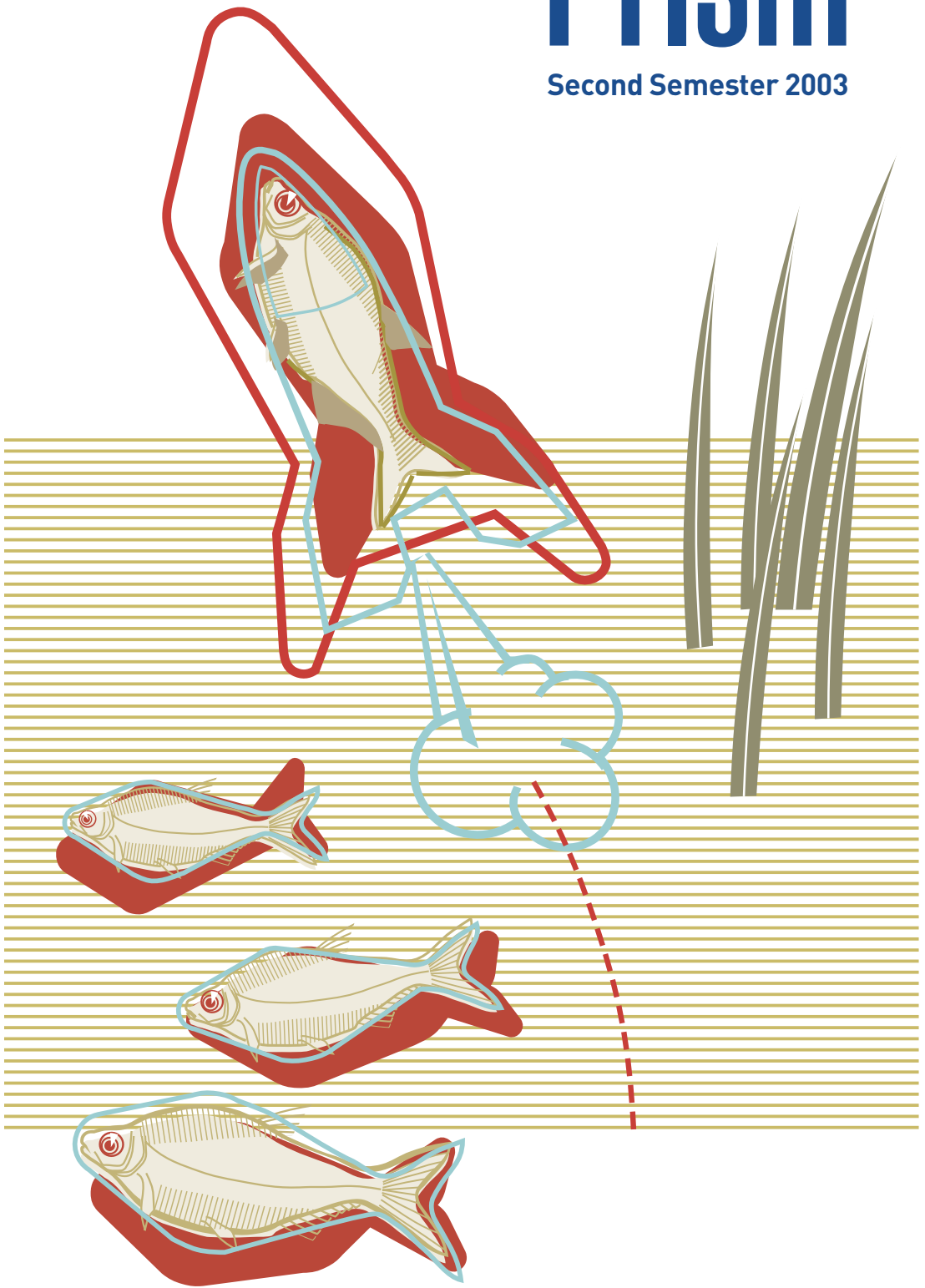


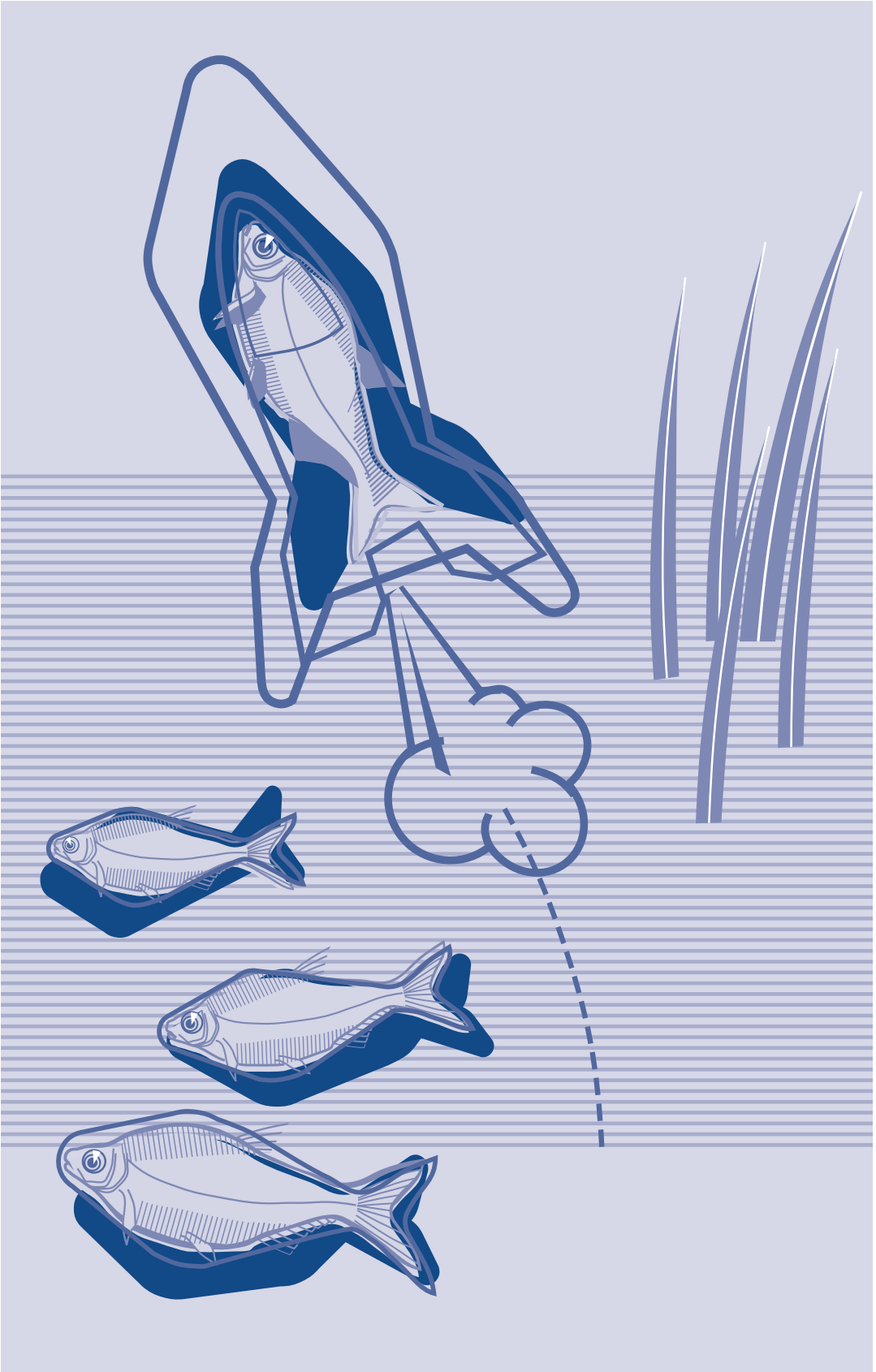
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Innovation at Work



Innovation at Work: The Innovation Imperative

By Thorsten Gerhard and Per I. Nilsson

Innovation – every company wants it, but only some get it right. But why is the step from being innovative to becoming an innovation leader such a hard one? Gerhard and Nilsson argue that companies striving for sustainable innovation must implement three main levers in their organization: innovation strategy, innovation processes, and innovation culture. But that is still not enough. To become an innovation leader companies must implement these upstream and downstream within the organization.

Innovation is the word of the year. Having gone through numerous restructuring exercises, companies realize that cutting costs alone will not be enough to keep them ahead of competition in a global marketplace. Stock markets as well have recognized this and honor innovation performance with an “Innovation Premium”. Our research has confirmed that this is justified. In all types of industries, from high-tech (e.g. telecom) to mature (e.g. chemicals), companies ranking high on innovativeness on average had a significantly sharper increase in shareholder return over a 10-year period than their peers.

Many of the success stories from past decades were based on the ability to come up with radically new ideas and then “to run with the ball” to make them a success in the marketplace. Kinnevik, originally a Swedish paper and pulp company, has transformed itself with the help of new technologies and become a leading media corporation. It now includes companies like Tele2 (a telecom operator), Modern Times Group (MTG) (a television media company), Metro International (a newspaper publisher), P4 Hele Norge (a radio broadcaster). Nintendo’s vision of the game console and Sony’s launch of the Playstation have even created a completely new market, the video game industry. In terms of turnover the industry is now even bigger than Hollywood, luring late entrants like Microsoft with its X-Box into the game. But the history of IBM shows how innovation cycles can even decide the fate of a world market leader. After the rise to become the world’s premier mainframe computer supplier, IBM completely missed the PC revolution – only to make an impressive comeback by reinventing its business model to become the leading IT based service supplier it is today.

Companies like IBM also had to redefine and extend their understanding of what innovation was. Today we all agree that it’s much more than just new products. Innovation is all about creating new value for customers and finding new ways to create value. Therefore innovation also

includes new services, an innovative supply chain, customer care concepts and the invention of successful new business models.

Interestingly enough, leading companies like Nokia or Southwest Airlines, identified as innovation premium companies in the 1991-1999 period, have kept their premiums by sticking to their innovative focus through these turbulent last couple of years. They are still regarded as the most innovative in their respective industries. Nokia showed far better development in 2002 than Ericsson, Motorola and Lucent in terms of shareholder value. Southwest Airlines, also still regarded as one of the most innovative U.S. airlines in 2002, showed a far better development than Northwest, Continental, US Airways Group or United Airlines. And its business model has inspired successful European newcomers in this rather mature industry like Ryanair and easyJet.

Companies should beware of an undifferentiated belief that new products or services are the same as innovation and will automatically bring market success followed by economic success. There are many examples of innovation efforts that did not make it to the market or reached it at the wrong moment.

But beware of an undifferentiated belief that new products or services are the same as innovation and will automatically bring market success followed by economic success. There are many examples of innovation efforts that did not make it to the market or reached it at the wrong moment. A good example of how not to do it is Germany's Schmidt-Bank. The company was a first mover in 1998 when it introduced private brokerage with its online-application Consors. Tremendous problems with overburdening debt and management's inability to handle it on the side of the parent company forced them to sell Consors to BNP Paribas.

The American equivalent – Charles Schwab – always treads carefully and has always been very good at integrating new technologies into its business model. It is now the biggest online broker in the US. In the 60s the company was no more than a mere newsletter service for investors. It opened its first retail outlets in the 70s. In 1995 it launched its first online-transaction site on the World Wide Web. Schwab underwent some trouble when the bubble burst, but was able to revitalize its business and seems now well positioned to gain speed again once the economy picks up.

Focus on Creating Value Through Innovation

So what is the link between a company's passion for innovation, its capability to make innovation happen and the resulting impact on shareholder return? Is there any link at all? Innovation success does not occur by accident; it is the result of full corporate-wide commitment to innovation and of an efficient innovation management.

In our research and project work we find that the basic difference is a consistent focus on customer value! Technology breakthroughs that do not create new customer value will remain "inventions", maybe with a scientific merit – but without significant market impact and revenue potential. A new, creative idea only becomes an "innovation" if the market is willing to pay for it!

Innovation leaders know exactly when innovative improvements of existing products fulfill this criterion and when it takes a more radical approach. A good example is the direct injection technology for diesel engines, which drastically reduces fuel consumption and pollution while at the same time brings the diesel engine up to the same comfort level as a gasoline powered engine. This innovation has triggered a booming demand and significantly influenced market shares. And sometimes innovation can even do more, such as creating completely new markets. At the beginning of the Walkman or the Tamagotchi success stories there was nothing but a vision, as no one had built such a product before.

A closer look at successful innovators reveals that they are not only more creative than others, they are also masters at converting their creative ideas into products and services in order to introduce them successfully to the market.

Dedication, innovation targets and innovation culture are key components of successful innovation.

Being an Innovation Leader: What Makes the Difference?

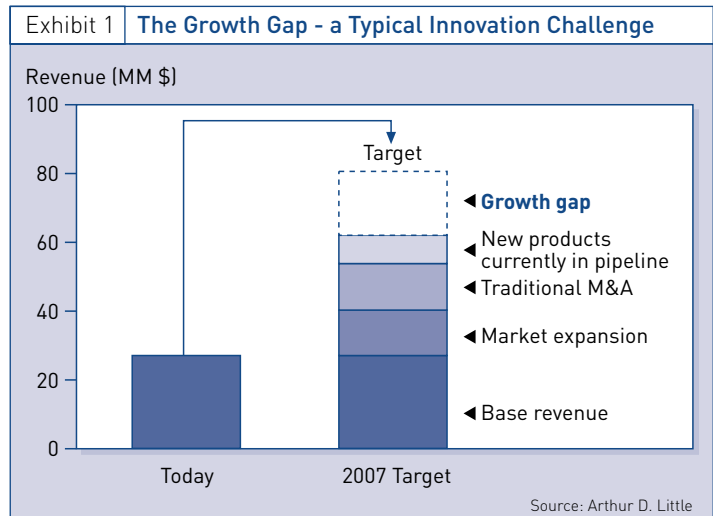
There is no general cookbook how to become an innovation leader. But such leaders have common properties:

- A high level of dedication seems to be key. Top management considers innovation as a corporate priority and also acts accordingly. Successful innovators are highly regarded in the organization and new products, services, etc. are also featured prominently in annual reports or at investor meetings.
- Innovation targets are clear and converted into action by a tailor-made innovation strategy. Innovation leaders translate their business objectives into innovation needs: “Do we need radical renewal of our current products? Or is it better to focus on developing complementary services for our current portfolio? Where are our growth opportunities?” These priorities are the basis for an optimized innovation portfolio.
- Seamless innovation processes ensure efficient conversion of the innovation strategy into action. Today innovation is no longer only “the task of R&D”. It involves all innovation contributors within the company as well as external partners. Efficiently structured innovation processes are well defined, accepted by everybody in the company and supported by clearly defined innovation indicators and state-of-the-art IT systems support.
- And all this will only come to life if an innovation culture encourages innovative behavior at large. Innovation leaders have gotten rid of the “Not Invented Here” syndrome. Their staff welcomes innovative new ideas and is willing to take greater initiative in pursuing them.

Let's have a closer look at these levers:

Innovation Strategy

Imagine a typical challenge many companies face today: Corporate strategy says we have to grow at least 5 percent per year. An analysis of the current product portfolio and market position reveals our current products, market expansion opportunities and innovation pipeline will not be enough to meet this objective. We have a growth gap!



Innovation strategy now must tell us where this desired growth will come from. To grow, we must identify undiscovered market opportunities, unmet customer needs or new technologies with a high future impact.

Secondly, it must set priorities and tell us, for example, how much we have to invest in getting more out of current products and markets vs. how much we should invest in radical innovation.

Thirdly, innovation strategy must show the pathway for realizing these ambitions. The portfolio of innovation projects and necessary core competencies for realizing these innovations must be shaped accordingly.

Overall innovation strategy must answer three questions:

- **Where to Innovate?**

Depending on their specific situation and ambitions companies must decide if they want to focus on new products for existing markets, on developing new markets, etc. Beyond this, they sometimes have to re-evaluate whether to change their position in the value chain through backwards integration, forward integration, etc. And if the current market position can no longer be sustained it might even be the time to replace the whole business model, e.g. sell licenses instead of products, spin out companies, start new companies to deal with disruptive technology.

- **How to Innovate?**

Innovation priorities must help to implement the business or segment strategy. If, for example, product innovation no longer guarantees sustainable competitive advantages, this might call for a shift of innovation focus from technology development towards innovative services that complement the product ranges and permit completely new integrated solutions for customers. Maybe there is a need for corporate venturing to solve your innovative challenge. Innovation strategy is all about defining from where and how you want to get your competitive edge.

- **How to Allocate Innovation Resources?**

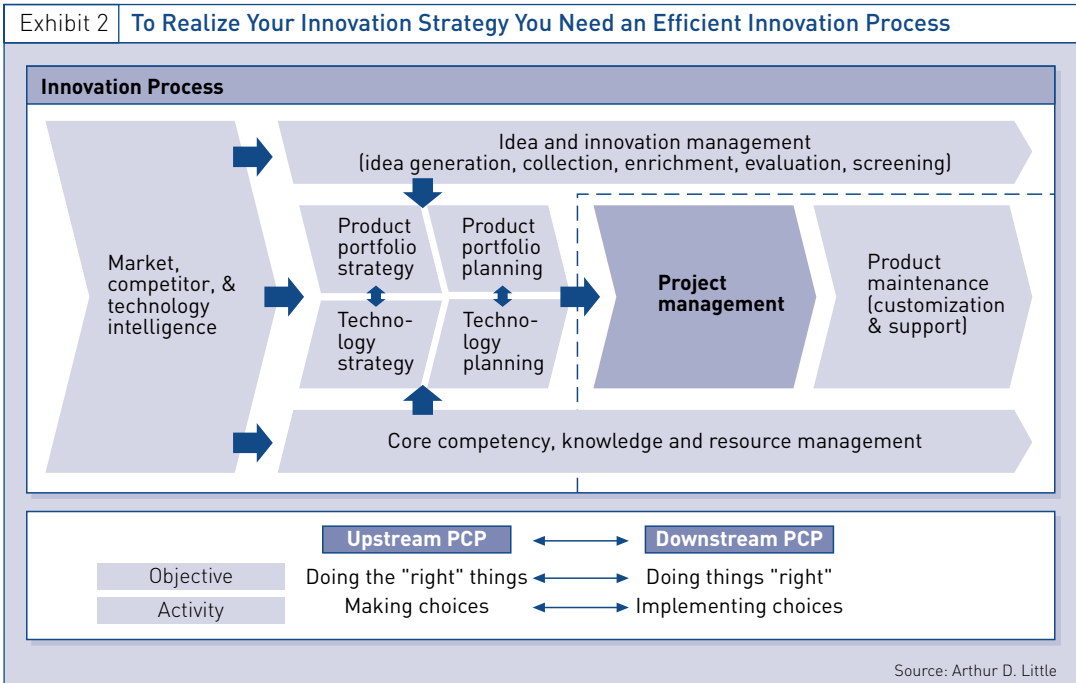
With their limited resources, companies need to cover more and more complex competency portfolios and focus in their projects on future winners. Therefore it is crucial to “place their innovation bets” properly. Innovation leaders use portfolio planning techniques to balance risk vs. rewards, incremental vs. radical innovation, etc. They use strategic management of technologies to create a development and/or acquisition plan to develop the portfolio of technologies and competencies they need in the future. And they use partnerships and alliances, outsourcing, co-development, etc. to complement their own resource base.

Using this approach consistently, some companies, like DAF Trucks, have found new horizons and have (re)built unique positions in tough industries instead of “starving to death” by getting stuck in the common cost-cutting exercises.

DAF Trucks: With “Total Care” to Total Health

DAF Trucks went bankrupt in the mid-nineties, but management restructured the company and developed a new business strategy. This new business strategy meant that the previously hardware-focused DAF Trucks decided to change its position in the value chain. They developed the “total care” concept, which meant that the company did not only supply hardware, i.e. trucks, but also would supply services linked to the truck. Their new innovation strategy therefore included that new services should be supplied that would increase their customer loyalty and increase sales of hardware. DAF Trucks developed a new “service innovation process” and managed to create a whole portfolio of service ideas, which were then implemented in waves over a number of years. This new strategy, with new services added to the trucks sales, helped DAF Trucks regain market share. The Company went from six percent of the European market to more than ten percent in about four years. Competitors reckon that the service package DAF Trucks had developed was the major reason for their rapid growth (meaning taking market share from their competitors) in the UK over a five year period.

Innovation Process



Even if the new product/service creation process is the core, an efficient innovation process consists of much more, as exhibit 2 shows. These elements can be grouped in two basic parts:

Upstream Innovation – Doing the Right Things!

The upstream part of innovation is all about making the right choices: Which new products/services do we need to have in the market and when? Which of our creative ideas should we pursue? Which priorities and development project portfolio derive from these innovation ideas?

Upstream innovation therefore consists of two main sub-processes. Product portfolio strategy and planning, which is about making strategic choices regarding the product portfolio such as “where to compete” (in terms of segments and geography) and “how to compete” in these target markets. This is complemented by technology strategy and planning, i.e. making decisions about which technologies we should use, which we should develop ourselves, which we should source externally, etc.

Upstream innovation also has its support sub-processes: Business intelligence must make sure that we know what the market wants and is willing to accept, what our competitors do and which new technologies are on the horizon. Idea management must capture new ideas from its own staff as well as from external sources, evaluate them and make sure that the best find their way into the development portfolio. Resource management must ensure that we have the right technological resources available in the future through either in-house competencies or through efficient sourcing from external partners.

Downstream Innovation – Doing Things Right

To implement the choices of the upstream process, where innovation priorities and projects have been decided, there are two key success factors. Project management is the key to developing new products, services or innovations as efficiently as possible. But when the new product or service is in the market, the innovation task is not over. The next step is product maintenance, which is about taking care of or improving existing products services or innovations that you have on the market as efficiently as possible.

Downstream innovation also draws on two support sub-processes. Idea management continues to be important as a permanent source of innovation process improvement, development lead times and product maintenance (e.g. a quality improvement). Resource management now becomes the art of allocating scarce R&D and other resources to the right projects to avoid bottlenecks and to set the right priorities.

This means that it must be determined with what resources this can be achieved, e.g. own R&D staff, through partnering & alliances, outsourcing to suppliers, co-development, corporate venturing, etc.

If key contributors to the innovation process stay in their “ivory towers” and if knowledge is not shared, innovation is unlikely to occur.

Volvo Penta: Integrating “living” Processes in an Organisation

Volvo Penta, a global manufacturer in marine and industrial engines, decided to improve their innovation capabilities. In their stepwise approach, dramatic increases in efficiency and project management control in product development had first priority.

The project approach followed three steps. First, the product development process was enhanced to best practice level through a series of cross-functional workshops. In addition, the innovation enabler, the iPCP tool, was enhanced to meet Volvo Penta’s specific needs based on experiences from a previously initiated pilot project test. Then the process was implemented with the tool and all ongoing projects transferred one by one. All new projects from this point on were initiated and managed through the tool. Finally, to sustain the accumulated relative change momentum achieved and not to fall back into old habits, they implemented a thorough program ensuring continuous bottom-up and top-down engagements with the tools, templates and the means needed to drive the continuous development of process efficiency in the organization.

Through this approach Volvo Penta has created a “living” process in the organization with the result of improved cross-functional collaboration. In addition, Volvo Penta has improved efficiency in product development, lead-time reductions and on-time delivery of new/modified products.

Innovation Culture

Sometimes despite well-defined innovation processes, necessary instruments and resources the desired improvement in innovation performance does not occur. Typically up to 70 percent of all projects do not fully achieve the desired results.

Now the answer has to be sought in the corporate culture. Innovation needs creative tension, different and new views coming from different viewpoints to bring up new solutions. “Not invented here” and “not needed here” inhibit this! If key contributors to the innovation process stay in their “ivory towers” and if knowledge is not shared innovation is unlikely to occur. Other reasons for lacking innovation performance might be found, for example, in

structural/functional barriers: If marketing/sales, manufacturing and R&D don't talk to each other, innovation ideas from markets will never reach product developers and innovative ideas are likely to get stuck in the development process.

To cope with this a growing number of companies apply rules like "X percent of sales from products younger than Y years". Others even go as far as celebrating project stops. But it is evident that changing the formal rules is not enough if underlying behavior remains the same. Behavior is governed by the "Unwritten rules of the Game"¹. If innovation is to come to life, corporate culture must encourage innovative behavior.

Using our "Innovation Climate Index", an analytical tool, we find that the following behavioral issues differentiate outstanding innovators from average and low performers:

- Management style: Formal and inflexible hierarchies tend to discourage entrepreneurship, whereas situative and learning-oriented leadership has a supportive and encouraging influence.
- Organizational conditions: Flat organizations with a high degree of autonomy and delegation are a sound soil for creative ideas, which do not grow well in administrative, hierarchical structures.
- Management attitude: Short term, "next quarter's profit" orientation does not create any incentives or motivation to think "out of the box". Long-term thinking and a passion for renewing products, services and business models encourage it.
- Attitude towards risk: Innovation means to explore new things with unsecure outcome. To be willing to take such risks, creative thinkers must know that a failure coming from such unforeseeable factors will not jeopardize their position. Otherwise they are likely to remain stuck in a risk-avoidance attitude.

¹Peter Scott-Morgan, "The Unwritten Rules of the Game", Arthur D. Little, 1994 describes these unwritten rules and methods in detail.

- Information and communication: Innovation needs an efficient interaction between all involved functions and flow of information. “Silo” thinking will prevent this.
- Performance measures: Companies must know if there is a gap between their current innovation performance and targets and where they need to improve. And this must be broken down into measurable individual innovation objectives. Departments and staff must know where to focus and need rewards for innovation success.
- Learning orientation: Innovative organizations even look at stopped or failed projects as a learning opportunity. The leaders of such projects are considered as important builders of valuable knowledge, not as “losers”.

Becoming an Innovation Leader

The first step towards becoming an innovation leader is to recognize innovation as a top priority for the whole company and to make it a strategic objective – against which top management performance is measured. Without this prerequisite any innovation campaign will remain lip service!

From here on, each company must find its own way depending on its current business model, markets, strategic objectives and internal conditions. A proven way to realize considerable innovation progress is the following three-step process³:

Step 1

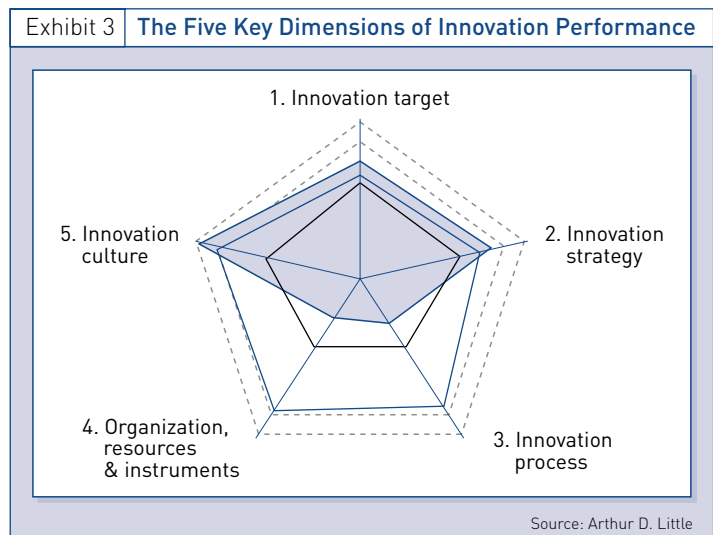
Get a Realistic View of the Current Innovation Status

Often companies are not clear about their innovation targets and priorities. And even less about their current innovation performance and improvement needs. Therefore at this phase our Innovation Audit aims to answer the following questions: How innovative are we

³ For a detailed description of the Innovation Audit concept see Michael Braun, Andreas Feige, Tom Sommerlatte, “Business Innovation”, FAZ Institut, Frankfurt, 2001.

today? How innovative do we have to be? Where are our unexploited innovation potentials? What do we have to do to realize them? And how can we improve our current innovation process?

This analysis looks in detail at the five dimensions described in exhibit 3 to create transparency. Clear innovation objectives, closely linked to business objectives and strategies must exist and current innovation performance must be evaluated critically, based on a set of key innovation performance indicators. Based on this we can assess: “Where do we stand today?” versus “Where should we stand?” Gaps and weaknesses of current innovation portfolio and processes become evident and priorities for improvement can be set.



Step 2

Activate Innovation Potential

To create value innovation efforts must be focused on the most attractive opportunities. If, for example, a growth gap is the key challenge, a growth campaign is the logical next step. The Innovation Audit has revealed the company’s technological strengths, market position and other core competencies on which a growth strategy can build. If this growth requires the development of new products or filling gaps in the technology portfolio, the direction of innovation projects is now clear. It must also be decid-

ed how to make the best use of limited resources and where to source the necessary new competencies from licenses, partners, etc.

Our experience suggests that companies must balance their efforts carefully between continuous, marginal innovation (i.e. the support of today's business) and radical innovation (i.e. the search for new products, services, business models). Innovation strategy must look beyond today's and tomorrow's bottom line and secure the future of the company by identifying long-term innovation priorities.

Step 3

Build a World-Class Innovation Process as Basis for Sustainable Innovation Performance

The measures of Step 2 are targeted towards direct value creation from innovation. To lead to a sustainable innovation performance this must be complemented by a second element: The continuous improvement of the organization's innovation process. Depending on the results of the Innovation Audit this may require (for example) a redesign of current innovation processes or other measures described previously. For this purpose the Innovation Audit delivers improvement targets and an action plan.

The most critical element of the whole innovation initiative is its "roll out". A signal must be sent to the whole organization that management is fully dedicated. To become innovation leaders the firm must be willing to invest in innovation and to rethink its strategy, processes and operations and, if necessary, also its culture. Innovative behavior cannot be "prescribed". It must be lived – starting at the top of the organization!

The creativity, initiative and entrepreneurial spirit of each contributor to the innovation process is mandatory – gaining their full commitment, motivating them and providing them with the right innovation targets and with "room to move" to realize their ideas are the key to success.

Insights for the Executive

In recent years the speed of new product development has dramatically increased. At the same time many products' life cycles have been reduced by half or even more. New products and services have appeared and succeeded or failed at a speed never seen before. And this trend will continue.

Meeting these challenges is more than ever a matter of survival – even for companies which seem to be in a “safety zone” today. It is evident that the potential of the “classical” toolbox of innovation management – including innovation portfolio management, development process reengineering, etc. – has already been mostly exploited and will not lead to further quantum leaps. And other pathways to more flexibility and performance are currently being explored by most companies. As a result of this the traditional large, inflexible central R&D “dinosaurs” are replaced by extended innovation structures with flexible networks and partnerships. Also the introduction of knowledge management and the intelligent use of state-of-the-art Information Technology point in totally new directions.

You can unleash the value in your company by using the levers of innovation:

- Innovation strategy: where, how and with what resources will you innovate?
- Innovation process: performing upstream and downstream innovation and deciding through which resources, like own R&D, partnering & alliances, or outsourcing, this is to be executed.
- Innovation culture: forming a culture that enables innovation to occur and turning “not invented here” into “stolen with pride”.

For some companies the focus will be on pursuing their current product and service portfolio and just speeding up development processes. Others will have to redesign their current offer and come up with new, extended solu-

tion packages going significantly beyond their current product offerings. And some will have to face such radical changes in the market that a complete “rethink” is necessary. For them the name of the game is “Business Innovation”, or as Lew Platt, former CEO of Hewlett Packard said: “The single biggest problem is staying with your previously successful business model one year too long”.

To stay competitive in the long run each company must find its own way to build sustainable differentiation through innovation. Having the right feeling for “How much of which type of innovation do we need when?” and getting this done consequently will be the core competencies of future innovation leaders.

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