Stage-Gating Your AI Innovations to Success

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AI innovations are coming fast but with mixed results

Many senior executives believe that, by 2020, more than half of their revenues will be influenced by digital transformation, most of that coming from the use of artificial intelligence (AI) to enable connected products and operations. With that expectation in mind, investors and executives are rushing to invest billions of dollars in AI.

Failures are largely a result of applying old thinking to a new type of problem

Organizations spend a significant amount of time and effort on identifying AI use cases and downselecting those that offer maximum return on investment (ROI). A major reason why AI projects fail relates to the underlying innovation process. With stakeholders so narrowly focused on ROI, project selection, and execution, few pay attention to the underlying innovation processes used to manage the AI project.

The Stage-Gate process has become the linchpin of innovation in manufacturing companies, but is not well-suited to manage AI product innovations

Since the Stage-Gate process was introduced more than three decades ago, manufacturing companies have used this process successfully to bring many product innovations to the marketplace, so much so that the Stage-Gate process has become the industry standard for product innovation in most manufacturing companies.
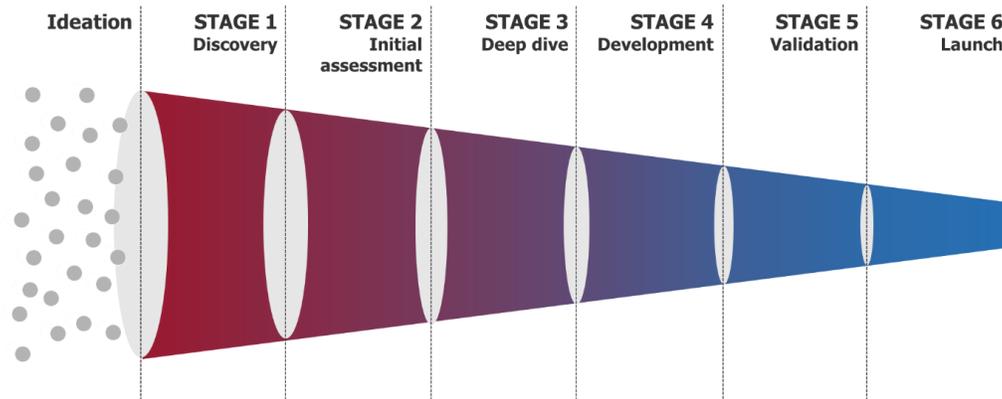
Compared to traditional manufacturing or software products, bringing AI innovations to the marketplace faces a new set of challenges. Some of these challenges include:

- **It is very hard to lock down a definition for a "product"**
- **There is significant uncertainty around the business case**
- **KPIs are lacking when it comes to measuring the performance of AI products in physical industries**
- **It can be challenging to keep the product current**

With some modifications, the Stage-Gate can continue to offer a robust framework to successfully bring AI innovations to the marketplace.

Recommendations

To improve chances of success in bringing AI innovations to the marketplace, stakeholders should:

- **Reduce the level of ambiguity around AI projects**
  Begin by defining the AI use case as narrowly as possible, plan for a broad range of potential scenarios, and take the time to clearly define KPIs that bridge the digital and physical worlds.

- **Plan for real-world deployment early in the game**

This could mean incorporating a wide range of real-world data while building an AI product, ensuring that the AI solutions are easy to track and update, and be ready to update existing traditional processes for, after all, the goal of AI and, more broadly, digital transformation is to revamp existing processes so as to make them more efficient.

- **Stress-test AI solutions on an ongoing basis**
  Borrow best practices from the cybersecurity community, that is, stress-test the AI models on a quarterly or semiannual basis against real and fictitious data set