INNOVATING EVERY DAY – MAKING INNOVATION EVERYONE’S BUSINESS

Susanne Nilsson¹, Gunilla Ölundh Sandström¹, Magnus Karlsson¹, and Sofia Ritzén¹

¹Integrated Product Development, KTH, Royal Institute of Technology, Sweden

suni@kth.se

ABSTRACT

The purpose of this paper is to investigate the efforts of a large company when assigning everyone in the organization to work with innovation, and its implication on managing radical and incremental innovation. The analysis rests on an interview investigation within a global high-technology company with 31 managers in different contexts. These managers have been identified as top performers on innovation in an employee survey conducted in the organization. The study illustrates how a large mature organization has involved a broad base of its employees in innovation, emphasizing that innovation is a daily effort and the actions performed in different parts of the organization. The results reveal that it is feasible to both empower people in the organization by having a bottom-up approach supporting daily incremental innovation and combine this with more systematic approaches for managing and enabling radical innovation.

Susanne Nilsson

suni@kth.se

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1. INTRODUCTION

Innovation in companies is a key in reaching and keeping competitiveness. Increasingly, alternatives to traditional product innovation such as new service offers, business models or managerial innovations get increased attention (Birkinshaw et al, 2011). This challenges the “ownership” of innovation in a company; the R&D department is no longer considered the single source for innovation. As a result companies are adopting a strategy which recognize a broader range of sources for innovation internally (e.g. more functions and larger number of people) as well as externally (e.g. customers, suppliers, universities etc.) (Chesbrough, 2004). Not the least employees are considered to possess potential valuable knowledge and unrealized innovative ideas, which may be exploited to create economic value to the company (Ford, 2001) Studies show that about half of
the innovation initiatives are internally created (Terwiesch and Ulrich, 2009) and it is stated that the best ideas for the majority of organizations are internal ones (Barsch et al., 2007). Involving a broad base of employees in innovation is found to be critical also if an improved capacity to bring in and make value of knowledge from external stakeholders is desired (Chesbrough, 2004). The reason is that employees carry more context-dependent knowledge which is critical when creating new knowledge and innovations based on external knowledge. Cooper and Edgett (2007) states that generating ideas is a task for the whole organization, which is exemplified not the least by the positive implications on performance in the Japanese automobile industry when improvements from everyone are encouraged and systematically used (Spear and Bowen, 1999). Spender (1996) added yet a perspective to the reason of involving employees by addressing it as a means of democratizing an organization. Democratizing an organization means involving more people in the development of deployed processes, emphasizing a learning capability. An active involvement learning creates an understanding of the process of transforming input to output, interpreted here as an innovation process. Following on understanding and developing processes is autonomy among employees in running innovation processes is what most likely increases the actual output in volume and quality.

The underlying assumption when companies increasingly go beyond the R&D department and recognize a broader range of sources for innovation is that knowledge is distributed in formal as well as in informal networks (Tsoukas, 1996). By systematically making use of as many of these sources as possible the likelihood of new knowledge to be recognized or created and ultimately transformed to valuable innovations increases.

Also, Tushman and Nadler (1986) emphasize, based in their studies of highly innovative companies, that involving multiple actors in processing information and knowledge about customers, market and technology is critical to innovation success. In a similar line literature in innovation and knowledge management (Argyris, 2004; Nonaka and Takeuchi, 1995;) show the importance in involving a broad base of employees in innovation. The key to innovation is a systematic creation of knowledge based in individual employee’s insights, intuitions and interpretations (Nonaka, 1994). Since such knowledge is hard to make explicit and thus hard to share through documents or databases, enabling face-to-face meetings is found to be crucial. Gathering people with different competences and skills are particularly important if more creative ideas are strived for (Amabile 1988; Leonard-Barton 1992).

The approach to involve a broad base of employees in innovation is thus in itself not a new strategy (e.g. Cohen et al., 1972). However, the intensity and the degree of systematics that it is applied with can be considered a more recent phenomenon. Not the least the increased attempts in large mature companies to not only involve everyone in continuous improvement but to also drive more radical innovation i.e. innovations that have the potential to drastically change existing market and/or technology (Chandy and Tellis, 1998).
Despite a wide-spread understanding of the potential in involving more people in the innovation process, far from all companies dare to execute that strategy. Underlying reasons for not mobilizing high levels of participation are related to factors such as the fear of what such uncontrolled efforts may lead to and to keep power of future opportunities at managers (Kesting and Ulhoi, 2010). Additionally a general disbelief that everyone has a creative potential (Bessant and Caffyn, 1997), resulting in a large number of useless ideas due to employees’ inability to generate ideas relevant to the business. Further, it can be expected that far from all ideas that are generated by employees will be realistic or considered valuable given that the knowledge about market, customer and technologies is unevenly distributed in an organization. Allocating time and money widely in the organization to develop ideas typically generate a large number of ideas requiring a significant amount of the manager’s attention, with a risk of high cost in the idea management process with low return. This is particularly true in an organization where people are less accustomed with innovation.

The number of studies about companies that accept the challenge to involve a broad base of their employees to enable both incremental and radical innovation go about to make it happen are scarce. Particularly, related to what deliberate actions managers in these companies decide to take and the consequences from these actions are in need for more investigations. This is where this article aims to contribute. The purpose of the paper is to present the consequences from involving a broad base of employees to drive both incremental and radical innovation on a daily basis in a large global high-technology company, and further to discuss possible explanations to the identified consequences.

2. LITERATURE

The approach when as many employees as possible participate in innovation, in any area and any magnitude of the change e.g. radical or incremental, is in literature referred to as high involvement innovation (Bessant, 2003) or employee-driven innovation (Kesting and Ulhoi (2010). The latter is specifically concerned with more radical innovations originating from employees who are usually not assigned to generating radical ideas (Kesting and Ulhoi, 2010). Studies have shown the importance for companies to manage both renewal and refinement, i.e. innovations that vary along a continuum from incremental changes and refinement of existing products and service to more radical innovations that drastically changes existing market and/or technology (Brown and Eisenhardt, 1997; Dahlin and Behrens, 2005; Garcia and Calantone, 2002;). Both radical and incremental innovations are argued to be imperative for organizations to survive and prosper in a dynamic business environment (Dewar and Dutton, 1986). How to manage and organize for both radical and incremental innovation is however found to be far from straight-forward for mature organizations (e.g. Gupta et al., 2006; OConnor and DeMartino, 2006;). Two literature streams focusing on understanding how to best support both types of innovations are 1) organizational learning research
considering the learning strategies exploration and exploitation and 2) product/technology innovation management research considering organization for radical and incremental innovation. Both streams are thus considered important to consult in relation to the purpose of the article. In addition, managers role for supporting radical and incremental innovation is highlighted and the issue of performing actions that indirectly (e.g. culture, mindset, ways or thinking) supports innovation or actions directly influences people’s behavior.

2.1 **EXPLORATION AND EXPLOITATION**

Since the degree of new knowledge embedded in a radical versus an incremental innovation differs; from large in radical to low in incremental (Dewar and Dutton, 1986) the learning strategies for each type of innovation will differ as well. This is recognized in the organizational learning field where understanding how companies can manage two basic modes of learning, exploitation and exploration respectively (March, 1991; Levinthal and March, 1993) is in focus. *Exploration* refers to a learning process to discover and acquire new knowledge and skills and *exploitation* refers to a learning process to refine and extend its extant knowledge and skills (March, 1991). An explorative learning process can thus be considered a necessity for managing radical innovation.

The original definition, assumes however that the two modes of learning are in conflict as a tradeoff, but must co-exist in a balance for a firm to ensure its long-term survival (March, 1991; Levinthal and March, 1993). The former is related to innovation and the latter to continuous improvements of existing processes i.e. more incremental changes. Being able to simultaneously pursue both exploration and exploitation is referred to as being ambidextrous similar to that human beings need to be “two-handed” or ambidextrous (Duncan, 1976). Existing models of organizational ambidexterity are conceptual, diverse and compete with each other when it comes to suggesting how to manage and organize in practice (Gupta et al., 2006; Lavie et al., 2010). The original concept advocates a separation through organizational design between these activities i.e. so called structural ambidexterity (Tushman and O’Reilly, 1997).

However, since such separation is connected to a large number of issues alternative approaches have been suggested over the years. These alternatives take at its basis that organizations should from an efficiency point of view strive to make use of its existing processes and resources at hand since the use of organizational boarders for exploration inevitably brings with it increased levels of knowledge flow barriers. One alternative model is the contextual model of ambidexterity (Gibson and Birkinshaw, 2004). This model reflects the opposite perception that explore and exploit activities are more or less compatible with each other. The key is to identify and create a context supportive for individuals to manage both exploration and exploitation. Yet, another standpoint is brought up by Lavie et al (2010) illustrating that there is a strong interdependence
between the both as exploitation likely creates resources for an organization to also explore.

Whether an organizational design separation or not is the best option is thus far from agreed upon. More recent literature also indicates that the relationship between exploration and exploitation may well be curvilinear i.e. that whether a separation or not is most feasible depends on the situation or type of exploitation and explorative activities (Smith and Lewis, 2011). Considering that the organizational ambidexterity field is dominated by conceptual research, empirical investigations on what alternatives companies with an ambition to involve a broad base of their employees in innovation select and what consequences this leads to emerge as an important target for further studies.

2.2 ORGANIZING FOR BOTH RADICAL AND INCREMENTAL INNOVATION

Despite a vast amount of research emphasizing a close link between learning and innovation the knowledge on how exploitation and exploration processes in a company relate to a radical and incremental innovation outcome remain ambiguous and even contradictory (Gupta et al., 2006). Scholars do for instance not agree on that exploration activity necessarily leads to radical innovations, and exploitation activities necessarily to incremental innovations (Kyriakopoulos and Moorman, 2004).

Turning to literature beyond organizational learning and which directly investigates how both radical and incremental innovation is enabled in companies emerge thus as critical. What is considered of particular interest is to understand how mature companies prone to develop incremental innovation plan for an increased capability for radical innovation. Opportunities for radical innovation has shown to typically emerge from employee engagement and initiatives; skunk works (Peters 1997), intrapreneurs (Burgelman 1983; Menzel et al, 2007;) or bottom-up (Birkinshaw et al 2011; Smeds and Haho, 2003) where incremental innovation typically is a result of more traditional control and planning exercises or “naturally” cumulative changes.

Connectedness within units is shown to be an important antecedent of both types of innovation as is informal communication and collaboration (Cabello-Medina, 2011). O’Connor and DeMartino (2006) are stressing the need for an alternative organizational design when companies aim to nurture a multitude of radical innovation projects. By establishing a separate organizational group that is responsible and held accountable for repeated commercialization of radical innovation the companies can ensure a continuous attention and resource allocation to radical innovation. This also supports the building of new capabilities which is not easy per se and even less so when the capability deviates from the normal efficiency oriented capabilities and processes in the company. A dedicated group can accumulate experience hindering new routines to be forgotten or become extinct by more well-established, structured or explicit procedures or rules (Dougherty, 1992; Leonard-Barton, 1995). This is in alignment to what the
proponents for structural ambidexterity in the organizational learning literature advocate for.

Kelley (2009) showed that over time companies with an ambition to increase the number of radical innovations rather saw a need to develop processes and tools which were able to provide a higher degree of flexibility than the standardized product development process in order to support more novel ideas. These processes, tools etc. were seen, if properly designed as communication vehicles and a basis for collaboration between people inside and outside an innovation activity which was argued to create less resistance to these new and unfamiliar activities. Identifying and communicating modified processes and tools seem thus as an alternative approach to a separation through organizational design when aiming to produce more radical innovation and at the same time involving a broader base of employees in innovation.

In the few empirical studies of companies known to be successful in purposefully organize for a broad involvement of their employees in driving both radical and incremental innovation, Google constitutes the most spread example. In their study of the Google-model, Iyver and Davenport (2008) point out key innovation practices beyond the company’s investment in an advanced and flexible technology platform. Budgeting for innovation by making use of a prescribed system of active time allocation for its technical people and managers is one of the most famous ones. A quick and data-driven process for experimentation is another in conjunction with a fearless attitude towards failure and chaos. Further, regularly providing employees with intellectual stimulation spanning a broader interests from setting up “tech talks” to cultural events, purposefully designing the offices to improve communication and making use of an advanced set of individual performance measures and requirements are yet examples of other practices. This mix of activities reveals the need for an active management and a need to engage in a broad portfolio of managerial actions. Also, it indicates that a contextual rather than a structural organizational ambidexterity design is selected. Whether the same approach is performed or even feasible in far more mature companies remains to be investigated.

2.3 MANAGERS ROLE IN INVOLVING EVERYONE TO DRIVE BOTH RADICAL AND INCREMENTAL INNOVATION

Steiber and Alänge (2013) describe Google’s organizational characteristics being related to innovation-oriented and change-prone leaders and employees where the former focus on empowering, coaching and removing obstacle to innovation.

That managers have an important role in innovation is further supported by a large number of studies (e.g. Mumford and Licuanan, 2004; Amabile, 1996). Leaders are shown to have multiple roles in enabling innovation; from supporting and providing guidance in the initiation of an innovation process in order to enable effective interactions among organizational members (West, 2002) and external partners, to make
sure time and money is made available for the development and implementation (Mumford and Licuanan, 2004). Also, by providing support for collaboration and experimentation, leaders can create a learning environment shown to be conducive to innovation (Damanpour, 1991; King et al., 1992; West and Anderson, 1992). This includes being tolerant of failed ideas (Madjar et al., 2002) and support learning and development of employees as well as creating an acceptance and ability to cope with diversity within a group. Burgelman and Sayels (1986) also show the importance for leaders to communicate and reinforce goals for innovation as do Hornsby et al., (2002). Denti and Hemlin (2012) shows in a systematic review of moderating and mediating variables between leadership and innovation that a supportive culture for innovation and a more organic organizational design enables both leaders and employees to engage in creative work. Means for leaders to support innovative behaviors were found to be through an encouragement of debates, open communication, and divergent thinking. Empowerment thus emerges as a key driver to enable employees to drive ideas with high autonomy similar to if being an independent entrepreneur who assembles a team and allocate funding (Knight, 1987).

When it comes to managers’ role in radical innovation this rather single-sided focus on their indirect role i.e. taking actions striving to influence how people think and feel rather than directly affect people's behaviors advocated for in the general innovation literature is however challenged. The higher cost, time and risks associated to realization of radical innovation put demands on management involvement or support (O’Connor and DeMartino, 2006). Kesting and Ulhoi (2010) emphasize that the key difference between engaging employees in a continuous improvement effort versus radical innovation is related to decision making as selecting more radical opportunities require more boldness and an ability to take in many different aspects. Also, the role of the senior and middle managers has been shown to be related to making sure employees experimentation and initiatives challenge the strategies of the company and yet ensure the strategy changes only to the extent it needs for long-term survival (Burgelman, 1983). Day (1994) showed that a principal champion/intrapreneur from the lower levels of the organization can bring about radically innovative results if he/she gets access to knowledge and information to make the critical decisions, as well as sufficient power and influence to obtain resources necessary. For companies that require substantial resources during development, such as the development of radical product innovations in high tech firms, a champion from top management is critical. In other words, successful radical innovation needs the support from top management to prosper and survive (O’Connor and DeMartino, 2006).

That understanding how to handle the direct and indirect role of the manager is in need for further understanding is also reflected by the mixed results from studies investigating degree of formalization in relation to innovation of different magnitude of change. Formalization is in some studies shown to support radical innovation (Cabello-Medina, 2011; Oke, 2007) while only incremental innovation in other (Jansen et al., 2006). How managers handle their direct and indirect role and what deliberate actions
they take when a company have an ambition to involve a broad base of its employees in innovation to drive both radical and incremental innovation emerge as a target for increased understanding.

Literature is thus conflicting when it comes to how the unutilized innovation structural capital in a mature company ought to be managed to enable both incremental and radical innovation. By turning to practice, this study aims to contribute to an increased understanding on how managers in practice go about to organise for and what actions they take to support people in driving both radical and incremental innovation. The study presented in this paper aim to contribute to the identified gap by investigating the experiences and actions taken by 31 managers in a high-technology company with an ambition to involve a broad base of its employees to drive both radical and incremental innovation. The following research questions have directed the study:

*What are the consequences when purposefully involving a broader base of employees to drive both radical and incremental innovation on a daily basis, regarding distribution of innovation efforts, innovation outcome and actions taken?*

*How can consequences be explained in the perspective of earlier research on managing innovation?*

### 3. Case and Method

The study presented in this paper aim to contribute to such gap by investigating the experiences and actions taken by 31 managers in a high-technology company with an ambition to involve a broad base of its employees to drive both radical and incremental innovation. The company in this study is a world leader in the telecom industry and develops and provides equipment, software and services to mobile and fixed network operators. Technology leadership has been and is still an important element in its business strategy along with its increasingly strong focus on service and support development. Its customers as well as its more than 100,000 employees are found in 180 countries. The head quarter is located in Stockholm, Sweden as are its R&D head offices. The company has for more than a decade worked extensively on increasing its capacity to innovate due to increased competition and challenges on the global market. An increased focus on market- and insight-driven innovation as a result of the increasing services business has supplemented and challenges the traditional engineering mindset. In 2010 the management intensified a strategy to make innovation an issue for everyone and every part of the organization. “Innovate everyday” was one of the principles communicated and expected from all employees and, as a consequence, all managers throughout the organization were expected to facilitate and create the right conditions for innovation. Innovation is in the overall strategy broadly defined as realizing and creating value of ideas of different kind i.e. new technologies, products, services, business models and internal processes and ways of working. Actions dedicated to source ideas broadly, both internally and externally, the implementation of
new IT-tools to support the sharing of information and ideas and the establishing of a network of innovation coaches and managers are examples of measures taken in order to create conditions to support innovation.

The study is based on interviews with 31 managers who have been identified as top performers on innovation in a yearly recurring employee survey conducted in the organization. All employees have been surveyed and some of the questions were related to innovation capabilities and aggregated into an overall innovation index.

The innovation index embraced factors such as openness to new ways of thinking, transformation of markets insights to new deliverables and encouragement to new and better ways of doing things. Scoring high on these three factors is argued to be an indicator for this organization having achieved a high level of engagement in innovation-related activities with a reasonable good innovation performance (output). The index was calculated for each manager heading a unit with a certain minimum number of direct reporting employees. The innovation index has solely been used for the selection of managers and no intervention has been made from the researchers regarding the survey or definition of the index.

The overall response rate for the surveys was above 90% for both years. The top 50 managers receiving the highest score of the innovation index from the survey in 2012 and 2013 were identified and among these respondents have been randomly selected with a control of not picking all respondents from the same country or region. Also availability to participate in the interview guided the selection since the interviews had a specific deadline.

Research interviews were made according to a predefined guide and were systematically documented. Interviews focused on respondents view on innovation, actions for increasing innovation and becoming successful in relation to the three indexed statements and experiences and reflections on actions and other conditions needed for innovation.

Interviews have been conducted two times (spring 2013 and spring 2014; 16+15 managers). The documented interviews have been cross analysed by the authors. The categorization was guided by literature, however mainly based on the frequency and emphasis concerning perceptions and actions reported in interviews. Several categories of actions and perceptions have been identified and further analysed using the lens of innovation management literature on an iterative basis.

4. **RESULTS**

The analysis and compilation of the interviews revealed an organization working with innovation in numerous different ways and with different aspects of innovation.
Innovation as a critical factor for success is clearly communicated by the respondents in the survey, which came as no surprise due to the selection of respondents as top performers in innovation. However, the survey did not ask directly regarding innovation as described in the method section and we find it interesting to highlight that such a strong drive for working with innovation is expressed. In particular that throughout the interview a strong commitment to working with innovation, specifically as an everyday activity and to a high extent involving the employees of the manager was clearly identified. We see markers of high involvement in several ways in the analysis, which will be described below and later discussed, starting with describing the finding of who the top innovators are and what they mean with innovation.

4.1 TOP INNOVATORS DISTRIBUTION

In the interviews, a broad range of operations, nationalities and managerial levels within the company are represented in the interviews, indicating that an innovative environment as measured in the employee questionnaire can be created in any part of the company and not only in the traditional R&D departments. The 31 managers have been separated into three groups; 14 managers representing customer support, 12 internal support and processes and 5 R&D units. Managers in the customer support group are either heading a regional support office or representing the customer support organization. These organizations are dominated by front-end employees who are dedicated to either resolve immediate problems facing external customers, or to support the implementation of new products in the field. Some organizations are also involved in the design of new business contracts. Managers for internal support groups are heading company internal services such as IT, quality and manufacturing. These organizations are dominated by administrators in the sense that the employees’ tasks are focused on the control and alignment of internal processes and standards. Education and training are typical additional tasks for this group of employees. The majority of their customers are thus other internal employees. Finally, R&D managers are managers that represent organizations whose assignment is to discover and develop new technologies and product innovations. The tasks are dominated by identifying and solving technology problems in project teams. The end-users of these products are external customers. However, the majority of employees in these organizations seldom come in direct contact with the end customer. An interesting consequence of the strategy to involve “everyone” in innovation is that top managers are found with a good spread among different functions, and marks a successful dissemination of the strategy. It is also interesting to find that R&D units’ involvement is relatively small.

Interviews have been performed with managers at sites in a large number of countries, with the 50 top ranked managers. The organizations that interviewed managers represent vary in size, meaning that managers at different hierarchical levels have been approached, reflecting a variety in hierarchical levels among top scoring managers. This variation marks a dissemination of the strategy to work with innovation at every level complementing the finding that variety in functions is large as described above.

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4.2 Innovation Output

An interesting consequence of the implementation of the strategy of innovating every day and involving all employees in innovation is the actual output of the actions deriving from the strategy. Table 2 describes the variety of output that was described by respondents. These outputs has also been sorted into different typologies of innovations firstly according to internal changes of ways-of-working, methods and processes, called process, and to its relation in delivering customer value, called business, secondly to their level of impact and level of newness separated into incremental and radical innovations.

The table clearly shows the variety of innovation results and also the predominance of process related innovation output as well as incremental innovation output. It was clear that innovation activity for the majority of the managers is strongly related to making small improvements in processes, services or products. In line with continuous improvements some managers state that they do not have innovation per se in focus but rather solving everyday issues and tasks in the best possible way. In order to scrutinize the dissemination of the company’s strategy, involving all employees and innovating every-day, we need to take a closer look at the actual actions conducted within the organizations managed by the top innovators.

Table 2. Innovation output in top innovation organizations, sorted into different typologies according to process/business and incremental/radical.

<table>
<thead>
<tr>
<th>Innovation Results</th>
<th>Process</th>
<th>Business</th>
<th>Incremental</th>
<th>Radical</th>
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</thead>
<tbody>
<tr>
<td>Cost reductions</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<tr>
<td>New service deliveries</td>
<td></td>
<td>x</td>
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<tr>
<td>Customer requirements management process</td>
<td>x</td>
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<td>Different management of SW standards</td>
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<tr>
<td>New product solutions</td>
<td>x</td>
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<tr>
<td>New data visualization tools</td>
<td>x</td>
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<td>Contract formulation with new partners</td>
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<td>x</td>
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<tr>
<td>Competence building process</td>
<td>x</td>
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<tr>
<td>Process management methods</td>
<td></td>
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<td>x</td>
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<tr>
<td>Production process changes</td>
<td>x</td>
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<tr>
<td>New services, improved services</td>
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<td>x</td>
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<tr>
<td>Knowledge sharing and employee training</td>
<td>x</td>
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<td></td>
<td>x</td>
</tr>
<tr>
<td>New technologies, new services</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Aligning a start-up companies process with TeleCom Company</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Shifting from unique to standard software components</td>
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<td>x</td>
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4.3 MANAGING AND ORGANIZING FOR INNOVATION

For the understanding on how innovation has been managed and organized, focus in the analysis has been on the actions that managers perform. The interviews have been analyzed in two ways regarding actions: inductively searching for actions taken by managers in an organization emphasizing the importance of innovating every day and specifically looking for markers of the disseminated company strategy of involving all employees and innovating every day. Actions found have been critically analyzed with regards to any possible expectations of actions required for innovation in general and for radical innovation in particular.

A clear finding is that the actions identified are clear indicators or evidence of a high involvement of employees and of managers emphasizing innovation to be an everyday effort. However, some critical actions are of a low intensity or missing, specifically regarding achieving more radical innovations. Regarding the aspect of innovating everyday it is clear that a large majority of managers approach this aspect through indirect managerial actions i.e. working the mindsets of employees. Encouraging people to think creatively, collaborate on ideas, and specifically to take an own responsibility for innovation in every context is clear consequences in managers action in the investigated company strategy. More direct managerial actions by taking deliberate actions to change ways of working, organization of people etc., were only little reported, which in these few cases include defining a permanent group, temporary idea teams and programmatic approaches. The identified actions are further described below.
4.3.1 **ACQUIRING AND SHARING INFORMATION AND KNOWLEDGE**

One of the most common actions for the leaders in the study is to facilitate the knowledge sharing among members in their organization, e.g., creating fora where people have a chance to discuss problems and share their ideas on solutions. The leaders do in many cases act as a facilitator in these fora although in several of the organizations, specific roles are created for individuals to act as a driver or coach for knowledge sharing within or between different units. The knowledge sharing covers both short-term and long-term purposes; urgent problem solving in teams, everyday information sharing or more long term dedicated workshops to share e.g. best practice and to increase understanding of businesses. Several respondents raised the need for personal training with specialized and senior people in order to practice and train innovation skills.

The high level of activity in knowledge sharing, both short-term and long-term and in problem solving in teams, are seen as indicators of a high involvement of employees in actions critical to innovation. It is also emphasized by most managers that knowledge sharing and problem solving needs to be performed with different competences involved. However, it is noted that competences included are mostly from within the company. It is also noted that mainly the units working closely with customers, either as a support unit or developing customized solutions, involve the customer to gain knowledge and problem resolving. This implies that units not having natural contacts with customers lack mechanisms for including customers in development activities.

4.3.2 **STIMULATING AND MOTIVATING**

All leaders in the study view innovation foremost as a social process where management of people’s motivation and ability to contribute is in focus. The managers view everyone in the organization as a potential innovator and emphasize the importance of empowering people. Concrete actions are focused on stimulating and motivating employees. These actions are often directed towards understanding what triggers each individual, encourage innovation and make everyone understand that they can contribute to value creation. The importance of facilitating dialogue in teams and in one-to-one meetings is brought up as a crucial tool in order for everyone to feel confident speaking-up, being creative and taking risks.

Most managers stress the importance of their own role in these matters. Creating an environment where people feel supported and is characterized by openness and engagement is a key objective for the leaders in the study. Being visible and available in their organizations, and travel to meetings when required is stressed. Many leaders also involve themselves personally in the innovation work by being part of the daily work to support employees by being open to discuss needs, problems and solutions. “Live as you learn” appears to be a motto of many of the respondents, resulting in them to take the time to frequently and boldly communicate the importance of innovation and what innovation could mean to their organization.
Some managers set challenging, non-negotiable, or very restrictive goals as a way to trigger new thinking and innovation, for example, implementing strict cost targets or goals that need to be achieved with a minimum of resources. The latter can be implemented in contrast to setting up goals where only number of new ideas or innovations are defined; the goals help people understand where the unit needs to go and combine that with restrictions. The reason behind the need to challenge people in order to stimulate the creation of new ideas is that many people cannot naturally identify needs or solution for the future. In some units individual goals are set up to support peoples dual roles in innovation; every employee is expected to generate, explain and fight for their ideas and to comment, encourage and help other people with their ideas.

4.3.3 Creating a process and structure for creative work

Some organizations have implemented rather structured innovation processes whereas others work more ad-hoc not following a strict process. Several tools and methods are available in the organization for supporting the units who want to implement a structured way of working. E.g. several organizations where managers have been interviewed use the tools provided by the organization for idea collection. However, the collection and evaluation processes have a lot of variations; regular idea submissions, review boards, team evaluations, open meetings for support and development of ideas. Some initiatives involve the dedication of a specific innovation coaching or managing roles and structures.

Some units, most frequently within the customer support group, displayed a very low structure for innovation in the interviews. The managers expressed that innovation occurs on a daily basis, and that they solve issues and problems in teams or open house meetings on demand. At a customer-oriented unit they do not talk about innovation or have structured processes, claiming that they do not plan to be innovative but each situation is unique and requires creative thinking. This also implies a more reactive way of working rather than also being more pro-active and long-term thinking. Either structured or not, only a few signs on deliberate actions for more radical innovations were identified, unless managers perceived their assignment as delivering new and more radical solutions.

4.3.4 Providing time, money and other resources

The most common way of supporting ideas is to allocate time for a team or making it possible for one person to elaborate on an idea. Still, even though time for ideation is stressed as critical and prioritizing of time for innovation is encouraged, there seem to be no time management as for replacing work activities already in place with new activities required for innovation. Only a few of the leaders allow a certain amount of time for everyone to actually innovate. It is also clear that for most units the innovation activities needs to be managed within the internal budget also regarding other initiatives than time allocation, leaving less room for developing challenging ideas.
Another way of supporting the elaboration of new ideas is to have a structure for bringing in the right competences and resources at the right level, either by providing an innovation coach that helps develop the idea, or by addressing the idea in a special team who can handle larger projects outside the everyday budget and activities.

5. DISCUSSION

An important finding in the study is that the company succeeded in making innovation an important topic also in units traditionally not considered to be part of the innovation process. The majority of units scoring high in the innovation survey in the studied company are non-R&D units. Internal process, support or customer related support units dominate despite that R&D in most companies is still treated as the major internal source for innovation. The R&D units were expected to show a higher representation in the ranking considering that people working in these units are expected to explore new ways of thinking, come up with new ways of working and making the transformation of market insights into new products; the core dimensions in the innovation survey used. In the following section we will discuss the involvement of a broad base as well as issues of going beyond R&D in innovation. We will also highlight the critical issues that have emerged through our analysis concerning the actual actions taken and the results and effects from these actions: results and effects that refer to both changes in the organization as well as innovation output.

5.1 ORGANIZATIONAL LEVEL

5.1.1 STRATEGIES USED FOR INVOLVING A BROAD BASE OF EMPLOYEES

Reaching out to involve employees in innovation that normally are not dealing with the identification of new ideas is perceived as something eligible. By reaching out beyond R&D and aiming for involving a broad base of employees in innovation is considered to increase the chances of identifying and realizing possible innovations and capture value outside traditional areas (Birkinshaw et. al., 2011). This is however far from self-evident in companies with advanced technology-based products as their core offer as these companies have a long tradition of strong and large R&D organizations being responsible for innovation. Innovation thus tends to be associated to managing product innovation rather than identifying new values down-stream or in completely new areas such as new services which is also reflected in the research literature (Nijssen et al, 2006). The result shows that the company studied has succeeded in involving employees in innovation also beyond R&D making it an interesting case for other companies with a similar ambition. Two main reasons to this result emerge based in the study (1) having a bottom-up approach and (2) communicating a broad and inclusive innovation definition, meaning that both how and what in innovation have a degree of freedom making it possible to fit each units context and its needs.

The company persistent usage of an approach that is allowing every unit to decide how to implement the innovation strategy is claimed to be a strategy for achieving a broader
base of employees in innovation. There are no demands or dictations from top management on how to make employees get involved in innovation and what actions managers should take. The implementation approach is reflected not the least in the diverse actions taken in the different units; from making use of formalized programs to simply allowing anyone to communicate their ideas. Using such bottom-up approach has earlier shown to be pertinent to a stronger willingness in employees to accept new strategies (Sherer et al, 2003). The underlying reason is that this leads to a better adaption to local conditions and a stronger buy-in from those mostly affected by the new strategy. By enabling a broad portfolio of tools and methods on the intranet, each manager and non-managerial employees in the company is invited to select and experiment with what is considered to be best suited for a specific unit or team.

The second reason to why the strategy to involve a broad base of the company’s employees has succeeded may lie in how the company communicates their innovation strategy internally. Innovation is given a broad definition in company internal presentations and information material. Innovation is defined to covering all aspects and all magnitude of change in offers and improvements. This definition does not exclude anyone in the organization and emphasize that value can be created in any area of the business. In conjunction to a broad definition, innovation is communicated to be part of the every-day business in the organization. Innovation is thus encouraged as being expected to form part of normal operations rather than being a special task for a dedicated few which is also argued to have contributed to their success in reaching units beyond the R&D organization.

The literature focusing on identifying an innovation definition is vast without any consensus being made (Crossan and Apaydin, 2010). In addition, that it is critical for companies to develop and communicate an innovation strategy has also been elaborated on (e.g. Guan et al., 2009; Anthony et al., 2006; Adner, 2006). However, the innovation research literature is concerned with identifying a single definition to support the comparison of different studies rather than understanding the consequences when communicating a certain innovation definition in practice. In a similar path, the innovation strategy literature is focused on what innovations to focus and what organizational arrangement are the desirable rather than building knowledge on how to best communicate innovation to support strategy implementation. The result from the study presented in this paper point to a need to better understand the consequences from the definition of innovation used and how the strategy is communicated in an organization.

5.1.2 INVOLVING UNITS BEYOND R&D
A result that stands out in the empirical material is the dominance of units outside the traditional R&D that are represented among the ones scoring the highest in the innovation index. Front-line employees are seen to innovate in diverse areas such as how to launch new products, set-up effective customer contracts or improve how technical issues in the field are solved. Internal process units are also seen to operate in
a broad area of opportunities; from realizing new IT services to identifying new energy-saving solutions (see Table 2). One possible reason based in the empirical material to why internal process and customer support units dominate may lie in their proximity to their customer. The customers for internal process units are employees in the company which enables a frequent interaction. In a similar vein, customer support units also have a rather straight forward access to their customers at least those employees that interact directly even daily with external customers. The results from the study display that customer related support organizations naturally were able to include customers in for instance problem solving teams. This undoubtable facilitates a good understanding of the needs and problems that are in need for a solution which is found to constitute a good ground for innovation (Chesbrough, 2003). Having a good understanding of your customer and their issues are in earlier studies shown to facilitate idea generation and creating a willingness to take subsequent actions to realize these ideas (van de Ven, 1986; Dougherty, 1992) Being open and learn from external actors, especially from customers and users whom can be an important source for innovation for mature companies is widely recognized (Chesbrough, 2003, von Hippel, 1996).

However, most developers in the R&D organizations, not the least in high technology companies, seldom come in direct contact with the customer for the products they are developing. The functional design characterizing the majority of large contemporary companies tend to make customer interaction in order to identify new product needs an exclusive task for employees in the marketing department. This means that developers understanding of customer’ needs and problems can be rather weak. As a consequence, their ability to come up with new ideas on possible future innovations risks being limited. Dougherty (1992) showed the importance on enabling products developers to come in direct with the problems they are expected to solve in order for innovation to spur. This line of reasoning is further supported when analyzing the characteristics for those few R&D units that have scored high in the innovation index. These R&D units namely bring up implemented ways of working that facilitate access to customers as an important reason for scoring high in the innovation index.

5.2 MANAGERIAL LEVEL

5.2.1 INNOVATION AS REACTIVE VERSUS PROACTIVE PROBLEM SOLVING
In the study, many managers bring up the importance in encouraging knowledge sharing and creation preferably by setting up meetings and discussion sessions between people. Facilitating face-to-face knowledge sharing has in earlier studies shown to be important for identifying or creating innovative opportunities (Nonaka, 1995) as a result from more tacit knowledge aspects (Polany, 1969) being transferred.

The study clearly reveals however that for the majority of the units, the problems in focus in these meetings and discussion forums is those in the near future. Most units focus on solving existing problems rather than on identifying future needs or solutions. Further, when more proactive problem solving and idea management activities were
brought up as key activities, these are shown to involve mainly internal employees. The activities involving customers had thus a more reactive character such as solving immediate issues for the customer rather than being pro-active or long-term focused. Innovation activities are hence performed as part of daily work and are seen as being closely connected to problem solving but mechanisms for bringing new influences such as including customers, users or internal employees from other departments in identifying future opportunities is missing. Many of the units are thus seen to have succeeded in implementing the company-internal strategy to “innovate every-day”. However, since innovation requires the insights of multiple "thought worlds” or frames which require organizations to involve people who literally think differently from each other (Dougherty, 1992), the present lack of a systematic approach in creating a high degree of diversity characterizing the majority of the units innovation work is however seen to risk making the solutions generated less creative or radical. “In a well-managed development process, these varying perspectives foster creative abrasion, intellectual conflict between diverse viewpoints producing energy that is channeled into new ideas and products” (Leonard-Barton, 1992). Encouraging people to take a long term perspective or developing an ability to “imagine the future” is found to be a critical element when striving to identify and realize more radical innovation (Christensen, 1997). This is further supported as referring to the organizational learning literature, few units take deliberate actions to stimulate or ensure explorative activities are enabled (March, 1991). Exploration aims to investigate future opportunities and include activities such as experimentation and discovery (Thomke and Fujimoto, 2000; March, 1991) as well as idea generation and development of creative concepts (Bertels et al., 2008). Even though idea generation and concept development is part also of a more reactive problem solving, the time available for searching for more novel solutions is severely limited. The degree of novelty in the knowledge to be embedded in innovation created can thus be expected to be rather low and hence incremental innovations are expected outcomes (Dewar and Dutton, 1986).

5.2.2 INDIRECTLY STIMULATING INNOVATION

Another result emanating from the study is the dominance of indirect rather than direct managerial actions taken in the units. This means that the deliberate actions are to a large extent aiming to influence peoples thinking and feeling rather than on implementing structures and guidance for innovation activities.

The focus on creating an innovative environment rather than managing innovation in the sense of steering it is underlined by how the managers perceive innovation to be encouraged; as a culture and attitude and an ongoing process. This is in alignment to literature that emphasizes that becoming innovative requires a transformational social re-structuring which takes time and effort (Börjesson and Elmqvist, 2011). Creating an environment where people feel safe to bring up their ideas and share their knowledge is a hallmark for innovative organizations (Kanter, 1988). Damanpour (1991) showed that executing actions for creating empowerment and an open climate is essential for innovation. Making use of indirect managerial actions is supported by studies on high
involvement (Bessant, 2003) and employee-driven innovation (Kesting and Ulhoy, 2010) emphasizing the role of managers in creating an environment characterized by risk taking and empowerment.

However, as important it is to create an innovative environment, making time and money available for developing new ideas is found to be crucial (Mumford and Licuanan, 2004). It is hence somewhat surprising to find that only a few of the units in the study are systematically ensuring time and funding for innovation. This is particularly critical if also radical ideas should have a chance to become realized as research has highlighted the importance for initiatives generated by employees to receive management support to get access to the knowledge and resources needed (Day 1994). Skunk works (Peters 1997), intrapreneurs (Menzel et al, 2007; Burgelman, 1983) or bottom-up innovation (Birkinshaw et al 2011; Smeds and Haho, 2003) have been found to be in need of managerial support resources, at least at some time point in order to survive in a mature company. The need to create mechanisms to specifically support radical innovation by for instance securing budget and pay attention to progress of radical projects is shown to be critical in earlier studies (O’Connor and De Martino, 2006) as bottom-up initiatives need the support from leaders to survive.

The dominance of an incremental outcome at the expense of radical innovations seen in the company studied is thus argued to be further amplified by not commonly providing resources to support the development of new and more radical ideas. The implementation of small process improvements makes the capacity for employees to develop and implement new ideas being less problematic as it requires low levels of time and resources. However if also more radical innovations are called for, this is a critical type of indirect managerial action needed. A few units have created the possibility to make time for a week of experimentation within the unit or for taking the idea to another unit with larger resources. Employees are in these units seen to be guided by operational as well as financial structures that may be enabling future radical innovations.

For instance, only a few units make use of a separate organizational design to support innovation or to separate between more explorative and exploitative activities i.e. are making use of an ambidextrous solution (Tushman and O’Reilly, 1997). Rather, as earlier described when more future-oriented perspectives are brought in, these explorative activities are part of exploitative conversations and problem-solving sessions i.e. a contextual ambidextrous approach has been adopted (Gibson and Birkinshaw, 2004). Since, the literature is far from clear when it comes to how to best design for both exploration and exploitation (e.g. Gupta et al., 2006; Lavie et al., 2010) the result from this study indicate that a contextual ambidextrous solution provides the advantages as advocated for by its proponents (e.g. Gibson and Birkinshaw, 2004). The selection of a contextual solution can also be perceived to be a natural consequence when applying the innovation strategy to involve everyone every-day as an ambidextrous solution can be seen as a way to dedicate innovation activities for a few.
One of the few top-performing R&D units in the company is however seen to be able to successfully combine a contextual approach with an ambidextrous one. One team in this unit is dedicated to developing advanced and novel technology concepts why other types of innovations from anyone are supported by taking actions to create an innovation accepting culture and setting up a supportive semi-structure for evaluating and discussing new ideas. This exemplifies that managers’ interpretation of innovating every-day does not imply that every-one need to have the same amount of or relation between exploration and exploitation activities. Both types of activities are crucial for realizing innovations why not everyone need to explore in order to “innovate”.

5.2.3 GUIDING INNOVATION

Some exceptions in only making use of indirect managerial actions to support innovation among the units were found. A few of the leaders brought up the importance to not only focus on creating an innovative climate and empower employees, but also providing guidance to what new areas to focus on as well as systematically escalating resources for ideas considered promising. Two main areas are that managers work (1) actively with goal setting and alignment of goals and (2) support sharing and knowledge transferring.

Guiding is seen to be performed in the organization by for instance setting up regular meetings where the vision of the unit along with the progress of ideas developed is discussed; managers providing guidance in how to formulate business cases; or the formulation of challenging and hard-to-reach goals that are in line with overarching goals for the unit and the company. The use of goals to initiate innovation has been suggested earlier in innovation management literature (e.g. Burgelman and Sayles, 1986). Goals have shown to both being able to challenge and inspire people to come up with new ideas (van de Ven, 1986; Sitkin, 2011) and to motivate people to develop desired behaviors (Loche and Latham, 2005). However, few studies have investigated how different type of goals impacts the stimulation of incremental and radical innovation. In the empirical material, goals are either used to break people’s mental models by combining a challenging goal with severe limitations in how to achieve it or as a device for people to not only generate ideas but also help other to develop their ideas by including measurable goals for both types of behaviors. Both types of goals are here suggested to be effective if more radical innovations are strived for. The former by supporting the breaking of people’s mind-set to recognize new opportunities by unlearning or second order learning (Argyris, 2004) which has been identified as critical when aiming for more novel solutions. The latter use of goals supports the development of new concept which as earlier discussed is more crucial when managing more radical innovations.

The majority of managers also bring up the importance in actively involve themselves in sharing and transfer of knowledge to their employees. Many of the managers see as one of their main tasks in relation to innovation is to interpret as well as filter important customer and business oriented information to spur new ideas in their organizations.
Further, their role also as internal knowledge sharer is brought up. Innovation management literature focus either on the political or resource allocation role of the managers or with creating the right attitude and values (Denti and Hemlin, 2012.). Middle managers have been recognized to be in a unique position to enable the knowledge sharing that is necessary for knowledge creation and innovation (Nonaka, 1995). How managers active information and knowledge sharer are thus less explored. That managers active knowledge management role is an interesting path for research is further supported by how a more “translating or information-providing” role of the managers is seen to be emphasized also in more recent leadership literature relating contemporary knowledge intense organizations as complex adaptive systems (Uhl-Bien and McKelvey, 2007). Making sure information and knowledge are effectively transferred in a complex system is crucial as the evolution of such organization is emergent and not a result of the direction of a leader.

5.3 INNOVATION OUTCOMES

The study shows that the majority of managers interpret the company’s overall innovation strategy to involve as many as possible in innovation to be strongly linked to making use of indirect managerial actions to initiate innovation only. Also, the study reveals that deliberate actions to secure a long-term perspective or explorative activities are scarce and that these activities when performed seldom involve a high degree of diversity in competence and skills. In parallel the study reveals that incremental innovation and process improvements is the most obvious result from high involvement in this company which is illustrated in Table 2. The main outcomes are new ways of working or re-design of standard tools that improve the efficiency of a process or reduce the cost of a product or technology. There is likely a connection between these observations.

However, adopting a high level of participation in innovation does not require managers to step away from their guiding and steering roles and may even be considered a threat to radical innovation. Literature shows that bolder decisions require stronger involvement from management (Kesting and Ulhoi, 2010) and the need for structure or guidance is crucial when aiming to stimulate more radical innovations (OConnor and DeMartino, 2006) The literature is however not clear in directing in when or in what situations more direct actions are called for. The result from this study stresses innovation management literature to pay more attention to the different demands required to manage radical and incremental respectively as earlier called for (Hemphälä and Magnusson, 2012). Further, the use of indirect actions excluding the dedication of time and funding for the development of ideas is also needed if more radical innovations should form the result.

The company’s intention to produce both incremental and radical innovation may thus be argued to not being realized. This is something that some of the managers involved in the study bring up as an issue while for some it is seen as a natural consequence from
innovation being foremost incremental innovation (Tushman and Nadler, 1986). The study thus shows being successful in involving a broad base of employees in innovation not necessarily means that also radical innovation is created. At least not after three years of purposeful strategy implementation.

The strong message to innovate every-day that is brought up as a strong driver for involving a broad base of employees in innovation is also suggested to have contributed to the bias towards incremental innovation at the expense of more radical innovation. The underlying reason is that since innovation is foremost understood as an outcome rather than as a process (Crossan and Apaydin, 2010) this message risks to be interpreted as innovations needs to be achieved in the short-term (“every-day”). Also, communicating a broad definition of innovation without being clear on differences in supporting more radical versus incremental opportunities may be part of the underlying reason to why it is hard for the former to become realized. This once again indicates a need to gain increased knowledge on how to communicate innovation and innovation strategy in an organization in order to achieve desired result. Both when it comes to what to focus on but also what innovation means and preferably should be handled.

6. CONCLUSIONS AND MANAGERIAL IMPLICATIONS

The study illustrates how a large mature organization has involved a broad base of their employees in innovation and the actions performed in the organization. It is shown that barriers for implementing this strategy can, with enduring change work and strategic efforts, be overcome. The study shows that the company is able to involve employees outside of the traditional innovation units such as R&D. It also shows that the output from the implementation of the strategy is dominated by incremental process improvement. The underlying reason to this result is elaborated on and critical factors to consider for companies with an ambition to involve a broad base of their employees in innovation to drive both radical and incremental innovation are identified.

Several factors are critical when a company has an ambition to involve a broad base of employees in innovation have been identified in this paper. The common approach among the top-50 managers identified in the empirical material is 1) their emphasis on communicating the importance of innovation for their unit and 2) their focus on encouraging people to make individual initiatives. Communicating frequently and boldly about innovation to raise the awareness of innovation and to empower people emerge thus as a crucial factor.

Even though the management creates a mindset in the organization where everyone can, and should contribute to innovation, it is found to be rather limited in stimulating explorative activities and systematically making use of diversity in competence and skills. Therefore, the importance in creating fora for managing more proactive innovation activities including a broader variety of competences than the internal ones
emerge as crucial in order to ensure both radical and incremental innovation output especially for units not naturally collaborating with customers and users.

With a message of the importance of innovation for everyone, every day managers may create an environment with highly empowered individuals and of continuous work on innovation. However, making use of indirect managerial actions to create an innovative environment does not seem to be sufficient to stimulate both radical and incremental innovation. This shows why it is important to use more direct actions in guiding innovation activities is raised. Managers are seen to proactively work on stimulating and guiding innovation, for example, by using goals and applying company set tools. Finally, understanding how to fuel the “right” dialogues and discussions stimulating innovation can be considered to be at the core of innovation management. It is in this study shown that the development of communication supportive to innovation is dependent on the target for a unit and the level of experience of those being involved in idea management. The role of managers as an active information and knowledge sharer emerge as a crucial factor that also requires increased attention in research.

**REFERENCES**


Ford, (2001)


