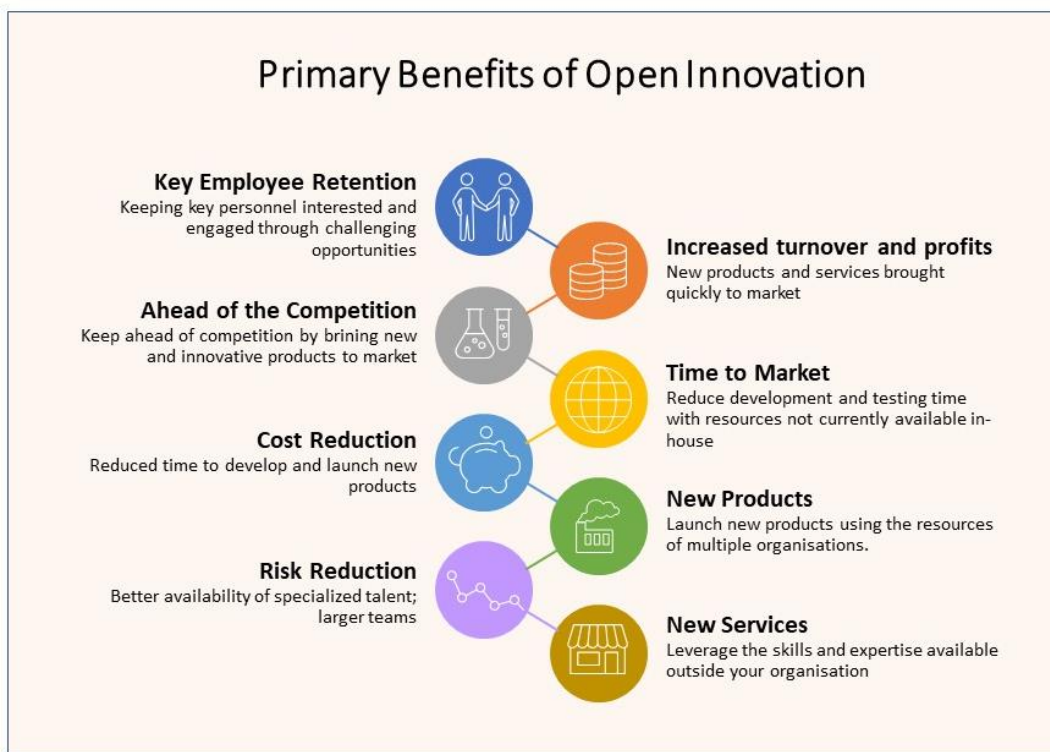


Figure 26 Primary Benefits of Open Innovation (Source: Joe English, Meath County Council)

Suggested reading cont.

The benefits of open innovation – [link](#)

This article reviews the primary benefits of open innovation.

Are you an educator?

You can click [here](#) to go to the syllabus on page 111. This syllabus includes suggestions on the delivery of the module.