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Food Processing

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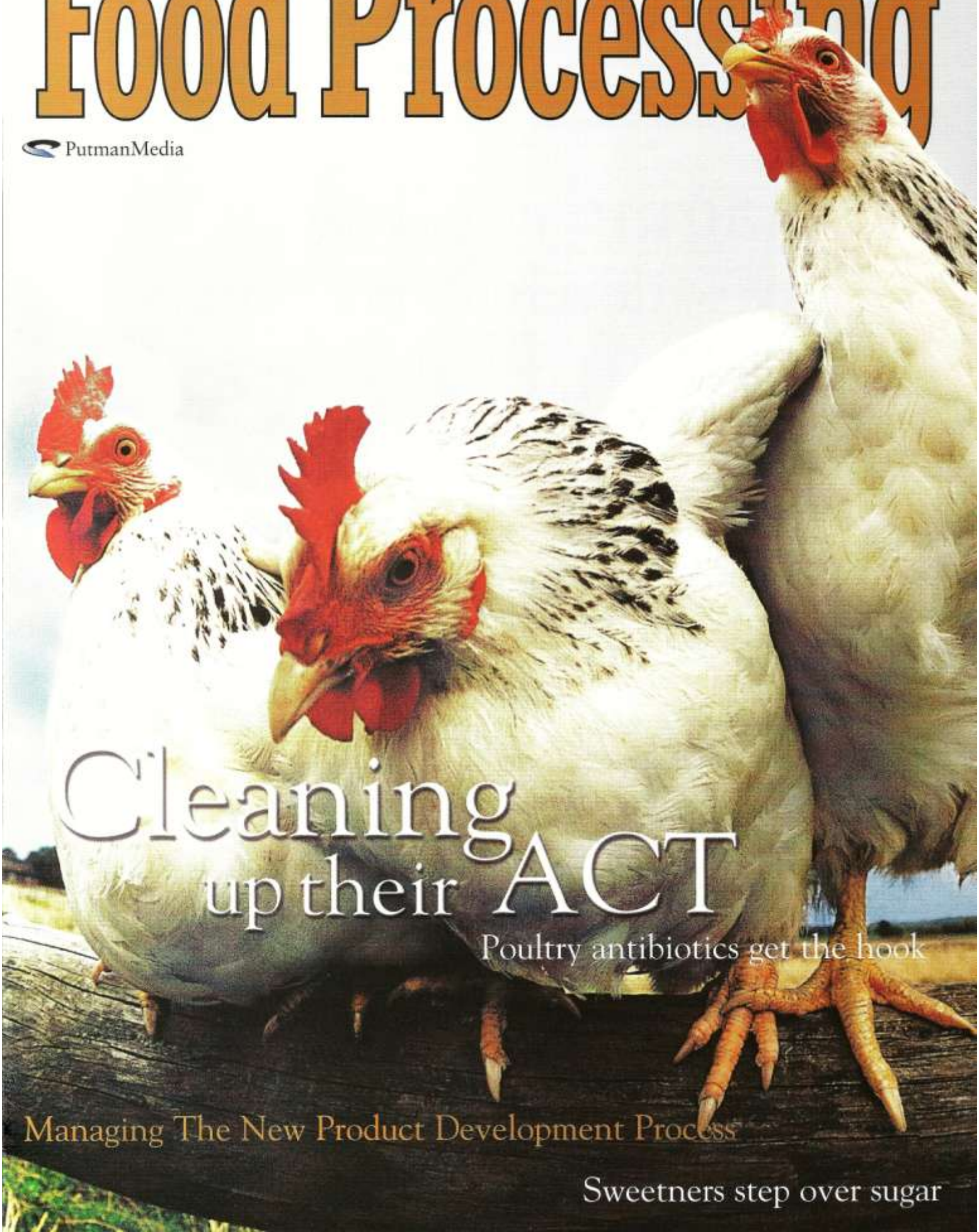

Cleaning up their ACT

Poultry antibiotics get the hook

Managing The New Product Development Process

Sweetners step over sugar

Managing the new product development process

It's all in how you operate it

By Paula Manoski and Scott Gantwerker, Contributing Editors

Editors Note: This is a continuation of our series on R&D effectiveness.

Over the past 10 to 15 years, many consumer products companies have attempted to improve their ability to get new products to market through deployment of a new product development process. New product processes used by companies across the industry, known as "stage-gate" processes, can be found in textbooks and customized to the needs of the business. Yet companies using similar product development processes have dramatically different track records when it comes to innovation and new product development. It's all in how they operate their new product process.

While adoption of a new product process should help to drive new product development, in many organizations it has become a bureaucratic mess. Rather than promoting more effective work, it has become a stream of work unto itself. Hence, many who have attempted to implement a new product process have abandoned it before their efforts have paid off. In other cases, misuse has led to masking organizational problems, avoiding or delaying decisions or deflecting issues. Some continue with the mechanics of their process, without seeing how it is helping to deliver new products to the marketplace.

Successful companies operate their process to actively manage project outcomes. They encourage early issue identification, problem solving and critical thinking. They openly identify issues and problems that are of concern and, with a call to action, develop plans to address and overcome them. Although the objective of "flawless execution" is often bandied about, this does not mean that problems don't arise. When problems arise in a project (and they will), they are addressed calmly and rationally as part of the development process. Tough decisions to move forward or not are made in a timely fashion and at the appropriate phase. R&D and supply chain team members are treated and behave like equal business partners. Project team leaders and team members are results- rather process-oriented and know their insights and input will make a difference. They understand that success is defined by marketplace outcomes and manage the project to ensure success.

The process serves as a template for the development of rational plans and appropriate actions. Project paths using the same underlying process can be different depending on the specific objectives and circumstances of the project. Is product superiority the overriding goal? Speed to market? Is capital cost or utilization most critical? What is the acceptable risk profile in light of project role and business circumstances? The answers determine the actual project work, the required skills of project team members and where the team will spend its time to reach the project objective.

Recognizing and correcting new product development process problems.

An effective new product process will help a company to consistently achieve its goals. Companies may recognize improvements are needed but need help to diagnose and correct problems. The following list of common pitfalls may help you recognize problems in your process and offer ideas to solve them.

1. "Project Managment vs. Project Management" Is your organization skilled in managing uncertainty?

Product development management superficially looks a great deal like engineering project management. They both contain milestones, key dates, accountabilities, etc. to manage projects. In reality they differ greatly. Engineering project management (design, purchase, installation, start-up) deals with a high degree of certainty/predictability, especially around the desired end-state. It focuses on managing time and dollars. New product development project management begins with an open-ended goal and deals with a great many unknowns. It focuses on creating a business proposition from an idea—building definition and addressing risks and hurdles. It creates certainty from a series of unknowns or assumptions.

Likewise, project management tools utilized in engineering and product development may look similar, but the focus and skills differ considerably. Companies skilled in new product development recognize this distinction and assure the appropriate focus and development of requisite skills.

2. "Entrepreneurs or non-trepreneurs?" Do project teams behave as if they were investing their own money?

An entrepreneurial culture is a critical element of a successful new product process. If people were investing their own money would they go forward with this project? Why or why not? Are people losing sleep over significant problems? Are they taking personal responsibility to address issues? Can they raise their concerns without fear? Are team members focused on project-wide goals or minor functional issues?

Effective new product processes encourage and promote global thinking by all team members. A culture that supports entrepreneurial thinking in conjunction with a new product process channels the brainpower of an organization to areas that will truly influence success. It encourages team members to challenge assumptions, offer alternatives and actively solve problems to assure project success. These teams also find it easier to move from projects that will not be successful to projects that will be.

3. "Functional bias?" Are the project issues and risks understood and adequately defined from a total business perspective?

At each company, there is clearly a group that drives the new product process. In consumer packaged goods companies it is marketing, in commodity businesses — manufacturing and ingredient companies — sales. "Prudent" risk has been defined as someone else's risk. In keeping with this, key challenges, issues and risks faced from the lead group's perspective are clearly defined in the project work and take up the largest percentage of time and detail in the project plan. Are the project issues understood and adequately defined from a total business perspective? Those successful in delivering new products have a balanced functional perspective and understand issues from the total business perspective. Example: In consumer packaged goods companies, much time is spent on consumer testing of concepts, protocepts, products etc. R&D time is spent on delivering products for testing. When there is a need to speed up timetables, project leaders often reduce development or start-up time, thereby increasing risk and jeopardizing project success.

Teams that understand issues from a total business perspective look to the entire product development plan when determining how each work element contributes to product development success. In the above situation, the team leader would consider cutting low-value elements of consumer testing, while maintaining high-value elements of development and commercialization. Knowing and recognizing functional bias is key to gaining a balanced cross-functional perspective in the new product process, and to identifying issues and risks to be resolved to make a project successful.

4. "Archimedes on new product development" Does your company value action over planning?

The Greek mathematician and inventor spent a great deal of time describing leverage. If he were a modern new Product Developer he would know that the leverage in a new product process is in the early stages. It is here that the project objectives are set, project viability is established, risks and hurdles are identified and assessed, and plans are made to address risks and overcome hurdles. The ultimate success or failure of a new product is generally determined in these stages. Therefore, there is huge leverage in doing these things thoroughly and well. Investment of time and thought in these early stage activities will improve speed to market. However, many companies value action over thought, as well as planning based on a "results orientation." In these organizations, flawless execution is the exception and surprises are the rule. "Winning" propositions are placed in jeopardy and "losing" propositions are carried on much too long.

High-performing organizations recognize the value of comprehensive planning to project success and maximize the opportunity for it to occur early in the new product process. They temper their inclina-

tion to action with patience, the result being true speed to market.

5. "Skipping rope or tightening the noose" Do you understand the risks of time trade-offs?

Rules are meant to be broken and a new product process should be used in a way that fits the purpose of the project being conducted. As the pressure mounts to get products to market, there is always the desire to compress the time line by skipping or short-cutting development work. Time is traded for risk. Unfortunately the risks are often not clearly identified, articulated or understood.

Every project presents its own challenges when balancing risk and time. Although you will never skip process steps, reducing the time and effort applied to the work within a step may occur after healthy discussion/consultation and assessment of the risk-benefit equation. Failure to evaluate the possible consequences of short-cutting process work can result in catastrophic business surprises, with project team members strung-up by their own rope or beaten with their new product process manuals.

6. "Old habits are hard to break" Is the effectiveness of a new product process being sabotaged by your culture?

The need to improve new product development is necessitated by the need for improved business performance. Over a company's history, "unwritten" and "unspoken" means to get work done and make decisions have typically been cultivated — the "New Product Culture." Changing the "New Product Culture" is difficult. To implement a new method, the old way needs to be abandoned. However, letting go of the "old way" can be very difficult and uncomfortable at all levels in an organization. A new product process overlaid on the old method of doing things creates additional work and increases the likelihood of process failure.

The benefits of a new product process can only be realized when there is a deliberate elimination of the old process and non-value-added work. This necessitates implementation and monitoring in the context of actual project work, with skillful training, coaching and intervention during rollout.

7. "Looks great but not much upstairs" Are project management skills being developed broadly enough?

Time and effort are expended to design and launch a new product process that incorporates sophisticated software and a dedicated project management group. Too often these window dressings mask the lack of project management skills within an organization. The project management group becomes a crutch for project team members, leaving those closest to the projects to execute the plans of others.

To be successful, an organization must focus on developing the underlying project management skills across the entire organization. Project management groups can be useful for building skills across an organization rather than owning the skills. For consistent success, project team members need to be skilled in project management.

8. "What Should I Do?" When a team member is concerned about a potential project problem, do they know where to go? Will they be seen as complaining—not a team player? Does someone step up to the plate to solve the problem? When decisions are called for, are they being made? Who makes the decision? Are decisions timely?

In many organizations, valuable project time and resources are wasted because these areas are not clearly defined. In today's product development environment, with shortened timetables and scarce resources, far too much time and effort can be wasted because these questions cannot be asked or are not answered. Teams and people often flounder in the uncertainty of what they should be doing and what the roles of the team members are. The open discussion and clear identification of roles and responsibilities is critical for a new product process to succeed. Organizations skilled at new product development make the clear communication of individual and team roles and responsibilities a primary, fundamental element of project planning. Project teams need skills and training to define roles and responsibilities and to self-correct when confusion arises and clarity is needed.

9. "Supply chain—missing links." Many organizations focus on product development with little consideration that somebody will need to manufacture and deliver the product someday. This omission applies to procurement, manufacturing and distribution. While many R&D scientists and engineers are quite good at anticipating and addressing the needs of the supply chain, there is no substitute for direct supply chain involvement in the new product development process. Surprisingly, for many reasons, this does not seem to happen in a large number of companies, and supply chain involvement comes only when a product is close to introduction. Proper involvement of the supply chain begins with consultation during the earliest assessment and objective-setting project stages, continues with information exchange during middle development stages and culminates with active collaboration during scale-up and commercialization stages. In enlightened organizations, supply chain expertise contributes to all stages of product development creating familiarity with and shared ownership of the products developed. While contributing to speed to market, this participation helps to assure that critical product attributes are respected and preserved by manufacturing, and that production capabilities match-up with consumer-driven specifications. In less enlightened organizations, you may have to settle for what you get.

10. "Drowning puppies." Perhaps an unfortunate term for the old breeders' practice of drowning runt puppies when the mother could not feed the entire litter. In R&D organizations, resources are often scarce and only the most promising projects should be staffed and funded. Despite resource limitations, many organizations do not practice sound prioritization, and projects can take on lives of their own. "Pet" projects are carried on for years even after it is clear that they will never see the light of day. Scarce resources are stretched thinner and thinner as the project list grows longer every month. Leaders are reluctant to make the necessary decisions to kill projects. The result of this abdication of leadership in portfolio management is that deserving projects are placed at risk due to lack of appropriate staffing or funding.

Successful companies provide leadership to new product development through timely decision-making, active portfolio management and sound prioritization. They find it necessary and preferable to kill-off some projects in order to properly resource a short list of projects rather than starve a large list of projects. They thereby maximize R&D's performance and help to deliver the company's growth and profitability objectives.

11. "The Kitchen Sink." Some companies fail to recognize that the new product development process is just that, the process used to develop and launch new products. They attempt to use it as the mechanism to satisfy other business and R&D management needs, such as prioritization, portfolio management and even strategy development. This overburdens the process and causes confusion, delays and inefficiencies in advancing new products to market.

When operated well, the new product development process interfaces with other business processes to facilitate the development and introduction of new products. It provides outputs to the prioritization/portfolio management process and the strategic planning processes (in the form of schedules, project valuation, assumptions, etc.) and receives inputs from other business processes (in the form of plans, priorities, boundaries and resources). We need the full set of business processes to interface and operate seamlessly with new product development to achieve business success.

A tale of two companies—Chapter V

On to our fictional, extreme opposite food and beverage companies: Schiffer-Branes Foods and Nirvana Food Processing. From the new product development perspective, they operate their business processes quite differently. S-B places primary emphasis on fulfilling a rigid process, rather than identifying and resolving issues as they arise. Nirvana, on the other hand, uses its process flexibly, focusing on clearing the path for the successful launch of a new product as their goal. While both companies see themselves utilizing a new product development process, Schiffer-Branes is skilled at the bureaucracy of process, while Nirvana is skilled at product development and launch.

New Product Development Process at Schiffer-Branes Foods

Dr. Ernest Maladroit, S-B's vice president of R&D, has received an urgent e-mail. He has been directed by S-B's CEO to proceed with all speed to develop and introduce a new savory snack product code named Project Jerky. Dr. M brought in a product developer and process development engineer who got to work immediately cranking out prototypes. Their first objective was to develop 25 different prototypes. There was bound to be one that marketing liked. This project stressed the already overloaded R&D group. After an exhaustive two weeks, they got together with marketing to review the products, which were not quite right. Although no one could put his finger on what was needed, everyone knew for sure that this was not it. The marketing group agreed to pull together the information for the Stage/Gate review before the gatekeepers ("senior management") met the following week to make sure they could get resources. R&D was sent back to the lab.

The project team met together on a regular basis. They kept a key date schedule and kept everybody informed of those dates. It seemed like time for technical development was being sacrificed in order to manufacture samples for multiple rounds of consumer testing. After the meetings, however there was always a lot of talk in the hallways about how ridiculous the schedules were, given the project problems. To an outside observer, it was a lot of complaining with no one seeing to it that issues were addressed.

During the course of Project Jerky, things seemed to go from bad to worse. The prototypes that were developed and evaluated by consumers were not affordable. R&D needed to get to work to lower the cost. The plant yields from the initial test were awful. The Jerky was sticking to the belt. The product was not fitting in the package. The finger pointing started. As the time for Jerky introduction drew near, Dr. M was informed of the many issues needing to be resolved. A long, costly, contentious start-up lay ahead for the team. What would Dr. Maladroit do? What will he tell his CEO?

New Product Development Process at Nirvana Food Processing

The new product development team at Nirvana identified a high potential new natural beverage product—Project H2Organics. The new product team was staffed with experienced people with backgrounds in R&D, supply chain, sales and finance. The idea was brought to the first gate of the new

product process with great enthusiasm and resources, including a project leader to guide members from various functions through the stages of new product development.

The team met to agree to project success criteria, discuss project hurdles, unknowns and risks, and put together a project plan that addressed these issues. They also identified a plan to communicate among themselves and with their bosses. The plan was far more than a timetable. It reflected the key areas that needed to be resolved in the course of the project, and who was going to assure that each, in fact, was resolved so that the product would be a success in the marketplace. Was the sales volume there at a higher retail price? Did regulatory issues around "natural" affect profitability? Flavor? Could the product be manufactured on existing equipment or was new capital needed? Could the project support it?

Although the team did not have the answers to these questions, they had a plan to get them.

As the team reached subsequent gates in the new product process, unknowns were resolved and the project's viability was clearer. H2Organics still looked like a winner.

As with any project, problems surfaced throughout development. These problems were brought to the team with ideas to resolve them. The philosophy was: "The sooner we understand that an issue exists, the better we can respond." H2Organics' team leader facilitated the incorporation of these issues into the project plans, assured appropriate use of team resources where needed most, and monitored the progress. The team knew they could rely on the leader to listen to their concerns and help resolve them. But team members also knew it was up them to make things happen.

After the meetings, there was always a lot of talk about how ridiculous the schedules were.

Startup had some issues, but these were systematically identified and resolved. H2Organics is in the marketplace and doing quite well. The product is running at an existing plant at the quality, rate, reliability and cost expected. Sales and profits have favorably impacted Nirvana's bottom line. The team leader and team members are now using their learnings from H2Organics for the benefit of other projects.

"Pet" projects are carried on for years, even after it's clear they will never see the light of day.

In Conclusion

New product development is best conducted employing a consistent approach through a process that is appropriate to your business and operated flexibly. Project management skills that actively manage project outcomes are necessary to realize the maximum benefits of a new product development process through quality planning, coordination, decision-making and true speed to market.

Treating the new product development process as an inflexible bureaucratic overlay to the current way of doing things dooms the process to failure. The R&D group that employs disciplined project management skills in the flexible operation of a new product development process, maximizes its contribution to business success. It's not the process—its how they operate it! **FP**

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