How Innovation Management Systems Use R&D Outcomes

Innovation Management (IM) has many different definitions and approaches! From our perspective, it is a simple formula: great ideas + great implementation = innovation outcomes. R&D has the potential to add value to both the idea identification as well as implementation components. This 'thinking' has the potential to transform mediocre R&D programs to top-performing, reliable sources of innovation within an organisation.

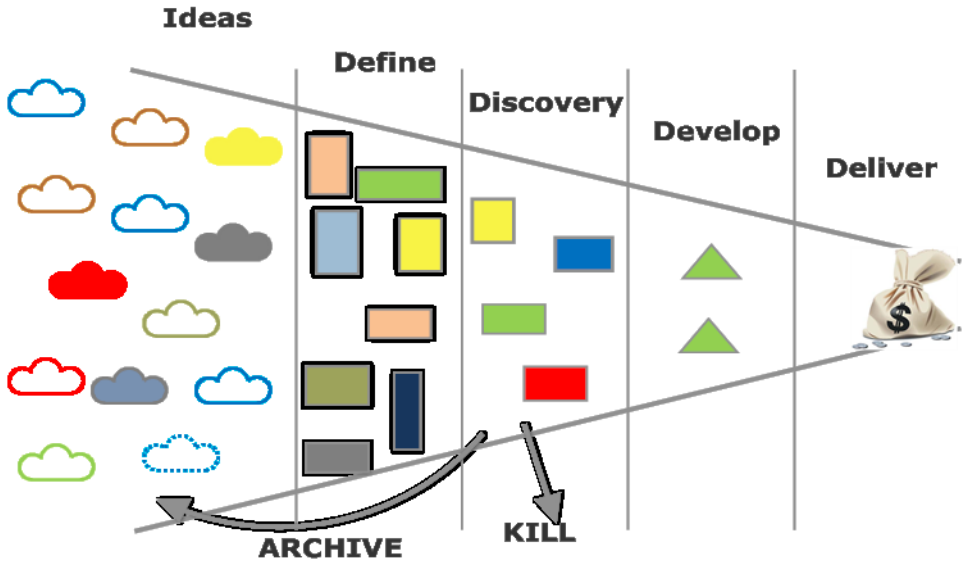
This paper provides an overview of how R&D projects can align with innovation and, more importantly, how innovation management systems can improve the value that organisations derive from research.

What is an Innovation Management (IM) System?

Successful IM systems provide organisations with an end-to-end process characterised by idea identification and implementation to achieve innovation outcomes. While many IM approaches exist, a good system is all about implementation and the methodical management of ideas. Generically speaking it needs to encompass five key stages (Figure 1):

- 1st Stage: the identification of ideas
- 2nd Stage: refinement or definition of potential opportunities
- 3rd Stage: discovery or conduct of further proof of concept
- 4th Stage: development or pre-implementation activities
- 5th Stage: delivery to confer value

Figure 1: A Stylised IM System



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Equally important as each of the five stages are the mechanisms to 'archive' ideas for future reassessment, remove ideas that are not relevant, and communicate the process within an organisation.

While Figure 1 makes IM systems appear linear in nature, what it doesn't show is that there is experimentation aimed at reducing uncertainty around selected ideas.

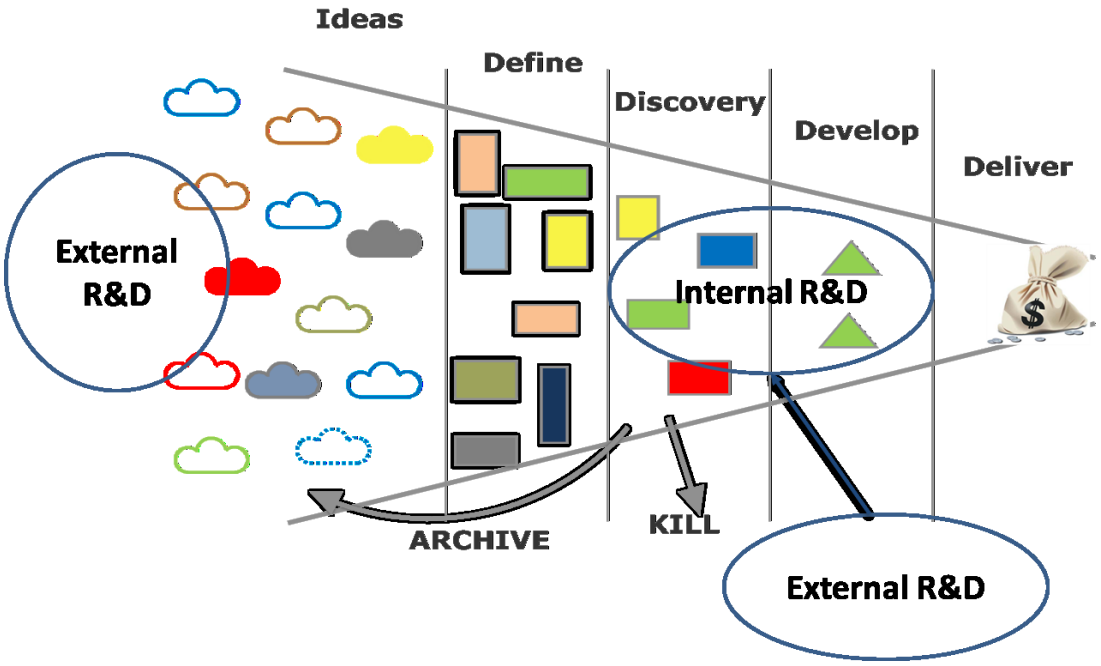
How do IM systems use R&D?

It is interesting to consider how R&D fits into IM Systems, as it plays a significant role in identifying ideas as well as defining products, services and processes that are delivered as part of an organisation's business model.

R&D plays a role in three key areas as outlined in Figure 2, including:

1. The creation of new ideas that have the potential to add value to an organisation.
2. The conduct of proof of concept activities (discovery).
3. The development of prototypes or trials to test the concept prior to full implementation.

Figure 2: The role of R&D in IM systems



An effective IM system, therefore, introduces R&D to gather information to aid decision making and reduce overall uncertainty.

As suggested in the above diagram, companies that implement IM systems are also generally assessing multiple opportunities at the same time and use this as their risk management strategy. They understand that delivery is not guaranteed and, as such, their R&D programs are structured accordingly.

The Value of Innovation Portfolios

In some circumstances there is a need for an organisation to conduct one-off R&D activities and this is a legitimate approach to engaging with universities and other research organisations.

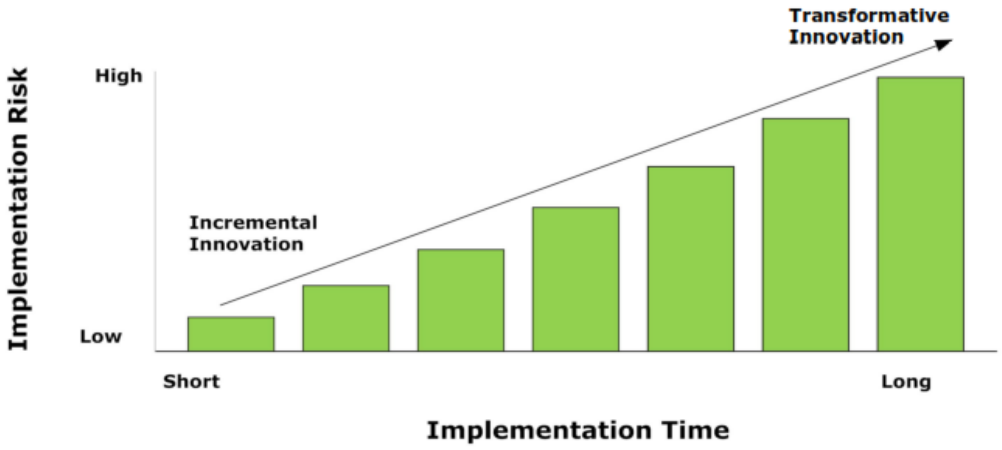
When an organisation implements an IM system, however, the focus changes from solving *ad hoc* challenges to the identification of ideas that are going to significantly enhance an organisation's growth potential.

As outlined above, research is risky as the results are uncertain – a probability. A way to reduce these risks is to take a portfolio approach to identifying and implementing ideas.

We recommend that managers approach innovation in a similar way to their investment portfolios. In most cases an individual will have an investment portfolio that comprises low risk assets (e.g. cash) through to high risk assets (e.g. early stage companies) and their weighting of their portfolio is dependent on their risk profile.

Similarly, to reduce the risk of innovation portfolios there should be low risk ideas through to high risk ideas with the weighting of the innovation portfolio dependent on the risk profile of the management team (Figure 3). This approach (like in an investment portfolio) manages the uncertainty around research outcomes.

Figure 3: Innovation Risk Equation



The Value of Repetition

Another risk around standalone R&D projects is the lack of experience in converting ideas to commercial outcomes. In some cases an organisation has internal personnel with extensive experience to make this occur; for others, however, this is a major challenge.

When an organisation has an IM system approach it builds up the expertise required to translate R&D outcomes into commercial outcomes - learning by doing. Repetition brings new levels of understanding and maintains continuity of context and purpose in a process, such as new product development. These teams understand how to manage R&D projects effectively, how to communicate effectively with researchers, what commercial considerations they need to take into account when designing R&D projects, and what works and doesn't work.

Useful Tips

So in summary, here are some useful tips and questions that will help you drive better innovation outcomes faster:

- Finding an innovation management system that works for your organisation is an iterative process, so don't be afraid to move backwards before going forwards – practice makes perfect.
- Consider how your R&D project fits in with your broader innovation objectives – is there room for alignment?
- Determine if an innovation portfolio approach will assist in de-risking your R&D activities – will your organisation benefit from a 'hedge-your-bets' approach to managing innovation risk?
- Consider the value of implementing a repetitive process for converting research outcomes into commercial outcomes – how can this drive innovation and relevance to the strategic goals?
- Consider how to create an external R&D division and how you can use this to either remain, or become, an industry leader – is there a strong case for external experts to speed up the generation of quality-outcomes?

About Us

The Impact Innovation Group is a specialist innovation management and technology commercialisation company providing consultancy services to companies, NGOs, government agencies and research organisations. The business focuses on four key areas:

- Innovation Management and Systems: Our expert team of advisors and consultants have a proven track record in successfully assisting organisations, and innovation teams within those organisations, in reaching their innovation goals, be it product, process or culture.
- Technology Commercialisation: The company has established a range of unique commercialisation management and engagement methodologies that are geared towards effective risk management and maximising the potential for successful technology commercialisation.
- Technology Scouting and Acquisition: We have a unique network of major Australian universities and research organisations. This provides our clients with not only technologies that are 'advertised' but also access to early stage research outcomes and collaboration opportunities.
- Early Stage Executive and Advisory: We bring a track record of business and leadership experience and are regularly engaged by founders and investors in start-up companies to provide the management rigour and focus on technology commercialisation.

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