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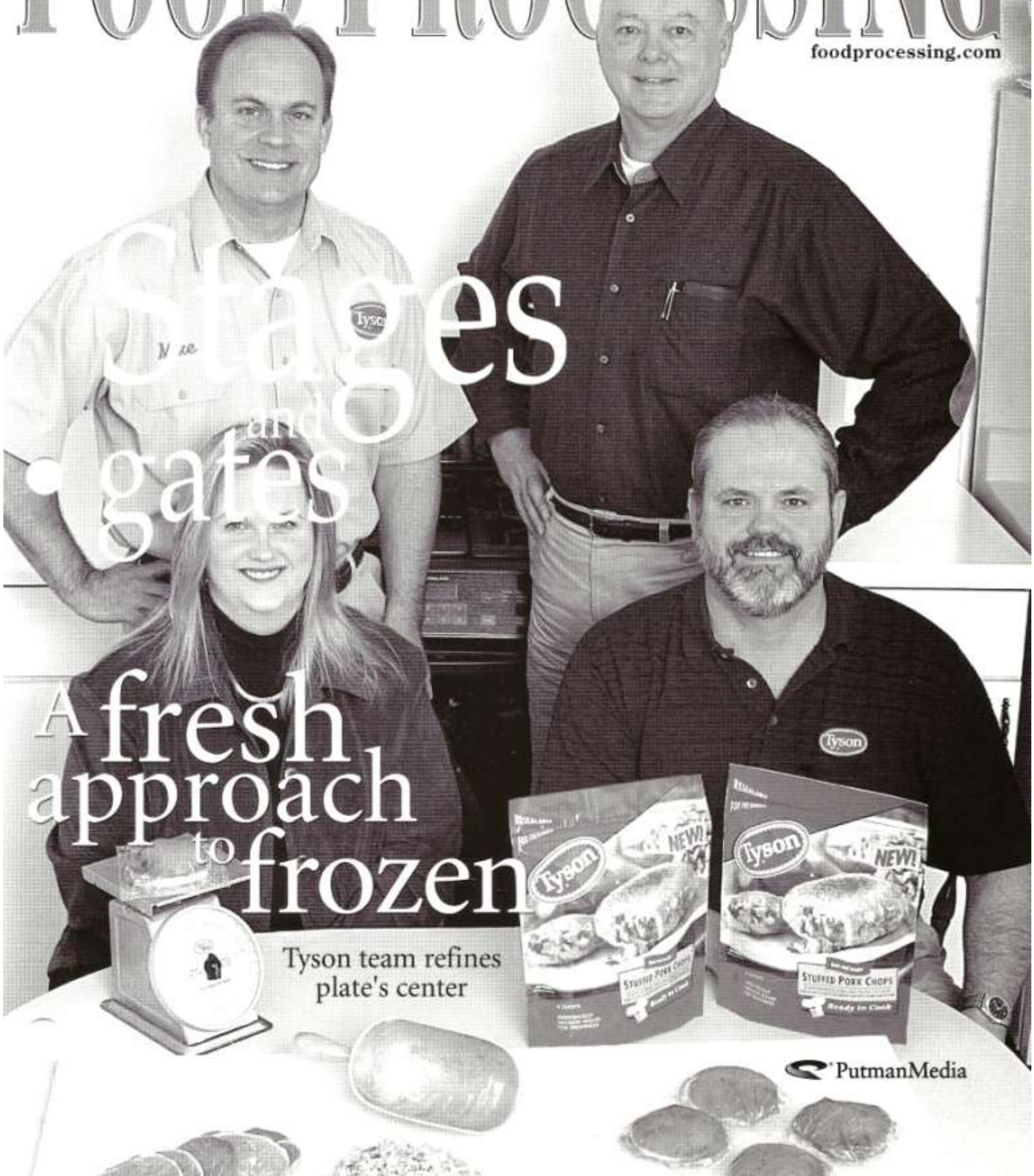
## Stages and gates

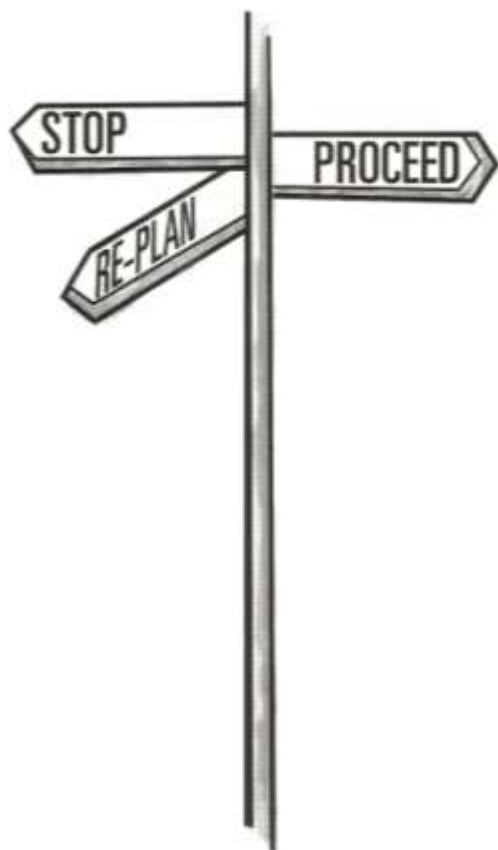
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# Stages and gates

New product development ideally includes checkpoints that allow team members to evaluate whether the project is viable.

*by Scott Gantwerker & Paula Manoski, Contributing Editors*

Once a company has identified the need to improve its new product development process, the next step is to implement those necessary improvements. But how?

Companies successful in new product development follow a step-by-step process that serves as a template, albeit one that may be modified and improved over time. The new product process articulates and endorses both best practices and organizational expectations, and aims for success in quantifiable terms. Success will be observed in four primary ways.

- reaching market faster with fewer unwanted surprises;
- creating multiple options from which to make informed choices about those to pursue;
- killing non-viable projects in earlier stages so that organization resources aren't wasted;
- developing higher-quality ideas that yield improved results in the market place.

## Post-mortem analysis

At the end of an unsuccessful project, a post-mortem review typically identifies issues that, if addressed in earlier project stages, would have led the team down a more successful track. The post-mortem typically identifies

the following types of problems:

- The product or concept moved away from the intended design or target.
- The product cost too much; the proposition wasn't profitable.
- The consumer or customer did not want it in sufficient quantities, resulting in insufficient sales.
- The product couldn't be produced at the cost and/or quality required.
- Regulatory or safety issues were not adequately addressed.

In the post-mortem, it is often recognized that some or all of these issues were known early on in a project, but that the new product team continued regardless. Often, the team did not have the means to facilitate decision-making or permission to recommend killing the project. Other times the organization depended so heavily on the success of a particular project to meet a business commitment that it continued the development and/or launch while praying for a miracle. Inevitably, the project's demise or marketplace failure could not be ignored.

The new product process ideally includes a series of checkpoints that allow team members to evaluate whether the project is, in fact, viable, and whether the



team is on the path leading to its success. The new product stages “define the work,” while the gates “facilitate decision-making.” The early stages require few resources, while the later ones require great numbers of organization resources. The stage and gate system is designed to work as a “funnel” that begins screening ideas/projects in the early stages of the project, when fewer resources are utilized, and continues throughout the life of the project.

At the project’s outset, questions will be answered largely on the basis of assumptions and estimates. The early stages allow the team to move ahead in the absence of complete information. During each stage, information and data are collected and/or generated, resulting in enhanced clarity of the proposition. By proceeding from stage to stage, the team can replace assumptions with known facts.

### Gate decisions

Following each stage, a decision gate exists. At this point, the new product team presents its findings, insights and recommendations on the project to designated new product development process gatekeepers. The Gatekeepers are decision-makers, generally senior leaders authorized to review the recommendations of new product teams at key decision points. Here, based on project importance and value, progress achieved, and the risks and unknowns that remain, an informed decision is made relative to the future of the project. The decision options fall into one of three general categories.

- go forward;
- stop/kill the project;
- re-plan/reset project direction/expectations.

### What are the new product stages?

Many of the books written about new product development typically include a series of stage and gates. This approach is generally accepted by the industry as a means of improving the effectiveness of new product development. New product stage and gate processes can have as many as seven stages or as few as three. The appropriate number of stages for a given organization rests on a number of factors, including the complexity of the business; the degree of specialization among disciplines; the culture; and the decision-making processes, as well as whether the new products are “close in” or very complex. Similarly, the name provided for each

stage is descriptive of the particular stage’s content and stated in terminology that is familiar to organization members.

In general, there are three types of stages — early, middle and late. Early stages involve setting project direction, understanding challenges, identifying options and choosing a best path forward. Middle stages focus on creating and optimizing the physical product, and generating information necessary to design and verify capabilities for ongoing production. Late stages concentrate on preparation for and execution of the product start-up, marketplace launch and resolution of any loose ends.

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### Typical new product development stages

The following details a typical new product process, including a brief definition and description of “the work” within each stage.

#### Stage 1 - Strategic direction

- Company or business unit leadership defines and communicates areas of business focus, particularly with respect to new product needs and areas of opportunity.

#### Stage 2 - Idea generation

- Ideas are generated to address identified business needs and opportunities.

#### Stage 3 - Assessment and refinement

- Concepts are developed based on best ideas and screened based on consumer interest and feasibility measures.

- A thorough evaluation is made of unique project hurdles, requirements for success and best options to overcome/address them.

#### Stage 4 - Proposition development

- The business proposition is developed and information is collected to understand factors affecting project success.

- Physical product, process and package development is conducted to enhance understanding of technical and consumer factors, and their relationship, leading to selection of the desired product/process/package design.

### Stage 5 - Proposition validation-commercialization

- Learning is followed by verification testing to validate understanding and achieve readiness to launch the new product.
- Capabilities and mechanisms are built within marketing, sales, supply chain, finance and other disciplines to execute the product launch.

### Stage 6 - Product launch

- The new capabilities and mechanisms are employed to deliver the product to market and collect feedback on proposition performance.
- Performance is assessed relative to achievement of all proposition success criteria (e.g. sales volumes, manufacturing reliability, product quality, consumer satisfaction, etc.)

### Stage 7- Ongoing stewardship

- Responsibility is transferred from the product development team to ongoing business process owners in marketing, sales, supply chain, etc.
- Learning is captured and analyzed, and specialists are engaged as needed to address any proposition shortfalls, and maintain or improve product performance.

## Decision gates — five key questions

Once “the work” is completed in each stage, it should go through a gate that helps determine if the project is on track and remains viable. To make the process less bureaucratic and more practical, the same five key questions should be asked at each gate, the expectation being that as the project proceeds these questions can be answered with increasing levels of certainty.

**Question 1** - Is the project compatible with our key business strategies?

Does the project address a defined business need and is the use of expected resources to fulfill it consistent with business priorities?

**Question 2** - Will consumers and customers buy it?

Does the product proposition address a consumer and/or customer need? Can we sell it in the amounts and at the price necessary for business success?

**Question 3** - Will we make money with it?

Can we afford the investment in capital, and can we manufacture, market and sell it at a reasonable cost? Will the combination of costs and revenues lead to profitability and acceptable payback of our investment?

**Question 4** - Will we be able to make it?

Do we have or can we effectively develop the technology and supply chain capabilities to manufacture and distribute the product effectively? Does the reward justify the degree of difficulty of the undertaking? Can we achieve desired time schedules?

**Question 5** - Is the proposition safe and legal?

Do we know how to achieve food safety? What labeling and claims can we support? Are we clear of any patent and trademark issues? Is our intellectual property adequately protected?

In the early project stages, the answers to these five key questions are largely based on assumptions and informed judgments. In the later stages, the answers become organizational commitments and need to be based on demonstrated information and proven facts. As the project progresses from stage to stage, all team members should always keep these questions top of mind. They help simplify the process and prevent unnecessary complication from developing during product development. The questions also help team members to maintain a multidisciplinary perspective on achieving project success.

Our next series installment will continue with the stage and gate development process, focusing on the critical, high-leverage early stages. **IP**

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