Lean Best Practices

The New to R&D Grant aims to increase your long-term R&D capabilities by supporting capability development activities that involve either:

- increasing the R&D-related human capital expertise within the business organisation via training, coaching, or advisory, OR
- setting up systems, processes or operations that enable R&D to be undertaken more efficiently and effectively.

Developing capability in Lean Best Practices will help you maintain momentum as you acquire new information and knowledge through your research activities. Lean creates a culture of continuous improvement that helps businesses to improve workflow, create certainty in the face of research uncertainties, keep waste and costs down, and bring focus to customer value-adding activities.

Lean is a way of thinking about creating needed value with fewer resources and less waste. It is a practice of continuous experimentation to maximise flow and minimise waste.

R&D projects often go through a rigorous management approval process, require continuous customer and technical testing, and need input from several functions in your organisation (such as operations, sales, marketing etc.) before they are ready for market. These characteristics cause waste and bottlenecks in the process.

Lean production is difficult to apply to R&D in detail. There are too many iterations in the design and development phases, and at the on-set of the design project, you may not be sure what the solution will be. To apply Lean thinking in R&D, you first need to understand the concept and principles and then learn to see where waste exists, and work to eliminate it.

Lean for R&D is a variation of traditional Lean that has been adapted to fit the unique needs and challenges of R&D activities. While the core principles of Lean remain the same, Lean for R&D emphasises collaboration, flexibility, and adaptability in order to optimise R&D processes and achieve faster, more innovative results.

Key activities can include learning about and/or setting up the following:

- Mapping processes to visualise and analyse the flow of activities involved in the R&D process
- Regular reviews of the R&D process to identify areas for improvement
- Rapid prototyping and testing of ideas, products, and services
- Visual management using tools such as Kanban boards or dashboards to track progress, identify bottlenecks, and improve communication within the R&D team

Potential risks of not deploying Lean thinking and methodologies include:

- Negatively impacting commercial success by not optimising customer value
- Increased research time resulting in cost overruns
- Excessive rework
- Slow management decision making
- Creating products that customers don't need or are not willing to pay for
- Losing knowledge can add to cost and slow R&D delivery

Potential Capability Partners and Useful Resources

Below you'll find some potential capability development courses and providers plus some useful resources. If you know of suitable providers through your networks or have existing working relationships with providers, please feel free to discuss using them with your Funding Engagement Specialist. We make every reasonable effort to keep this information current and accurate, as a starting point to help you build capability within your business, however it is provided for your convenience only and should be taken as neither an exhaustive list of providers nor as an endorsement of those organisations represented. Callaghan Innovation does not accept responsibility for the quality, content, delivery, or outcomes of providers, and does not accept liability for any loss or damage which may directly or indirectly result from any advice, opinion, information, representation or omission, whether negligent or otherwise of the providers listed here.

Capability Development

Please click here for a list of Lean Coaching providers.

Topic Resources

Source/Provider	Title/Description	Link
Eric Ries	[Book] The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses.	click here
Integrated Consulting Group | Matti Perttula	[Article] How to Apply Lean Thinking	click here
LMI | Joseph Mariña	[Article] An Agile Framework for Research and Development.	click here
Terence M. Barnhart	[Book] Creating a Lean R&D System: Lean Principles and Approaches for Pharmaceutical and Research-Based Organizations.	click here