

Co-Innovation for Greater Impact – Impact Study on RDI Collaboration

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Based on the study findings, Business Finland’s Co-Innovation funding has enlarged R&D networks, engaged new companies into the networks and significantly improved their capabilities. The projects have, for the most part, achieved success, with research organisations reaping significant benefits. However, internationalisation remains a persistent challenge.

Background

Impact studies are the key method for monitoring Business Finland’s success and impact in its strategic target areas. The primary objective of this impact study was to assess how the attractiveness of the Finnish economy can be strengthened when compared to competitors, for example, in the fields of RDI collaboration and capabilities, and what would be the role of public interventions.

Conducted jointly by 4FRONT and The Evidence Network Inc., this study looked at the impact of Business Finland’s two instruments – Co-Creation and Co-Innovation funding – in enhancing the R&D collaboration between companies and research organisations. The study analysed all completed Co-Creation (151) and Co-Innovation (136) projects between 2018-2022.

Co-Innovation projects are joint projects in which research organisations and companies carry out simultaneously R&D projects in close cooperation. The projects promote high-quality research to accelerate the renewal and international growth of Finnish companies, as well as the building of competitive ecosystems. Co-Creation projects are shorter preparatory projects for the setting up of Co-Innovation consortia and plans.

Highly relevant instruments – at the core of Business Finland

In the current landscape, ambitious innovations targeted at global markets have become increasingly intricate and interconnected. These endeavors often require a well-coordinated input from many different partners. In collaborative R&D each partner brings in unique set of competences - research organisations contribute professional research networks and expertise, while companies provide technical, production, and business perspectives, among others.

Particularly for small and medium-sized enterprises (SMEs), engaging in R&D collaboration is crucial not only for enhancing their research and innovation capabilities but also for expanding their network of expertise and gaining access to value chains and internationalisation opportunities.

In European comparison, Finnish companies have traditionally excelled in R&D collaboration, but this collaboration has mainly been of domestic nature. Business Finland has a longstanding tradition of supporting R&D collaboration through various instruments.

Co-Creation projects are small preparatory projects funded with grants to research organisations.

Co-Innovation projects are bigger in volume and size of consortia than Co-Creation projects.

Co-Creation and Co-Innovation form part of the National Partnership model.

Together with other Business Finland services and strategic measures (e.g., programmes, ecosystems, Leading Company Initiatives) Co-Creation and Co-Innovation projects serve as the cornerstone of what is known as the National Partnership Model.

Widely utilised and well-resourced

Presently, Co-Creation and Co-Innovation projects stand as Business Finland's primary funding mechanisms to support collaboration for the design and preparation (Co-Creation) and for the conduction (Co-Innovation) of joint R&D between companies and research organisations.

Co-Innovation funding has emerged as a widely employed funding vehicle for the large and ambitious R&D projects, particularly in the effective realisation of Business Finland's innovation ecosystems and Leading Company Initiatives.

A significant allocation of effort and resources have been dedicated to Co-Innovation projects. Over the span of five-years from 2018 to 2022, a total of 136 Co-Innovation projects were completed, featuring an average of 4.6 partners in each and an average project size of 4 million euros. Business Finland funding contribution amounted to 212 million euros out of the total project volume of 546 million euros.

Table 1. Project data synthesis for 2018-2022 completed projects. Source: Business Finland

	Co-Creation	Co-Innovation
Number of joint projects (funding decisions = funded partners)	151 (276)	136 (627)
Number of Research Organisations / Companies (funded)*	276 / 0	216 / 411
Average size of project consortia (i.e., funded organisations)	1,8	4,6**
Average Business Finland funding per project (min-max)	90 190 €*** (18 k€ - 240 k€)	1,6 M€ (50 k€ - 9,8 M€)
Total volume of Business Finland's funding decisions (share)	13,6 M€ (62%)	212,4 M€ (39%)
Total matching funding (share)	8,5 M€ (38%)	334,2 M€ (61%)
Total cumulative project volumes	22,1 M€	546,6 M€
Average size of joint project	146 k€	4,0 M€

Co-Innovation projects engage surprisingly many SMEs. They represent a clear majority (roughly 70%) of Co-Innovation company project partners.

*411 Co-Innovation funding decisions for companies. Includes at least 354 different companies. Does not include possible non-funded project partners.

**Average size of Co-Innovation funding varies greatly: 2020=3,2 M€, 2021=2,25 M€, 2022=0,9 M€

***For current Co-Creation, max Business Finland funding is 60 000 €/project. Some earlier fundings have been bigger.

During this period, Co-Creation projects numbered similarly at 151; however, they were notably smaller both in terms of funding (average of 146 thousand euros) and consortia size (average of 1.8 partners). Business Finland's contribution to Co-Creation projects amounted to 13.6 million euros out of a total project volume of 22.1 million euros.

In international comparison, the role of companies as project initiators and coordinators holds greater prominence in collaborative R&D programmes of other countries compared to Finland. In general, learning and networking are found to be the key benefits of collaborative research projects. At the same time, support to commercialisation and scaling up are common challenges of R&D collaboration programmes in all countries.

Identifying appropriate partners and aligning interests can pose significant challenges.

A majority of Co-Innovation projects are initiated by research organisations.

The degree of engagement with Co-Innovation projects is notably greater within research organisations than among companies.

For research organisations, Co-Innovation projects have been successful and fulfilled their research and collaboration objectives...

...for companies, the picture is less positive.

Attention on systematic monitoring

The Co-Innovation funding instrument has undergone evolutionary changes, incorporating numerous adjustments and refinements over time to strike the right balance between research and business perspectives.

At the same time, the decisions related to Co-Innovation funding have lacked systematic tracking. A precise overview of Co-Innovation funding at Business Finland is lacking, including details such as the number and nature of projects, partner involvement, funding allocation, thematic focus, etc. This study is the first full overlook of these instruments, and it provides more evidence on how these instruments work in practice, what are their added value, results, as well as the impact generated.

On a project level, Co-Innovation projects have been mandated to establish joint steering groups wherein Business Finland representatives participate as observers. This move has significantly amplified hands-on project monitoring.

The study substantiates that Co-Innovation funding has been widely embraced, emerging as a vital tool in propelling and streamlining extensive and ambitious R&D ventures. Notably, it plays a critical role in funding Business Finland's innovation ecosystems and catalysing the Leading Company Initiatives.

Ambitious projects in every aspect

Co-Innovation projects are ambitious and complex to set up and conduct, often proving to be more intricate and demanding than initially envisioned. These projects are also thematically more connected to Business Finland programmes than normal R&D projects.

In Finland, Co-Innovation projects are mainly initiated and driven by research organisations. Research organisations in Finland also demonstrate higher levels of engagement and commitment to these projects compared to their corporate counterparts. This is a different approach to R&D collaboration than in most benchmarked countries, where joint projects are largely driven by companies.

The landscape of Co-Innovation projects encompasses a broad spectrum, ranging from substantial endeavors to smaller-scale initiatives. A particularly encouraging aspect is the significant involvement of SMEs as project participants within these ambitious R&D undertakings, underscoring promising prospects for knowledge exchange and capacity enhancement.

Effective design, establishment, and meticulous planning play pivotal roles in the success of Co-Innovation projects. Therefore, the availability of Co-Creation funding as an option aligns logically and proves to be highly beneficial in this context.

Success biased towards research organisations

Co-Creation and Co-Innovation projects have demonstrated notable success. A significant majority (77%) of Co-Creation project partners consider the projects at least moderately successful. In the case of Co-Innovation projects, a remarkable proportion of participants affirm their success, with 81% of companies and an impressive 98% of research organisations deeming these initiatives at least moderately successful. Research organisations largely attained their research and collaboration

objectives, indicating a high level of success from their perspective. However, companies adopted a more critical stance toward the outcomes of the projects.

For the majority (55%) of company partners RDI collaboration was new.

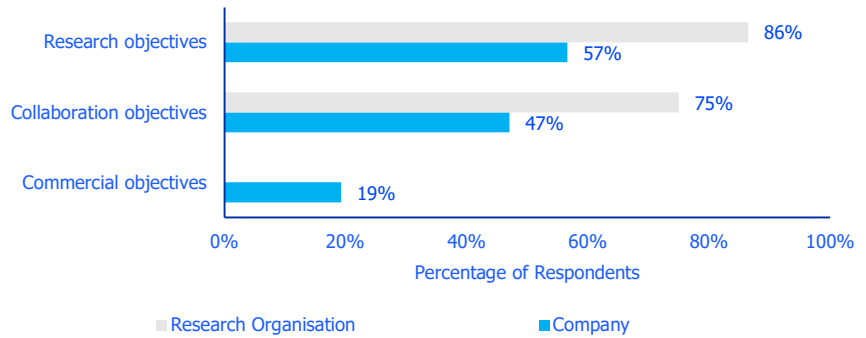


Figure 1. Achievement of project objectives in Co-Innovation projects for research organisations and companies.¹ Source: Online Surveys, N= 96 for research organisations / 111 for companies.

Positive impact on collaboration and economic performance

Co-Innovation projects have significantly expanded the R&D collaboration and competence networks of the involved partners. In this regard, major research organisations have been pivotal for all project participants. However, it is important to note that the impact on international networks within Co-Innovation projects has been limited.

SMEs involved in Co-Innovation projects perform better in terms of turnover growth and job creation compared to SMEs receiving alternative forms of Business Finland R&D funding.

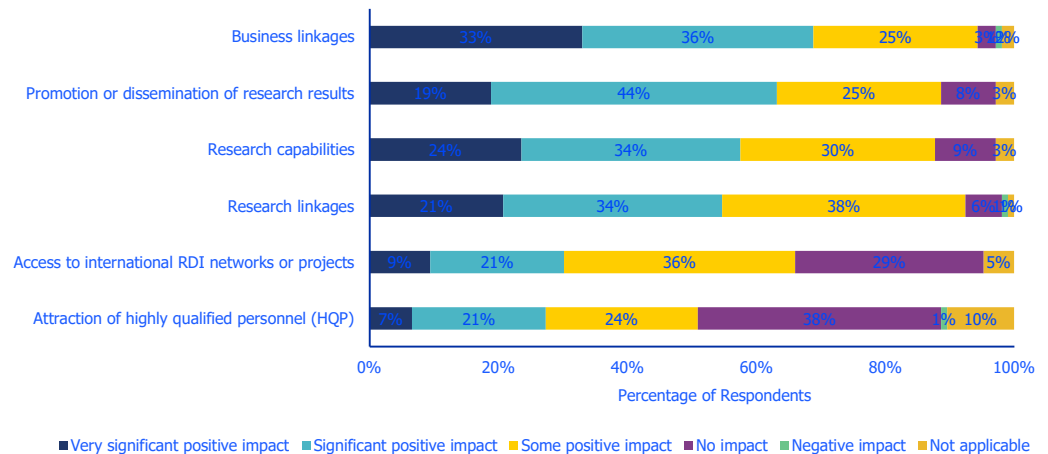


Figure 2. Co-Creation projects' impact on capabilities and linkages. Source: Online Survey, N=106.

Moreover, the study reveals that Co-Innovation projects yield a notably stronger positive economic impact for participating companies compared to typical Business Finland R&D funding. Interestingly, there seems to be an economies of scale effect, amplifying the impact in larger projects.

Research organisations express higher satisfaction with the outcomes of Co-Innovation projects than their corporate partners. This discrepancy raises concerns about whether

¹ Only companies were asked of the achievements of their commercial objectives.

Co-Innovation projects may be excessively research-oriented and research-driven, potentially requiring a more balanced emphasis on application-oriented and business-driven approaches.

The project expectations for internationalisation and exports have proven challenging to fulfil. Projects often exceed initial time estimates for implementation, delaying subsequent commercialisation and internationalisation efforts. A shortage of appropriate funding for internationalisation further compounds this challenge.

Recommendations

Following five recommendations have been made to Business Finland to further improve the focus and impact of its Co-Creation and Co-Innovation funding:

1. **More focus on companies.** Currently Co-Innovation projects appear to better serve the needs of research organisations than companies, although companies are their primary target group. For example, by opening the Co-Creation funding to all kinds of organisations.
2. **Enhancing data monitoring, ensuring sufficient deal flow and thematic linkages in the Co-Creation-to-Co-Innovation process.** Co-Innovation projects are often complex partnerships, which calls for broader and more consistent project data to be collected and made easily available for monitoring Co-Innovation project flows, connections, and overall status at Business Finland. It is important to know where new collaborative projects originate from, how they are linked to different Business Finland ecosystems and instruments, as well as how the topics continue and evolve after project period.
3. **More support for the project preparation as well as sufficient time for the implementation of projects.** The key challenges of Co-Innovation projects are in the very beginning and towards their completion; finding suitable partners, finding a common ground for information sharing and later when results are to be turned into commercial success and exports. Support is needed for the beginning part and more time at the end.
4. **Enhancing (strategic) ecosystem aspects.** Co-Innovation funding is an important vehicle to implement Business Finland's large strategic platforms and ecosystems. This aspect should be communicated clearly.
5. **More attention on supporting scaling and international collaboration.** Difficulties in commercialisation, up scaling and internationalisation are pertinent challenges to Finnish R&D projects, and so also to Co-Innovation projects. It is a deliberate objective of Co-Innovation funding to address these challenges.

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