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Recent Research

# Taking an Innovative Step Forward

***Bottom Line**: Conventional wisdom suggests that delays during the new product development cycle can hinder a project, or even kill it entirely. It's time to rethink this narrow outlook.*

Does a bump in the road have to be a setback for product innovation, or can the occasional hiccup actually help companies bring new products to market? In 1971, pioneering scholar James Utterback described the innovation process as essentially linear, progressing from concept generation to problem solving and development to the eventual sale of the product. Since then, the conventional wisdom with respect to new product development (NPD) has held that companies must master a sequential course of predefined stages. The phrase "from idea to launch" neatly encapsulates this straightforward view.

But a new study by researchers at the University of São Paulo has found that the one-size-fits-all approach fails to account for the crucial roles increasingly played by clients and customers in shaping firms' innovative efforts. And it turns out, in fact, that the occasional setback can be a silver lining. Indeed, failing to acknowledge the stop-and-start nature of innovation ignores the possibility that managers can learn valuable lessons during unexpected slowdowns.

The authors analyzed 132 successful innovations undertaken by 72 companies, ranging from local startups to multinational firms such as Ford and Google. The wide variety of firms provided the authors with a cross-section of contingencies, project types, and situations. Over a four-year period, they extensively interviewed executives involved in the projects, including managers responsible for R&D, engineering, new business development, and marketing, as well as CEOs, owners, and lower-level staff members. They also analyzed data on the firms' product offerings, market position, and governance structure, and the type of competition they faced.

As expected, the traditional idea-to-launch model remains the most prevalent — especially at large companies that mass-produce items to sell on a wide scale. It was used in 53 percent of the projects. These firms tend to invest heavily in R&D, which makes incremental product improvements easier. But the rigid structure of their innovation process and their focus on established markets tends to stand in the way of radical thinking.

The rigid structure of a linear innovation process tends to stand in the way of radical thinking.

When it came to the other 47 percent of projects studied, however, seven additional distinct processes emerged to explain how innovation initiatives begin and end — and how roadblocks or uncertainties can affect the outcome. For example, about

6 percent of ventures, as varied as auto parts manufacture and software development, began as a result of consultation between a company and its client. In contrast with the traditional model, the product is sold before it's ever developed, and even though the client company has an idea of what it wants, the company still has room to innovate.

An additional 5 percent of cases were driven by clients. But in these instances, the clients specifically laid out the parameters of the finished product ahead of time — building websites, designing vaccines, manufacturing a new density of plastic; the companies in the study simply fulfilled a specific contract and provided no creative input during the innovation process.

The third type of alternative R&D process, seen in about 13 percent of ventures, involved bidding for a project initiated by either a public agency or a private company, such as when a systems integration firm in the automotive, aircraft, or consumer appliance sector issued a call for a new prototype. There are trade-offs with this approach: Although there's a proven market for the end product, the winning of a contract requires companies to analyze the venture's feasibility and sink significant resources into preparing and backing up its bid. "Better preparation for the call results in a better chance of winning it but also in higher expenditures before the contract," the authors note.

The next three processes all involved a stumbling block of some kind that the firm turned to its advantage. In the first of these, applicable to almost 7 percent of projects in the study, companies had to wait for the market to catch up to them. Sales to early adopters signaled a product's potential, but the market was not yet big enough to rationalize further investment in facilities and resources. The downtime was useful, however, allowing companies to cultivate future markets, deepen their knowledge of consumer demand, and attempt to increase sales when larger-scale production began. This was especially common in B2B supply chains, when a company would develop a simple platform but make continual enhancements to appeal to different buyers.

Similarly, a handful of companies in the sample had to wait because their expertise and infrastructure couldn't scale up in time for extensive distribution. During the distribution stoppage, the firms improved their technological capabilities and ramped up their sales activities to better prepare the market for their new product. An extremely small subset of projects experienced a blend of market and technological hang-ups.

Finally, an emphasis on parallel activities — involving a simultaneous prototype launch and the further refinement of the finished product — characterized about 11 percent of the projects. In these cases, firms tried to reduce the time it took to get a product to market and get a feel for potential hitches by introducing a basic version while continuing to perfect the definitive model. Companies seeking to burnish their image and reputation often adopt this approach, as it can be used to gauge demand and elicit suggestions for how to improve the final version.

Overall, the authors observed that radical innovations tended to result from work done "clandestinely" outside the formal development process, especially at larger firms. To increase their odds of getting approval, employees often refine their ideas as much as possible before presenting them for formal consideration.

By determining which process is most appropriate, managers can better allocate resources and design their projects accordingly. The most important lesson, the authors note, is to view stoppages as opportunities instead of failures, and as a source of flexibility that can allow executives to delay investments until the time is right. The authors even suggest that managers may want to build the occasional pause into the NPD process from the outset, provided they spend this time laying the groundwork for market penetration or technological evolution.

**Source:** "Innovation Processes: Which Process for Which Project?" by Mario Sergio Salerno, Leonardo Augusto de Vasconcelos Gomes, Débora Oliveira da Silva, Raoni Barros Bagno, and Simone Lara Teixeira Uchôa Freitas (all of the University of São Paulo), *Technovation*, Jan. 2015, vol. 35

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