

Product Innovation and Technology Strategy

Robert G. Cooper

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Three elements must be in place and working harmoniously in order to improve new product development.

Robert G. Cooper

We live in turbulent times. Technology advances at an ever-increasing pace; customer and market needs are constantly changing; competition moves with lightning speed; and globalization brings new players and opportunities into the game. More than ever, businesses need a product innovation and technology strategy to help chart the way. (For short, call this strategy PITS). The trouble is, most companies lack much in the way of an effective PITS, and worse yet, seem at a loss when faced with developing such a strategy.

Undertaking product innovation without a strategy is like running a war without a military strategy. There's no rudder, there's no direction, and the results are often highly unsatisfactory. You simply drift. A business without a PITS will inevitably lead to a number of *ad hoc* project decisions made independently of one another. The result is that the business dissipates its development resources across a number of initiatives that are not strategically important, or worse yet, finds itself in unrelated or unwanted markets, products and technologies; there is no focus (1).

Three Cornerstones

Our benchmarking study of 160 businesses found three cornerstones of high-performing businesses when it came to new product results (2,3):

1. Having a *new product process* that works—a template or tactical road map to drive new product projects to market quickly and successfully.
2. *Resources*—having the right resources and sufficient resources devoted to product innovation.
3. Having a *new product and technology strategy for the business*.

The first two are well-known. But the third—having a product innovation and technology strategy for your business—was too often missing in the majority of businesses. Indeed, businesses in this study achieved mediocre scores on average when it came to having clear goals, defined arenas of strategic focus, and a long-term thrust for their new product efforts (2).

Two Ways To Win

There are two fundamental ways to win at product innovation. The first is *doing projects right*; the second is *doing the right projects* (4). Here's what I mean:

- *Doing projects right*.—Research over the last 20 years has uncovered myriad success factors at the project level (5). For example, employing true cross-functional teams, doing the up-front homework prior to the development stage, building in the voice of the customer, and getting sharp, early, and stable product definition, have all been found to impact positively on new product outcomes.
- *Doing the right projects*.—Equally important, but often missed in traditional research, is the issue of doing the right projects. As one executive put it: “Even a blind man can get rich in a goldmine by swinging a pick-axe; it's not so much how you mine—the trick is picking the *right* mine!” The implication is that project selection (doing the right projects) as well as project execution (doing projects right) are the keys to success.

The emphasis in the 1990s has been on doing projects right—on the process of innovation. Research has revealed about 10–12 major success factors that have to do with things the project team does (or too often does not do). As a result, many companies have turned to new product processes as the answer. According to the PDMA's latest best practices study, “Nearly 60 percent of the firms surveyed use some form of Stage-Gate™ process” (6). The hope is that by defining a roadmap from idea to launch, project teams will build in these success factors by design rather than by chance.

Picking the Right Projects

Results from such new product processes have not always been as positive as had been hoped, however. Why not? Perhaps it's because the focus has been on the *wrong projects* or maybe *too many projects*. In fact, our benchmarking study reveals that project selection and project prioritization are the weakest areas of new product management (2). Now is the time to turn to *project selection and portfolio management* as areas in which to improve new product performance.

Poor project selection and ineffective portfolio management underlie much of what ails product innovation. Poor portfolio management results in:

- A short-term focus in your development efforts—too many “little” projects.
- The wrong projects (and some very mediocre projects) in your pipeline, which consume too many resources.

- Too many projects, and people spread too thinly—the innovation process is starved.

Because resources are thin, corners are cut, quality of execution of key tasks suffers (for example, building in the voice of the customer or doing the necessary front-end homework are skipped), and timelines start to stretch. The end result is fewer breakthrough products, longer cycle times, lower success rates, and overall poorer new product performance.

Effective portfolio management is designed to correct these deficiencies, and has three essential goals:

- Maximize the *value* of your portfolio.
- Achieve the right *balance* of projects in your portfolio.
- Ensure that your portfolio spending mirrors the *strategic priorities* of the business.

The many tools and techniques to achieve these three goals have been described in a previous article in this journal (7) and in our book (8).

Put a PITS In Place

Portfolio tools and models are fine, but in order to achieve these three goals, the business must first have a PITS in place. Your PITS is the driver of your portfolio management process (see illustration). Strategy begins when you start spending money. Strategy provides the

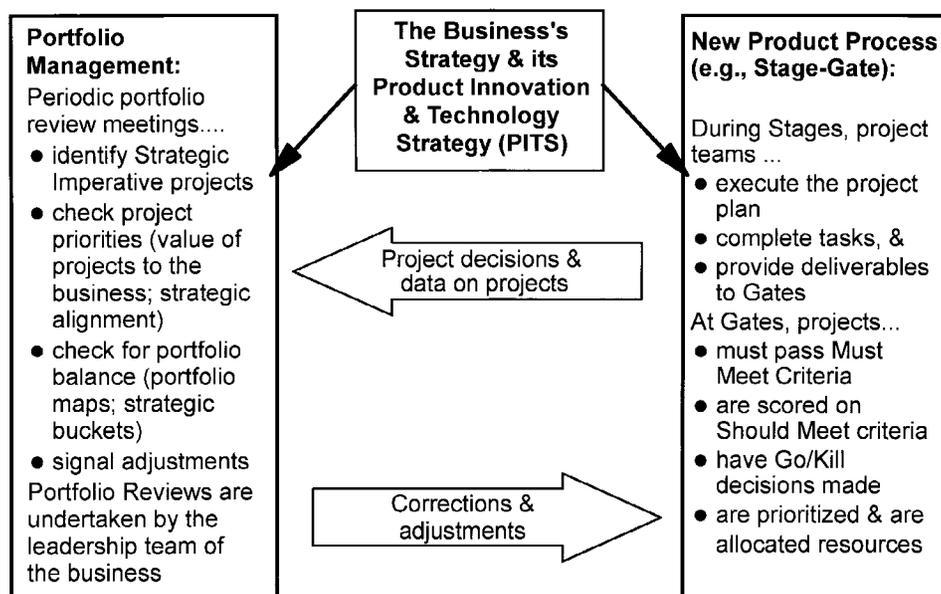
direction, and portfolio management is the operationalization of that strategy—decisions on where the money gets spent. Thus, both elements—your PITS and an effective portfolio management process—must be in place for most effective results.

A product innovation and technology strategy is a strategic master plan that guides your business's new product war efforts. In fact, the word *strategy* is derived from Greek—the art of the military general. Hence, a PITS takes on a fairly military tone, and includes (1):

- The goals for your business's total product development efforts.
- The role of product development—how new products tie into your business's overall goals.
- Arenas of strategic focus or thrust—the sectors—including their relative priorities.
- Deployment—spending allocations (“splits”) across these arenas (R&D funds or people, possibly marketing and capital resources for development).
- The attack plan—how to attack each arena.

Let's elaborate on these five strategy elements:

- *Goals and role.*—Your business's PITS specifies the goals of your total new product effort, and indicates the role that product innovation will play in helping your business achieve its objectives. It answers the question:



All three decision processes must be in place, must feed each other and must work in harmony: the business's Product Innovation and Technology Strategy (PITS), the new product process, and the portfolio management process (7).

How do new products and product innovation fit into your business's overall plan? A statement such as, "By the year 2005, 30 percent of our business's profits will come from new products" is a typical goal.

■ *Arenas and strategic thrust.*—The concept of *strategic arenas* is at the heart of a new product strategy. A PITS specifies clearly the strategic arenas or strategic sectors—the types of markets, applications, technologies, and products—on which the business's new product efforts will focus. The specification of these arenas—what's "in bounds" and what's "out of bounds"—is fundamental to spelling out the direction or *strategic thrust* of the business's product development effort, and is the result of identifying and assessing new product opportunities at the strategic level (1).

These strategic arenas or sectors are defined in terms of dimensions such as:

- Markets or market segments.
 - Product types, product lines or product categories.
 - Technologies and technology platforms.
- *Spending priorities.*—Strategy definition goes further, however: It indicates the relative emphasis, or strategic priorities, accorded each arena of strategic focus. For example, if markets A, B and C are identified as "strategic arenas," the *relative priorities* of these markets should be part of the strategy. This means that the strategy must be translated into *deployment decisions*: the relative spending priorities or splits (allocation of resources across arenas; for example, how much to spend in each of markets A, B and C).

■ *Plan of attack or entry strategy.*—The issue of *how to attack* each strategic arena should also be part of the business's PITS. For example, the attack plan may be to be the industry innovator—the first to the market with new products; or the attack plan may be to be a "fast follower," rapidly copying and improving upon competitive entries. Other strategies might focus on being low cost versus the differentiator versus a niche player; or on emphasizing certain strengths, core competencies or product attributes or advantages.

The attack plan leads logically to spending decisions regarding how much to spend on different *types of projects* (establishing *strategic buckets*—spending splits by project types, such as platform developments versus new products versus maintenance and renewal projects, 8). Additionally, entry strategies are outlined and include internal product development, licensing, alliances, and even acquisitions of other firms. Finally, attack plans even spell out the major initiatives (development projects) needed to exploit an arena, for

example, a significant platform development or several major new product thrusts.

Into the Next Millennium

Research in the 1980s identified the critical success factors at the project level—how to do projects right. Efforts in the 1990s operationalized these success factors by putting effective new product processes in place (the right side of the illustration on p. 39).

In order that your product innovation efforts reach their true potential, however, the quest must be for rigorous project selection—doing the right projects. Picking the right projects is achieved in two ways:

- Adopt a new product process (the right side of the illustration). For example, effective new product processes require solid up-front homework, building in the voice of the customer, etc.—all of which yield the *information* needed to make good project selection decisions.
- But most important, implement an effective portfolio management process (the left side), whereby senior management rates and ranks projects against each other, using objective criteria, and then allocates the resources to the priority projects.

Further, note that portfolio management is impotent without the driver—a product innovation and technology strategy for your business. When all three elements are in place and working harmoniously, expect a dramatic improvement in your new product performance!

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