Product Innovation Best Practices Series

Creating Bold Innovation
In Mature Markets

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FIVE VECTORS FOR SUCCESS

Creating Bold Innovation in Mature Markets

By ROBERT G. COOPER

In recent months, the discourse surrounding how best to deal with the tough economic conditions has shifted from austerity measures to talk of growth. And to grow, the answer seems to be "bigger, bolder, better innovation" – in other words, coming up with some breakthrough, game-changing products, services or solutions. Apple is often held up as the supreme example, with the general feeling being that innovation on the Apple scale is probably out of reach for most mere mortals.

Yet a careful examination of Apple's success reveals no real magic. Take the iPod: Apple did not even invent the mp3 player. Nor was this an uncontested, or "Blue Ocean," market space. In fact, there were 43 competitors selling mp3 players when Apple launched its iPod.

What Apple did was simply identify an attractive arena where it could leverage its strengths. Then it developed a solution that addressed users' problems: an easy-to-use, easy-to-download mp3 system, which also happens to be stylish.

There are numerous examples of this kind of innovation, which may not get the headlines that Apple does, but is certainly no less "bold" if done right.

Grundfos in Denmark is a good case in point. Being a manufacturer of industrial pumps may not have the same cachet as an iPod, but Grundfos has found ways to be nonetheless innovative in a mature, competitive market.

For example, by creating a closed-loop water treatment system, much like on board a space station, Grundfos enables factories located far from city water lines to treat their own wastewater multiple times in order to generate fresh water for their industrial processes. Today Grundfos is the world's largest manufacturer of circulator pumps, accounting for approximately 50 percent of the global market for these pumps.

Most companies would love to have that kind of market share. But in setting themselves ambitious growth goals, they make several critical mistakes, based on a misunderstanding of how to go about achieving innovation.

Over the years, colleagues and I have conducted numerous benchmarking studies that have probed why some businesses are so much more successful at innovation than others. Based on the results of these and other studies, we have identified five vectors that must be in place to undertake true innovation.

Not grasping these five vectors jeopardizes your company's chances of growing, prospering and being successful at new product development, especially if, like many established businesses in industrialized economies, you face mature, commoditized markets and industries.

⬛ EXECUTIVE SUMMARY

For many firms operating in mature markets, there are only so many sources of growth open to them, which is why launching unique, superior products with a compelling value proposition is so vital. Yet company surveys show that bold innovation is down, while improvements and modifications to existing products are up. This only serves to maintain existing market share, rather than grow it.

To succeed in bigger, bolder innovation, five vectors need to be in place: (I) having an innovation strategy that focuses your development efforts on opportunity-rich strategic arenas, much like Corning and Apple had; (II) fostering the right climate and culture for innovation, driven by senior executives, as found at Grundfos and 3M; (III) setting up a proactive idea generation, capture and handling system, as at Swarovski; (IV) having a next-generation, idea-to-launch process designed to handle large, complex and bold development initiatives, as at HP; and finally, (V) using the right project selection methods, as at BASF and Procter & Gamble. Bold innovation is not easy, but it's not out of reach either. The examples and illustrations provided in this article model the way.

When the Going Gets Tough

Innovation in embryonic or early-stage markets is a different affair. When customer needs or technological solutions are not yet evident or well-defined, companies can experiment until they get it right. Once done, there are usually huge payoffs to these early entrants.

After the embryonic stage but before the mature stage, many new products can be introduced. The fact that these markets are expanding is a bonus for the product developer, although this growth does attract competitors.

By the time the market is mature, many of the evident customer needs have been satisfied reasonably well; the technological solutions are well known; competitors' products begin to resemble one another; and product commoditization occurs.

As such, hunting for unsatisfied needs, new technological solutions, product breakthroughs and differentiated products becomes that much more difficult.

This is the situation facing many firms today operating in the consumer sector, including food and textiles, in certain mechanical and electrical equipment industries, and in chemical industries, especially in Western Europe and the United States.

For them, there are only so many sources of growth left. Growing your market and market share is proving rather difficult and expensive. Acquisitions often don't work. And entering new markets like China and India ushers in a whole new set of challenges.

A Focus on Renovation Not Innovation

Research shows that one of the keys to profitability in new product development is launching unique, superior products with a compelling value proposition. Indeed, shareholders demand a steady stream of major, profitable new products.

Yet this presents managers with a serious dilemma, as current economic conditions are pressuring them to steer their companies toward smaller, less risky and less ambitious initiatives. With shareholder demands for short-term profits on the one hand, and mature markets, tough competition and commoditization on the other, it's not surprising that managers increasingly tend to go for "low-hanging fruit."

Creating Bold Innovation in Mature Markets

> Line extensions or modifications will maintain market share, rather than grow it. Differentiated products may be harder to discover and create in the mature market context, but it's by no means impossible.

A comparison of companies' development portfolios in the last decade versus the decade earlier reveals that new-to-the-world products are down by almost half, while improvements and modifications to existing products have nearly doubled (see **Exhibit 1**).

Another U.S. study by the Product Development and Management Association (PDMA) shows that cycle times in product development have gone down to 24 months, from nearly 42, representing a 42 percent decrease in time-to-market over a 10-year period. However, this does not mean that companies have become more efficient – not when one considers that R&D-to-sales spending has remained constant, while profits from new products are down to 28 percent of business profits, from 33 percent, during the same 10-year period, representing a drop of 15 percent. In short, time-to-market may be down, but so is productivity, measured by the ratio of new product profits to R&D. This is further evidence of the shift toward smaller, lower risk, lower value product developments that we are now witnessing.

Yet merely focusing on line extensions or modifications will only serve to maintain existing market share, rather than grow it.

Differentiated products may be harder to discover and create in the mature market context, but it's by no means impossible.

What's needed is bold innovation, typically in the form of offering a total solution package for the customer. This is what Grundfos has done. It's also what Green Mountain Coffee Roasters did.

What began as a humble café in rural Vermont in 1981 was soon roasting its own coffee and selling to local restaurants. Then managers spotted a consumer trend: an inexpensive, convenient, one-cup coffeemaker for home use. Green Mountain acquired the Keurig K-Cup single-cup brewer, which now dominates the U.S. market against rivals like Nestlé's Nespresso system. It also entered into partnership agreements with over 25 prominent brands to manufacture and distribute K-Cup portion packs for over 200 varieties of coffee, tea, hot cocoa and iced beverages that are compatible with its system. It is now developing a single-serve espresso machine with Lavazza.

In a market as commoditized as coffee, Green Mountain has managed to innovate with a relatively inexpensive machine that now accounts for three-quarters of its net sales.

The Five Innovation Vectors

If your business faces mature, commoditized markets, yet wishes to grow, prosper and be successful at new product development, then your development portfolio must contain some bold, breakthrough innovation projects. Five vectors must be in place to undertake true innovation to yield bolder and imaginative projects, according to our benchmarking studies of hundreds of firms (see **Exhibit 2**).

VECTOR I: DEVELOPING A STRATEGIC FOCUS. To succeed in bigger, bolder innovation, you first need a strategy that focuses your business's R&D efforts on the most attractive arenas. These will be your future engines of growth.

▪ ABOUT THE AUTHOR

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Development Portfolios, Then and Now

EXHIBIT 1

IN THE DEVELOPMENT PORTFOLIOS OF COMPANIES, THE PERCENTAGE OF NEW-TO-THE-WORLD PRODUCTS IS DOWN BY ALMOST HALF, WHILE IMPROVEMENTS AND MODIFICATIONS TO EXISTING PRODUCTS HAVE NEARLY DOUBLED.

TYPE	1990s	2000s	% CHANGE
New-to-the-world, new-to-market innovations	20.4%	11.5%	-43.7% ⬇
New product lines	38.8%	27.1%	-30.1% ⬇
Additions to existing product line	20.4%	24.7%	+20.8% ⬆
Improvements & modifications to existing products	20.4%	36.7%	+80.1% ⬆

Corning in the United States did this after it saw its sales plummet in the wake of the dot-com crash of 2000, which decimated demand for its fiber optic products. Corning's senior managers gave the necessary leadership and direction to identify, assess and exploit new strategic arenas, one of which was a glass manufacturing process originally developed in the '60s for automotive windshields, but could be leveraged for LCD displays – for cell phones initially, then flat-screen TVs, and now smartphones and tablets. Sales of its Gorilla Glass product for smartphones and tablets tripled in 2011. How does one develop such a strategy?

- It starts by setting goals and objectives for your business's innovation effort, and determining how these tie into broader business goals. Typical goals include "percentage of annual sales derived from new products" or "new product sales as a percentage of business growth."
- Next, delineate your strategic arenas: On which products, markets, industry sectors, applications, product types and technologies will your business focus its development efforts? You need to specify where you'll attack, or perhaps more importantly, where you won't. Identifying and deciding your opportunity-rich battlefields, like Corning did, may be your greatest challenge, but make

no mistake, the battlefields must be defined. This focus is the key to an effective innovation strategy.

- Once you have defined where your business will focus its efforts, you need to map your plan of attack: How do you intend to win there?
- Finally, allocate resources according to the major initiatives that you anticipate over a multiyear period.

Sadly, most firms lack a clearly defined, robust and well-communicated innovation strategy. There is either no focus or they focus on the wrong arenas – on mature markets, old technologies or tired product categories that do not represent the growth engines of tomorrow. Deciding on your arenas defines the fields in which you will search for big concepts, imaginative solutions and breakthrough ideas.

VECTOR II: FOSTERING A FERTILE CLIMATE & CULTURE. Being able to innovate consistently is dependent on the organizational climate and culture in which that innovation occurs.

Grundfos understands this. As soon as you enter its parking lot, the company motto is everywhere, even on company vehicles: Be-Think-Innovate. Grundfos openly and strongly promotes innovation at every opportunity: in its annual report, which devotes more pages to product innovation than to finances; in its showcase of new products that occupies its front lobby; in the poster campaign seen throughout company premises; and in the open office concept where teams of employees associate freely.

Emerson Electric does similar things in its St. Louis headquarters, featuring a Wall of Fame with pictures and plaques honoring innovation leaders and teams in the company – highly visible for all to see.

Walk into Hilti's Liechtenstein headquarters and you are overwhelmed by a massive display of new products, making it clear that this is a company obsessed with innovation.

3M lets employees dedicate 15 percent of their week to working on the project of their dreams. These "projects on the side" can be taken to the point where there is something to show stakeholders – customers and management – so that when the project enters 3M's normal Stage-Gate process, the concept has been proven, and management acceptance is usually

> Generating ideas is half the battle. The other half is moving from the idea stage through development and into the marketplace. This requires processes that are agile, adaptive, faster and entrepreneurial.

forthcoming. Insiders report that most of 3M's breakthroughs over recent decades have come via this route.

Fostering environments like these requires leaders who drive and support the innovation effort in word and deed. They have an appetite to invest in innovative, riskier projects, and they work hard at creating a positive atmosphere, supporting innovation at every opportunity, welcoming ideas from all employees, and recognizing and rewarding successful innovators and development teams.

According to our research, having these kinds of senior managers is the No. 1 success factor that distinguishes those companies that tend to be much better at innovation.

VECTOR III: GENERATING, CAPTURING & HANDLING IDEAS. To achieve bolder concepts and more integrated product and service solutions, you need to come up with big ideas. Looking to your traditional sources for inspiration will only ever yield the same old tired concepts.

The famous crystal company, Swarovski, in Austria, has added an "idea factory" to the front end of its development process. Ideas are sought from many sources globally – from employees, customers, the trade, as well as via research into fashion trends and new technologies.

Since the best ideas are often born from rather humble beginnings, creative ideas must be given a chance to grow legs before they are subjected to a "go" or "kill" business decision. Recognizing this, Swarovski uses a light touch when screening ideas, which enter the company's i-Lab, where open-minded people try to build on them.

The ideas are circulated among multiple evaluators for their input. The i-Lab group visualizes the idea and presents it to the first gate of the development process, at which point a decision is made whether to continue.

At last count, this process had generated 1,300 robust ideas in 14 quarters of operations, which is one reason why 60 percent of what you see in a Swarovski shop each year is new.

The "idea factory" is just one of more than 25 ways that we have identified through our benchmarking studies to create new product ideas. **Exhibit 3** summarizes some of these "ideation" approaches and categorizes them according to their effectiveness and popularity. Note the favored position of voice-of-customer methods in the upper quadrants.

VECTOR IV: DESIGNING A NEXT-GENERATION, IDEA-TO-LAUNCH PROCESS. Generating great ideas is half the battle. The other half is moving from the idea stage through development and into the marketplace relatively quickly. Just because you are seeking to be imaginative and bold is no reason to throw discipline out the window. True innovation is entrepreneurship with discipline and due diligence, not shooting from the hip.

This requires an idea-to-launch process or a Stage-Gate system that is designed specifically to handle these innovative product and service concepts. Without such a process, your big ideas are like unpicked grapes that will simply wither and die if left on the vine.

To handle these bolder, riskier innovation projects, companies have started to modify their traditional stage-and-gate processes to make them much more agile, adaptive, faster and entrepreneurial. For example:

Spiral Development. To deal with uncertain market conditions and evolving technical solutions, smart companies have built a series of iterations into their development process, enabling them to build, test, gather feedback and make revisions in the product design.

These iterations or spirals begin early, before development, with a "virtue prototype" – a visual simulation that enables the project team to fine-tune the innovation and optimize its performance. This is shown to customers for their immediate feedback.

Deciding the Right Investments, Picking the Winners

Designing a Next-Generation, Idea-to-Launch Process

Generating, Capturing & Handling Ideas

Fostering a Fertile Climate & Culture

Developing a Strategic Focus

The Five Innovation Vectors

EXHIBIT 2

THESE ELEMENTS MUST BE IN PLACE TO YIELD MAXIMUM SALES, PROFITS AND INNOVATION PRODUCTIVITY IN MATURE MARKETS.

Once in the development stage, these spirals continue, moving from "protocept" to "rapid prototype" to "working model." The goal is to confirm – quickly and cheaply – the proposed design and market acceptance of the innovation.

Spiral development is based on the premise that customers don't know what they want until they see it, so it's best to get something in front of the customer, early and often.

Contextualizing Your Approach. For years, Hewlett-Packard relied on a standardized, linear phase-review process for traditional product development. But starting in 2001, HP began to take a different approach, as detailed in the recent article, "Do You Need a New Product-Development Strategy?" by Harvard Prof. Alan MacCormack et al. HP recognized that its traditional phase-review process, while excellent for mature markets requiring product improvements and extensions, was not so well suited for emerging, fast-moving markets.

To meet the needs of these different types of markets, HP now defines three development processes: an emergent model for start-up developments, such as cloud computing; an agile model for growth sectors, such as blade servers; and the traditional version focused on lower costs or new features for mature markets, such as desktop PCs.

Adopting a different development process to suit different contexts is an important lesson for all managers. Your idea-to-launch process must be agile enough to explore and respond quickly to fast-changing markets, customer needs and technical choices. Moreover, the process needs to permit a fairly fluid product definition at the outset, allowing the product's design to evolve using the spiral iterations. This permits experimentation and the rapid exchange of information with

potential customers, so that new value propositions can be elicited.

Room for Maneuver. Many businesses are involved in new technology development and fundamental science projects. Such projects are designed to create new capabilities and platforms, which may serve as the springboard for a whole new family of products. Think of 3M experimenting with low-tack adhesives, which eventually spawned Post-It notes. These development projects have the potential to be huge, both in terms of costs as well as payoffs. Treating them like any other traditional product development does much damage, and may even kill the most venturesome endeavors.

In the case of 3M, besides its standard NPI "new product" process, it also relies on an NTI "new technology" development process in which the deliverable is not a new product, but rather a new technology or technical capability. The main difference is that the "go" or "kill" criteria tend to be much more strategic and less financial; long periods of experimentation and invention are allowed; and the end deliverables are quite different from those of the typical "new product" undertaking.

Removing Bureaucracy. Many firms' development processes get bogged down by too much bureaucracy – lengthy reports, onerous documentation and excessive numbers of reviews – before any decisions can be taken. This adds no value.

Smart companies borrow a central tenet of lean manufacturing: If it doesn't add value, get rid of it. To this end, Johnson & Johnson's Ethicon division has created lean gates to accelerate project development by reducing the heavy paperwork for a business case to a single-page template.

VECTOR V: DECIDING THE RIGHT INVESTMENTS, PICKING THE WINNERS. While companies may be committed to all the previous steps, they are often unable to commit the resources it takes

to get the job done. This is because existing resources are frequently consumed by too many small projects, so there is simply nothing left over for anything larger or more ambitious. This requires effective portfolio management.

When the German chemical company BASF found it had too many little projects and not enough high-value ones, it separated basic scientific research projects, as well as life-cycle management projects related to improvements, modifications and extensions, from those projects and products that might be considered to be truly new and innovative. Managers were then in a much better position to make strategic decisions in their allocation of resources, so that the right balance of projects could be obtained, including a higher proportion of innovative developments.

Your company, too, needs to establish "strategic buckets" of projects, distinguishing those that represent mere renovations, cost reductions and product updates, from those that portend true innovation.

Then, your leadership team needs to make conscious choices about what proportion of R&D funding will go toward each category, with projects ranked or ordered within each bucket.

When used over time, this process ensures

that vital resources are reserved for more innovative projects. Your development portfolio will more closely mirror the strategic priorities of your business. Higher risk, more innovative projects also earn a certain level of protection, as they are not mixed up with predictable, smaller ones.

Besides allocating resources more wisely, knowing when to make the crucial "go" or "kill" decision presents a further challenge. Most businesses rely too heavily on financials, which may be fine for smaller, less innovative projects, but are often an imperfect basis for making decisions about innovative projects with so many unknowns. Although it may be tempting to retreat from innovative projects, owing to their less quantifiable nature, managers must resist the slide toward predictable renovation projects, where the prospects for real growth are slim.

A better basis for decision making is the use of scorecards. BASF uses these, as do Procter & Gamble and ITT. The senior management gatekeepers meet together to rate and rank each project according to their winning profiles, instead of just financial factors. Research suggests that profiling via a scorecard is a much better predictor of success for innovation development projects than financial projections. Some of the typical factors to be scored include:

- Does the project fit strategically, and is it strategically important to do?
- Is there competitive advantage, e.g., a unique,

Common "Ideation" Approaches

VOICE-OF-CUSTOMER METHODS APPEAR TO BE MORE EFFECTIVE AT GENERATING BREAKTHROUGH IDEAS.
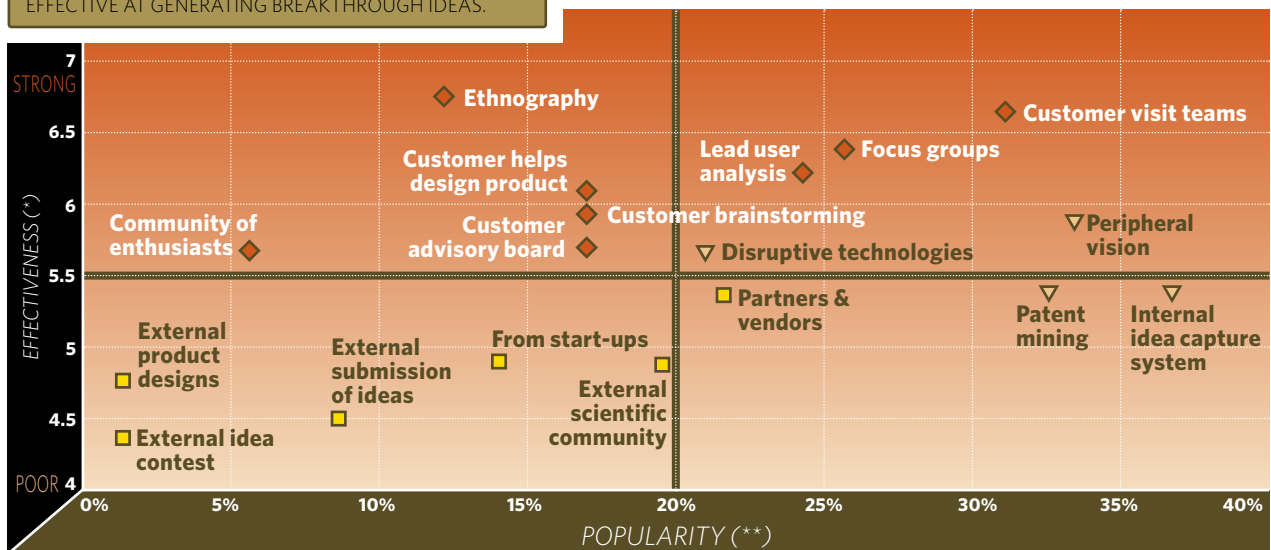
(*) On a scale of 1-10 (**) % of businesses using them

◆ VOICE-OF-CUSTOMER   ▢ OPEN INNOVATION   ▽ OTHER METHODS

> Developing an innovation strategy that points the business in new directions is no easy task. But it's the job of the leadership team to initiate and sponsor the development of such a strategy.

superior product with a compelling value proposition for the customer?

- How attractive is the market in terms of size, growth, margins and the competitive situation?
- Can your core competencies in marketing, technology and manufacturing be leveraged?
- Is it technically feasible? What is the size of the technical gap and the level of technical complexity and uncertainty?
- What's the potential for reward? Is it worth the risk?

The Executive Challenge

Bigger, bolder innovation is the only sustainable route to long-term growth and prosperity for firms facing mature markets. Achieving such innovation is a major challenge for senior executives. However, merely mouthing the words "bolder innovation" is not enough. The executive team must truly lead – and maybe the time is ripe for *you* to do so.

Developing an innovation strategy that points the business in new directions – away from traditional, tired areas and toward new search fields that promise greater growth opportunities – is no easy task. But it's the job of the leadership team to initiate and sponsor the development of such a strategy.

Similarly, making the right investment decisions is also the job of the leadership team. After all, they are the gatekeepers responsible for making the right "go" or "kill" decisions, as well as being those responsible for overseeing and effectively managing the R&D investment portfolio.

Establishing the right climate and culture also underpins successful innovation. That, too, is the responsibility of the executive team. Their words and actions are essential to establish a climate that fosters innovation in the business.

Even though the idea-to-launch process and the task of generating breakthrough ideas are often thought to be tactical facets of product innovators, how well the ideation and the idea-to-launch systems work is largely dependent on the support and sponsorship of the senior management team. New ways of generating ideas must be sought, and new development models will be required to handle these bolder, riskier initiatives.

Certainly, there are many challenges and much hard work for the leadership team if true innovation is to be realized. The five vectors provide a guide. □

■ TO KNOW MORE

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