

Managing the Marketing/R&D Interface

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Many CEOs, looking at the considerable resources their companies invest in R&D, can't help wondering whether they are getting commensurate revenue growth. Hence the popular complaint: „I suspect that half my R&D investment is wasted, but I don't know which half....“ Many also feel disappointed with their firms' failure to produce true innovations, as opposed to product line extensions.

Frustration naturally leads to finger-pointing. In the past fingers tended to point to functions, and particularly to R&D. If innovation performance was poor, then R&D – and particularly central R&D – must have had something to do with it. This assumption often triggered drives to pare down or decentralize R&D, particularly central labs. It also triggered a radical shift of decision-making power to the business units, even for technology investment decisions.

Today, most managers recognize that performance is a function of the quality of the company's business processes, and effective processes require smooth and close interfaces among all participating functions. The innovation process – shown schematically with its main constituents in Exhibit 1 – is no exception.

Innovation performance is clearly influenced by the quality of the interface between the two functions that straddle the whole innovation process: Marketing and R&D. Most of the recent moves to decentralize R&D and bring developers closer to the business have been made to improve the Marketing/R&D interface. *Yet* in our consulting work, we notice a persistent dissatisfaction with the quality of the interface, particularly from R&D, which often wonders whether there is „a pilot in the plane,“ i.e., whether Marketing is fulfilling its role as pilot and guide for R&D.

The management literature on the Marketing/R&D interface could fill an entire library. Every aspect has been investigated, particularly organizational and cultural aspects, and the causes of problems have been identified in great detail. However, only recently have people begun to focus management attention on business processes. In this article we revisit the issue of the Marketing/R&D interface from a process management perspective. Instead of discussing general Marketing/ R&D relations, we take a close look at how well Marketing and R&D actually work together on each innovation process, what the issues are, and which solutions work best.

To explore these issues we conducted an international survey¹ covering 13 specific processes within innovation management (see Exhibit 2). The survey looked at these processes from six „issue viewpoints“:

- Functional roles and responsibilities
- Interface effectiveness
- Interface problems
- Underlying obstacles
- Organizational mechanisms for improving the interface
- Managerial practices for facilitating the interface

This article summarizes the main findings on each of these issues. Some are pretty straightforward and could have been expected; others deliver strong and fairly novel messages to management, pointing to clear new opportunities for improving the interface and thus for enhancing the company's innovation performance.

Functional Roles and Responsibilities

Marketing and R&D can be involved in an innovation process in a variety of ways. They can form a true partnership, with each sharing equally in the process.

Alternatively, one can play a leading role and the other a supporting role. At the extreme opposite, the process could be the private domain of either Marketing or R&D with the other playing little or no role in it.

Not surprisingly, managers still allocate responsibilities for many innovation processes along traditional functional lines. Most managers advocate an equal partnership between Marketing and R&D *only* for the review of product development projects (64 percent of all respondents); the selection and evaluation of innovative new product ideas (56 percent); the generation of ideas for totally new products (54 percent) or product extensions (52 percent); and the review of R&D innovation and advanced development projects (52 percent).

Other processes in innovation management – often the most critical for the long term – are perceived as essentially the domain of either Marketing (preparation of a product strategy and life-plan, identification of trends in competitors' offerings) or of R&D (selection of research projects, preparation of a technology strategy).

Exhibit 1

The Innovation Process (Main Elements)

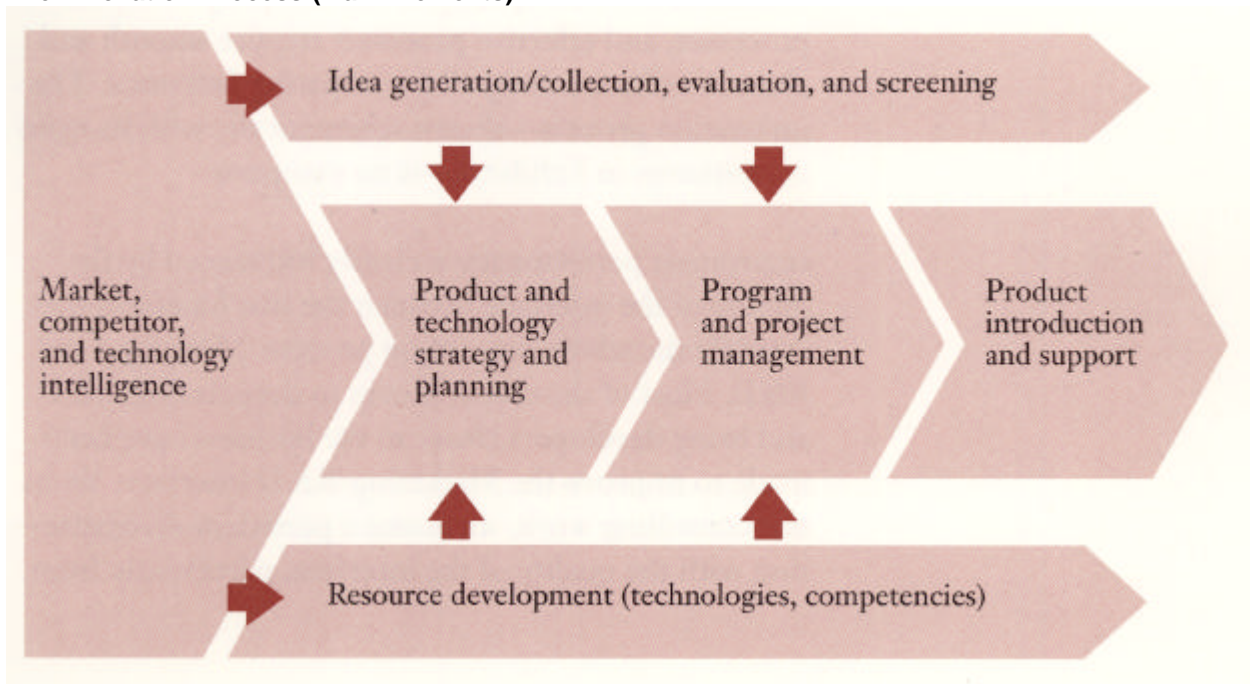
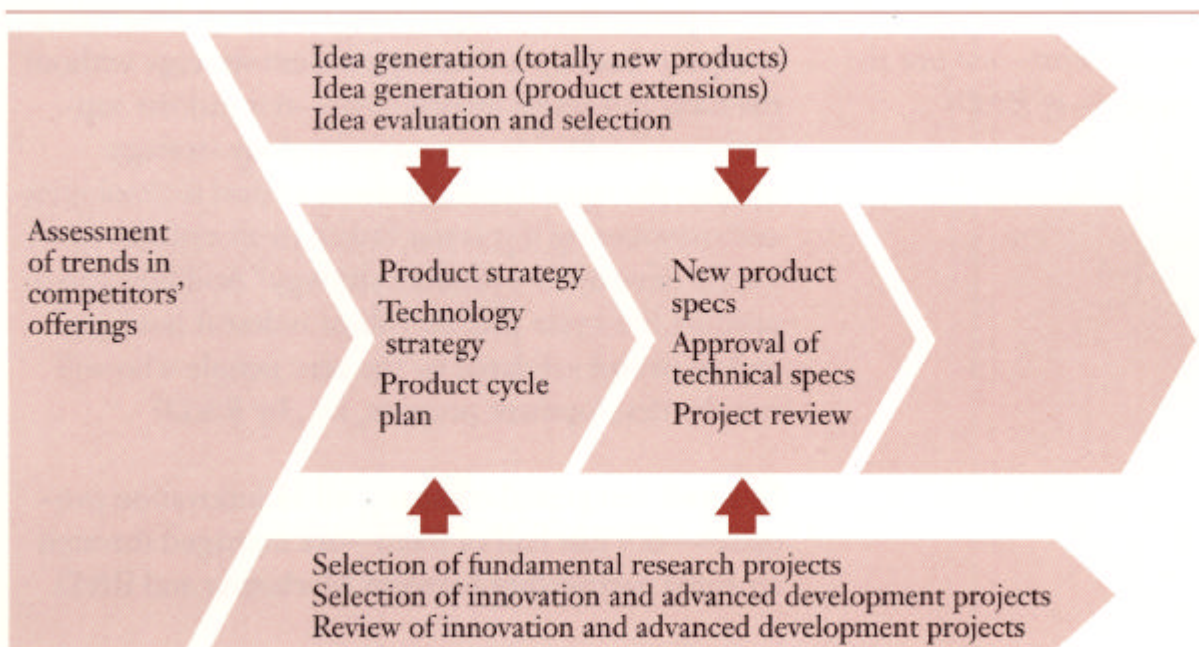


Exhibit 2

The 13 Innovation Processes Investigated in the Arthur D. Little Survey on the Marketing/R&D Interface



We question the allocation of exclusive responsibilities for these latter processes. Such allocation impedes the cross-pollination of experience and ideas. How can a company develop a winning product strategy without the total and active involvement – not just the support – of R&D? How can a technology strategy include the right decisions about critical technologies and outsourcing if it is not linked to an explicit – and jointly developed – product strategy? And how can a product life-cycle plan be robust unless it has been endorsed and validated by the very people who will run the development projects, i.e., by R&D?

In a well-integrated company, all 13 innovation processes – not just half of them – are managed through an equal partnership between Marketing and R&D.

Interface Effectiveness

The survey results clearly show the danger of generalizing about Marketing/R&D relations. The perceived effectiveness of the interface varied significantly from process to process. Generally, the interface was judged rather ineffective or very ineffective for those upstream processes that deal with the longer term, i.e., for the selection of fundamental research fields (70 percent of all respondents); the preparation of a technology strategy (59 percent); the selection of R&D innovation and advanced development projects (53 percent); and the preparation of a product life-cycle plan (49 percent).

Conversely, the interface is perceived as moderately effective or very effective for processes that deal with immediate or near-term tangible issues, such as generating ideas for product extension or improvement (83 percent of all respondents); preparing a product strategy (76 percent); reviewing product development projects (74 percent); approving new product technical specifications (68 percent); and identifying trends in competitors' offerings (69 percent).

The fact that more interface problems surface in R&D-driven processes than in Marketing-led ones is no coincidence. R&D usually expects a lot of guidance from Marketing, which the latter is rarely equipped to provide. This discrepancy between R&D's expectations and Marketing's input can be explained, in our experience, by several factors:

- Different time horizons between the two functions (marketers – often judged on current product performance – tend to limit their time horizon much below R&D's expectations)
- Marketing's reluctance to get involved in technology issues, either through lack of understanding or through lack of interest.
- The absence of a framework for determining Marketing's input into R&D-led processes, i.e., clear responsibilities, concrete mechanisms, and some pressure for building a dialogue with **R&D** on longer-term questions.
- Marketing's traditional reluctance to „stick its neck out“ and take risks on uncertain long-term issues, often reflecting the fact that Marketing – more than R&D – tends to be judged on results (management is less tolerant of marketing failures than of R&D failures).

Interface Problems

Management clichés sometimes describe Marketing and R&D as so foreign to each other's worlds that they cannot and do not communicate. These clichés need to be revisited.

The first piece of good news is that the ivory tower syndrome – whereby each function stays in its own domain without trying to build bridges – is not very widespread. R&D is accused of staying in its ivory tower for the selection of fundamental research fields (25 percent of all respondents), as well as for the formulation of technology strategy (16 percent) and the selection of innovation and advanced development projects (13 percent). Marketing is accused of developing product life-cycle plans (12 percent) and assessing trends in competitors' product offerings (11 percent) without R&D's help. But these are clearly limited phenomena.

The second piece of good news is that outright open conflict between Marketing and R&D on innovation matters is even more limited. Marketing and R&D sometimes have difficulty agreeing on the selection and evaluation of innovative new product ideas (10 percent of all respondents), and on the preparation and approval of new product specifications (8 percent), but open war is rare.

The bad news is that, while Marketing and R&D do indeed talk, they often fail to truly build on each other's ideas. Survey respondents particularly felt this under-exploitation of perspectives in four areas: the generation of ideas for totally new products (36 percent of all respondents); the generation of ideas for product extension or improvement (22 percent); the selection and evaluation of innovative new product ideas (22 percent); and R&D innovation and advanced development projects (20 percent).

Related to the failure to capitalize on each other's ideas is the tendency for one function to dictate its viewpoint to the other, reflecting a „private domain“ mentality. Marketing is perceived as having a dominating approach in matters pertaining to product strategy (26 percent of all respondents) and product life-cycle plans (19 percent). Similarly, R&D imposes its views on technology strategy (31 percent of all respondents); the selection of fundamental research fields (22 percent); and innovation and advanced development projects (19 percent).

Underlying Obstacles

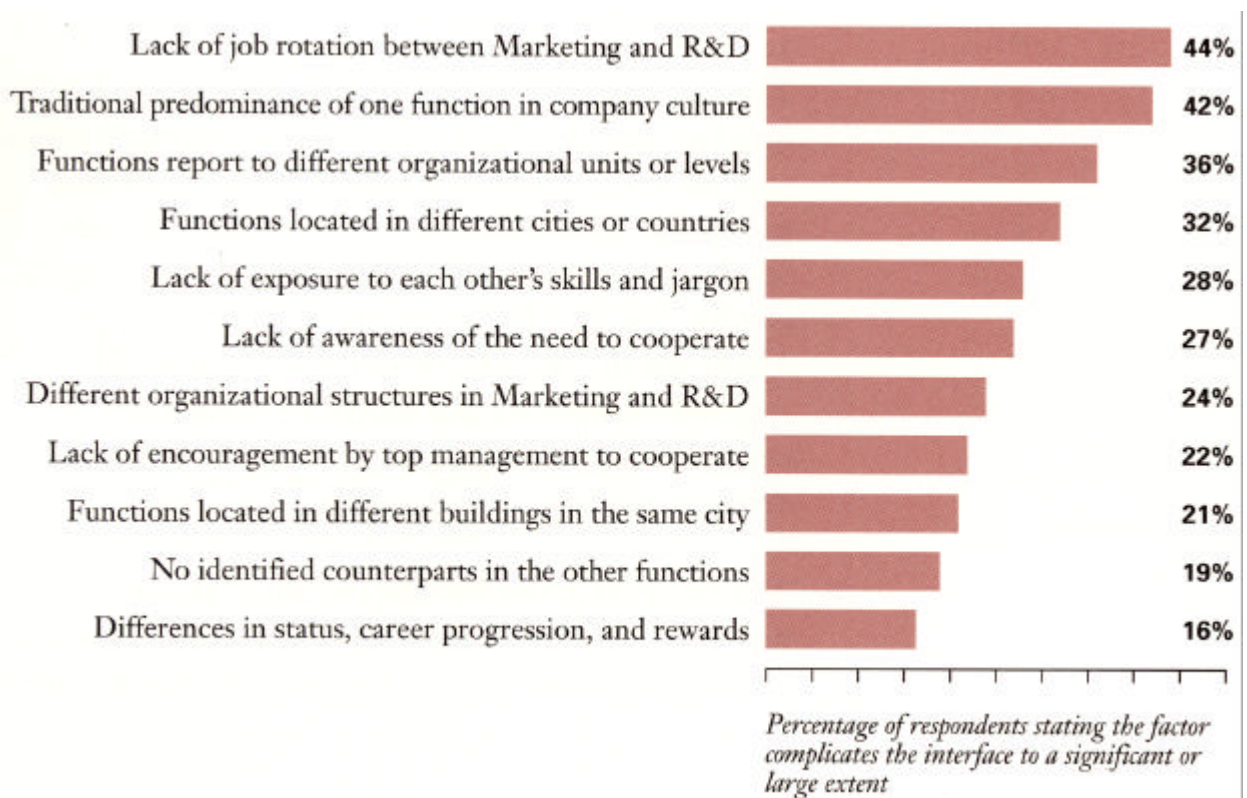
The management literature on the Marketing/R&D interface has identified and explained the many organizational and cultural factors behind most interface problems. All of them – as could be expected – are cited with varying levels of importance in our survey (see Exhibit 3). The lack of job rotation between Marketing and R&D (cited by 44 percent of all respondents) and the traditional predominance of one function in the company culture (42 percent) emerge as the most-cited complicating factors.

Technologists in fast-moving consumer goods companies – archetypes of Marketing-dominated companies – tend to adopt a low profile and do what they are asked to do without much debate, so convinced are they that their companies, being market-oriented, must be Marketing-driven. The reverse is equally true: in technology- or engineering-driven companies, marketers often tend to follow – and sometimes mimic – their colleagues in the technical departments (from which they themselves often come).

Our survey revealed a relatively novel element: the perceived importance of process deficiencies as a cause of interface problems (see Exhibit 4). The message is clear: *Yes*, a number of organizational and cultural factors complicate the interface, but even when these are addressed there remains an issue of process. The Marketing/R&D interface is not organized properly-particularly for nonroutine, upstream processes. People often do not know exactly what is expected of them, i.e., their roles are not defined and tools and techniques are lacking.

Exhibit 3

Organizational and Cultural Factors



Organization Mechanisms for Improvement

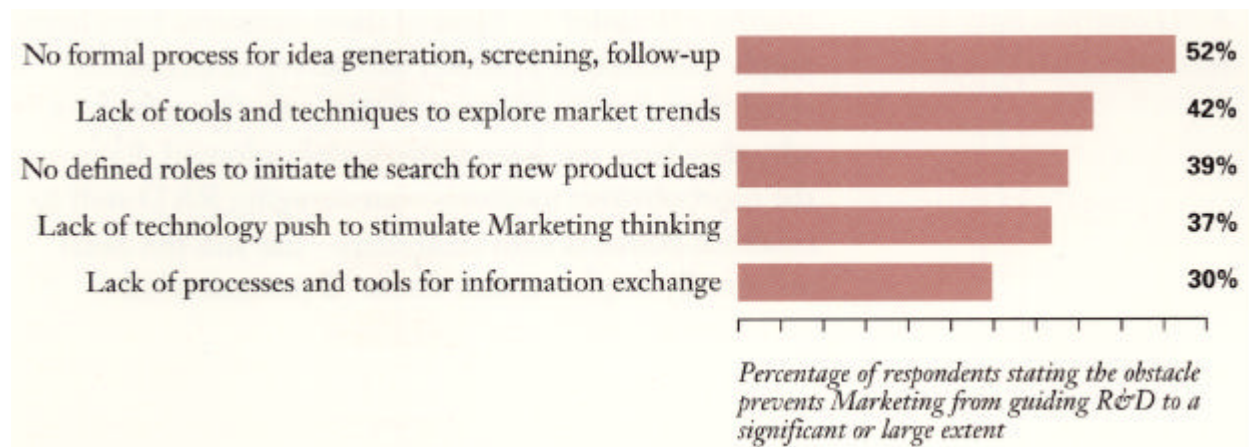
Most managers feel uncertain about how to set up a new process or fix a broken one. They feel much more comfortable with organizational issues. Hence the temptation to deal with process deficiencies through organizational mechanisms. („If a new process has to be set up, let's make sure we organize things so that someone – a new functional department or a committee – feels responsible for it.“)

Yet relatively few companies use the traditional organizational mechanisms that are known to facilitate the Marketing/R&D interface in innovation. Only one mechanism is in widespread use: the multifunctional product committee (cited by 65 percent of all respondents). Surprisingly, the traditional approaches that allow managers

to split marketing responsibilities on the basis of different time horizons – thus identifying partners for R&D within Marketing – are not widely used. Only one third of all respondents had set up a strategic marketing function distinct from operational marketing; Only 29 percent had dedicated senior product managers to new product development; only 23 percent had identified a marketing manager responsible for long-term product policy and guidance of R&D; and only 18 percent had made a split between long-term and operational marketing research.

Exhibit 4

Process Deficiencies that Prevent Marketing from Guiding R&D



One rather controversial mechanism – the establishment of a small marketing group within R&D to provide long-term market insight – has, surprisingly, been implemented by 10 percent of the respondents. The marketing group in question may be physically located within R&D while continuing to report to Marketing. In our experience, this solution may be adopted by R&D out of sheer frustration, typically because R&D has not received adequate long-term market guidance from Marketing. R&D feels there is no other solution but to build its own limited marketing capability. The group in question typically remains small and keeps a low profile to avoid creating turf battles with sensitive marketing managers. It is rarely called Marketing, preferring unassuming names such as Customer Application Group, Advanced Concept Development Group, etc. But its mission remains the same: to provide a long-term marketing perspective to help R&D choose what technologies or ideas it should be pursuing.

Managerial Measures

Though few companies have set up specific organizational mechanisms to manage the processes of innovation, many have implemented a range of managerial measures designed to improve the Marketing/R&D interface (Exhibit 5). Most of these measures have been amply validated in practice, and survey respondents rated them highly effective (Exhibit 6). One wonders why they have not been more widely adopted. Even the most obvious measure – encouraging R&D staff to establish contacts with customers – has still not been universally implemented. Some 32 percent of all respondents still have not adopted it. And only 35 percent have created joint Marketing/R&D field research programs (a version of venture teams).

A Call to Action

This survey points to a clear direction for management action. The process management approach that is proving so beneficial in other areas should be employed also at the Marketing/R&D interface. Specifically, we would like to suggest two courses of action:

Build up Advanced Marketing capability. To sustain innovation, management needs to continuously integrate the contributions of different functions into coherent strategies and plans, then implement the best technology and product ideas through an effective project management process. In large multilayered companies that have central, divisional, and business-unit R&D groups, the challenge includes making several labs cooperate in the development and transfer of new technologies, products, and processes (see Exhibit 7). This is a complicated task, as each lab tends to have its own objectives, reporting lines, funding mechanisms, time horizons, and even motivations. The challenge becomes mind-boggling when input is required also from Marketing. Indeed, as illustrated in Exhibit 8, Marketing resources tend to be concentrated at the business unit level. At the divisional or corporate level, there are generally no Marketing partners for R&D who can provide guidance on long-term and product trends.

Exhibit 5

A wide range of measures have been tried...

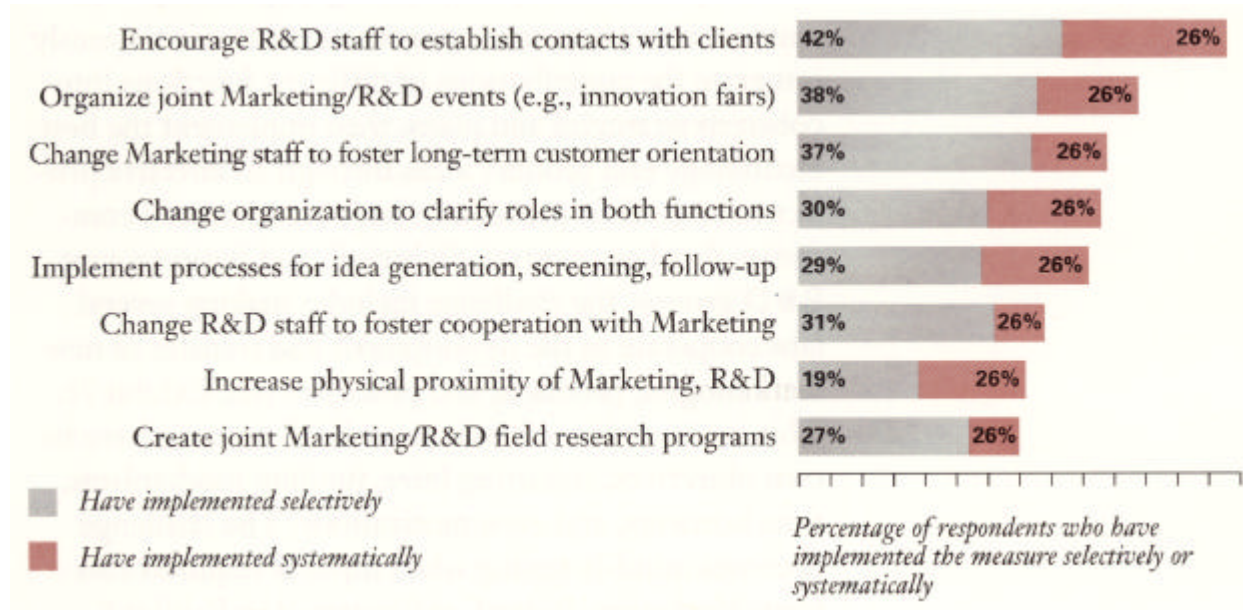
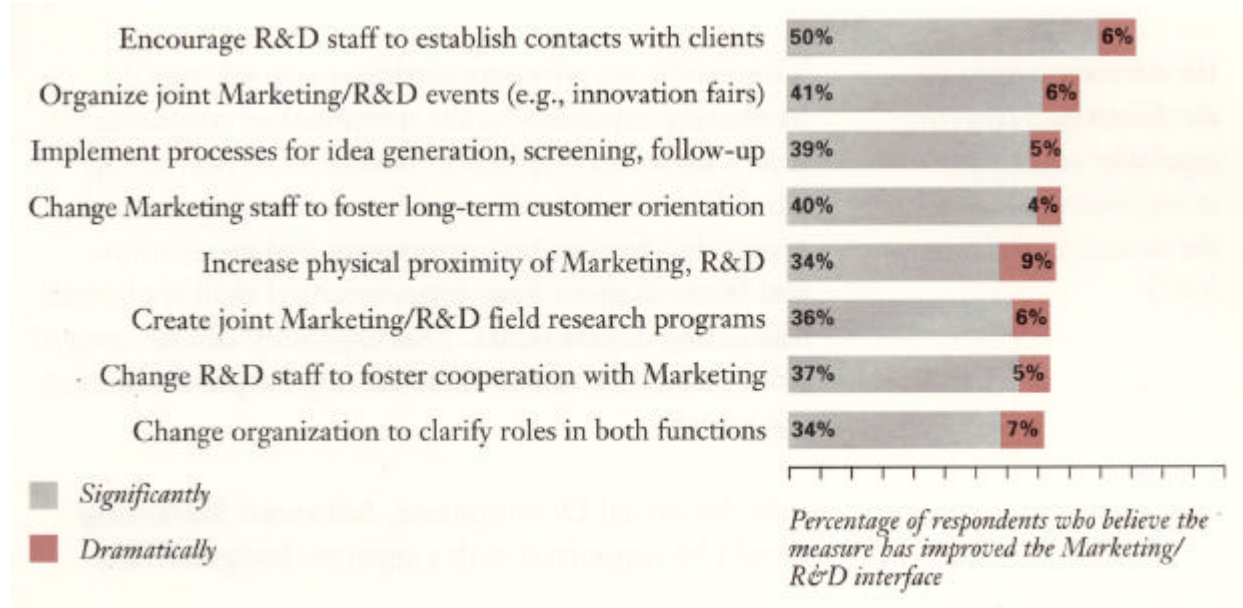


Exhibit 6

...and they seem to work!



This is why we advocate setting up an Advanced Marketing capability at the divisional or corporate level. Advanced Marketing should be to Marketing what Advanced Development is to Development: a group that focuses on anticipation and innovation, and hence is more long-term-oriented than traditional Marketing departments. This capability can be created from scratch or added to an existing corporate marketing group.

Like Advanced Development, Advanced Marketing should be supported with a separate budget. Many R&D managers would probably not be against funding Advanced Marketing activities and projects out of their own budgets. After all, waste in R&D would probably be dramatically reduced if R&D benefited from early market insights or feedback!

Exhibit 7

Integrating Multiple Layers and Functions: Management and R&D

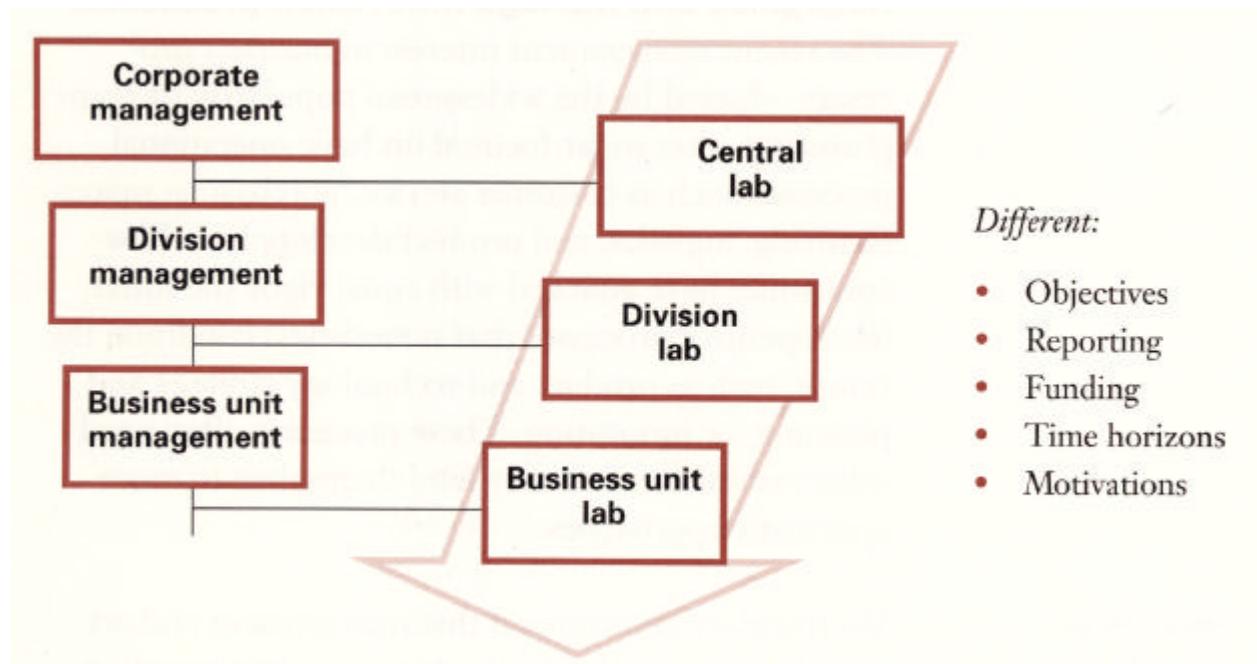
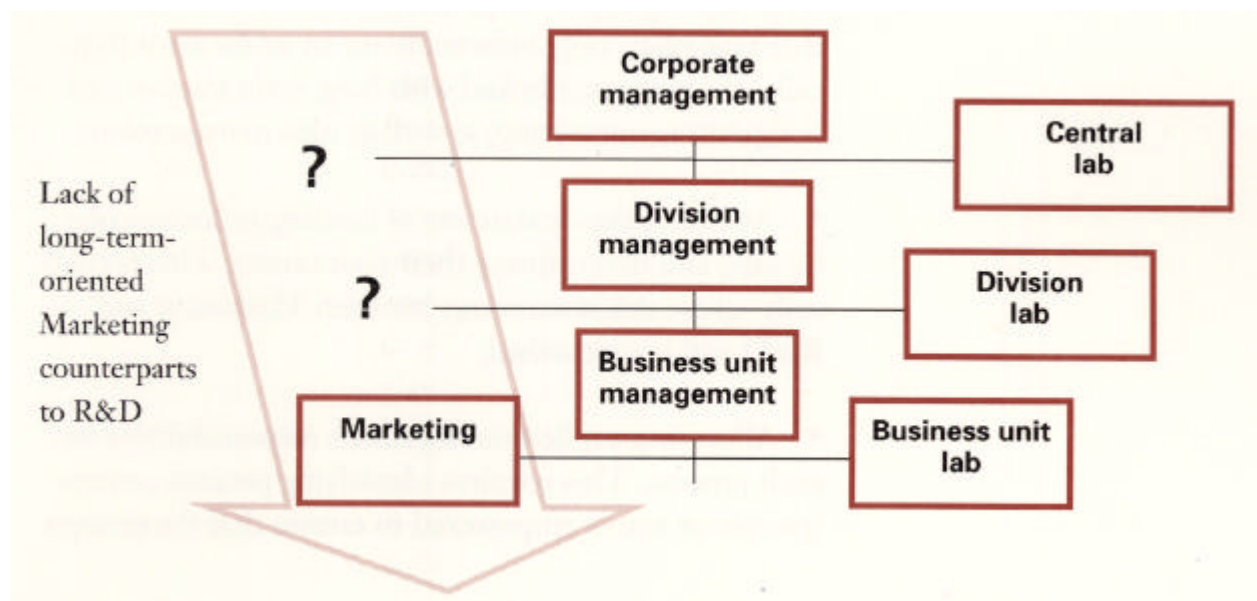


Exhibit 8

Integrating Multiple Layers and Functions: Management, R&D, and Marketing



Advanced Marketing should not become an „institution,“ cut off from current market and business concerns. This is why we advocate „recycling“ Advanced Marketing staff after a few years and relying as much as possible on external sources of information. And to avoid becoming too theoretical, Advanced Marketers should be encouraged to engage extensively in expeditious marketing activities and ventures.²

Recognize and manage innovation processes.

The recent management interest in business processes – fueled by the widespread popularity of reengineering – has so far focused on basic operational processes such as customer service, purchasing, manufacturing, logistics, and product development. Few companies have attacked with equal vigor the softer, less repetitive processes that nonetheless condition the future, such as product and technology strategy and planning, or innovation. These processes often need some rethinking, and they lend themselves to more systematic approaches.

We therefore recommend that management embark on a drastic rethinking of its processes in innovation. This involves:

- Identifying and mapping the current processes. This will highlight the processes that do not exist or that take place only informally on an *ad hoc* basis (typically, the processes linked with long-term market and competitor monitoring, as well as idea management).
- Assessing the weaknesses of existing processes one by one, and determining their root causes. This is typically where interface issues between Marketing and R&D will be unearthed.
- Allocating explicit management responsibilities for each process. This requires identifying process owners (people or teams empowered to ensure that the process is rethought and continuously improved) and process coaches (senior managers or multifunctional committees with supervisory authority over several processes).
- Systematically implementing the measures highlighted by the survey as particularly effective in bridging the gap between Marketing and R&D to support the innovation process. The objective of these measures is to „customerize“ technology, i.e., to introduce a customer dimension into all technology development and deployment.

Measures such as these, which systematically engage Marketing and R&D together through explicit management of specific processes, should help management gain a better grip on innovation.

¹ *Questionnaire survey, „Problems in the Marketing/R&D Interface: Causes and Solutions,“ conducted in 1993 among 733 managers in the United States, Sweden, the Netherlands, Belgium, the United Kingdom, France, Germany, and Italy. Results are available through Arthur D. Little. The author wishes to acknowledge the contribution of ICHEC students Sebastien Bearzatto and Anne Lenoir, who conducted the research project and analyzed the survey findings, and that of Marie Noelle Simonart, who supervised their research.*

² *G. Hamel and C.K. Prahalad, „Corporate Imagination and Expeditionary Marketing,“ Harvard Business Review, July-August 1991, pp. 81-92.*

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