

Background

Fast and delighting

OMICRON's way of new product development

by Robert G. Cooper* and Angelika Dreher*

Back in the 1990s, when OMICRON had already an impressive success record of innovative products, a hands-on, enthusiastic, pioneering approach characterised their innovation culture. As the company was growing, with more people involved, systematic, state-of-the-art methods were needed to support effective co-operation and well grounded decisions in the product development process as well as an enthusiastic strive for customer benefits and speed to market. Therefore, OMICRON's management team invited us to share our knowledge and best practice methods with them. A project, ATOM – Accelerate to Market, was started at OMICRON with the aim of designing and implementing an excellent new product process. The method of choice was Stage-Gate®.

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The Stage-Gate® Idea to Launch System

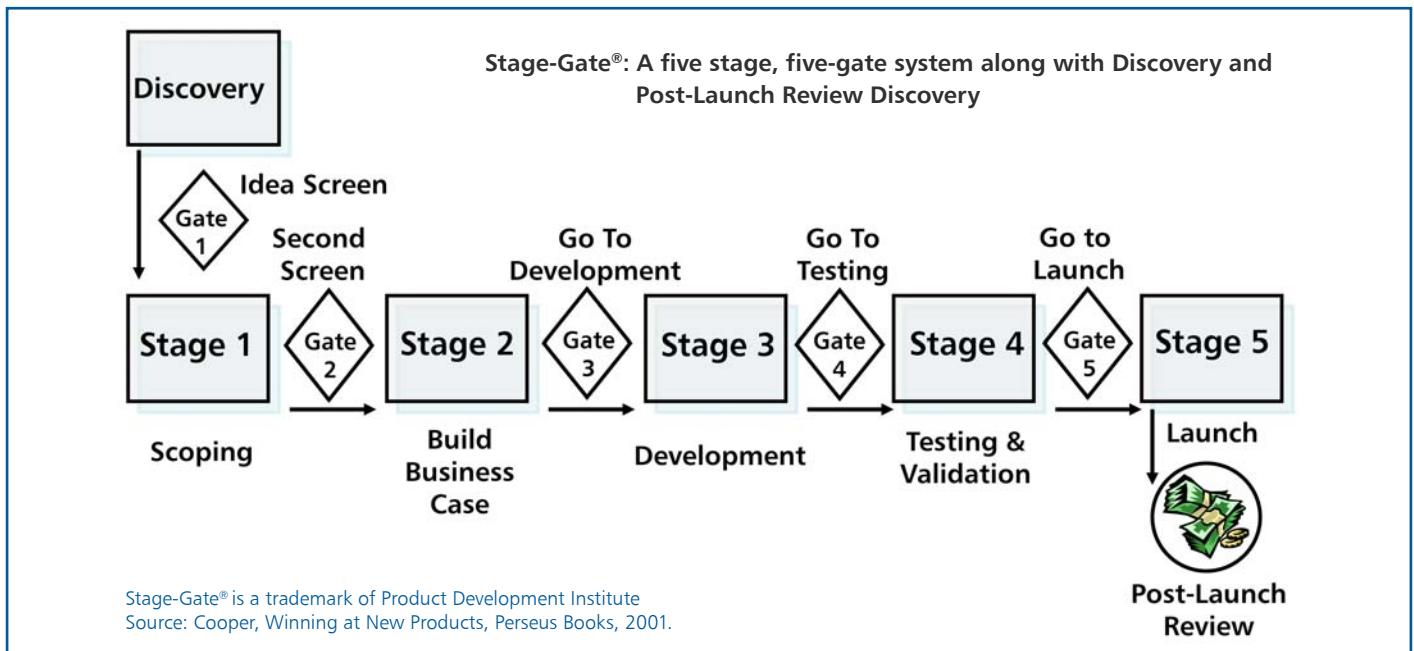
A Stage-Gate® process is a conceptual and operational map for moving new product projects from idea to launch and beyond: A blueprint for managing the product innovation process to improve effectiveness and efficiency. Stage-Gate® is not unlike a "playbook" for a football team. It maps out what needs to be done – as well as how to do it – in order to win the game.

A Little History – The Roots of Stage-Gate®

Today's Stage-Gate® model was originally conceived in the early 1980s, the result of several studies observing what successful product development project teams did. The analogy is that of watching video replays of football games, analyzing the videos, and then trying to understand how winning teams win. We looked carefully, and saw patterns emerge – we called them "critical success factors" or factors that distinguish the winning teams. Next, these patterns of success factors were integrated into a game-plan or unified model designed to drive new products to market. That's how Stage-Gate® was born. A series of large sample success/failure studies then followed and identified yet other factors, practices and behaviors that lead to success; these too were built into Stage-Gate®.

The name Stage-Gate® first appeared in print in 1988. Since then – and after many research studies, in-depth investigations, articles, books and company implementations – Stage-Gate® has evolved considerably, and now has become the most popular method globally for driving new products to market.

An Overview of a Typical Stage-Gate® System for Major New-Product Developments



But What Exactly Is Stage-Gate®?

Stage-Gate®, in simplest format, consists of (see diagram):

- a series of stages – here the project team undertakes the work, obtains the needed information, and does the subsequent data integration and analysis,
- followed by gates – here the Go/Kill decisions are made to continue to invest in the project.

The model is very similar to that of buying a series of options on an investment. Initially, one purchases an option for a small amount of money, then does some due diligence, and finally decides whether or not one wishes to continue to invest.

The innovation process can be visualized as a series of stages, with each stage comprised of a set of recommended best-practice activities needed to progress the project to the next gate or decision point.

The process begins with an ideation stage, called Discovery, and ends with the Post-Launch review, as in the diagram. Note that there are three up-front stages – Discovery plus two homework phases – before serious financial commitments occur.

Each stage is designed to gather information to reduce key project uncertainties and risks. And each stage typically costs more than the preceding one: The process is an incremental commitment one – a series of increasing investments. But with each stage and step-increase in project cost, the unknowns and uncertainties are driven down, so that risk is effectively managed.

Finally, each stage is cross-functional: There is no "R&D stage" or "Marketing stage"; rather, every stage is co-operative. No department "owns" any one stage.

Note: While the model in the diagram is for larger development projects, shorter or "light" versions exist for lower risk projects.

Following each stage is a gate or a Go/Kill decision point, as shown in the overview above. Gates serve as quality-control check points, Go/Kill and prioritization decisions-points, and points where the path forward and resources for the next stage of the project are agreed.

Each gate has a set of defined deliverables – what the project leader and team bring to the decision point.

Each gate also features criteria for Go, against which the project is judged. These include must meet criteria (a checklist) designed to weed out bad projects quickly; and should meet criteria that are scored and are used to prioritize projects.

Finally, the outputs of each gate are a decision (Go/Kill/ Hold/Recycle) and if Go, an approved action plan for the next stage, complete with resources committed.

OMICRON's ATOM Process: A powerful implementation of the Stage-Gate® concept

During the design of OMICRON's ATOM – Accelerate To Market process, the project team placed special emphasis on

- clear responsibilities, procedures and rules for product innovation projects:
→ who does what when
- suitable tools to support project teams and decision makers:
→ guidelines to methods, checklists, evaluation scorecards, etc.
- high transparency and traceability of decisions about new product projects:
→ well defined decision process, criteria, roles and results

After it's initial design and introduction in 1998, OMICRON has been refining and adapting their Stage-Gate® process over the years. This is probably an important reason why this process has stayed vivid over so many years, yielding a steady stream of successful major new product introductions and – in parallel – enabling OMICRON to handle maintenance and improvement projects for existing products smoothly and effectively.

Why is it so successful?

In the light of our experience with many innovative companies in different industries, OMICRON's Stage-Gate® process works exceptionally well because of some key factors that are incorporated:

- **Customer Focus and Market Orientation:** As David Packard, cofounder of Hewlett Packard, phrased it: "Marketing is far too important to be left only to the marketing department". Therefore, at OMICRON players from all functions strive to understand the real customer needs and translate them into convincing and delighting new solutions. Thoroughly prepared and executed launch plans for new products lead to fast and successful global market introductions. In OMICRON's Stage-Gate® process a first version of the launch plan is already created before the actual product development begins! This way, the project team ensures that in a development project, marketing issues get the same attention as technical issues do.
- **True Cross Functional Teamwork:** Every development project is brought forward by a team composed of the responsible product manager, the project leader for the technical part who also takes up the project management role, and several core team members who are responsible for major work packages. OMICRON's project teams regularly meet physically and spend a lot of time together discussing the project, working on key tasks, and envisioning creative solutions. The whole team is committed to the joint results generated in each stage.
- **Co-ordination and Communication:** OMICRON has a meeting schedule: A plan and guidebook defining the purpose, participants, and rules-of-the-game for several meetings which take place regularly (Project Leader Meeting, Product Development Meeting, Group Meetings Hardware – Software) or are scheduled specifically for a development project (Gate Meetings, Core

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Team Meetings). All these meetings are designed to enhance knowledge exchange, mutual learning and co-ordination within and across product innovation projects.

- **Gates "with Teeth":** As they strive for outstanding new products, OMICRON's decision makers thoroughly scrutinize every project. The project teams deliver well documented information about the results of the previous stage and the forward plan for the project. Based on this information, every project is scored along pre-defined Must-Meet and Should-Meet Criteria. If opinions differ, the decision makers listen to each other and to the project team. Every gate meeting results in a clear and well justified decision:
 - "Go forward" if the project is convincing and the necessary resources are available.
 - "Stop" if there are serious doubts about the success of the project.
 - "Wait" if the project is attractive but the necessary resources are not available.

This way, poor projects are weeded out and great projects get the resources which they need – immediately or after resource conflicts or constraints have been resolved.

- **Performance Tracking and the Honest Strive for Excellence:** To control the performance of their product innovation process, OMICRON has metrics which they track continuously. Every project gets a so-called 360 degree feedback at every gate: Project team and gate keepers evaluate the degree of achieving product targets (customer benefits), the project team's efficiency (including reaching time and cost targets), and the quality of execution. Corrective actions are taken for single projects, if needed. Furthermore, and maybe even more importantly: if process quality starts to decline in general, the root causes are analysed, also unpleasant issues are honestly discussed, and solutions for improvement are sought in a joint effort.

It is not only due to the Stage-Gate® method alone that OMICRON has become such a successful innovator in the international market of electrical engineering testing solutions and that the company's products enjoy an excellent reputation worldwide. It is also due to the way in which the innovation process is lived and kept alive by committed and impassioned people!



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