

Principles for R&D Impact

Stage 1 Summary

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Reference: Principles for R&D Impact, Impact Innovation Group (2024).

Introduction

This summary insight report provides an overview of Stage 1 of research which involved Impact Innovation Group team members analysing the decisions behind identifying, designing, contracting, implementing and completing an R&D project, within R&D programs. The focus was on how R&D investors (corporates, industry, and government) and R&D delivery partners (CSIRO and universities) engage at each stage and how these engagements drive positive and negative behaviour.

Research Question

The question that formed the basis of this research project is:

If we change how R&D stakeholders engage will it enhance R&D impact?

The term ***engage***, refers to contracting and the general sharing of knowledge during R&D design, contracting, implementation, and evaluation.

R&D impact refers to the more efficient use of R&D resources and the value derived from R&D outcomes by an organisation, industry or society.

Research approach

Stage 1 was conducted over an 18-month period and involved:

- 76 consultations with research managers, research teams, and senior management to unpack the decision making around R&D engagements.
- Analysing 53 engagements between research investors and research delivery partners with a focus on investments by large corporates, SMEs, NFPs, cooperative research centres, and rural research and development corporations.
- Monitoring of implementation of the Principles for R&D Impact by selected clients.

Summary findings: The 10 Principles for R&D Impact

The insights from Stage 1 were 10 principles that resonated strongly with R&D investors and R&D delivery partners. These principles emerged from the analysis of challenges and gaps observed during consultations and engagement.

Below is a summary of the 10 principles. Further contextual information of relevance to R&D stakeholders, including investors and R&D delivery partners, can be obtained by contacting Impact Innovation. There are also differences in the implementation of the principles across different industries, which was a surprising finding of the engagement.

Using the insight provided by the core principles, Impact Innovation have been setting up simple system change trials with clients. The purpose is to monitor how R&D engagements can, along with the use of decision support tools, improve R&D design, implementation, and impact.

1. Investment Rounds	2. Next Investor™	3. Impact R&D™	4. R&D Management Systems	5. Redesign & Refresh
6. Transformative Operations	7. Strategy Alignment	8. Collaboration Timing	9. Project Handover	10. Assessor Training

1. Investment Rounds

- Research projects, like startup companies, often go through multiple rounds of investment to get technical maturity.
- For research investors, it is rare to fund one R&D project that leads directly into a commercial (or impact) outcome.

2. Next Investor™

- Every R&D project should focus not only on the next data milestone but also on who the next investor will be – and the information they will need to make an investment decision.
- Because it is the project's next investor – not the end user of the potential product, service or process – who will take carriage of the concept and advance it.

3. Impact R&D™

- Next investors need more than just technical research outcomes to be the basis of an investment decision.
- They also require market, supply chain and financial information that is relevant to them, and that aligns with their risk profile.

4. R&D Management Systems

- To maximise outcomes, R&D investors should have well-designed and managed R&D or innovation systems that align with their organisational strategy.
- These systems should also establish a clear definition of “value” and activate stage gates that can stop projects unlikely to generate that value.

5. Refresh and Redesign

- As soon as an R&D project commences, the associated internal and external operating environments start to change.
- R&D projects should be redesigned or refreshed at least annually to take into account these changes and ensure they remain relevant.

6. Transformative Operations

- While incremental innovation generally doesn't require many changes, transformative innovation requires an organisation to change the way it operates.
- Transformative innovation, and the resources required for change, need to be considered before investing in an R&D project.

7. Strategy Alignment

- When an R&D investor's organisational strategy changes, its entire R&D or innovation program needs to be reviewed to ensure the initiatives continue to align with organisational priorities.
- When initiatives don't align with strategy, it is difficult to mobilise the resources needed to transform ideas into product, service or process solutions.

8. Collaboration Timing

- Collaborative R&D needs team members with different skills that work together to design better experiments and solve experimental problems.
- If the collaboration does not happen at the experimental design and implementation stages, then it is just contract research.

9. Project Handover

- At some stage, the R&D project needs to be handed over to the “next team” to take it to the next stage.
- R&D projects should include a handover strategy in their design which also takes into account that the “next team” may not be identified for a number of months after the completion of the project.

10. Assessor Training

- When an organisation changes how it invests in R&D, it is critical that assessors and assessment panels are trained in the new approach.
- Assessors also need to understand:
 - the investment strategy;
 - how value is defined;
 - project (or program) design principles; and
 - concepts such as the Principles described in this document.

Future work

Stage 2 of this project is planned to be conducted over the next 18-months and will involve additional consultations with existing, and new R&D investors and R&D delivery partners across physical and life sciences. Monitoring of behaviour and system change will also expand into case studies as research projects are completed.

Acknowledgement and disclosure

We would like to thank many of our clients who took the time to contribute to these discussions and who have been implementing many of the Principles for R&D Impact as part of their operations.

We would also like to acknowledge the contributions from other Impact Innovation Group colleagues and associates who contributed to this research effort.

This was a privately funded research project and while we endorse further dissemination of the findings with the R&D and innovation community in Australia and globally, any use of this information should acknowledge, and reference, the Impact Innovation Group.

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For More Information

If you are interested in:

- gaining further insights on these Principles; or
- engaging in our Stage 2 research activities,

please contact the Impact Innovation Community Manager at community.mgr@impactinnovation.com.