



Annabeth Aagaard

Idea and Innovation Management

and leadership

Hans Reitzels Forlag

HASK
KONTOR
EKSEMPLAR

Idea and Innovation Management

1st edition, 1st printrun

© Annabeth Aagaard and Hans Reitzels Forlag 2011

Publishing editor: Henning Persson

Copy editor: Dorte Steiness

Cover design, layout and typesetting: Pernille Sys Hansen/Damp Design

Type set in: Minion, Officina Serif and Officina Sans

Printing: Specialtrykkeriet Viborg

Printed in Denmark 2011

ISBN: 978-87-7675-819-6

This publication may only be reproduced
in accordance with agreement with
Copy-Dan and the Danish Ministry of Education.

Hans Reitzels Forlag
Sjæleboderne 2
1122 Copenhagen K
Denmark



hansreitzel.dk



Contents

.....

9

Introduction

- The origin of innovation 10
- The paradigms of innovation 13
- A call for the facilitation of idea and innovation management 15
- Innovation from a global perspective 16
- Objective and structure of the book 18

23

Ideas, innovation, and creativity

- Ideas, invention, and innovation 24
- Front end innovation 26
- Front end innovation and creativity 29
- Idea management 32
- The innovation dilemmas 35
- Forms of innovation 38
- Types of innovation 41
- The 'right' mix of exploitation and exploration 44
- Innovation in different sectors and small and medium enterprises (SMEs) 47
- Innovation in global organisations 56

61

The process of front end innovation and idea management

- The idea management process 64
- Strategic frame and business focus 67
- Opportunity identification 68
- Environmental scanning and knowledge search 70
- Idea generation and idea techniques 73

Idea evaluation and idea selection	76
Idea maturation	78
Product concepts	79
Internal and external factors and environment	81
The late NPD process	82
The differences between FEI and NPD	86
Appropriability and IPR	87
Financing ideation and innovation	89
Launch and commercialisation	91

95

Innovation management

Managing and leading innovation	96
Innovation management techniques	99
Innovation portfolio management	101
Innovation project management	102
Creativity management	107
Managing radical innovation	110
Factors of uncertainty in managing radical innovation	119
Facilitation of radical innovation in established companies	123
Management support of innovation	126
Incentives and recognition in managing innovation	128
Management of R&D resource allocation	130
Human resource management and innovation performance	131

137

Facilitation of idea and innovation management

The Idea and Innovation Management House	139
The pillars of idea and innovation management	141
Idea climate and innovation culture	144
Innovation leadership	151
Innovation strategy and goals	159
Strategic approaches toward global innovation	164

169

Developing the channels of ideas and innovation

Process management	169
Experimentation in the FEI process	173

Innovative systems facilitating ideas 175
Idea management systems 175
Skunk work 180
Idea incubation 182
Organisational structure and innovation 183
Innovative resources and capabilities 189
Innovative employees and teams 190
Cross-functional teams in innovation 192
The innovation champion 196
Internal knowledge sharing and collaboration 200
Employee-driven innovation 205

211 Innovation through external collaborations and networks

Open source innovation 212
Collaboration with external knowledge partners 215
Networks and inter-organisational relationships in innovation 219
Customer involvement and customer-driven innovation 223
Lead users in innovation 227

233 Measuring innovation and continuing innovation

Idea and innovation measurement 234
Input-output measurement 235
Knowledge measurement 237
Other types of innovation measurements 238
Continuing innovation 244
Strategies for discontinuous innovation 245

249 References

283 Index

2 The process of front end innovation and idea management

Over the past few years, much attention has been focused on managing the process of exploiting and developing ideas into product innovations and more focus is needed to support ideation in the 'fuzzy' front end of innovation process. In many cases, the co-worker in the frontline is the only one who has the knowledge to solve a certain problem (Getz & Robinson 2003), but their ideas are often not collected in a structured manner and therefore remain as thoughts and unused knowledge. Creativity, innovation, and ideas are closely inter-related and are affected by how structure and flexibility is prioritised in handling and organising FEI.

Most of the FEI definitions roughly describe the front end of innovation as the activities that take place prior to the formal, well-structured new product development or Stage-Gate process (Koen 2001) or range from the generation of an idea to either its approval for development or its termination. Although there seems to be a common pattern in the various definitions of the fact that the front end activities precede the formal NPD process, there is less agreement on which activities are included in the FEI.

The FEI process is defined by those activities that come before the more formal and well-structured NPD process (Koen, et al. 2002). Cooper (1988b) originally distinguished four phases of the front end innovation: the generation of an idea, initial screening, preliminary evaluation, and concept evaluation. He particularly stressed the importance of both market-related and technical activities. According to Khurana and Rosenthal (1998), the front end includes product strategy formulation and communication, opportunity identification and as-

assessment, idea generation, product definition, project planning, and executive reviews.

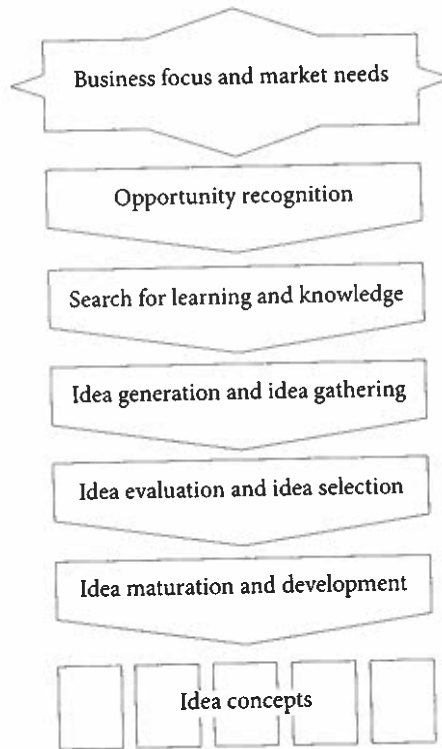
Tatikonda and Rosenthal (2000: 402) on the other hand divide NPD into project planning and project execution, referring to the front end of innovation as *project planning* which includes the selection of projects/ideas to work on, setting up product and project targets, and putting in place the key resources and mechanisms to carry out the development effort. The rest of NPD is described as *project execution*. A preliminary observation at this point is that the terminology of FEI and the FEI process varies among researchers (Nobelius & Trygg 2002). Apart from these explanations and definitions of the FEI process, there may also be differences in organising front end innovation in regard to size of company, type of industry, and between international cultures as addressed in the empirical study. In the study of 79 major companies in Japan and Germany, Bartnik and Kohn (2007) discovered several differences in the way the front end of innovation was organised.

According to Reinertsen (1999: 26), the objective of the front end is to “[...] alter the economic terms of the bets [...] for the new concepts based on [...] the probability for success, the upside of success and the downside associated with failure.” Other ways have been proposed for shortening the lead-times of FEI, e.g., common vision, formalisation, and better communication (Kim & Wilemon 2002), and Khurana and Rosenthal (1997) stress the need to link the FEI to an integrated new product portfolio. All in all, by several authors, FEI is considered a key area to study in improving NPD.

On behalf of the literature review of this book, I have mapped the front end of innovation process incorporating activities of: defining a business focus for the FEI, opportunity recognition, knowledge searching, idea generation and idea gathering, idea evaluation and selection, idea maturation, and development of ideas into idea concepts. Even though the model is depicted as linear, in practice several phases or actions in the FEI process are parallel. The specific wording and number of activities in the front end of innovation differ from researcher to researcher, but idea generation, idea screening, idea selection, idea maturation, and concept development are mentioned by a majority of the researchers in the research performed in this field. In this book, the

model below is utilised as an image of my understanding of the front end activities performed in the FEI process.

Figure 2: The front end process model



The structure provided in handling ideas and the process of front end innovation process is explained through various models of idea and innovation process management. A possible solution to the issue of structuring ideation and front innovation has emerged from the innovation management research where the concept of “idea management” has developed, addressing the management of ideas and the structuring of the idea process (Coghlan & Johnson 2008). The growing interest in idea management has generated a number of articles and books in this field of study. Generally speaking, the front end resembles the idea management process, including activities of managing idea generation, idea screening, idea selection, idea maturation, and concept development (Bakker et al. 2006).

The idea management process

According to the study by Steven and Burley (1997), it can take as many as 3000 raw ideas to produce one substantially successful product. This ratio emphasises the need for idea generation and facilitation of structured and targeted idea handling. Vandenbosch et al. (2006: 260) propose idea management as a way to support ideation and the front end of innovation. The generation of new ideas is normally not the challenge, but rather how the ideas are managed and implemented into the organisation. According to Leavy (2005), turning ideas into commercial reality requires persistence and discipline, and overall effectiveness ultimately depends on top management being able to find the right balance between corporate creativity and efficiency. Idea management includes both the focus on efficiency and creativity providing the right frames and tools for generating and maturing ideas and is therefore relevant to include in the study of ways to support front end innovation.

Flynn et al. (2003: 426) underlines that the effective generation and management of ideas and problem solutions are comprised of four distinct phases: 1) Strategic Direction, 2) Environmental Scanning, 3) Opportunity Identification and 4) Idea Generation. These activities have been applied in the development of the idea management process model presented in the next section.

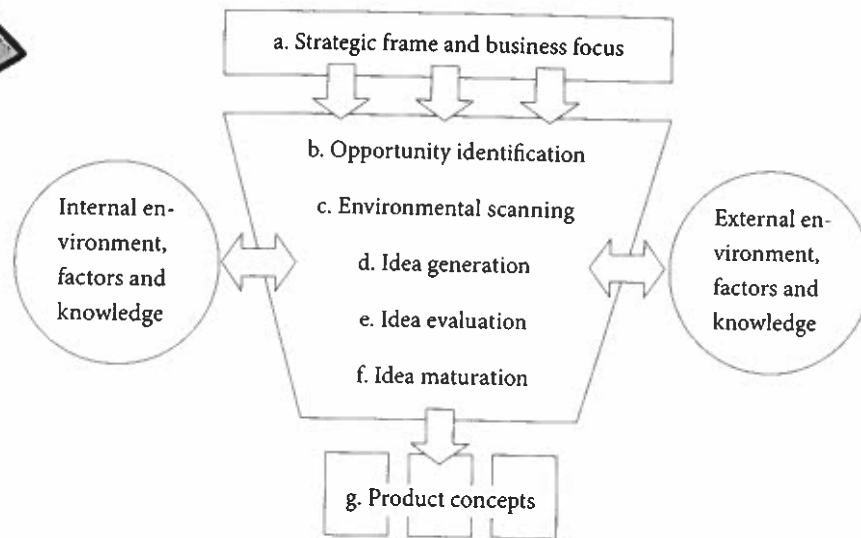
The FEI process, which constitutes the same activities as the idea management process, is addressed by a number of researchers as a critical element in facilitating successful FEI (Cooper 1997b, 2001; Nobelius & Trygg 2002; Perttula 2004). The balance between structure and flexibility in handling ideas and the FEI process are important issues to address when trying to influence and support ideation and the front end of innovation. Making FEI and the innovation process manageable yet creative is a challenge to many companies, as highlighted by Stevens et al. (1999). Creativity on its own will lead to a variety of unexploited ideas with little certainty regarding the possible outcomes of these sparks of innovation. Therefore, innovation should be intentional and supported by the processes or expedient culture of an organisation. This discussion captures the innovation dilemma of structure versus flexibility.

An argument against formality and structuring of FEI is that too

much time can be spent preparing for the reviews. An even more problematic concern is that excessive formality can reduce the flexibility required to conduct projects. Nobelius and Trygg (2002) on the other hand argue that there is no one front end process which is suitable for all situations, rather the type of project and the overall company situation must have an influence. In the article "Innovation killers," Christensen et al. (2008) point to several critical issues related to the application of Stage-Gate process models in FEI. One issue is that the key decision criteria at each gate are the size of projected revenues and profits from the products and the associated risks. Revenues from products that incrementally improve upon those the company is currently selling can be credibly quantified. Proposals to create growth by exploiting potentially disruptive technologies, products, or business models on the other hand cannot be bolstered by hard numbers. Thus, when these projects are competing against incremental sustaining innovations in the battle for funding, the incremental projects win while the seemingly riskier ones get delayed or die. Balancing the innovation dilemma of flexibility and structure in handling FEI therefore also influence the innovation dilemma of incremental versus radical innovation.

A theoretical and practical issue related to enhancement of FEI constitutes the development of a FEI process which both supports efficiency (structure) and exploration (radical innovation). I have therefore designed a generic model of the FEI flow and the idea management process inspired by Koen et al. (2001) and Flynn et al. (2003) which encompasses both elements of structure and flexibility. In addition, the model also presents an overview of the activities which constitute FEI and idea management and require emphasis and support in the organisation. The activities of FEI seldom follow a linear process which is why I have depicted the model as a funnel. The New Concept Model (NCD model) proposed by Koen et al. (2001) and the inspiration behind the model also emphasise the needs for iterations between any combination of the five areas: opportunity identification, opportunity analysis, idea genesis, idea selection, and concept and technology development. Furthermore, FEI and ideas both influence and are influenced by the internal and external environment, factors, and knowledge, and the FEI process is therefore depicted as interactive

Figure 3: The idea management process model



Inspired by Koen et al. (2001: 47) and Flynn et al. (2003: 426).

with the internal the external environment. The idea management process model includes the following key activities:

- a Strategic frame and business focus
- b Opportunity identification
- c Environmental scanning and knowledge search
- d Idea generation and idea gathering
- e Idea evaluation⁹ and idea selection
- f Idea maturation
- g Product concepts

It is important to note that the model and the stages presented are generic and not context specific which in practice implies that the specific content and activities within each step should be tailored to among others: the characteristics of the industry and the national cul-

⁹ Also referred to as idea screening.

ture, the present company and its strategy and goals, as well as the people involved in the idea management process.

Strategic frame and business focus

The starting point of the idea management process model is the strategic frame and business focus of the company. Smith et al. (1999) stress the need to map and align with the strategic frame of the corporation. Leifer et al. (2000) refer to the strategic intent of the organisation as the starting point and guideline for innovation. The strategic frame and business focus also target and narrow the knowledge search and the focus of idea generation which further affects the level of exploration and whether incremental or radical innovation is emphasised.

As discontinuous or radical innovation often breaks with the strategic focus of the company, too narrow a strategic frame or business focus may influence the level of discontinuous and radical innovation in the organisation. The general characteristics of the models' first phase are to design and discuss the strategic and business related platform for generating and integrating ideas of the company. Dooley & O'Sullivan (2000) focus on organisational goals and vision, providing an overall direction-giving framework for the organisation's innovation and ideaation process. Smith et al. (1999) underline the following elements in defining the strategic frame:

- Identification of transitions in key markets and technologies
- Knowledge of relevant external scientific breakthroughs
- Competitors' patent activities and long-term business strategies
- New business intelligence for evolving market gaps
- Technology and business core strengths and weaknesses
- Understanding how cross-business opportunities and technical staff, coupled with articulated market and patent strategies, constitute the cornerstone upon which FEI is constructed.

The strategic focus may equally be influenced by the vision of the company and the applied product strategy or product platform strategy (Grossler et al. 2008).

Opportunity identification

The traditional view is that the front end process begins with an opportunity (Kim and Wilemon 2002), and when management believes that a new product opportunity is worth exploring, a core group is brought together. What comes first – opportunity or idea – is a chicken-and-egg problem. Thus, ideas and opportunities are intertwined. Recognising or creating an opportunity is an occasion for generating or testing an idea; an idea may lead to an opportunity and it may require an idea to capitalise on an opportunity (Vandenbosch et al. 2006: 260).

Opportunity identification is influenced by the strategic frame, business focus, and the organisation's goals as defined in step (a) in the idea management process model, but should also be adaptive enough to be inspired by 'serendipity.' It is during this stage that aspects of the creative process such as synthesis and incubation occur. The FEI is initiated "when the idea for the product first surfaces" (Griffin 1997: 28) and companies "first recognise, in a semi-formal way, an opportunity" (Khurana & Rosenthal 1997: 106). According to Lettl (2007), lead-users can play a central role in the identification of key opportunities.

Creating an organisational setting and individual abilities capable of recognising potential ideas to explore is underlined as key factors in supporting innovation by O'Connor and Rice (2001: 103): "Opportunity recognition for radical innovation is highly dependent on individual initiative and capacity, rather than routine practices and procedures of the firm." Issues such as organisational culture, employee competences, capabilities, and motivation can exert a significant influence on the operation of this phase in the process. The technical and market uncertainty associated with radical innovations often makes it difficult to recognise and identify opportunities. In 10 out of 12 cases of the study by Leifer et al. (2001), the individuals who generated the ideas did not recognise the opportunities.

During the activities of opportunity identification, employees explore potential stimuli, follow hunches, experiment, and sometimes take 'leaps of faith' while evaluating potential stimuli for organisational opportunity. The use of certain facilitation tools such as mind mapping, data-mining, and cross-functional teams can act as enablers of this activity. The output of these activities is represented by a portfolio of potential opportunities which can be matured and analysed further

and later developed into concrete ideas. Drucker (1996) asserts that the source of innovative opportunity arises from the following sources: 1) unexpected occurrences, 2) incongruities, 3) process needs, 4) market changes, 5) demographics change, 6) perception change, and 7) new knowledge. In the study by O'Connor and Rice (2001), activities and factors supporting opportunity recognition and breakthrough innovation in established firms have been examined and constitute the following five factors:

- Articulating a call to action – communicate a need for breakthrough ideas
- Investing in organisational enablers for opportunity recognition
- Sustaining attention: the need for a project overview board
- Promoting and nurturing informal networks and knowledge sharing
- Developing organisational structure mechanisms supporting breakthrough innovation.

An opportunity also relates to specific problems experienced by customers in the marketplace which companies can pursue through product and service innovations targeting solutions for the identified problem. Philips is one of many companies that experiment with identifying unsolved problems as an important driver of innovation as explained in the case presented below.

Philips

Through a study, Philips realised that hospital staff had to repeat many of the scanning procedures on patients. In order to reduce the number of repeated examinations, Philips created a scanner where patients could create a relaxing ambience during the scanning procedure. Philips applied ethnographic methods to explore and understand the emotional experiences of patients being scanned. Patients, their family members, as well as medical staff, were included in the qualitative and cooperative research that examined needs, values, and experiences throughout the care cycle.

The researchers discovered that the users experienced high levels of discomfort and anxiety while being scanned. Users felt that they had no control over the cold, clinical environment, and the machinery was loud and intimidating, making it difficult for them to relax which resulted in poor scans that had to be redone.

Philips created the Ambient Experience Suite which allows patients to personalise their environment during the scanning procedure and wrap themselves up in a relaxing ambience using integrated architecture, design, and enabling technologies such as sound and lighting. The combination of these sensory stimuli makes the room with the scanning equipment appear bigger, reducing sensations of claustrophobia, and potentially reducing the need for sedation and repeat examinations. The new scanner helps procedures progress more smoothly, making the clinician's job easier and increases the patient throughput. Since 2005, 50 hospitals worldwide have installed the Philips Ambient Experience (ReD Associates 2009).

Environmental scanning and knowledge search

The innovativeness of the front end work in product development could benefit from a better understanding of the business environment. However, many organisations do not know what information to collect, do not have the skills to capture the information, or simply hurry through the ideation and screening phases into development efforts. According to Saxby et al. (1999), environmental scanning is the search for information about events and relationships in a company's outside environment and common practice in a corporate innovation strategy context and in facilitation of strategic decisionmaking.

Environmental scanning work can be split into content, process and communication/learning aspects (Börjesson et al. 2006). The scanning team consists of people working on collecting and interpreting data and information and they influence the content and process of the environmental scanning work. While the outcome of an environmental scanning project in relation to communication and learning is generated together with the decision-makers, it thus becomes a critical issue for success (Hamrefors 1999).

After a number of opportunities have been discovered, a targeted

environment scanning and knowledge search sets in. In practice the phases (b) and (c) in the idea management process model (p. 66) often happen interchangeably as the knowledge search also inspires the identification of opportunities. Generating ideas is influenced significantly by how companies search, scan, generate ideas, or obtain information for ideas. Ideas spring from knowledge and experiences held by the employees, including new insights and new knowledge, acquired internally and externally to challenge the preconceived conditions of innovation. The critical success factors of these activities therefore relate to the organisations' ability to strengthen their communication networks, both internally and externally, in order to facilitate and promote effective environmental scanning. Important issues to address in the environmental scanning and knowledge search relate to depth and scope, where depth refers to familiar knowledge being searched, and scope implies the proportion of new knowledge being scanned.

Laursen & Slater (2006) found that external search depth is associated with radical innovation. They underline that in the early stages of the product life cycle, characterised by the state of technology in flux, innovative companies should draw deeply from a small number of key sources of knowledge and innovation, such as: lead users, component suppliers, or universities. In the early stages, only a few actors may have the necessary knowledge of the key technologies underlying the development of a radical product. The two authors also stress the issue of 'over-search,' due to, e.g., search costs. The study of Deverell and Lassen (2006) indicate the need for a wide scanning to detect sources for deep draw investigation. This is necessary as knowledge required for the creation of radical innovation is often characterised by being research intensive.

Muller and Valikangas (2002) suggest that mature firms engage in alliances and multiple search parties to explore undetected areas, referred to as 'white spots,' and different locations of the landscape of knowledge. The required information for environmental scanning can be classified into the following categories: customer information, competition information, industry and sectoral information, technology and processes, general economic considerations, specific economic climate, regulatory factors, and socio-cultural factors, e.g., demographic changes (Auster & Choo 1993).

Various authors underline the differences in search need and search strategies in relation to continuous and incremental innovation versus discontinuous and radical innovation (Christensen 1997; Bessant & von Stamm 2007a). Christensen (1997) highlights that the default response to discontinuous conditions is often to do more of what has worked in the past which may in fact be the worst strategy to adopt. Firms in the sectors that Christensen studied redoubled their efforts to listen to and work closely with their customers. The trouble was that these customers were precisely the wrong set of customers to pay attention to (Christensen 1997). Bessant & von Stamm (2007a) identified twelve search strategies suitable for companies influenced by discontinuous conditions.

Table 2: Search strategies

Search strategies	Mode of operation
Sending out scouts	Dispatch idea hunters to track down new innovation triggers.
Exploring multiple futures	Use futures techniques to explore alternative possible futures; and develop innovation options from that.
Using the Web	Harness the power of the web, through online communities, and virtual worlds, for example, to detect new trends.
Working with active users	Team up with product and service users to see the ways in which they change and develop existing offerings.
Deep diving	Study what people actually do, rather than what they say they do.
Probe and learn	Use prototyping as a mechanism to explore emergent phenomena and act as boundary object to bring key stakeholders into the innovation process.
Mobilise the mainstream	Bring mainstream actors into the product and service development process.
Corporate venturing	Create and deploy venture units.
Corporate entrepreneurship and intrapreneuring	Stimulate and nurture the entrepreneurial talent inside the organisation.
Use brokers and bridges	Cast the ideas net far and wide and connect with other industries.
Deliberate diversity	Create diverse teams and a diverse workforce.
Idea generators	Use creativity tools.

Bessant & von Stamm (2007a).

Environmental stability and complexity influence scanning behaviour. In addition, organisational characteristics and particularly the strategy of the company influence the choice of the environmental scanning approach. Active scanning is associated with market-oriented strategies, while passive scanning is associated with internally-oriented strategies. A differentiation strategy does not require the same aggressive scanning as a low-cost strategy does (Yasai-Ardekani & Nystrom 1996). Organisations with a differentiation strategy apply environmental scanning for opportunity search for growth and for understanding the customer needs while low-cost strategies are associated with threat analysis (Saxby et al. 2002).

Idea generation and idea techniques

The knowledge search and environmental scanning provide knowledge and inspiration for ideas, but how do ideas develop? This is a question which has been explored by numerous scientists, philosophers, psychologists, biologists, etc. Edward de Bono is one of them who in his research discovered that an idea can never stand alone; it always constitutes several ideas and thoughts comprised into one major idea. Therefore, idea generation should focus on developing several ideas which together form what the company is looking for. De Bono (1990) named this lateral thinking, and Howard Gardner (1983, 1994) refers to it as 'frames of mind.'

David N. Perkins, the American mathematician and scientist, has defined and mapped the process from idea to realisation, and in the process it became clear that it was never about a single step, but a range of ideas following each other (Jakobsen 2003). Dasgupta suggests that the generation of ideas is a special instance of a general model of knowledge level processes. Inventions arise from solving problems, and problems arise from dissatisfaction with inventions (Dasgupta 1996). In fact, ideas and problems are closely intertwined, and, in many cases, are not separable. Similarly, ideas and opportunities are intertwined. The recognition or creation of an opportunity is an occasion for idea generation or idea testing. In addition, an idea may lead to an opportunity, and it may require an idea to capitalise on an opportunity.

Numerous procedures can be utilised to generate new ideas, some of which are listed below¹⁰:

- Brainstorming techniques
- Problem analysis
- Perceptual map analysis
- Customer focus groups
- Competitor product mapping
- Product improvements
- Technological developments
- Research and trade information.

Idea generation is the active process of generating ideas whereas idea gathering includes the process of gathering already existing ideas and suggestions from inside and outside the organisation. In some organisations, this is resembled by a 'suggestion box' where employees place and store their ideas, in other companies more formal instruments or idea management systems are integrated to continuously gather and identify ideas in the company. Another aspect of idea generation and idea gathering is customer interaction and customer involvement which has a strong theoretical support as the driver of successful and innovative new products (e.g., von Hippel 1988, 2005; Tellis et al. 2006).

Internal and external idea gathering are also included in this phase and are represented by identifications and collections of ideas developed primarily adhoc, whereas we refer to idea generation as the process of actively generating new ideas through facilitated activities inside and outside the organisation. In literature, these two terms are often applied interchangeably. It is not the objective of the book to discuss each idea generation technique in itself or within different contexts, but to present an overview of the most common approaches applied in facilitated idea generation sessions.

It should be noted though that idea generation in practice is influ-

¹⁰ It is not the objective of the book to identify and clarify all possible techniques for idea generation and possible advantages and disadvantages, and only an overview of the more common techniques have therefore been presented.

enced by the context within which it happens. This implies that idea generation in an American or a Chinese unit may be carried out very differently and possibly with different results. The context, culture, and characteristics of the organisation and the group of people involved should of course be taken into account when planning and carrying out idea generation processes in practice.

Idea generation at LEGO

LEGO has produced a detailed idea-generation process to assist its design teams during each phase of the overall development process. Operating as the full design cycle in miniature, the process is intended to transform business objectives into design recommendations by encouraging the development team to conduct a logical sequence of actions, with each part of the sequence having its own defined deliverables. This sequence begins by exploring the problem. In this research phase, the team examines the background to the design challenge through desk research, field studies, and interviews with consumers and expert knowledge holders. Insights from the exploration phase are delivered at the end of the process, and these are used by the team in the Developing phase. During this phase, basic ideas are sketched out, from mood and colour guidelines to visual or solid mock-ups of proposed designs, packaging, or themes.

The ideas from the exploration phase are presented formally to the entire project team, and then undergo a rigorous process of Validation during which they are shown to key stakeholders including potential users, their parents, retailers, and sector experts, and assessed against the objectives set. Feedback from the validation phase may be used to refine design recommendations and to generate new insights, resulting in an iterative process before the final deliverable, recommendations on how the project will be taken forward. After completion of the cycle through the P prototyping stages representing LEGO's FEI, the project is reviewed and a go/no-go decision is made before the M phases, representing LEGO's late NPD stages, take the concept forward to manufacture which is explained in detail in the case example of LEGO's NPD process later in this chapter (Design Council and LEGO.com).

Idea evaluation and idea selection

It is not sufficient to generate and/or gather ideas, they also have to be evaluated, selected, and converted into concepts and new and improved products. Idea evaluation and selection are essential activities in FEI as stated by Koen et al. (2001: 51): "[...] the critical activity is to choose which ideas to pursue in order to achieve the most business value." Especially the selection and test of ideas are significant elements of effective idea management and the further NPD process. Prior to the idea selection, relevant criteria have to be identified and mapped to ensure an optimal idea selection process and the proper weighing of the pros and cons of the materialisation and development of the ideas.

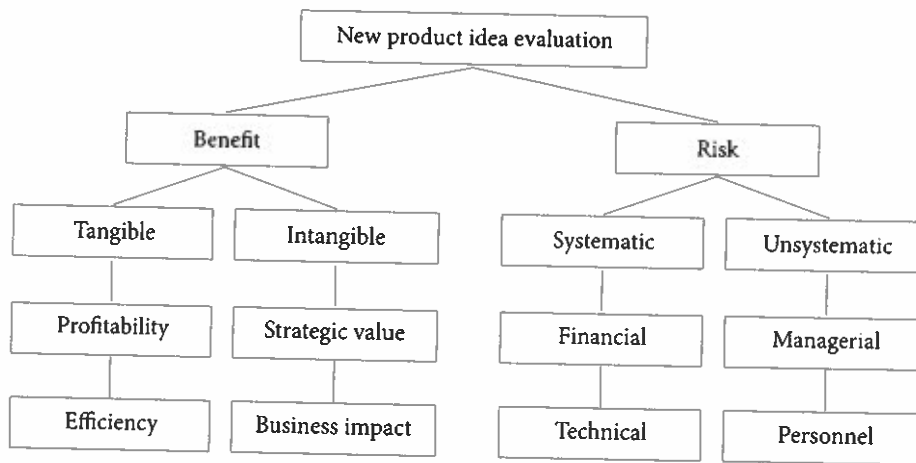
It is therefore desirable for the company to establish transparent and standardised structures for this process, as it makes it possible to evaluate which ideas to adopt and continue with (Tidd et al. 2001: 39). Furthermore, the formalised process provides transparency as to why certain ideas are selected or not selected. This also has an influence on the employees' desire to participate in the presentation of ideas as it is apparent to them which criteria are applied in the assessment of their ideas (Desouza et al. 2006).

The more a risk or uncertainty can be reduced during idea evaluation in the front end of the innovation process, the lower the deviations from the specifications of the subsequent project execution phases, and hence the greater the success in product development. This information-processing or uncertainty reduction approach has been discussed by several researchers (e.g., Sherman et al. 2005: 401; Salomo et al. 2007: 288). Evaluation and selection of ideas are performed as a way to reduce risk and target resources. Thus, where the idea generation phase is creative, the concept evaluation is analytic.

The challenges of idea and opportunity recognition and evaluation are addressed in the literature. According to Cooper (1997a: 22): "Ideas are screened against a set of largely qualitative criteria to assess the appropriateness of the idea." Alternative screening methods and checklists are presented by, e.g., Rice et al. (2001: 410), "[...] calculating the probability the project will meet the firm's profitability objectives, predicting market size and growth rate and assessing the risks of alternative scenarios." The application of specific evaluation grids to filter out the strongest concepts is also presented as a method of idea selection.

Given the company's overall business and product strategy, goals, objectives, and internal and external constraints, only a very small number of ideas can and deserve to be turned into marketable products. The issue is usually not getting enough ideas, but selecting the right ideas for further development. Therefore, concept and project selection is pivotal to effective risk reduction in new product development. Büyüközkan & Feyzioglu (2004) present a model for new product idea evaluation including the balance of risk and benefit.

Figure 4: New product idea evaluation



Büyüközkan & Feyzioglu (2004: 32).

The model presents how the new product idea evaluation weigh the proposed new product ideas by taking into account the apparent benefits (tangible and intangible) and risks (systematic and unsystematic). This evaluation activity includes subjective judgments of the ideas in relation to the eight criteria presented at the bottom of the model. The individual opinions are pooled to arrive at a final decision on which ideas to develop further. Metrics are critical in idea evaluation and in improving the idea and FEI process. Montoya-Weiss & O'Driscoll (2000) propose the following set of criteria:

- 1 *Marketing criteria*: assessment of user needs, market trends, market potential, competition, concept definition
- 2 *Technology criteria*: technical feasibility, skill set/resource availability, synergy with development strategy, concept novelty
- 3 *Business criteria*: assessment of size of the opportunity, time to market, customer alignment, strategic alignment
- 4 *Human factor criteria*: human factors resource requirements, usability assessment, productivity enhancements, and interface competitive analysis.

In comparison, Smith, Herbein, and Morris (1999) propose the following metrics:

- 1 *Patent metrics*: to guide the inventors to early consideration of intellectual property issues
- 2 *Quality index metric*: is a list of 30-40 selected component details that need to be addressed to turn an early idea into a viable concept and an option for commercial development
- 3 *Dynamic cycle time*: to guide inventors of the development in cycle time
- 4 *Pipeline revenue projection*: to guide the inventors of the development in projections of pipeline revenue.

The choice of idea evaluation criteria and metrics should of course be aligned with the strategic frame and the business focus of the organisation as well as the company's characteristics and overall objectives for innovation to ensure that the optimal criteria are applied in selecting the 'right' ideas for the present company and situation.

Idea maturation

The selected ideas continue in the FEI process, and during the process they get constrained and aligned with factors such as organisational goals, models of change, teams and resource, etc. The further the idea travels in the FEI process, the more developed and precise it becomes. The most suitable ideas are approved for implementation while others are reworked, rejected, or merged to re-enter the process again (Cagan

& Vogel 2001). During the idea development phase, or referred to as idea maturation or 'concept development' by Koen (2001), uncertainties are reduced, and the concept is refined and developed for final evaluation.

In practice, idea maturation includes, among others, testing, various assessments, evaluations, financial calculations and scenarios, and the development of preliminary prototypes and business cases. The purpose of the idea maturation process is to be able to present "[...] a business case based on estimates of business potential, customer needs, investment requirements, competitor assessments, technology unknowns, and overall project risk" (Koen et al. 2001: 51). Maturing and testing ideas include an evaluation of the sustainability of the ideas before they are converted into new specifications, attributes, and products. This can be done through the development of prototypes that are tested in user tests and where the weaknesses and potentials of the ideas are examined (Bason 2007: 286).

Testing the potentials of the ideas also minimise the uncertainty that is tied to the creation of innovation. In addition, idea testing contributes with knowledge what needs to be adjusted in the idea concept. The ideas that are selected for further development and become product development projects have to be evaluated in relation to the company's business strategy to ensure that the ideas make sense for the company to go through with (Tidd et al. 2001: 52-53).

The content of the idea maturation or concept development phase differs among production companies, service and public sectors as the 'product' to be delivered at the end, sets up different requirements in relation to the unique characteristics of the company, the customers and industry in question which all influences the content of this phase. These elements therefore have to be taken into account when designing and planning the activities to be carried out in the actual maturation of the idea.

Product concepts

The final result of the idea maturation and the FEI process is a "[...] well-defined product concept (clear and aligned with customer needs), a product definition (explicit and stable), and a project plan (priorities, resource plans and project schedules)," as stated by Khurana and

Rosenthal (1997: 106). The result of the product concept phase is a clarification and a detailed specification of the selected product concept ready to enter the NPD process.

The selected product concepts are transferred to early development projects and go into an early planning stage with formulation of milestones, risk evaluations, resource allocations, etc., which includes the business plan that is based on the company strategy, and designed and assigned to the development project. Digmann et al. emphasise that management should be aware not to impose plans for the transformation of the ideas into new innovation that diminishes the room and opportunities for experimentation during the process (Digmann et al. 2006: 44).

Oden (1997: 121) defines a product concept as: "[...] the core benefits and the major supporting benefits of a new product and describes how these benefits are provided. It can be a verbal or written description, a model or another suitable presentation format that depicts the idea. Yet, an idea does not have to be nearly as complete or as specific as a concept. An idea is usually represented as "a descriptive statement, written or spoken" (ibid.). In practice, ideas and concepts are often intermingled in the creative process. The value in separating them is that ideas can remain relatively free in form to stimulate maximum idea generation while concepts must be specific and described in detail to enable management, production, marketing, customers, and the rest of the organisation to understand the content of the concept, the implications of the concept, and the evaluation of the one concept against another.

Once a clear-cut concept emerges from the FEI and enters the NPD phase, it is usually subjected to structured and formalised development methodologies, e.g., the traditional Stage-Gate model, as presented earlier. According to Kahn (2004) the FEI process is considered to end with the creation of a business plan including product specification, financial analysis, and project management plans. This final result of this phase also differs between production companies, service, and public sectors as the need for information and detail in explanation of the concept are influenced by whether we are producing a physical product or an intangible service, so again the context has to be taken into account.

Internal and external factors and environment

Idea management does not happen in a vacuum, but in a context which is influenced by the internal and external environment and factors surrounding and affecting the company and its innovation process. This also implies that generic models such as the idea management process model presented earlier have to be tailored to the concrete context in which the ideas have to be handled. Within the scope of an integrated idea management approach, it is important to include all internal and external resources that enhance and influence the innovative ability of the business (Brem & Voigt 2007).

The internal environment and factors constitute among others, the unique characteristics of the specific company, its culture, management, the project, the idea, and the employees involved which are all explained in Chapters 4 and 5. These conditions need to be taken into account when managing ideas through the front end of innovation if success is to be achieved. In practice, this implies an active facilitation of an environment and factors supportive of innovation.

The external environment and factors also play a central role in innovation and represent a unique source of knowledge and ideation as presented in Chapter 6. Not only does the local environment present opportunities, but also the national and global environment and communities influence the needs and trends of innovation. Public policy, laws, and legislations set boundaries to be considered as trends open new paths of opportunities. For a long time, the perception has been that the customers are successful contact partners and suppliers of ideas for business innovation (von Hippel 1986). Thus, application of lead-users in the ideation and innovation processes is a common tool in supporting NPD.

Competitors determine the range of innovation activities on the procurement and sales market and are therefore particular interesting to analyse in determining the external environment for innovation. Competitor analysis and benchmarking are often applied as practical ways to gain knowledge of the competitive market and supply. Nevertheless, Porter (1980) stresses that it is necessary to select the 'right' competitors in order to gain strategic advantage. Other external stakeholders influencing the innovative activity within the company constitute amongst others the opinion leaders and reference groups in

the general public as well as government institutions, associations, and media. It is therefore important to include these factors in designing and facilitating the optimal idea management and NPD process of the company.

The late NPD process

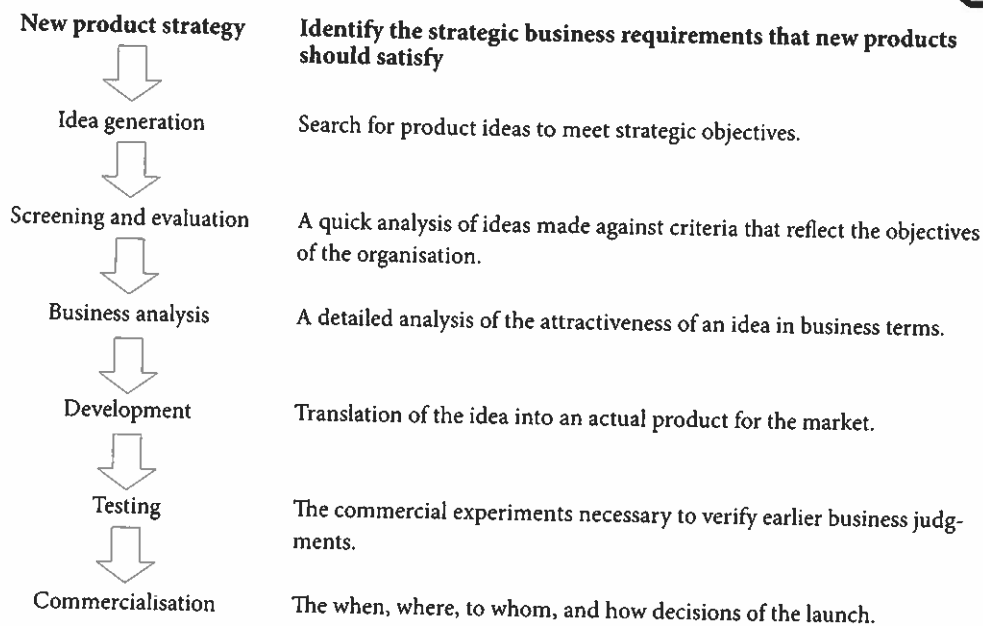
The history of project management research is characterised by a debate regarding the extent to which events and activities within the process occur in linearly sequential, discrete, identifiable stages or whether events are more disorganised or even chaotic. However, despite the different viewpoints, there are a number of common elements to be summarised as the major components of the NPD process. The systematic NPD process from transforming ideas to commercial outputs shapes an integrated flow and is referred to as 'the innovation value chain' to improve innovation (Hansen & Birkinshaw 2007). The early stages of NPD represent the front end activities as presented earlier in this chapter and typically include structuring and identification of problems/opportunities, idea generation and concept development, continuous information search, and screening (Crawford & Di Benedetto 2003).

The models of the NPD process

The later stages of NPD from accepting the concept consists of the technical, commercial, and financial steps that are necessary for the successful development and marketing of new or improved products and the commercial use of new or improved processes (Sankaran and Mouly 2006). Vast amounts of research and literature have been conducted within the field of NPD and product development presenting various process tools and guidelines for managing the innovation process. However, Booz, Allen, & Hamilton (1982) were some of the first to present a stepwise model of the NPD process (figure 5).

To ensure the operation of the systematic process, the chain of value creation needs all kinds of innovative aspects across organisational functions to match, in other words, the matching or synergistic action among innovative aspects drives the systematic innovation in order to win competitive advantage. Hence, the NPD model requires that the organisational frames supporting innovation are in place and

Figure 5: The NPD process

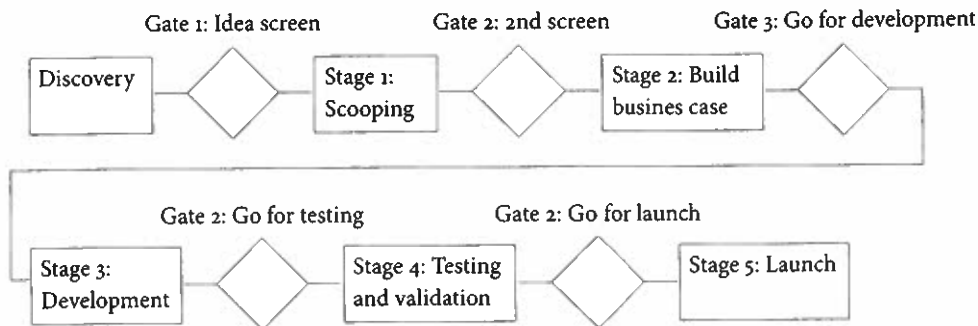


work optimally to provide the necessary foundation for a successful NPD process.

According to McGrath (2001), most companies utilise a formal model for managing product development, such as the Stage-Gate model (Cooper 2001). To illustrate the continuum of FEI, development and launch of the Stage-Gate model of the NPD process by Cooper (ibid.) has been included as presented below (figure 6). The stages from discovery to stage 2: build business case and gate 3: go for development, constitutes what Cooper (1990, 1997a, 1997b, 2001) refers to as the front end of innovation.

In practice, the specific content, duration, and flow of activities of each stage in the NPD process are influenced by various elements such as the industrial, company, and environmental factors characteristic of the present organisation. Hence, the NPD process of a service organisation and a manufacturing company differs although the overall model presented captures the generic process of new product development in most companies. Front end innovation (FEI) and New

Figure 6: The stages and gates of the NPD process



Cooper (2001).

Product Development (NPD) represent the continuum of the innovation process. Front end innovation and idea management relate to the preliminary research and creative phases of innovation and the early stages of the NPD process. Whereas the later stages of the New Product Development (NPD) process also captures the activities involved in development, financing, testing, and launching of the final products. Even though there is a continuum between the FEI and NPD, the activities related to the front end differ on several accounts from those of product development.

LEGO's NPD process

The LEGO NPD process uses a Stage-Gate system to ensure that new designs are regularly evaluated against their business criteria and the portfolio so that costly investments are not made in projects without firm financial and market justification, aligned with the original objectives. The foundation overview is a poster-based tool used to visualise the LEGO development process. This helps the Product Market Development team to review the whole innovation process and manage stakeholder expectations. The development process has four prototyping phases (P0 to P3) and five manufacturing phases (M1 to M5) as presented below:

- In P0 (portfolio kick-off), the business objectives for the project are defined. At this stage, the key question asked is: What are the critical issues that should be solved for product groups/lines across the portfolio? This takes about two or three months.
- In P1 (opportunity freeze), the team assesses what opportunities would solve the issues identified in P0 and should be taken forward for development into concepts. The marketing team becomes involved to build market and customer insights into the business case and begin to define product requirements. Only when the project business criteria are in place and the financial case for a new project has been proved, does the design team become involved.
- In P2 (concept freeze), the team establishes what the concepts are about in the context of overall business, product, communication, and process requirements. The design team becomes involved, concepts are created and evaluated, some initial prototyping may be undertaken, the first full business case is prepared and detailed market analysis is used to identify the market opportunity for the new project.
- In P3 (portfolio freeze), the team establishes which concepts are ready to be turned into projects. The full project requirements are established, including staff requirements, tooling and design costs, and the full business case is put forward for approval. Some concepts that arise at this stage may not be LEGO-based and can be taken to other areas of the business for further exploration.

Overall, the journey from P0 to P3 can take up to six months.

Teams present their outputs from the P prototyping phases using standardised document templates. The foundation document is formed from a series of templates and is used to create a foundation for each Stage-Gate activity. It brings the core team activities together in an easy to understand document. Furthermore, tools such as the foundation document have made comparing different project options much more straightforward and make decisions more objective. After completion of the cycle through the P prototyping stages, the project is reviewed and a go/no-go decision is made before the M phases take the concept forward to manufacture.

- In M1 (project kick off), designers and product managers work together to refine the product definition and the business plan that will be used to bring it to market, ensuring that all design activities will be focussed on fulfilling the precise business brief.
- In M2 (business freeze), the business case is finalised and product design can be completed to meet the business requirements.
- In M3 (product freeze), product design is complete and attention turns to the packaging, marketing and communication aspects of the project.
- In M4 (communication freeze), all physical aspects of the product, packaging, and communication materials are finalised and LEGO's manufacturing specialists can begin the process of building the supply chain necessary to deliver the product to market.
- In M5 (procurement freeze), the supply chain is completed, manufacturing is started, and the product is launched (Design Council and LEGO.com).

The differences between FEI and NPD

FEI activities are often viewed as chaotic, unpredictable, and unstructured (Reid and Brentani 2004; Koen 2007), whereas the new product development process typically appears structured and formalised with a prescribed set of activities to be carried out. The challenge of a successful organisation of the early phases of innovation is enhanced by high uncertainty, fuzziness, and ambiguity of FEI. When comparing the characteristics of FEI and NPD, it is clear that different methods and measures are requested. The different characteristics of FEI, NPD/development, and market introduction are summarised by Boutellier et al. (2000) in the following table (table 3).

The FEI is in general characterised by a low or no budget, vague goals, an unstructured process, and unclear results. The financial risk at this point is low although the decisions made at this point may have important implications and high impact on the financial risks later on in the process which is an aspect not integrated in the table above. Both the development and market launch phases have planned and high budgets and are guided by detailed goals and structured processes where the results are defined and negotiated. The financial risks rise as

Table 3: Characteristics of early and later project phases in NPD

Characteristics of early and later project phases in NPD			
Criteria	Front end	Development	Market intro
Budget	Often non/low	Planned/high	Planned/high
Goals	Vague	Detailed	Detailed
Costs	Low	High	High
Processes	Not structured	Structured	Structured
Results	Unclear	Defined	Negotiated
Financial risk	Small	Medium	High

Boutellier et al. (2000:163).

the project advances in the NPD process, as does the costs. These are possible reasons why NPD and launch have received more attention in the innovation research than FEI.

As the early stages of the NPD process are captured by the FEI and idea management process already described in detail earlier in the book, this section will focus on the later stages of NPD which occur after the acceptance of the product concepts and the related business plan. Prior to the launch, a number of activities have to be carried out which differ depending on the specific product/service, company and industry in question. Several books describe the specific content of each of these stages and activities related to development and post-development which is why this book will only shortly address the stages which also have to be taken into account when discussing the product concept which relate to: patenting, financing innovation, launch, and commercialisation. This leaves out development and post-development activities such as: development of prototypes, design specifications, engineering, screening, production, business analysis, positioning, pricing, distribution, marketing, sales, after services, etc., which are beyond the scope of this book and part of the delimitation as explained in the introduction.

Appropriability and IPR

The degree to which a firm can capture the rents from its innovations is termed appropriability where the appropriability of an innovation

is determined by how easily or quickly competitors can imitate the innovation (Shilling 2007: 182). Some innovations are inherently difficult to copy as the knowledge underlying the innovation may be rare and difficult to replicate. If the company's know-how and unique knowledge base is *tacit*, meaning that it cannot readily be codified into documents or procedures, or it is *socially complex*, which means that it arises through complex interactions between people, competitors will typically find it hard to duplicate the innovation.

In an attempt to protect research and development (R&D) expenditures, many industries rely heavily on intellectual property rights (IPRs) to protect the large sums invested in the risky venture of new product developments and the proprietary knowledge that they are based on (Booth & Zimmel 2004). Intellectual property (IP) is a term referring to a number of distinct types of creations of the mind for which a set of exclusive rights are recognised and the corresponding fields of law.

Under intellectual property law, companies are granted certain exclusive rights to a variety of intangible assets, such as discoveries and inventions, symbols, and designs. Common ways of protecting intellectual property include copyrights, trademarks, patents, industrial design rights, and trade secrets in some jurisdictions although these methods are designed to protect different elements. Patents protect inventions, a trademark protects words or symbols, and a copyright protect an original artistic or literary work.

Patenting can be carried out early in the NPD process, and many industries (e.g., the pharmaceutical industry) practice to patent ideas, technologies, and discoveries as they are discovered in both early and later phases of their NPD process. It is therefore important to carry out decisions of patenting early in the process. Different patenting laws apply around the world, and it is therefore important to distinguish among these laws and to determine in which countries the company wants and needs to patent their inventions as patenting comes with a cost of money, time, and resources. Protecting an innovation preserves the firm's architectural control which enables it to direct the technology's development, determine its compatibility with other goods, and prevent multiple incompatible versions of the technology from being produced by other firms.

Diffusing a technological innovation is another strategy which is particularly useful in industries that accrue in creating returns to adoption and when the company has inadequate resources to be the sole developer, producer, distributor, and marketer of a good. Diffusion can encourage multiple firms to produce, distribute, and promote the technology, possibly accelerating its development and diffusion (Grindley & Teece 1997).

Applying for patents and monitoring and overseeing Intellectual Property Rights are both time consuming and costly affairs. It is therefore important to consider to what extent and in which countries the company needs to have their trademarks and/or inventions patented. Having a patent or other IPRs does not mean that no one will try to copy or 'borrow' from your invention. Intellectual Property Rights (IPR) have to be upheld continuously. Thus, large organisations such as Nike, LEGO, Coca Cola, and Disney have entire departments who do nothing else than monitor and protect the IPR's of their corporation.

Financing ideation and innovation

It is unusual for unlimited funds to be available, and hence, business functions usually compete with other departments for funds. Although the majority of the costs in most industries' NPD are located in the actual development of the physical product, there are still costs associated with FEI and the preliminary NPD stages. Setting up an idea team and facilitating the process of generating, evaluating, and maturing an idea into a product concept requires time, money, and resources. If the company does not have available resources for R&D activities, this could represent a potential barrier to ideation and FEI as employees have to spend time finding ways to finance their idea project even before they have started, which may demotivate people to leave the idea in the desk drawer. Typical costs and time involved in the intrapreneurial phases of the idea management process have to be expected in terms of, e.g.: 1) idea generation and selection processes, 2) market analysis and customer interviews, 3) technology analysis, 4) examinations of potential patenting, and 5) tests and prototyping.

A great deal depends on the culture of the organisation and the industry within which the company operates. For example, the phar-

maceutical industry spends billions on front end innovation as their FEI processes last up to five years and constitute extensive research, search activities, and testing even at the early stages of NPD. Other industries spend very little on R&D, but huge amounts on sales and marketing which is the case for the financial service industry. In practice, establishing the R&D budget for a business is influenced by short term performance fluctuations and availability of funds. In addition, R&D budgets are also affected by the long term strategic technological needs of the business.

A typical approach applied is the portfolio approach which enables profits from today's successful businesses to be invested into what the company hopes will become the profitable businesses of tomorrow. Yet this strategy does not support new innovations that go beyond what the company knows today or has formerly invested in. Trott (2003: 336) presents a number of key factors to consider when allocating funds for R&D: 1) Expenditure by competitors, 2) Company's long-term growth objectives, 3) The need for stability, and 4) Distortions introduced by large projects. Furthermore, he proposes six different strategies to be applied in R&D allocations:

- *Inter-firm comparisons*: which are comparison of R&D expenditures, number of R&D personnel employed, etc. among companies within the same industry and of similar characteristics.
- *A fixed relationship to turnover*: which implies that the company's R&D expenditures are based on a constant percentage of turnover.
- *A fixed relationship to profits*: which implies that the company's R&D expenditures are based on a constant percentage of profits.
- *Reference to previous levels of expenditure*: includes a discussion of previous year's expenditure plus an allowance for inflation or other factors.
- *Costing of an agreed program*: constitutes an estimate from the R&D manager on required R&D funds for different R&D projects.
- *Internal customer-contractor relationship*: in large multinational companies, the individual business unit may pay for research carried out on their behalf by the R&D function. In addition, there

is usually some provision for building the knowledge base of the whole organisation.

Top management in many companies try to eliminate the barriers of funding ideas by sending a clear signal of the company's innovation focus in setting up R&D funds for both front end activities and product development. Financing and funding are key elements in active facilitation of idea and innovation management, and therefore central factors to consider in management support of ideation and product development within the organisation.

Launch and commercialisation

The uniqueness of the idea behind the new product has to be communicated to the user and customer in the launch and commercialisation. Commercialisation is concerned with making the innovative process or product a commercial success; it includes issues such as marketing, sales, distribution, and joint venture. Hence, commercialisation means taking an innovation to market (Chakravorti 2004), but may also include convincing production managers to adopt a series of new techniques available to them (Single and Spurgeon 1996). The successful introduction of new products and services into markets is critical for the survival and growth of organisations.

According to Kelm et al. (1995), commercialisation is a transitional phase in which the organisation becomes less reliant on its technological capabilities which are important during the activities of initiation, but more dependent on market dynamics. While technical capabilities are important for the early stages of the innovation process and development activities, for the launch and implementation stage, it is marketing capabilities including market investigation, market testing, promotion, etc. that are significant. Verhaeghe & Kfir (2002) consider aspects of commercialisation under the headings of market analysis and monitoring, reaching the customer, and market planning.

A company can strategically apply launch timing to take advantage of business cycles or seasonal effects, to position its product with respect to previous generations of related technologies, and to ensure that production capacity and complementary goods or services are in

place. A practical example hereof is the video game industry represented by major players like Nintendo, Sony, and Microsoft who all take advantage of seasonal effects by introducing their consoles shortly before Christmas so that the hype of the consoles' launch will coincide with the Christmas season. Thus, the majority of all video game consoles are sold in December. The marketing and PR strategy of the company of course has to be integrated in the launch and commercialisation of the product where the most commonly used marketing methods include: advertising, promotions, and publicity/public relations.

Questions for discussion

- 1 What constitutes front end innovation?
- 2 What is the purpose of idea management, and what are the key elements?
 - a In what way can the strategic frame and business focus support and limit innovation?
 - b How is opportunity identification carried out?
 - c Which various activities constitute environmental scanning and knowledge search?
 - d How are ideas generated and gathered, and from whom?
 - e Which criteria would you suggest for idea evaluation and idea selection?
 - f Through which activities would you mature an idea?
 - g What constitutes a product concept? And how would you develop a service concept?
- 3 What are the challenges of a linear idea management process?
- 4 What are the benefits in managing the idea process?
- 5 To what extent does idea management influence innovation dilemmas of structure versus flexibility and incremental versus radical innovation?
- 6 Discuss whether idea management supports or limits incremental and radical innovation.

- 7 Discuss the way LEGO has designed and carried out their NPD process.
 - a What are the strengths and weaknesses of their NPD process?
 - b Is there potentially anything missing in their NPD model?
- 8 What are the main differences between front end innovation and new product development?
- 9 In what way can R&D financing and patenting limit and support ideation and innovation?

Innovation has been announced as the key to success for corporations all over the world and is critical to a company's survival and development. However, the ability of an organisation to grow is dependent upon its ability to generate new ideas and to exploit them effectively in producing new innovations. Over the past number of years, more theoretical attention has been focused on managing the process of exploiting these ideas and progressing them into innovations. However, the process by which organisations handle these ideas in practice is often unstructured and "ad-hoc".

Idea and Innovation Management explains the concepts and processes of idea and innovation management and the key elements of how to support and facilitate effective idea handling and innovation management throughout an organisation and in relation to different industries and company sizes. Relevant models and theories are explained, exemplified in practice through company case examples and discussed through workshop questions.

Through this interplay between innovation theory, practice, and discussions, the author hopes to provide students, theorists, and practitioners with the necessary theoretical and practical understanding of how to support ideas, innovation, and intrapreneurship in organisations.

ANNABETH AAGAARD (Ph.D., MSc) has worked as a manager and strategic management advisor for over fifteen years at some of the largest companies in Scandinavia. She has published several books on management and is currently doing management research as an associate professor at the University of Southern Denmark.



| hansreitzel.dk |

PRIS: 298,00
Idea and innovation m



9 788776 758196
27.10.2011