Beyond Stage-Gate®:
What’s Next in New Product Development
Robert G. Cooper

Since Professor Robert G. Cooper introduced Stage-Gate® nearly three decades ago, it has become the most widely used process for steering product ideas through to their launch. But there are also criticisms, acknowledges Cooper: “Stage-Gate is accused of being too linear, too rigid and too planned to handle more innovative or dynamic projects. Moreover, it’s not adaptive enough and does not encourage experimentation; and the system is too controlling and bureaucratic.” “Some authors,” Cooper adds, “have refuted these criticisms, noting that most are due to poor implementation, while some deficiencies have been corrected in more recent evolutions of Stage-Gate. Issues do remain, however, and thus a handful of leading firms are rethinking and re-inventing their idea-to-launch gating systems.” Cooper explains what those firms are doing in his article below.

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For example, the data-savvy manager uses these data collections, and some additional tools, in an iterative manner to orchestrate getting the right data to the right person at the right time. This is a tough, and also fun, job. Employing explicit data standards and processes early on can simplify the reuse of data for future questions.

**Incorporate All Information**

Lastly, it is critical that a data-savvy manager incorporate all of the information into the decision-making process. Whether it is information marketing will use for customer segmentation, or research and development for knowledge discovery, there must be an avenue for the information to be incorporated into the decision making process. A data-savvy manager must structure the process with the end in mind.

**References**


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**Corporate Experience**

**BEYOND STAGE-GATE: WHAT’S NEXT IN NEW-PRODUCT DEVELOPMENT**

Since Professor Robert G. Cooper introduced Stage-Gate® nearly three decades ago, it has become the most widely used process for steering product ideas through to their launch (1). But there are also criticisms, acknowledges Cooper: “Stage-Gate is accused of being too linear, too rigid and too planned to handle more innovative or dynamic projects. Moreover, it’s not adaptive enough and does not encourage experimentation; and the system is too controlling and bureaucratic.”

“Some authors,” Cooper adds, “have refuted these criticisms, noting that most are due to poor implementation, while some deficiencies have been corrected in more recent evolutions of Stage-Gate. Issues do remain, however, and thus a handful of leading firms are rethinking and re-inventing their idea-to-launch gating systems.”

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The Triple A Stage-Gate System

What is emerging is a more agile, vibrant, dynamic, flexible gating process that is leaner, faster and more adaptive. This reborn Stage-Gate is what I call the “Triple A” system (see illustration below).

1—Adaptive and Flexible: Stage-Gate is becoming much more adaptive because today things change all too quickly. While a new-product project starts out based on assumptions about what the customer wants or needs, part way through development, new customer insights and changing markets suggest new requirements, and thus changes must be made to the original product concept. The goal of “frozen product specs” is largely obsolete!

- **Spiral development**: a series of Build-Test-Feedback-Revise iterations
  - Build something – get it in front of customers
  - Context-based – one size does not fit all: e.g. Stage-Gate-TD, Lite and XPress
  - Risk-based contingency model – key uncertainties & assumptions define deliverables & stage activities

- **Agile Development integrated with Stage-Gate**: the Agile-Stage-Gate hybrid model
  - Time-boxed 2-4 week sprints, planning on the fly
  - Daily scrums, backlogs and burn-down charts
  - A focus on tangible results – protoccepts – rather than documentation

- **Accelerated**: Properly resourced projects with dedicated cross-functional teams
  - Leaned down process using Value Stream Analysis:
    - No bureaucracy, all waste removed
  - Overlapping stages and concurrent activities
  - Homework and early scoping done well – define the requirements
    - A sharper ‘fuzzy front end’
  - An automated system with robust IT support

The three thrusts of the Triple A system – beyond Stage-Gate.

Building in adaptivity via spiral development deals with this “fluid information” dilemma. Spiral development incorporates spirals or iterations designed to validate the product with customers early, cheaply and often. The notion here is that customers cannot say what they want or need until they see it, especially for more innovative products. So get something in front of the customer—a “protocept,” namely a virtual prototype, crude model or rapid prototype the customer can see and respond to. In this way, the product may be less than 50% defined when it enters development but it evolves, adapting to new information, as it moves through development and testing.

The new gating system is also flexible insofar as the actions within each stage and the deliverables to each gate are unique to each project, based on its context. For example, different types of projects—highly uncertain with many unknowns versus well defined—require different types of stage activities, gate deliverables and criteria for Go at gates. This is quite different than the “one size fits all” traditional SOP (standard operating procedure) approach to product development, which prescribes standardized actions, tasks and deliverables for all
projects by stage, regardless of project size, risk or project type.

Today, there are fast-track versions of Stage-Gate for lower-risk, smaller projects: Stage-Gate Lite for product modifications and “renovations”; Stage-Gate XPress for very small changes or single customer requests; and Stage-Gate-TD for technology development projects.

The more advanced and most flexible versions of Stage-Gate are totally context-based: the risk-based contingency model. Here, the project team begins each stage of the project with a blank canvass and defines the key risks and assumptions. Next, they map the information required to validate the assumptions or mitigate those risks. This logically leads to a delineation of the important tasks to be done in that stage. The result is that each project is uniquely mapped out—quite the opposite of a standardized process.

A2—Agile: The next-generation system also incorporates Agile development methods, developed by the software industry and described in the 2001 Agile Manifesto (2). Agile breaks the development process into small increments with minimal planning; these increments, known as “sprints,” are time-boxed; that is, sprints are limited to very short time frames, typically 2—4 weeks.

Each sprint begins with a sprint planning meeting where the sprint goals are defined in the form of a sprint backlog; each sprint day begins with a daily stand-up meeting or scrum, where the team discusses what they intend to accomplish that day and what they did the previous day. Sprints do not deliver the usual reports and presentations but instead create a working version of the product, something that can be demonstrated to stakeholders.

While physical products are obviously different than software development, and it may not be possible to deliver a working version of the product in a few weeks, the objective is much the same: deliver something that is tangible and can be tested with stakeholders (customers and management). This Agile-Stage-Gate hybrid model has been implemented in a handful of manufacturing firms with dramatically positive results; it may be the most exciting evolution of Stage-Gate in the last three decades (3).

A3—Accelerated: Perhaps the most important improvement here is that development projects, especially major projects, are properly resourced, and fully staffed by a dedicated cross-functional team for maximum speed to market. This requires integrating Stage-Gate with portfolio management and resource management, ensuring that the number of projects in the pipeline is consistent with the resources available so that project team members are not stretched too thin.

The new gating system is also much leaner with Lean methods (e.g., Value Stream Analysis) used to remove all waste—no bureaucracy, no unnecessary activities. This is consistent with an important Agile principle, namely: “Simplicity—the art of maximizing the amount of work not done—is essential.”

Firms have applied Lean Six-Sigma, focusing on the product-development value stream (much like in a manufacturing plant), and
removed all work that adds no value. Additionally, smart firms have built in a post-launch review, where in addition to financial results the steps and missteps of the project are reviewed with the objective of determining how to do the next project even better.” In this way, continuous improvement is built in.

Additional ways that the new Stage-Gate system accelerates projects include:

- **Concurrency**: Activities within stages overlap, and even stages themselves overlap. Indeed, the notion of a “stage,” where certain tasks must be completed before moving to the next stage, is less relevant in this new system.

- **Sharpening the fuzzy front-end**: More emphasis here means the project is clearly scoped and key unknowns, risks and uncertainties are identified as early as possible. By identifying the risks and determining whether new technology might be required, many problems later in the project can be averted and much time saved.

- **IT support**: Some leading software suppliers have created IT in support of Stage-Gate, designed to reduce work and accelerate the process. IT tools include managing the project, pre-populating documents, project tracking, resource management, portfolio management, and even idea capture and handling. These are reputed to reduce time or project work by as much as 30 percent.

**Moving Beyond the Current Stage-Gate System**

No company has yet implemented every element of the new Stage-Gate system described here. But some have come close. And early studies of first adopters reveal dramatically positive results.

For example, the Agile-Stage-Gate approach highlighted above (which builds in the adaptive features listed in the illustration) is reported to respond more effectively to changing customer needs, build in voice-of-customer in a more proactive and effective manner, deal with the resourcing issue more directly (via dedicated team members), reduce cycle time, and yield higher project productivity (3,4,5,6). Thus, it may be time to rethink your idea-to-launch system, borrow some of the methods outlined in this article, and strive for a more adaptive, agile and accelerated Stage-Gate system.

**References**

1. Stage-Gate® is a legally registered trademark of R.G. Cooper (and Associates Inc.) in the EU and Canada; and of Stage-Gate International in the USA.


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Accounting for Intangibles

INNOVATION IN CORPORATE REPORTING

“Those of us in the intangibles community have moved beyond the traditional measurement systems,” wrote Mary Adams in our Sept./Oct. 2013 issue (1). Since then, the community has been working to strengthen value creation and innovation by tackling the weaknesses in traditional financials and reporting.

Adams is co-author of Intangible Capital: Putting Knowledge to Work in the 21st Century Organization (2), and founder of Smarter-Companies, which provides open tools, training and a proprietary platform for evaluating the diverse kinds of capital that drive value creation.

In November 2015 she attended two gatherings that highlight emerging innovations in how companies report and think about their operations. One, in London, was the first convention of the International Integrated Reporting Council (IIRC); it drew close to 200 corporate managers, representatives of professional bodies and different kinds of advisors from around the world. The second gathering was a New York City symposium on integrated thinking convened by Skytop Strategies that attracted a similar but somewhat smaller audience. Here’s her report:

The integrated movement is addressing the flaws it sees in traditional financials and reporting. It has roots in South Africa when Nelson Mandela came to power in the 1990s. Mandela tapped a trusted colleague, Professor Mervyn King, to create a corporate governance system for the new society emerging from Apartheid. The work of the King Commission evolved over time and was taken up by the IIRC.

Accounting for Externalities and Intangibles

The integrated model advocated by the IIRC addresses two key weaknesses of traditional financials and reporting: externalities and intangible capital. Paul M Johnson of Auburn University defines an externality as, “A situation in which the private costs or benefits to the producers or purchasers of a good or service differ from the total social...