

2003 Eddies Gold Award Winner

Enzyme applications • Managing product development

FOOD PROCESSING

December 2003

www.foodprocessing.com

2003
Innovation
Awards

*A nod to the year's
most winning products*

In past articles, we've discussed the early product development process stages of (1) strategic direction, (2) idea generation and (3) assessment and refinement — phases that are often skipped or performed poorly by many new product development organizations.

Most organizations planning to bring a product to market focus on the middle and late stages of product development. However, completion of the earlier stages typically results in 1) a clear strategic direction, 2) ideas that have been rigorously generated and screened and 3) an assessment of the project's viability before major work begins. This brings focus and clarity to project objectives and deliverables, and prevents undesirable surprises and

rework during later stages. Failure to execute the early stages creates a weak foundation for the project, generally leading to multiple iterations and significant rework.

As the project advances, development team members should continue evaluating it according to the agreed-upon criteria that define a winning product/proposition in five key categories: (1) strategic fit, (2) consumer/customer interest, (3) financial viability, (4) technical feasibility and (5) safety/legality.

The purpose of a stage and gate process is to filter projects and eliminate those that won't be successful in the marketplace. As any project progresses towards its launch, organizational investment increases as do some potential risks. Confidence

based on data and verified facts needs to grow accordingly. As actual work proceeds, risk management becomes a key focus. Although completing homework in the early stages provides a good sense of the potential issues, the reality and magnitude only become apparent as actual project work proceeds.

Risk management

It's good to assume that issues and risks will continually arise during the project; that's the nature of product development work. Many gatekeepers and teams proceed with the false assumption that the project will be a financial success, which is generally defined as achieving sufficient product sales at a price that consumers are will-

*By Scott Gantwerker
& Paula Manoski,
Contributing Editors*

Don't get caught in the middle

How to successfully negotiate
the intermediate and late stages
of new product development.

ing pay, and with an affordable investment outlay.

Teams also sometimes falsely assume that the project can be executed with the resources and schedule originally allotted. The real work is determining how the pieces fit together to make the project a success. Project scope, timing and resources need to be managed and adjusted to reflect the issues and risks, as well as what product development team members have learned about the project.

Typical issues and risks that need to be managed in the course of the middle to late stages are:

- Plant capacity constraints.
- Cost-of-goods problems.
- Ingredient availability uncertainties.
- Vendor/supplier commitment/timing.
- Specifications that are incompatible with plant capabilities.
- Problems with desired launch timing.
- Required increases in resources or skills.

Risk Management is essential in these stages and needs to be a central tenet of the process. As opposed to forcing the project to succeed at any cost, the team needs to commit to making the proposition work while also honestly addressing the risks of moving forward. Moreover, the project risks need to be communicated, understood, and shared at all levels of the organization. In some cases, it may be appropriate to kill projects in their middle or late stages if the risk/reward balance so indicates.

The middle stage

Middle process stages focus on creating, optimizing and verifying a practicable physical product and

A Tale of Two Companies continues with Chapter IX and X, in which we contrast the development and use of new product development processes at two extreme-opposite food and beverage companies, Schiffer-Branes Foods and Nirvana Food Processing.

Chapter IX: Schiffer-Branes Foods:

Schiffer-Branes Director of Product Development Lillian DeLay has just read the articles on the new product development process in FOOD PROCESSING magazine. She believes the articles identify what S-B needs to do to improve its new product development effectiveness. She is frustrated by what she believes is a dismal opinion of her new product team's work. She really wants things to change. She prepares to meet with the VP of R&D, Dr. Ernest Maladroit to discuss.

At the meeting, Lillian points out the benefits of a defined new product process characterized by specific expectations to maximize financial outcomes; the elimination of non-viable projects; the incorporation of risk management practice, all of which contribute to a confident R&D staff. Maladroit responds that he is surprised Ms. DeLay is unaware that Schiffer-Branes already has a new product process featuring numerous stages.

Maladroit states, "Our first stage is filling out a project authorization, followed by prototype review, in-home testing, plant testing and start-up.

"As for killing projects," he continues, "we are expected to make a success out of every project we take on. We never suggest that a project should be killed! Marketing would make our lives miserable. Let them take the fall!"

DeLay thinks about explaining the difference between key activities/events and process stages, as well as pointing out the importance of financial analysis and the fact that not all projects should be forced to completion. Sensing a potential negative reaction, she instead shifts to the importance of team members making a thorough assessment of issues and approaches early in all projects.

Maladroit is getting a bit angry. He has set a policy and "doesn't want people spending company time surfing on the Internet. That would be a colossal waste of company time and money. How would it look to others in the business? Let them play with the Internet at home!"

Lill DeLay returns to her office to think about the reaction she has just received. R&D has been subjected to major criticism for several years. The staff feels the pressure and turnover has increased every year. Perhaps this negative reaction was not surprising after all? Could there be a company somewhere that does things the right way?

business proposition, with an emphasis on:

Proposition development — Product, process, package and positioning are all developed. Analysis within the total business context leads to the selection of those options that are most likely to achieve project success and proceed toward commercialization.

- Product and package design

options are evaluated with consumers/customers.

- Alternate manufacturing paths are evaluated and costs/benefits of each are quantified.

- Cost, revenue and capital models are developed and updated to assess and quantify financial viability.

- Issues and risks are identified, along with their potential impact.



At Nirvana Food Processing, the FOOD PROCESSING articles on R&D Effectiveness have been circulated among the entire R&D staff and are a hot topic of conversation. To attain excellence in new product development and broaden its staff's business understanding, Nirvana Foods, under the leadership of Maxwell Albright, implemented a stage and gate new product process a number of years ago. Although it was initially regarded as somewhat bureaucratic, the process evolved and improved over time, eventually becoming more applicable to the staff and culture of Nirvana.

Anna Nother, director of product development, has made it her responsibility to seek out, incorporate and share best practices in new product development within R&D, as well as other departments. She is preparing a recommendation to refine Nirvana's process through the development of improved financial models, which are intended for use in the early stages of Nirvana's new product process.

Now the teams could not imagine going back to the way work was executed prior to implementing and refining the new product process. Anna wonders how many of Nirvana's competitors have achieved this level of performance.

Plans are made on how to address them.

Proposition Validation-Commercialization — Capabilities for ongoing production are refined and verified. Remaining assumptions are validated across disciplines, including marketing, sales, supply chain, etc. Capabilities/mechanisms are built to execute the product launch with high levels of confidence.

- Product and package designs are finalized.
- Manufacturing strategy is finalized. The ability to produce the item at an acceptable cost, and at acceptable levels of output and variability, is validated.
- Financials are revisited based upon the most current information.
- Once again, remaining issues and risks are identified, along with their potential impact. As before, plans are put in place to address them.

The late stage

Late stages focus on execution of the product start up, the marketplace

launch and the resolution of any remaining loose ends, with an emphasis on:

The launch itself — Newly built and validated organizational capabilities are employed to deliver the product to the market. Feedback is gathered to assess proposition performance. This includes sales volumes, manufacturing cost and reliability, product quality, consumer satisfaction, etc.

- Production begins and the supply chain achieves cost and quality targets.
- Sales achieves product placement goals.
- Consumer purchase targets are achieved.
- A follow-up plan is developed to remedy any gaps, capture any opportunities and transfer ownership from the product development team to ongoing owners in marketing, sales, supply chain, etc.
- Based on the performance information gathered, plans are made to address any performance gaps and capitalize on any opportu-

nities that have been identified.

Ongoing product stewardship — Stewardship activities ensure that the product proposition is maintained or improved after the product launch and throughout the product's life cycle. Following a successful launch, proposition stewardship responsibility is transferred from the product development team to ongoing business process owners. Mechanisms are put in place to ensure that information (consumer, customer, quality, cost, etc.) continues to be gathered, analyzed and addressed, so that success criteria continue to be met over time. Specialists are engaged as needed to address any proposition shortfalls, and maintain or improve product performance.

Importantly, project and new product process lessons are captured and analyzed to improve future product, process and package development undertakings. **IP**



Scott Gantwerker and Paula Manoski are principals of Quality R&D Partners (QRDP). They hold advanced degrees in food science, engineering and business and possess over 50 years' combined experience as R&D leaders and R&D clients at Quaker Oats and Pepsi-Cola. QRDP works with technical and business leaders in the food & beverage industry to raise the effectiveness of their R&D teams through assessment, strategic planning, new product process improvement, training, and hands-on coaching. They also assist suppliers in understanding the needs and business processes of their customers. They can be contacted at www.QRDP.com.