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## **Idea Management Systems for a Changing Innovation Landscape**

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# **Idea management systems for a changing innovation landscape**

## **Abstract**

Over the last decades, the nature of innovation has changed from being primarily related to incremental product innovation towards more business model innovation, discontinuous innovation and open innovation. These changes impose new demands upon the ideation phase of the innovation process and on idea management systems. This article explores what an idea management system that handles some of these different forms of innovation ideas may look like. The studied idea management system differs from previous typologies in the sense that it is dual, i.e. aiming to generate, evaluate and select both continuous and discontinuous innovation ideas and employing different processes and criteria for this within the same system.

# 1 Introduction

Ideation can be regarded as the first phase of the innovation process. The creation of new ideas is an important source of innovation within an organization (Amabile, 1997). Over the last decades, several changes have taken place in the field of innovation management. There is a growing interest in both how companies can survive discontinuous innovation (e.g. Christensen, 1997) and how they can proactively generate these discontinuities (e.g. Veryzer 1998). Moreover, firms are increasingly looking outside their boundaries in order to become more innovative (Chesbrough, 2003). The importance of intellectual capital such as patents has also increased (Granstrand, 2002). Moreover, a growing body of literature has also explored the area of business model innovation in detail (e.g. Markides, 2006; Charitou, 2001; Gilbert and Bower, 2002). Business model innovation is becoming increasingly important, both in order to appropriate returns from technological innovation and to increase the profitability in mature industries.

Clearly, these changes impose new demands upon how firms manage their ideation activities. However, when looking at how the literature about ideation and idea management systems, it can be seen that the above-mentioned changes in innovation are scarcely mirrored in the design and scope of these systems. Idea management systems can be regarded as a systematic way of handling the ideation process. Vandebosch, Saatcioglu and Fay (2006) define these systems as the structured process of recognizing the need for ideas, and generating and evaluating them. During the 1990s, idea management systems became an integral part of the Continuous Improvement (CI) stream of management literature (Fairbank and Williams, 2002; Verespej, 1993). Over time, more scholars have underlined that idea management systems can be used in order to become more innovative (e.g. Nilsson, Elg and Bergman, 2002; Flynn et al., 2003). Idea management systems are increasingly regarded as important for coming up with new products (Cooper, 1993; Wheelwright and Clark, 1992; Day, Gold and Kuczmarski, 1994). Thus, most of the literature concerning idea management systems views them as a way of coming up with continuous improvements or incremental product innovations. The nature of innovation has changed but the use of idea management systems does not seem to have shifted to the same extent.

This article explores what new characteristics are required in an idea management system in order to meet the changing nature of innovation. This is done by conducting an in-depth case study of a firm that has an idea management system and re-designed it in order to match its broadened innovation scope. Interviews have been carried out with the managers in charge of the system and with key contributors to it. Specific data regarding the ideas in the database have also been gathered. The findings in this article indicate that idea management systems perhaps need to become more complex in order to handle different forms of innovation. The studied system differs from previous typologies in the sense that it is dual, i.e. aiming to search, develop and assess ideas in different ways depending upon their nature.

The paper is organized as follows. The next section reviews literature on idea management systems and the changing nature of innovation. The subsequent section contains a description of the methods used in this paper. Then the case study is presented, which is followed by an analysis. After that, the results are discussed and the final section contains some concluding remarks as well as suggestions for further research.

## **2 Theoretical exposition**

Ideation can be defined as the capability of an organization to create and retain new ideas in order to survive and grow (Hellström and Hellström, 2002). Graham and Bachmann (2004) regard ideation as the process of how individuals and companies generate creative ideas and develop them further. Idea management systems can be viewed as a structured support of the ideation phase. This theoretical exposition will first review how idea management systems have evolved over time and then some of the major changes in the innovation landscape will be outlined. Finally, those changes and their implications for the design and scope of idea management systems will be discussed.

### ***2.1 The development of idea management systems***

Historically, suggestion boxes have been used as a way to coordinate and manage creativity (Ekvall, 1971). In the 1990s idea management systems became an important element of the Continuous Improvement (CI) stream of management literature. In line with this, Fairbank and Williams (2002) view idea management as a way to increase CI capabilities. Several scholars have claimed that these systems can be used in order to come up with continuous improvements, for cutting costs and as a way to initiate cultural change (Schuring and Luijten, 2001; Verespej, 1993). Studying 22 idea management systems in small and large manufacturing companies, Carrier (1998) reached similar conclusions. He found that suggestion programs were used as tools to stimulate creativity and to come up with minor innovations. He points out that “the ideas submitted rarely lead to sweeping innovations. They were generally concerned with changes aimed at improving organizational efficiency and competitiveness, or with improving certain practices and procedures” (Carrier, 1998, p. 63).

Over time idea management systems have become increasingly sophisticated. This development has been supported by the evolution of IT-tools which enable a systematic and efficient handling of ideas. As these systems have become more advanced the use of them has also been broadened. Idea management systems are today more useful not only for continuous improvements but also for coming up with new products (Cooper, 1993; Wheelwright and Clark, 1992; Day, Gold and Kuczmarski, 1994). According to Verespej (1992), suggestion systems can be a lucrative source of innovation in organizations. Flynn et al. (2003) report on one example of such an idea management system which is designed to operate at the front end of the innovation process, aimed at gathering and documenting opportunity identifications. The outputs from the system are ideas which then proceed into the product development process of the company.

Some researchers still argue that idea management systems primarily deal with minor improvements. For instance, Proctor et al. (2004) point out that these systems can be used as a way to improve bottom-up communication. They further note that most suggestions concern minor things and that they consequently rarely have a major impact on the way the organization works. Though some researchers maintain this view, idea management systems are today often regarded as a management tool being used in order to give structure to the early phases of the innovation process (Boeddrich, 2004).

Gorski and Heinekamp (2002) developed a typology which summarizes much of the literature above about how suggestion boxes and idea management systems have been used (see Figure 1 below).

[Insert Figure 1 here]

They describe the suggestion box and the Kaizen Teian systems, and note that these were primarily concerned with continuous improvements. Another typology can be found in Nilsson, Elg and Bergman (2002). Through a multiple case study they conclude that idea management systems can be oriented towards either knowledge creation or transportation of knowledge. With the advent of web technology, the benefits from diffusing and transporting knowledge are likely to have increased. Gorski and Heinekamp (2002) also provide an illustrative example of how an idea management system can work as a part of the fuzzy front end of the innovation process. The described system primarily aims to promote collaborative exchange of new product ideas, to collect ideas in one single repository and to facilitate quick generation of new product ideas. By extensive use of web technology, the system is highly interactive, and different ideas can be exchanged, refined and reused. The system has also enabled an increased participation in the ideation process. Creativity has become more decentralized and people who have not historically worked in the early phases of innovation are now participating to a larger extent.

In conclusion, previous literature has primarily viewed idea management systems as a structured process for generating, absorbing and evaluating incremental innovation ideas. Some researchers argue that these systems can be used as a structured approach to the fuzzy front end whereas others state that they are primarily related to continuous improvements.

## ***2.2 The changing nature of innovation***

The field of innovation management has changed over the last decades. Researchers are increasingly trying to understand how established firms can respond to and generate discontinuous innovation. A discontinuous innovation can be defined as a major change, either technology- or business model-related (Veryzer, 1998). Discontinuities arise from shifts along technological, market, political and other frontiers and they demand significantly adapted approaches (Phillips et al., 2004). Established firms are usually highly competent at incremental innovation. But when technologies shift, new business models are introduced or new markets emerge, they can suddenly become highly vulnerable (Chesbrough, 2003). Over time, the field of discontinuous innovation has

changed from primarily explaining incumbent failure (e.g. Tushman and Anderson, 1986; Henderson, 1993) towards exploring how firms can proactively handle and generate it (e.g. Christensen and Raynor, 2002).

The area of business model innovation has also received more attention. The business model can be regarded as a construct which describes the value a firm offers to customers, the architecture of the firm, its network of partners, and its way of creating, marketing and delivering this value (Osterwalder and Pigneur, 2003). A growing body of literature has explored this area in detail (e.g. Markides, 2006; Charitou, 2001; Gilbert and Bower, 2002). Business model innovation is becoming increasingly important, both in order to appropriate returns from technological innovation and to increase the profitability in mature industries. For instance, Ryanair did not create airlines, nor was Amazon the first bookstore and Dell was not the first manufacturer of computers. Rather, these companies obtained a competitive advantage by creating a new business model.

Another recent trend is that firms are increasingly drawing upon external resources in order to become more innovative (Chesbrough, 2003). Companies are re-thinking how they generate ideas and bring them to the market. Firms like Proctor & Gamble are bringing in more external ideas in order to leverage their internal R&D. One trend that is partly conflicting with the open innovation paradigm is the development towards intellectual capitalism (e.g. Granstrand, 2002). Productive assets and processes are becoming intellectual or non-material and this trend has to some extent called for an increased protection of those assets.

The broadened spectrum of innovation has implied that scholars are trying to understand how different forms of innovation can be managed within the same firm (e.g. Magnusson and Martini, 2008; Bessant, 2002; Tushman and O'Reilly, 2006). Interestingly, many scholars have underlined the importance of treating ideas differently depending upon the nature of the ideas (e.g. Bessant et al., 2005). For instance, former studies have concluded that discontinuous innovations need to be selected according to different criteria than incremental innovation (Rice et al., 1998). Employing standard evaluation procedures might even be counterproductive since discontinuous innovations are fundamentally different from incremental ones. There is an apparent risk that ideas which are discontinuous or business model-related are filtered away, not because they are bad but because they do not fit into the current business model of the company. This may result in what Chesbrough (2004) refer to as 'false negatives', i.e. ideas or initiatives that are stopped not because they are bad, but because they do not fit with the current business model of a firm and are evaluated in the wrong way. Moreover, he concludes that companies need to alter their metrics of innovation in order to take care of this kind of initiatives. Summing up, the scope and perspectives on innovation have changed from primarily being concerned with incremental product innovation towards also looking at discontinuous innovation, business model innovation, open innovation and intellectual capitalism. What new demands do these changes impose upon ideation and idea management systems?

## **2.3 New demands on idea management systems**

The process of innovation has been described by many researchers as inherently complex and chaotic (Klein and Rosenberg, 1986). However, there are still some generic models which help to identify the different elements in the innovation process. Tidd et al. (2005) divide the innovation process into three distinct phases: *search*, *select* and *implement*. Idea management systems can be regarded as dealing primarily with the two first phases, namely searching for innovation ideas and afterwards evaluating and selecting which ones to pursue further. In line with this, Vandenbosch, Saatcioglu and Fay (2006) define the concept of idea management as the process of recognizing the need for ideas, generating and evaluating them.

The findings reviewed in the previous section indicate that ideas ought to be evaluated and selected in different ways depending upon their nature. Since idea management systems primarily deal with the *search* and *select* phases of the innovation process, the literature reviewed above seems to suggest that idea management systems should perhaps treat ideas differently and that they should be sought in different ways. As innovation is becoming increasingly discontinuous, open and related to business models, ideas are likely to be found in areas which may not have been historically regarded as the primary source. For instance, in many technology-based firms, R&D departments have often been viewed as a major starting place of innovation. The changing nature of innovation is likely to have implications for how and where innovation ideas are created.

Moreover, the trend outlined above would arguably have an impact on the *select* phase of ideation as well. Different criteria may be required and a different process may be needed, which allows more experimentation. Rice et al. (1998) investigate what evaluation criteria incumbent firms employ when selecting discontinuous innovation projects. They found that very few companies in fact have a deliberate process or strategy for evaluating these ideas. Either the evaluation is conducted according to normal procedures or it is done on an *ad hoc* basis. In their field study it is found that 86% of the R&D managers who were interviewed thought that the evaluation process should be different from the one employed for continuous innovation. Yet at the same time, the study indicates that very few companies actually employ different evaluation criteria.

Hence, there are several reasons to believe that the demands on idea management systems have changed. However, it can be seen in the literature reviewed above that there is hardly anything written about what an idea management system that handles the changing nature of innovation may look like. Idea management systems have primarily been regarded as a tool for generating continuous improvements and incremental product innovation. Summing up, a different idea management process seems to be needed in order to generate, capture and evaluate different forms of ideas, but little evidence has been reported regarding what such a system may look like. The research question this article will explore is: what new characteristics are needed in idea management systems in order to handle the changing nature of innovation? In addition to this, some challenges which are related to implementing such a system will be discussed.

### **3 Methods used**

Given the exploratory nature of this paper, an in-depth single case study seems to be a suitable method. This method enables the kind of detailed, descriptive information which is needed in order to understand the nature of this kind of idea management systems. The case study below examines how the studied firm has designed its idea management system in order to encourage both discontinuous and continuous innovation. Single case studies impose constraints upon the generalisability of the findings (Eisenhardt, 1989). However, as the work presented here is of an exploratory character, describing and seeking to understand the nature of this system and how it differs from previous descriptions of idea management systems, the method is deemed to be appropriate. Thus, the article does not attempt to provide an exhaustive definition of exactly what such a system may look like. Rather it aims to outline some of its key characteristics.

The firm was targeted since it has long experience of idea management and because it has changed its idea management system in order to handle different types of innovation. Hence, the chosen company offers an interesting opportunity for a detailed investigation of what an idea management system that handles different forms of innovation may look like.

The authors of this article maintain a formal research partnership with the studied firm and have been interacting with it continuously over the last year. This relationship enabled extensive access both to databases and to key employees. Both R&D managers and contributors to the idea management system were accessible for interviews. In addition to this, people who have been involved in the design and development of the system have been interviewed. In total, more than 30 interviews have been conducted, by the authors and by close colleagues. Some of this work was done within the scope of an innovation audit that was performed at the company. During the audit, interviews were conducted with top and middle management. The interviews were semi-structured, asking the respondents to describe how the idea management system works and how it differs from their previous system. All interviews were recorded, transcribed and listened to afterwards. These data should be regarded as important background knowledge for the study described here. They have been supplemented with statistics from the idea database. Here, all ideas within the company are stored and key information such as the assessment of the ideas can be found.

### **4 Results**

The studied firm develops and manufactures consumer products and has long experience of doing so. It is currently present in 90 countries and has three different business areas. Being in the consumer market implies that the firm is exposed to rapid changes and extensive price competition. Since 1995, the firm has managed some parts of its ideation process by using an idea management system. This system started as a way to handle the increased flow of ideas that came into the patent department.

[Insert Figure 2 here]

The purpose of the system was to capture, encourage, evaluate and select technological ideas for further investigation at the patent department (see Figure 2). It started within one business area and soon it expanded into handling all of the firm's business areas. From the beginning, there has always been one person working fulltime managing the system. In addition to this, 10 persons spend 10 percent of their time evaluating the submitted ideas. The system makes extensive use of the company's intranet and everyone can submit ideas to it. It has grown steadily and today it also functions as an idea database. Thus, it is also used in order to learn from earlier idea development, to reuse ideas in projects and also to inspire people in their daily work. When a new project starts, it is stated in the specifications that the idea database should be searched for ideas within the relevant area; R&D projects use the idea bank in the early phases of the project. In addition to this, employees can subscribe to new ideas within specific areas.

However, after a few years in operation, the people in charge of the system began to notice that although it successfully encouraged, stimulated and evaluated incremental technological ideas which led to patents, few discontinuous or business-related ideas were generated. Those which were submitted became rejected since they were not within the scope of the corporate strategy and the purpose of the idea management system. Having a background as a tool for handling patents, the system worked well for this purpose, but not for discontinuous technological or business ideas.

At the same time, a strategic shift in the company was taking place towards exploring new business areas. The firm started to move towards more business model innovation and discontinuous technological innovation. For instance, in 2002 the company launched a service organization in order to change the business model related to one of its major product innovations. Furthermore, it has explored new technologies which are outside its core capabilities. Though the firm is still mainly focused on incremental product innovation, it has started to move into new areas. This strategic change had major implications for the ideation activities at the firm. Soon after this shift, the firm realized that its idea management system did not mirror the changed innovation scope. If a business idea was submitted it used to be rejected since the managers of the system did not have the competence or authority to evaluate business ideas. These ideas were then directed to the market organization, which was often too busy to develop such initiatives further. Moreover, the firm observed that the evaluation process tended to filter away discontinuous ideas. After the strategic shift, the company became increasingly aware of these problems and therefore decided to re-design the idea management system.

Thus, the studied firm started to investigate how its system could be changed in order to handle different kinds of ideas. Previous experience suggested that different ideas needed to be evaluated and developed in different ways. Therefore the managers in charge of the system decided to make a distinction between "inside the box" and "outside the box" innovation ideas. Inside the box ideas were defined as incremental technological innovations with little market novelty and initiatives which are within the current competence area of the firm. Those ideas which are completely new for the firm, in either the technological or business dimension, were defined as "outside the box" initiatives.

[Insert Figure 3 here]

Hence, when an idea is submitted, it is first of all classified as either “inside the box” or “outside the box” and then it takes different paths depending upon its nature (see Figure 3). The ones which are inside the box go either to the patent department for further investigation or to the market organization. Those ideas are treated like other project initiatives within the firm. The ideas which are regarded as outside the box take a different path. They go to a recently started unit called New Business Development (NBD) which lies outside the rest of the organization and aims to evaluate, incubate and develop those ideas. Here, the evaluation process differs in many respects from the assessment of incremental innovations. The criteria are less rigid here; rather than evaluating an idea according to the current capabilities of the firm, the initial screening here attempts to define “gaps” in capabilities and find ways to solve the potential problems those gaps are associated with. Moreover, instead of evaluating ideas according to their risks, an iterative approach is employed aiming to identify and reduce risks. When these ideas have been developed further they are either handed over to the main organization of the firm or launched as independent ventures.

The new system was launched in May 2006. However, the firm started to receive business and outside the box ideas already in December 2005 (see Figure 4). Figure 4 below contains data about the submissions of different forms of ideas from September 2005 until August 2007. It can be seen here that the percentage of outside the box ideas (business ideas and technological ideas) has on average increased over time. This indicates that the firm was in need of a new idea management system.

[Insert Figure 4 here]

Since the system has only been in operation for a few years, it is difficult to say today whether it works well or not. The studied firm has encountered some problems in this shift. For instance, it has had difficulties finding time and resources in order to evaluate these ideas properly. Moreover, the firm did not initially have a landing ground for discontinuous ideas. Since the previous idea management system aimed to generate patents, there was always an obvious receiver of the ideas, namely the patent department. The new unit called New Business Development is intended to work as a landing ground for these ideas. The managers in charge of the system recall that it took a while before the first system that was launched in 1995 worked properly and thus they expect the new system to be improved over time. However, other interviewees are more skeptical and think that the company may in fact be too focused on the system and that so much structure may hamper its innovation capabilities.

## **5 Analysis**

It can be seen in the case study above that the nature of innovation at the studied firm changed significantly. The company went from having primarily focused on cost-cutting and incremental innovation towards more discontinuous and business model innovation.

Moreover, being in a patent-intensive business, it has deliberately chosen not to open up its innovation process. Though the firm is still very product- and patent-oriented in its innovation activities, the strategic shift still implied that the idea management system had to be re-designed in order to match the changing scope of innovation.

As can be seen from the description of how the firm's idea management system used to work, it is clear that most of its features have been covered by previous literature regarding idea management systems. The purpose of the system was to generate continuous improvements as well as new products or ideas for innovation (Boeddrich, 2004; Cooper, 1993; Wheelwright and Clark, 1992). The extensive use of IT enabled it to be highly interactive – ideas could be refined, exchanged and re-used in different projects. An additional advantage was that all ideas could be stored at one single repository within the firm. Hence, the previous system had many similarities with the one that Gorski and Heinekamp (2002) used as an illustrative example.

Having a background as a tool for handling patents, the idea management system worked well for this purpose, but not for ideas which were technologically discontinuous or business-related. Over time, the firm became increasingly aware of these problems. The fact that ideas which were not intended to result in patents were filtered out illustrates some of the shortcomings of the previous idea management system. In line with Chesbrough (2004) some of these ideas were probably “false negatives”, i.e. initiatives which for some reason were not developed further despite having a great potential.

In order to cope with the increased variety of ideas, the firm made several changes of its system. The new system has many properties which makes it different from the descriptions in the typology by Gorski and Heinekamp (2002). First of all, it differs in the sense that innovation ideas follow different paths depending upon their nature and scope (see Figure 3). It can be seen in the case study above that a distinction is made between different forms of ideas. Secondly, the evaluation and development process is different depending upon the nature of the idea. Discontinuous ideas are evaluated in a much more open and iterative way and the criteria are not as strict. Thirdly, the ideas are received by different units. Discontinuous technological ideas and business ideas go to the New Business Development group, which aims to develop and commercialize ideas that are adjacent to the core activities of the firm, whereas incremental technological ideas are handed over to the patent department.

These observations indicate that the system in fact has a dual structure. Having a dual system is in line with many of the managerial prescriptions from the literature about discontinuous innovation, which underlines the importance of treating it in a different way than continuous innovation initiatives (e.g. Rice et al., 1998; Magnusson and Martini, 2008; Tushman and O'Reilly, 2006). Using a dual idea management system seemed in the case study above to be an attempt to overcome the dilemma of false negatives. The fact that these ideas used to be filtered away and that the firm started to receive business ideas even before the official launch of the new system can be regarded as a confirmation of this.

Summing up, the case study above has described an idea management system which does not seem to fit into previous typologies in the literature. Historically, idea management systems have been used as either a tool for continuous improvement and incremental innovation or as a structured approach to the early phases of new product development. The system described above differs from previous typologies in the sense that it has a dual structure, i.e. ideas are assessed and take different paths depending upon their nature. Since these properties have not been covered by previous literature, this calls for an extension of existing typologies of idea management systems. We propose that this new category of idea management systems ought to be referred to as *Dual Idea Management Systems* since the submitted ideas take different paths depending upon the nature of them.

## 6 Discussion

As was noted above, having a dual idea management system is in many respects in line with the managerial practices related to discontinuous innovation. Moreover, the design of such a system is consistent with Ashby's law of requisite variety (1969), which states that the larger the variety of actions available to a control system, the larger the variety of perturbations it will be able to compensate. A larger diversity of submitted ideas implies that the system which handles these ideas also needs to become more complex. However, the concept of requisite variety can also be interpreted as an argument against having a highly structured process for encouraging, evaluating and developing ideas. The variety may in fact be so high that it is difficult to design a system at all which is able to deal properly with this complexity.

It is also worth noticing that the studied firm decided not to have an open innovation approach to idea management. Given the patent-intensive scope of its business, the firm deemed this approach to be very risky. Hence, the firm has only adapted its idea management to one of the major shifts in the innovation landscape, namely the change toward trying to handle both continuous and discontinuous innovation ideas. It is too early to say whether the system has already become exceedingly complex, but if the firm would also try to adapt it to the other changes in the innovation landscape there is an apparent risk that this might be the case. Therefore, as the nature of innovation has been broadened, there may be an end to the usefulness of idea management systems.

Furthermore, developing discontinuous innovations is an inherently uncertain and complex process and having a structured approach to this may therefore not be the right way forward. After all, many firms want to employ strict financial criteria to the evaluation of innovation ideas. Having a highly structured, albeit dual, approach to ideation may result in the very opposite of what was originally intended.

The literature on discontinuous innovation has underlined the importance of informal networks and having "champions" in a project (Veryzer, 1998) in order to succeed. Moreover, skunk work and other forms of loosely organized innovative activities have often turned out to be critical for the development of discontinuous innovations. Thus, the success factors related to discontinuous innovation may often be related to other things than having a highly structured idea management system.

Summing up, this article does not argue that having a dual idea management system is necessarily the optimal way of handling the early phases of the innovation process. Rather, it has pointed out that the changing nature of innovation has imposed new demands upon ideation and that idea management systems need to be changed in order to meet this demand. The studied firm has realized that it needs to treat different forms of ideas in different ways and that all ideas cannot go through the same funnel. The idea management system which is described in this paper offers an illustrative example of how such a system can be designed in order to meet some of the new demands on ideation.

## 7 Conclusion

This article has explored the characteristics of idea management systems that aim to meet some of the new demands upon ideation that follow from how the nature of innovation has changed. The findings suggest that previous literature on idea management systems has not covered this aspect and that past typologies of idea management systems ought to be extended into also incorporating systems which are dual. The studied system is dual in the sense that it deals with both continuous and discontinuous innovation, and does so by making a distinction between them and then treating the ideas differently by employing different processes and different evaluation criteria. Having a dual approach is in line with much of the recent literature on discontinuous innovation which underlines the importance of treating discontinuous and continuous ideas differently. However, it is still not obvious that such an approach to ideation is preferable; it may lead to excessive structure and bureaucratization. As was noted in the discussion part above, it is unclear how well such dual systems actually perform. Hence, more research needs to be undertaken concerning dual idea management systems and how well they work.

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## Figures

Type of idea management system	Main characteristics and scope
Suggestion Box	Can be anonymous, usually a broad scope
Kaizen-Teian systems	Incremental innovation and continuous improvements
Employee-driven idea systems	Quality and continuous improvement
Web-based idea collaboration programs	More interactive

Figure 1: A typology of idea management systems (Gorski and Heinekamp, 2002).

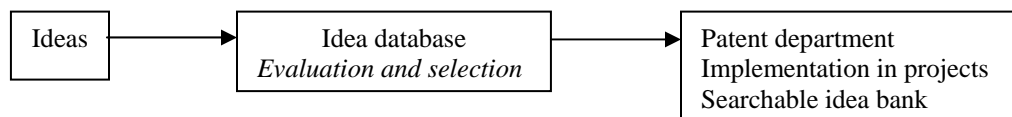


Figure 2: The studied firm's idea management system in 1995.

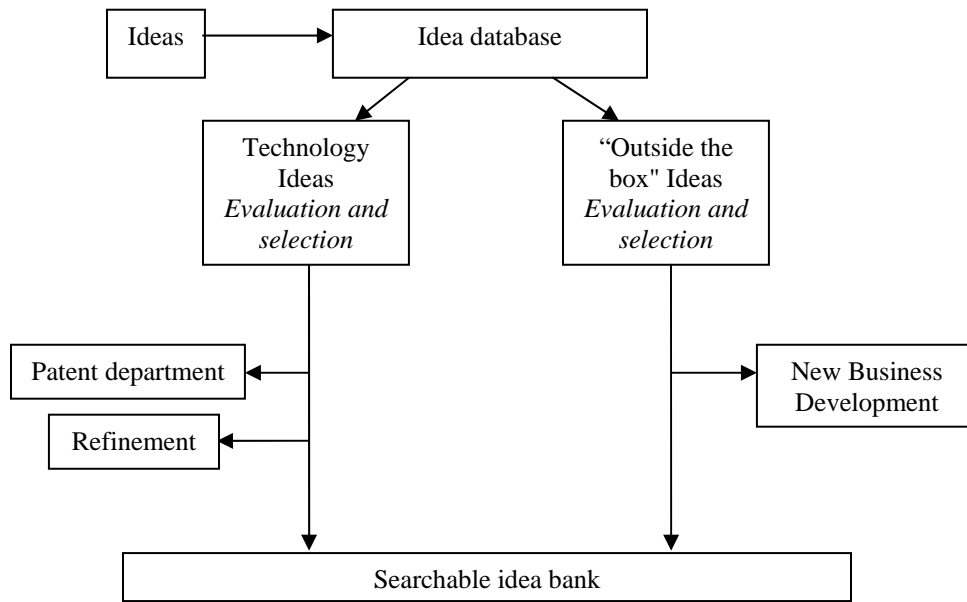


Figure 3: The new idea management system that the studied firm launched in 2006.

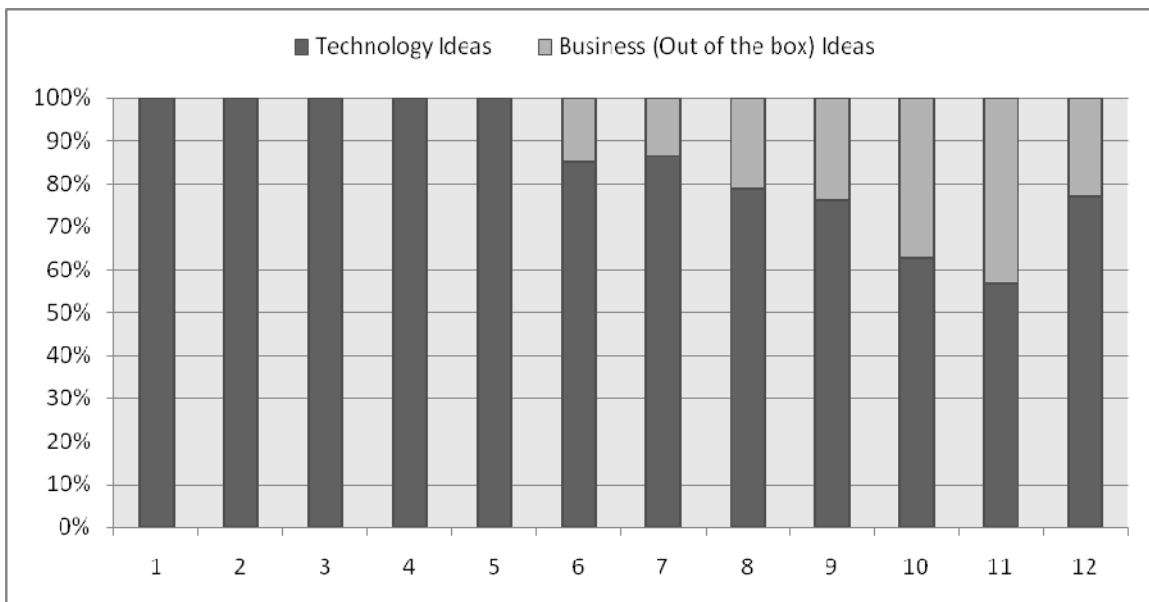


Figure 4: The percentage of ideas that are related to technology, business and Out of the box submitted to the idea management system each quarter from September 2004 until August 2007.