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Improving Idea Management System Implementation Practice

Identifying Key Success Factors at China Euro Vehicle Technology AB

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-Identifying Key Success Factors at China Euro Vehicle Technology AB

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ABSTRACT

Studies have shown that it takes time, experience and effective strategies for a company to successfully develop and implement processes that can stimulate and trigger a flow of continuous innovation. Companies that develop and support such process with the help of an Idea Management System face a challenge in selecting and implementing a suitable system. The main purpose of this mixed-method case study at China Euro Vehicle Technology AB (CEVT) is to identify the challenges and key success factors within the implementation practice of an Idea Management System and thereby help the company to improve future implementations. Theoretical findings show that there are two main challenges in successfully running an Idea Management System; lack of employee motivation and sub-compartmentalized organizations. Furthermore, many scholars reason that there are three organizational aspects that are important in order to overcome these challenges; culture, communicating the strategy and purpose and leadership. Due to the short-term focus of this case study, we focus on the latter two and identify the key success factors driving a successful implementation. Within communication; using different communication channels and technics to successfully communicate the strategic rationale behind the initiative to all participants is one vital aspects. Within leadership; having all levels of leadership providing strong support for the implementation and allocating time for this practice, is another vital aspect necessary to execute success full implementation practices.

Keywords: *Idea Management System, Idea Management Process, Implementation Practice, Key Success Factors*

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LIST OF ABBREVIATIONS

IB	InventiveBoard
IMP	Idea Management Process
IMS	Idea Management System
KSF	Key Success Factors
S=1	Sample 1
S=2	Sample 2

1 INTRODUCTION

The chapter aims to introduce the reader to the background of this thesis, the objectives, the studied company – China Euro Vehicle Technology AB (CEVT) – and the strategic rationale behind implementing an Idea Management System (IMS).

1.1 BACKGROUND

In the fast changing and turbulent business environment of the 21st century, it is more important than ever for companies to be adaptable to change in order to stay in business and expand current operations. In order to cope with rapid changes in markets and demand, companies turn to strategies promoting innovation. Managers encourage activities aimed at nurturing organizational innovation capabilities in the pursuit of making organizations more adaptable to new business contexts on a continuous basis.

In a turbulent business context, companies experience periods of rapid business growth and decline (Dodgson, Gann, & Salter, 2008). It is in such periods of declining business that innovation capabilities are acutely needed to turn a spiral of declining business by creating new business opportunities and turning business challenges in to business opportunities. Therefore, in order to better safeguard for these periods and gain competitive advantage, an increasing amount of companies have turned to implementing innovation strategies. These strategies support and develop organizational innovation capabilities through the use of structured innovation management processes. Such innovation processes aim at stimulating idea generation and innovation.

It should be clarified that there is an important difference between generated ideas and innovations. As explained by Van de Ven and Poole (1990):

“Invention is the creation of a new idea, but innovation is more encompassing and includes the process of developing and implementing a new idea.”

A successful innovation is defined by Murah et al. (2013) as a successfully implemented idea that has generated value for the company and its stakeholders by adding value to existing products or services. Value derives from the creation of a radical new design compared to existing dominant designs in products and services or from offering novel solutions adding value by improving existing processes.

The context and events behind turning an idea into a successful innovation is often very complex and sporadic. Companies therefore face a challenge in developing successful innovations on a continuous basis. Longstanding company processes and structures are often focusing too much on generating and capturing ideas that are acquainted and perceived as more certain to become successful innovations and therefore give the search and generation of truly novel and uncertain ideas too little attention (Matthaei & Andreas, 2007). This is risky as a shift in the environment is often not obvious and can lead to discontinuous innovation. Failing to adapt to a rapidly changing business environment can make existing products and services

obsolete in the short run and companies insolvent in the long run (Bessant & Stamm, 2007). Companies are therefore increasingly realizing the necessity and strategic advantage they can enjoy from successfully managing innovation processes to better align product and service development with rapid changing demand and preferences on the market. In an ever more turbulent and complex environment, building continuous innovation capabilities is increasingly recognized by managers as a prerequisite for long term business success (Bessant & Stamm, 2007).

Successfully developing innovation capabilities is not a linear process and calls for a systemic approach supporting innovation processes (Bessant & Stamm, 2007). By implementing a systematic approach that aims to stimulate idea generation and foster an innovative culture, companies strive for boosting innovation in products, services and organizational processes. In this pursuit, companies turn to different innovation strategies promoting the implementation of new tools, methods and techniques aiming at developing organizational innovation capabilities (Tidd & Bessant, 2013). While there are many different idea generating and search strategies to pursue, our thesis will focus on one specific innovation strategy that recently has gained popularity among managers (Murah et al., 2013): the implementation, use and promotion of an Idea Management System (IMS).

An IMS is purposed to support and stimulate idea generation, idea development and the idea implementation process. It supports organizations in developing their innovation capabilities by enabling idea sharing, capturing and development of ideas (Flynn, Dooley, O'sullivan, & Cormican, 2003; Montoya-Weiss & O'Driscoll, 2000). Although the notion of having an IMS is not novel at all, recent rapid development in information communication technologies has fundamentally changed the potential of modern digitalized systems. One of the first IMSs is reported to have been started 1872 in a German steel manufacturing company (Alessi et al., 2015). These early systems were based on idea suggestion boxes where ideas generated by employees could be collected by the management. However, the recent rapid development in information communication technologies has fundamentally changed the potential of IMSs and made digital idea management platforms a popular supportive tool used by companies. A digital IMS can be operated to involve all employees in companies and external stakeholders, e.g. customers and suppliers, in the Idea Management Process (IMP) in the pursuit of developing innovation capabilities (Alessi et al., 2015).

1.2 RESEARCH GAP

It takes time, experience and effective strategies for a company to successfully develop and implement processes that can stimulate and trigger a flow of continuous innovation (Tidd & Bessant, 2013). Companies pursuing a strategy of developing and supporting innovation capabilities with the help of an IMS, face a challenge in selecting a suitable IMS and implementing it successfully. There is much existing research on IMS designs and long-term effects in companies, but much less research on the actual implementation practices of an IMS in an organization. It is in the field of academic research related to the implementation practices of IMSs that we have identified a research gap encouraging our research area and focus for the

master thesis. We have particularly perceived a lack of academic research in terms of empirics derived from real case studies examining the implementation of an IMS.

The aim of our research from an academic standpoint is thus to contribute to the bridging of this identified research gap by providing a meticulously conducted case study focusing on the actual implementation practice of an IMS in a short-term perspective. The scope of our research is thus to study the implementation practices of an IMS. This involves actions taken prior and during the launch of the IMS; executed communication, exercised leadership and selected functionalities of the implemented IMS.

1.3 CASE STUDY BACKGROUND

For our case study we got the unique opportunity from Karin Broman (Vice President, Chief Legal and IP Counsel) and Peter Kollegger (Patent Counsel) at CEVT to study the actual implementation of an Idea Management System at CEVT, a pilot running for three months from February to April 2016. CEVT turned to the InventiveBoard in this pursuit, a company that provides a proprietary IMS. The company offers a developed IT-platform that supports and stimulates innovation processes in small- and medium-sized organizations. The platform is a cloud-based IMS enabling simple shaping and sharing of ideas in order to allow for a collaborative development of ideas into successful innovations for organizations.

The IMS was implemented by CEVT as a pilot in the pursuit of developing internal innovation capabilities by fostering and supporting an innovative company culture. The outcome of the so called Creative@CEVT initiative will be evaluated by the management at CEVT to decide whether an IMS is the right tool for CEVT. Our objective for CEVT is thus to generate valuable insights of the implementation practice, its outcome and how the company can improve future implementation practices of an IMS.

The InventiveBoard was implemented and tested during the three months of February to April 2016. The research was conducted from one month prior to launch until the end of the initiative. The studied implementation practice incorporates actions conducted by the management such as communication activities directed to employees, exercised leadership as well as reviewing the functionality of the implemented IMS. The short-term outcome of the implementation was studied in terms of activity in the IMS such as generated ideas and participation rate. Also, the employees' perceptions of the initiative is included in our research scope.

1.4 OBJECTIVES

The corporate objective of our thesis is to study the actual implementation practices of an IMS at CEVT in a single case study and thereby help to improve future implementation practices by coming up with valuable insights and recommendations. In this pursuit, our academic objective is to contribute to the bridging of the research gaps discussed.

In order to reach our main objective, we have two sub-objectives laying the foundation. Our first sub-objective is to identify the challenges for CEVT that hamper a successful outcome of

the implementation. Studying the challenges leads us to our second sub-objective which is to identify key success factors (KSF) that drive a successful implementation of an IMS and that can be linked to overcoming the identified challenges.

1.5 RESEARCH QUESTION

The discussion above leads us to our main research question:

How can CEVT successfully implement an Idea Management System?

We then arrive at our two sub-research questions that lay the foundation for answering our main research question:

What are the challenges in the implementation practice of an Idea Management System at CEVT?

What factors drives a successful implementation of an Idea Management System at CEVT?

1.6 DELIMITATION

As our main objective is to conduct a case study related to the implementation of an IMS and its short-term outcome at CEVT, we will focus on the early stages such as engaging employees, generating and reviewing ideas. We will exclude the implementation of generated ideas and post-implementation learning (Figure 1). Although the actual implementation of ideas is a very important part of developing innovation capabilities in the long-term (Börjesson & Elmquist, 2011), this will not be the focus of this thesis due to the short-term perspective and time scope.

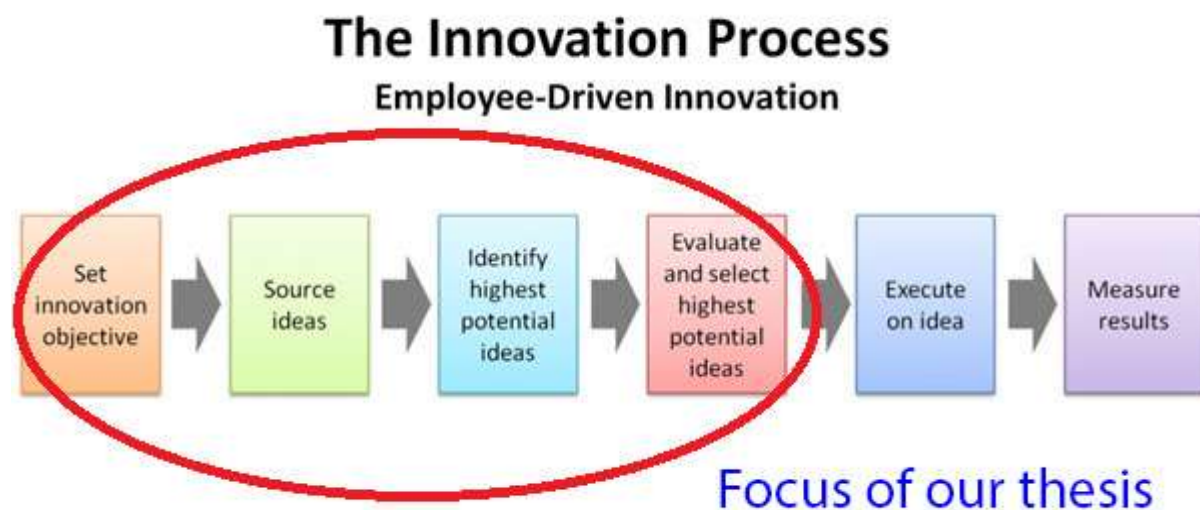


Figure 1 – The employee-driven innovation process (Carpenter, 2010)

1.7 THESIS DISPOSITION

We start with presenting our theoretical framework by covering an overview of relevant theories. Starting out broad, important aspects about managing innovation are presented before narrowing down to the Idea Management Process and Idea Management Systems. We finish our theoretical framework by looking into organizational challenges and success factors related to an IMS.

Next, we present our methodology which provides the basis for the research of this study. The chapter outlines the research strategy, research design and research method of the thesis and explains the rationale behind the selected research methodology.

The next chapter covers the empirical findings derived from our qualitative and quantitative data. The empirics lay the foundation for the upcoming analysis and have been divided into four parts. First we present an overview of the coding from our qualitative interviews. We then continue with the background of CEVT and the Creative@CEVT initiative. In the third part we illustrate the employees' perceptions and experiences with the InventiveBoard. Lastly, we present the results of the implementation relevant for the following analysis.

In the subsequent analysis we connect the theoretical framework with our empirical findings. In order to answer our sub-research questions, we start by identifying challenges faced by CEVT in the different phases of the IMP. We then continue by linking reviewed success factors in theory to the identified challenges and relate them to KSF identified in our empirical findings. In this way we come up with KSF that help to overcome the identified challenges in the different phases and thus drive a successful implementation of an IMS.

Finally, in our conclusions we summarize and discuss the results from our research. In this part we answer our main research question of how CEVT can successfully implement an IMS. We also discuss possible future research areas and provide recommendations for CEVT connected to our main research question.

2 THEORETICAL FRAMEWORK

In this chapter we present the academic findings constituting our theoretical framework. Starting out broad, important aspects about managing innovation are presented before narrowing down to the idea management process and idea management systems. Finally, we look into organizational challenges and success factors related to an IMS.

2.1 INNOVATION

As briefly discussed in the chapter "Background", there is not a unified definition of the concept innovation and it is therefore important to start with defining our interpretation of the

concept. Van de Ven and Poole (1990) distinguish between the notion of practical inventions on the one hand and inventions that can be turned into innovations by generating value to organizations, consumers or stakeholders on the other hand. Figure 2 shows a visualization of these distinctions.

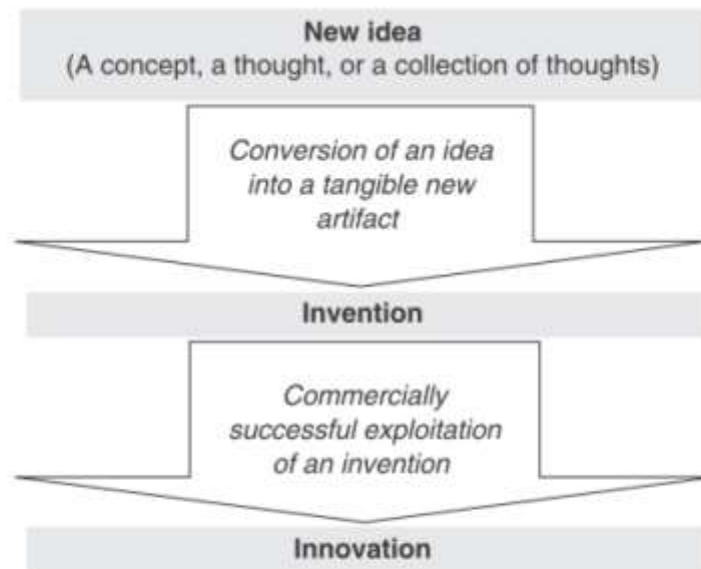


Figure 2 - Idea conversion (Trott, 2008)

Historically, there have been many inventors that failed to turn their concepts into viable businesses. Hence, they failed to make innovations out of good inventions. Some good examples depicting the difference between inventions and innovations are those of the vacuum cleaner and Morse code (Tidd & Bessant, 2011). The vacuum cleaner was invented by J. Murray Spengler, a person who knew nothing about how to market and sell the invention. He approached W. H. Hoover who then worked as a leather goods maker but had the vision of how to market and sell the vacuum cleaner and thus helped to turn the invention into an innovation. Samuel Morse, who is generally credited as the father of modern telegraphy, only invented the Morse code language which bears his name. He did not invent any of the technologies incorporated in the telegraph system but managed to forge many inventions and convince politicians of the vision and use as he managed to secure state funding to further develop the concept and technology. He was thus the visionary that managed to turn the inventions and technology invented by others into an innovation that had a huge impact on societies and generated value by vastly decreasing the time it took to send information.

According to Tidd and Bessant (2011), innovation is driven by the ability to see connections, to spot opportunities and to take advantage of them. Innovations can be intended to open up new markets, offer new ways of serving established markets or develop new internal processes. Behind every successful innovation, often lies many ideas that failed to be turned in to innovations. In the pursuit of generating innovations, it therefore becomes important to manage innovation by generating many ideas and focusing on the ones that can be turned in to successful innovations.

2.2 MANAGING INNOVATION

In the fast changing business environment of the 21st century, managing innovation has become a prerequisite for long-termed business success and avoiding bankruptcy in periods of market turmoil. Innovation has therefore become important for maintaining and expanding business (Drucker, 1998; Kaplan & Norton, 2005). Tidd and Bessant (2011) argue that innovation is important for three explicit reasons: It is the most important characteristic associated with business success; companies that are innovative typically achieve stronger growth and are more successful than companies that fail to innovate; companies that increase market share and manage to grow profitability are those that possess innovative capabilities. Therefore, implementing innovation strategies to better manage innovation and develop innovation capabilities should be top priority for companies.

As our sub-research questions are to identify challenges in the implementation practice of an IMS and KSF helping to overcome such challenges, we first want to create a better understanding for the objectives and rational behind the implementation of an IMS. We believe that knowing about the goals of a successful outcome will contribute to understand the challenges and KSF. Therefore, we start broadly with reviewing the goals of an innovation strategy and then narrowing down into reviewing the IMS and how it can be part of innovation strategy by supporting the innovation process.

In the following section we review innovation strategy and how **innovation capabilities**, **innovation processes** and **resources for innovation** relate to the goals of the strategy. We then continue with reviewing how successful innovative companies manage to become successful through motivating its employees to participate and contribute to the strategic goals by creating what Tidd and Bessant (2011) refer to as **innovation energy**. Figure 3 below depicts how innovation strategy is linked to supporting innovation through supporting the development of Innovation Capabilities, Innovation Process and Resources allocated for innovation.



Figure 3 - Innovation Energy (Dodgson et al., 2008, edited page 96)

2.2.1 INNOVATION STRATEGY

The strategic rationale behind the implementation of an innovation strategy is to guide innovation efforts and thereby nurture and build innovation capabilities, manage innovation resources and structure innovation processes. Quoting Dodgson et al. (2008):

“An innovation strategy guides decisions on how resources are to be used to meet a firm’s objectives for innovation and thereby deliver value and build competitive advantages.”

However, attempting to pursue such strategies to manage innovation is never easy or risk free, as Grant (2015) explains it:

“Get it right and firms create value and profit, develop sustainable competitiveness, and become vibrant, fun places to work, attracting and retaining the most productive and creative staff. Get it wrong and firms can face serious, and perhaps terminal, problems through losing money, workers, and reputation.”

Pursuing an innovation strategy thus takes careful considerations, time and economic resources and it is therefore important for companies to consider what strategy fits best and how it should be implemented. According to Dodgson et al. (2008), an innovation strategy can be linked to developing innovative capabilities, innovation processes and how to manage what resources to dedicate to innovation and how to employ them. The intention of the innovation strategy is therefore to help the company manage how these resources, capabilities and processes are best nurtured and organized to meet corporate innovative objectives. According to Dodgson et al. (2008), becoming innovative is harder for established companies compared to new players, because new players in general are more entrepreneurial and have less established rigid processes.

There are many different innovation strategies in the pursuit of developing innovation capabilities and supporting innovation processes to become innovative. However, we will focus on knowledge management in this thesis, more specifically the strategy of using an IMS to involve all employees in the innovation process.

2.2.2 INNOVATION RESOURCES

Innovation resources are both tangible and intangible resources a company uses to support the generation of innovation. Examples of intangibles resources in this context are intellectual resources (e.g. knowledge, patents and trademarks), marketing resources (e.g. brands, ownership and trade secrets), organizational resources (e.g. practices, processes and policies) and networking resources (e.g. customers, partners and suppliers). Example of tangible resources are financial capital, human resources, fixed assets (e.g. technological assets and plants). The difference is how these resources are managed. One example is how the risk tolerance for allocated financial resources is managed (Dodgson et al., 2008).

2.2.3 INNOVATION CAPABILITIES

Innovative capabilities can briefly be explained as the ability an organization has to come up with innovations that deliver value to an organization on a continuous basis. Dodgson et al.

(2008) divide innovative capabilities into five different areas: Searching, selecting, configuring, deploying and learning. **Searching** is explained as the company's ability to seek and find potential ideas valuable for the company. **Selecting** follows the searching stage and refers to the company's capability of assessing and evaluating the potentials of the ideas in relation to the company's resources. **Configuring** refers to the ability the company has to ensure the alignment between overall company objectives and its innovation efforts, to ensure the integration of innovation activities involved in the innovation process. **Deploying** refers to the ability the company has to act upon internally and acquired innovations and effectively extract value from them. **Learning** refers to the company's ability to improve its innovation processes and how a better understanding of its capabilities can help the organization to adapt and develop its organizational efficiency. Attempting to develop innovative capabilities is not an easy and straight forward task and is a rather long termed pursuit (Börjesson & Elmquist, 2011).

2.2.4 INNOVATION PROCESS

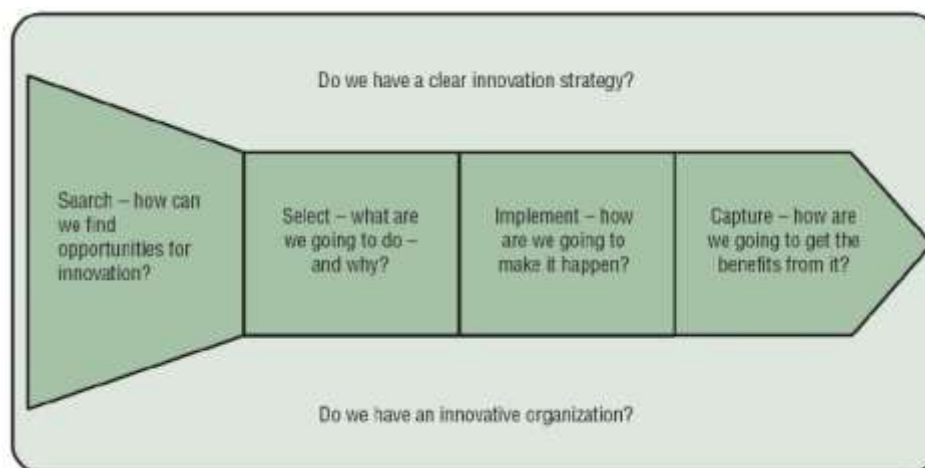


Figure 4 - Innovation Process (Tidd and Bessant, 2011, page 44)

The innovation process describes the different stages an innovation goes through from simply being an idea to becoming an implemented and harnessed innovation. The first stage is called **search** and comprises the activities aiming to find ideas potentially valuable to the company. These activities come down to how the company organizes its scanning of the environment for new ideas, internally and externally. The second stage in the process is called **select**. This is where ideas for a potential implementation are chosen. This stage is composed by selection criteria that guide the selection process. The following stage is the **implementation**. Implementing an idea is not a single event. The process guides which knowledge resources are necessary in order to enable a successful implementation of a potential innovation. As the project needs to be executed under uncertain conditions, this stage structures the problem solving directions and how the innovation is going to be launched to an internal or external market. The last stage in the innovation process is the **capture** stage. In this stage, considerations of how to capture value from the innovation in terms of supporting the implementation and distribution of the evaluated innovation are taken. During the implementation and capture stage, learning and conclusions need to be apprehended as the

implementation process progresses. This is necessary to better guide the implementation of the idea and to assess and improve how the process itself is managed. A successful innovation process therefore needs to be organized well aligned to the company's resources, strategy and capabilities. It is not sufficient to have an innovation process that only stimulates creativity and generates many ideas. It also needs to allow for ideas that can create value and be successfully implemented (Oke, Munshi, & Walumbwa, 2009).

2.2.5 INNOVATION ENERGY

Tidd and Bessant (2011) discuss the notion of existing **Innovation Energy** in innovative organizations that results in people being innovative: They are energized, motivated and supported by its organization to innovate. They argue that there is a clear pattern that can be seen in innovative companies that manage to create this innovative energy and motivate its employees. This pattern can be linked to innovative capabilities, resources for innovation and innovation processes discussed above. In order to generate this innovation energy, three forces need to be supported: The individual's **attitude**, a group's **behavioral** dynamic and the **support an organization provides**.

Attitude comes down to how employees perceive innovation. To some it might be intimidating by nature whereas others are excited about it. In order to have this force aligned with the other forces stimulating innovation energy, there needs to be a majority of employees that have the right attitude and open-mindedness towards innovation and the rest needs to be neutral. If many people are critical, it can hamper the force and undermine innovation capabilities. The key here is to motivate people and cultivate the right attitude towards innovation. The pattern seen amongst successful innovative companies is that they succeed in making employees feel that they can make a difference and that they like being part of it. By linking employees to corporate visions and purposes, innovation can be stimulated. Companies need to engage their people on a personal level and manage to find what motivates them on an individual level to be part of something bigger, a common purpose.

The second force is human **behavior**. Tidd and Bessant (2011) argue about the necessity of breaking established behavior patterns in the pursuit of generating innovation. They argue that our behavior that helped us to succeed in many situations is actually the opposite of the behavior necessary to spawn innovation. In the context of generating innovation, people need to put judgement aside and turn to the behavior of "green housing" – building ideas collaboratively, "bravery"- guts to disagree and "signaling" - helping a group to navigate between creative and analytical behavior. Innovative companies are often good at acknowledging right behavior and use stories to celebrate and spread the message in the organization. Importantly, not only success stories are being recognized, also failure or non-practical ideas are being acknowledged as innovative companies sincerely believe that failure is a good thing as it stimulates learning.

The third force needed to generate innovation energy and foster innovation is **organizational support for innovation**. Quoting Tidd and Bessant (2011):

“Innovation Energy is not just a matter of harnessing the right attitude and the right behavior, it’s vital that the organization supports and directs innovation.”

They discuss how organizational structures can be built to give rewards, allocate resources, communicate goals, create flexible processes, promote a creative environment and leadership supporting innovation. Thus, there are many ways how to organize in this pursuit. One way is to create a creative environment that enables for different departments to collaborate around ideas and innovation. Perhaps one of the most important organizational structures in the pursuit of organizing for innovation is that of leadership. Tidd and Bessant (2011) stress the importance that leadership supports innovation by sharing their views of the purpose, ambitions and desired behavior. Leadership also needs to allocate time to innovation activates and plan for uncertainties, as it is hard to estimate when ideas will arise and how much time they will need to be developed. It therefore needs to be clear how much time and effort employees are expected to put in innovation activities. The management needs to decide upon which activities and areas to focus on. They need to be adjusted continuously as objectives and priorities change. A typical failure here is to focus on too many initiatives resulting in very little success with any of them.

If these three forces are managed accordingly, innovation energy is generated which promotes productive change. Quoting Tidd and Bessant (2011):

“Innovation Energy can be generated, harnessed and managed by engendering the right attitude, behaviors and structures within your organization. It can turn fading companies into powerhouses of industry. Get it right and you create a stimulating, productive, fun place to work. You’ll attract and recruit talented people – bright sparks that will add to the energy and make success all the more likely.”

2.3 IDEA MANAGEMENT PROCESS

In order to better understand the purpose if an IMS, we now turn to describe a conceptual model of an IMP by comparing concepts developed by several scholars (Alexe, Alexe, & Militaru, 2014; Iversen et al., 2009; Malik, 2014; Summa, 2004). The conceptual IMP examines the different phases related to the management of ideas (Alexe et al., 2014).

2.3.1 INSPIRE AND INVOLVE

According to Alexe et al. (2014) and Iversen et al. (2009) the first stage in the IMP is to inspire and involve employees to participate in the process. Both authors stress, that it is important that the goals and objectives of the process are known to the assigned participants in advance. The value added by having employees submitting ideas should be clearly communicated to potential participants in this stage. Furthermore, the message should reach out to all involved stakeholders, such as customers and suppliers, in order to involve them in the process as well. Employees must be aware of the used IMS and its functionalities as well as process with potential nonfinancial and financial rewards (Alexe et al., 2014).

2.3.2 GENERATE AND CAPTURE

In this phase of the IMP the management should identify several areas of interest for the company and use those areas to guide the employees to generate ideas related, but not exclusively limited, to these areas (Alexe et al., 2014). The focus in this stage is on the involvement of employees and techniques used to stimulate individual and group creativity (Alexe et al., 2014). Summa (2004) and Malik (2014) also includes the development of ideas in this phase, while Alexe et al. (2014) and Iversen et al. (2009) define separate phases for that process. All authors stress that it is important to use different ideation events related to specific topics to encourage participation from all employees at this stage.

Another important part of this phase is to record the employees' ideas and make them visible to all participants as it is in this phase that ideas are stored in the IMS for the first time (Alexe et al., 2014). By storing ideas, a basis is created for idea evaluation and selection and an "organizational memory" is built (Summa, 2004). Ideas can be gathered in brainstorming activities or individually (Iversen et al., 2009).

Using an standardized form to outline the details of the idea can help to analyze the ideas on the same criteria in a later stage (Alexe et al., 2014). The employee has to feel that the process is transparent, that it leads to a result and that opportunities are equal for every participant. Alexe et al. (2014) argue that in this phase it is important to acknowledge the owner of the idea. The employee that handed in the idea should receive feedback that indicates the status of his idea and should be congratulated and encouraged for the effort undertaken.

2.3.3 DEVELOPMENT AND ENRICHMENT

Once an idea is registered in the IMS it is visible to all other participants and they are involved in this stage by having the opportunity to comment and develop the ideas (Alexe et al., 2014). Summa (2004) argues that in a modern, complex world where organizations often work in cross-functional teams, it is unlikely that one person generates an idea and develops it until it is implemented and becomes a project. Therefore, to create a competitive advantage and develop ideas towards innovations it is necessary to continuously develop the ideas through collaboration by having other participants adding comments, pictures, links etc. in this stage to registered ideas (Iversen et al., 2009; Summa, 2004). Thus, the focus in this stage should be on having participants being collaborative and active by commenting/developing registered ideas. An idea manager plays an important role in this stage by facilitating the idea development, such as merging similar ideas. Interesting ideas that need further development can be selected for prototyping, visualization or a business plan before being finalized and headed for the next step, the final evaluation (Iversen et al., 2009). The focus shall be put on identifying the ideas that arouse the interest and the comments of other employees (Alexe et al., 2014).

Alexe et al. (2014) recommends that if there is a reward system in place, not only the owner of the idea but also those who contributed to the development should benefit and be recognized. Summa (2004) sees this phase as most critical and therefore argues that the development should continue through the whole IMP.

2.3.4 EVALUATION AND SELECTION

The evaluation is a critical part of the IMP and it is important to link it to the organization's strategy and vision (Summa, 2004). If there is no fit between registered ideas and strategy, other solutions have to be found, such as saving ideas for future use. A voting process can be used in the beginning of this phase in order to prioritize ideas and decrease the number of ideas to evaluate (Alexe et al., 2014). However, doing so does not necessarily assure that the most popular ideas are the best ones for the company.

Poor idea evaluation can be very demotivating for the employees and in such case have a high impact on the organization's innovation activities (Summa, 2004). He names four reasons for poor idea evaluation:

- The employees responsible for the evaluation do not see the benefit to participate or they are not rewarded for their work.
- The senior management does not support idea management and evaluation.
- The employees responsible for the evaluation do not have the required skills or competence to evaluate ideas.
- The employees responsible for the evaluation are afraid to support ideas, because the development and implementation of new ideas include risks. The organization has to tolerate failure to utilize the potential of new ideas.

In order to promote a good idea evaluation process as well as stimulating idea submission in earlier phases, it is important that the assigned criteria used in the evaluation are known in advance by all participants. It is also important that the criteria are adjusted in accordance with the ideation event and focused problem (Alexe et al., 2014; Iversen et al., 2009). Common criteria include effectiveness, originality and feasibility of the idea. The ideas can be selected based on a global score obtained from each criterion and received notes from each participant assigned the role as an idea evaluator (Alexe et al., 2014).

2.3.5 IMPLEMENTATION

The implementation of ideas is important for the organization to benefit from their innovativeness and thereby gain a competitive advantage and obtaining value and profit (Alexe et al., 2014; Summa, 2004). According to Iversen et al. (2009) the responsibility for the implementation depends on whether the main objective of the IMP is problem-solving, continuous improvement or groundbreaking innovation. If the objective is problem-solving, the campaign owner should be responsible to implement selected ideas. For continuous improvements, it should be the task of the business area manager to implement selected ideas relevant to his/her particular business area. For groundbreaking innovations, a board should be formed. No matter who finally has the responsibility, the implementation will require the involvement of several people's experience and knowledge. It therefore becomes important that good communication and right knowledge of the different roles in the implementation are sought for when allocating employees (Alexe et al., 2014). Summa (2004) argues that the idea

implementation should be handled in a separate process and continue throughout the whole life cycle of the innovation.

2.3.6 POST-IMPLEMENTATION LEARNING AND FEEDBACK

Idea follow-up and rewarding the innovator should always be part of the IMP, because it creates valuable knowledge for the company (Summa, 2004). The type and extent of the reward can be handled very differently. Some companies go so far that the initiator of the idea receives a share of the earnings/savings that result from the idea (Alexe et al., 2014). It is important that employees and managers give feedback after the implementation to the idea initiator to recognize the effort and spread the success story in the organization (Malik, 2014). Iversen et al. (2009) suggest that an assigned idea manager should conduct interviews with selected idea owners, review group and campaign owner as well as hand out a user survey after campaign completion to generate insight valuable for post learning and valuable conclusions. As a result, a “lessons learned” report can be created and the process can be adjusted according to the feedback. Furthermore, ideas should be stored in the organizations memory to keep them for future use (Malik, 2014; Summa, 2004). To measure the gains and savings from an idea, Alexe et al. (2014) suggest to use a ratio of output (e.g. revenue or savings) to resources (e.g. time and funding).

2.4 IDEA MANAGEMENT SYSTEM

An IMS provides a structured approach for its users to contribute with their creativity in form of ideas. The IMS is a digital platform which enables for a structured arrangement of the IMP discussed in the previous chapter. An IMS is thus a digital system where generated ideas are stored, evaluated and eventually implemented in a structured process. It is a platform where users can be inspired to be creative by submitting ideas potentially valuable for the company into the system (Murah et al., 2013). According to Marcelo and Almeida (2014), an IMS can be used to *“promote the human capital of an entity or organization through individual dissemination of ideas whose context is to improve processes, reduce costs, increase efficiency or to simplify administration and bureaucracy.”*

They also argue that creativity and idea generation is linked to innovation. As new ideas are spawned and further developed, the likelihood of generating actionable ideas valuable for the company increases (Marcelo & Almeida, 2014).

There are different types of IMSs. Marcelo and Almeida (2014) distinguish between the contextualization of **Crowdicity** or **Ideacomb** and **IdeaMine**. Crowdicity or Ideacomb are complex systems that enable for very large number of users. A commonality among the systems in this category is the ability to connect and involve large numbers of participants, to create a collaborative environment for organizations and its partners in a network community. The tool is therefore very applicable for companies that want to include external parts outside the organization and therefore relates to the notion of open innovation. Another typical feature is the functionality of searching through the vast amount of ideas and identify similar ones.

The other category is that of IdeaMine, which is more related to internal idea generation and internal idea management processes. IdeaMine systems are less complex and better suitable for small to medium sized organizations with fewer users compared to Crowdcity or Ideacomb. The system is more flexible and the process is faster and more assertive. In this thesis, we focus on an IMS categorized as IdeaMine.

Murah et al. (2013) discuss a conceptual architecture design of an IMS that fits into the category of IdeaMine. In their conceptual design, an IMS consists of three concepts: Actors, objects and workflows. Actors are the **users** of the IMS, while objects are the **ideas** that go into the workflow or **process** with all its different stages. Starting with the users, an IMS involves different types of activities that different types of users can engage in. The different types of activities that users can engage in are (Marcelo & Almeida, 2014;



Figure 5 - Activities in an IMS

Murah et al., 2013): Administrating the system and its users, creating and submitting ideas, approve ideas, commenting on ideas, vote on ideas and lastly assessing ideas and select candidate ideas suitable for implementation. A typical categorization of users is administrators, submitters, reviewer and evaluators. Each category of users then has different rights to participate in certain activities. In Figure 5 we provide an example of how the different activities could be allocated among the different types of users. Murah et al. (2013) argue that by designing a IMS with a single workflow process, successful management and control of many ideas are facilitated. Also, since such a system encourages collaboration and the review of the ideas by many users, it is likelier that ideas of a good quality will be identified faster.

2.4.1 PROCESS

A step by step process for managing ideas, allows for a workflow where ideas can be assessed and controlled in the movement between the different stages (Murah et al., 2013). The first stage in the process of an IMS is the **generate ideas** stage where participants can submit ideas into the system. At this stage, several types of users can be involved. Alessi et al. (2015) discuss the notion of having a push or pull approach. A push approach signifies that a specific agenda or topic has been preset by the management to steer the direction of generated ideas whereas a pull approach allows users to freely come up with ideas.

The next step is the **collaborative** stage where commonly all users can contribute to improve submitted ideas. Examples for collaboration are commenting and adding pictures or links (Alessi et al., 2015). Before an idea reaches the collaborative stage, a system can include an approving-stage where certain groups of users, such as an administrator, are responsible for overseeing, approving and forwarding ideas to the next stage (Murah et al., 2013).

A typical next stage is a **review** stage where users can evaluate existing ideas on certain predefined criteria (Marcelo & Almeida, 2014; Murah et al., 2013). The different users that are allowed to vote in this stage differ. In some systems all users are allowed to vote whereas in others only a group of people participate in this activity (Murah et al., 2013). After the voting is finished, ideas can be ranked according to the result. In this way, the voting group provides input to the capabilities of the ideas when they are forwarded to the next stage (Alessi et al., 2015). In some systems, ideas can be blocked at this stage if they receive unsatisfactory voting scores (Murah et al., 2013). The concept is to use the wisdom of the crowd or selected group in the initial assessing and screening of ideas.

Following the review stage, is a what we choose to call a **further evaluation** stage. At this stage the management or a group of experts can be involved in the final evaluation and selection of which ideas are to be forwarded to the implementation stage (Alessi et al., 2015). Some systems allow for sending ideas back to the collaborative stage or storing them if they are perceived as not implementable (Murah et al., 2013). In that way, rejected ideas can be further developed in to possible future implementable ideas.

The last step is the **implementation** stage. At this stage, the ideas are implemented and acted upon. This is when the idea leaves the IMS and are assigned persons or teams responsible for implementing and working with the ideas.



Figure 6 - IMS Process

2.4.2 STRATEGIC RATIONALE

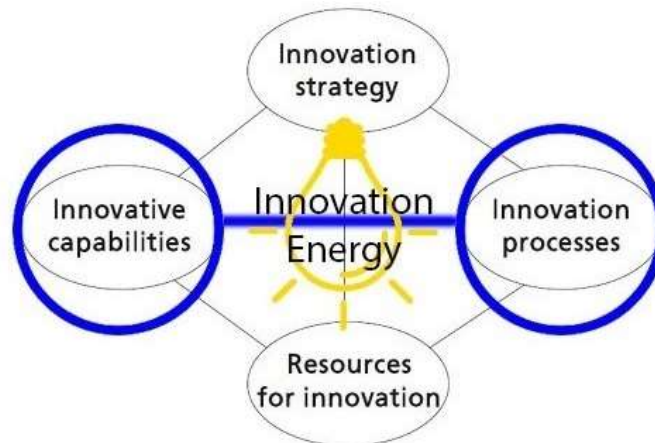


Figure 7 - Innovation Energy (Dodgson et al., 2008, edited, page 96)

In order to better answer our first sub-research question “*What are the challenges in the implementation practice of an Idea Management System at CEVT?*”, we will review the objectives and purpose an IMS plays in the IMP. Although our thesis is focusing on a short-term perspective involving the first four phases of an IMP, we still find it valuable to further review in detail what role an IMS plays in supporting innovative capabilities and the six phases of the IMP. We believe that this will help us to better see the entire context the identified challenges and success factors relevant for an implementation in a short term perspective is in. In this endeavor, we would like to start with connecting back to the presented theory of “Managing Innovation”; the discussion of innovative capabilities and how innovation processes can be applied to boost innovativeness by nurturing innovation capabilities and directing resources to aid innovation.

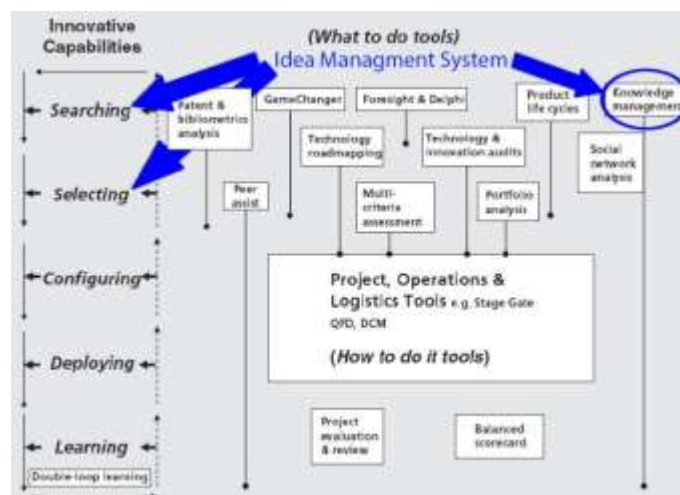


Figure 8 - Innovation Capabilities (Dodgson et al., 2008, edited, page 107)

The edited picture above from Dodgson et al. (2008), visualizes how knowledge management, e.g. an IMS fits into innovation strategy and how it relates to the rationale of developing innovation capabilities and foster innovation in the organization. An IMS is used to support and nurture all different aspects of innovation capabilities.

Below follow some examples of how an IMS can help support innovation capabilities:

Searching: An IMS enables for processes where a company can guide its ability to seek and find potential ideas valuable for the company through the system's participants.

Selecting: Following the searching stage an IMS process affects a company's capability to assess and evaluate the potentials by directing how the system will evaluate ideas that have been generated.

Configuring: In the management of an IMS, the management can use the IMS to align company strategy and overall objectives with innovation efforts to ensure the integration of innovation activities involved in the innovation process by guiding idea challenges.

Deploying: The way generated feasible ideas are handled in the IMS affects a company's ability to implement potential innovations.

Learning: How an organization improves an IMS and its processes to better fit with shifting organizational needs and strategy affects how the company is learning. Better use of IMS will help the company to develop better learning capabilities.

The role of an IMS in all six phases of an IMP is reviewed in Table 1 below. The table links the previously presented theoretical findings of the IMP (Alexe et al., 2014; Iversen et al., 2009; Malik, 2014; Summa, 2004) and IMS (Alessi et al., 2015; Marcelo & Almeida, 2014; Murah et al., 2013).

Table 1 - Role of an IMS in the IMP

IMP	Role of an IMS	Value generated by IMS
Inspire and involve	Motivating and enabling employees to participate through providing a system and purpose.	Motivating employees to reflect upon potentially valuable ideas for the company. Openness towards innovation and knowledge sharing.
Generate and capture	Encouraging and involving employees in the IMP to stimulate individual and group creativity aimed at organizational goals. Capturing generated ideas and storing them in the IMS.	Generated ideas aligned to strategy potentially valuable for the company as future innovations. Knowledge sharing and openness towards innovation.
Development and enrichment	Allowing for a continuous development of submitted ideas through social interaction and collaboration. The visibility of all ideas to all employees enables for the sharing of thoughts and experiences by providing feedback on ideas.	Collaboration, discussion, knowledge sharing: contributing to an open culture and collaboration across departments. Can assist in suggesting which ideas should be further developed and implemented

Evaluation and selection	Helps to structure the evaluation of ideas to ensure a strategic fit and assess the potential value to the company.	Selecting ideas most likely to be valuable to the company. Managing expectations of how ideas will be assessed by having the management providing feedback on submitted ideas.
Implementation	Assist in the selection of persons responsible for the implementation.	Managing expectations and providing input valuable in the selection of campaign owners.
Post implementation and learning	Following up on implemented ideas and rewarding its idea submitter and contributors: using them as success stories in future communication to inspire and maintain motivation of employees to participate in the IMS.	Managing expectations for employees interested in submitting ideas by inspiring them through success stories and enabling for incentives such as monetary or other rewards. This also contributes towards trust building between employees and management.

2.4.3 FUNCTIONAL REQUIREMENTS

In order to achieve the goals and purpose of an IMS, we have identified functional requirements that scholars argue need to be present in an IMS. The selection of the right IMS is a crucial part for a successful implementation. We review the functionalities to better understand the challenges faced by an organization in this endeavor. We also identify potential KSF related to functionality that help to drive a successful implementation. Beside the basic functions for collaboration, scholars argue that the following functional requirements are necessary for the success of an IMS.

Simple user interface: The IMS needs to have a user-friendly layout that facilitates the use. It should be easy for the users to register and get access to the IMS, submit ideas and for managers to administer and arrange ideation events. Marcelo and Almeida (2014) argue that a simple user interface reduces the time needed for the user to get familiarized with the IMS.

Anonymity: According to some scholars (Alexe et al., 2014; Marcelo & Almeida, 2014), allowing for user anonymity is an essential feature of a successful IMS. Only by allowing for anonymous treatment of ideas, the true potential from all employees can be collected in the ideation process. Some employees might feel inhibited of submitting truly out-of-the-box ideas because they fear ridicule from their colleagues (Marcelo & Almeida, 2014). Thus, allowing for anonymity can stimulate additional ideas in the IMS. Furthermore, Alexe et al. (2014) stress the importance of allowing for anonymity at the initial submission stage as this can remove the risk of prejudiced opinions in following stages. However, since a crucial part of stimulating idea generation is recognizing the idea creators and contributors, the IMS should allow its

administrator to retrieve the identity at a later stage so that recognition and award can be given by the management (Marcelo & Almeida, 2014).

Mobility: If an IMS is available anywhere and anytime, it enables for collecting ideas from employees whenever they pop up in their minds which increases the number of high quality ideas (Alessi et al., 2015; Marcelo & Almeida, 2014). In an article published by the Fraunhofer IAO (Rogowski, 2010), it was highlighted that only 24% of employees' ideas are generated at work, whereas the remaining 76% are generated mostly in nature hiking, at home watching TV or while on a business trip away from office. Therefore, by allowing for mobile accessibility, it can be argued that a stimulation of more ideas of better quality can be spawned in an IMS. Figure 9 below illustrates the results of the study.

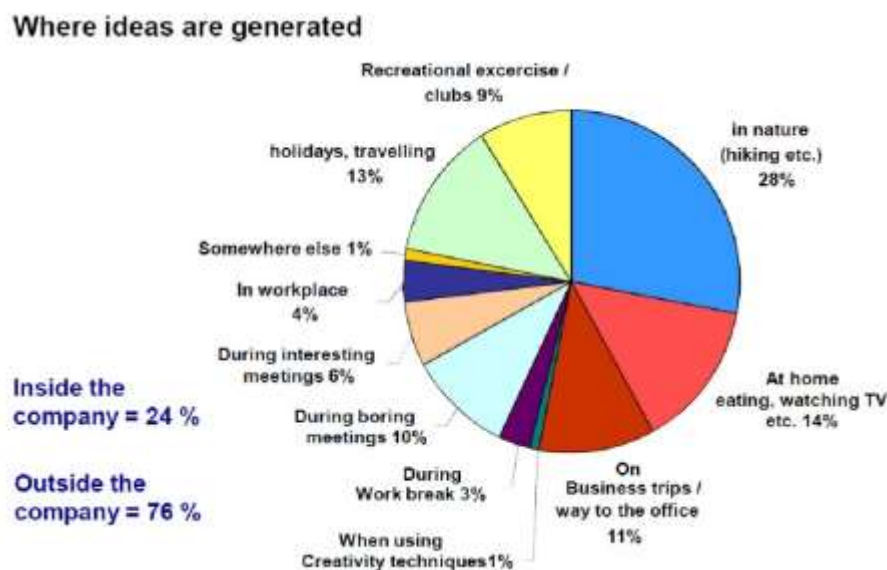


Figure 9 - Where ideas are generated (Rogowski, 2010, page 68)

Efficient idea evaluation function: An IMS should provide users with a fast and easy method of capturing, evaluating and reviewing all submitted ideas. Since an IMS incorporates ideas derived from many employees in different departments with different knowledge, each idea needs to be evaluated in a structured way. More specifically, each idea needs to be separately evaluated for potential in terms of originality, technicality, usability and market (Murah et al., 2013). In order to support a fair review process, it is important that it is clear from the beginning on what criteria the ideas will be evaluated on (Gamlin, Yourd, & Patrick, 2007; Imaginatik research, 2001). Ideas should then be evaluated through a scoring mechanism to facilitate the selection of ideas. Alessi et al. (2015) argue that in order to further facilitate the idea selection process, the IMS should allow for a voting function that results in a ranking. This ranking later gives input to the assessment team for further idea evaluation.

Feedback Functions: Idea submitters should automatically receive feedback on their interaction in the IMS (Gamlin et al., 2007; Imaginatik research, 2001). When users post ideas, they should preferably receive a personal message thanking them for submitting an idea. They should then receive instant feedback every time their idea has been forwarded in the IMS. The decisions should be published for everyone and a suggestion is to provide a “Progress Report”

providing statistics to all users of how many ideas have been created, reviewed and implemented.

Enable for idea Challenges: A very important feature of an IMS is the function to allow for different idea challenges. The management should have the ability to easily create tailored idea challenges that incorporate company goals and objectives (Gamlin et al., 2007; Imaginatik research, 2001; Spencer, 2007; Summa, 2004). Marcelo and Almeida (2014) discuss problems of idea management systems that do not allow for this feature; the large range of ideas that can be submitted in the system due to the absence of a domain can make it difficult for the management to evaluate the ideas and compare the value of them. This can compromise the objectivity when managers are selecting ideas.

2.5 ORGANIZATIONAL CHALLENGES.

In order to better answer our sub-research question “*What are the challenges in the implementation practice of an Idea Management System at CEVT?*”, we want to introduce the reader to common challenges discussed in research about running an IMS. We believe these theoretical findings can be valuable when later assessing identified challenges in the implementation practice of the IMS in our case study.

The most important challenge is to overcome **lack of employee motivation** to participate in the IMS on a continuous basis. There are several reasons behind the failure to motivate employees. However, the greatest challenge to continuously keep employees motivated is to have a structured process that provides feedback to the idea submitter between the stages in the IMP (Bank & Raza, 2014). Marcelo and Almeida (2014) discuss the “Lack of transparency” as another obstacle of motivating employees; if employees cannot access and see their ideas between the stages once they are submitted, they become demotivated to submit more ideas. Therefore, providing feedback to idea submitters in the earlier stages is important in order to assure employee participation in both the short and long run. Also, failing to communicate to the entire organization what happens to ideas that have passed the implementation stage in the process is very important to ensure continuous employee motivation in the long run. As discussed in the chapter “Idea Management Process”, an obstacle in the “Inspire and involve” and “Generate and capture” phase is failing to inform the participants and inspire them to submit ideas (Iversen et al., 2009; Malik, 2014). In a study about practical implications in organizations in relation to IMSs, lack of time was listed as one of the reasons employees lifted for not using an available IMS; they perceived it took a great effort to use the tool as it interrupted their daily operative tasks which they perceived as more important (Malik, 2014).

Another challenge highlighted by scholars is that **sub-compartmentalized organizations** struggle to promote collaboration across departments. Strongly compartmentalized organizations with strong subcultures fail to establish collaboration in the IMS between employees in different departments (Imaginatik research, 2001). Bank and Raza (2014) argue that this is particularly eminent in growing organizations as they create various new lines of departments with sub-divisions. As all departments are focusing on pursuing their given tasks, “tunnel vision” may inhibit collaboration across departments and thus the participation in an

IMS. Also cultural differences, particularly in organizations with a high mix of multiethnic employees, can suffer from lack of collaboration between cultures and hierarchal barriers preventing people from sharing their ideas (Malik, 2014). Failing to tap into a diverse pool of idea contributors within different departments is a key challenge that needs to be overcome to successfully implement and run an IMS (Gamlin et al., 2007).

2.6 ORGANIZATIONAL SUCCESS FACTORS

We have identified three organizational aspects that many scholars reason are very important for an IMS in order to overcome the identified challenges. These aspects are communicating strategy and purpose, leadership and culture.

Communicating the strategy and purpose behind an IMS initiative to employees as well as their individual role is of major importance for success. It is one fundamental aspect that allows organizations to ensure active participation from employees in the IMS and thus gather ideas successfully (Bank & Raza, 2014). Fast-growing companies suffer even more from the problem of communicating the strategy to their internal audience (Bank & Raza, 2014). They should therefore put even more effort into communicating the purpose behind an IMS initiative.

One part of communicating the purpose is linking the IMS goals to strategic organizational goals. Several scholars discuss the importance of having idea challenges focusing on business needs or problems aligned with the strategy of the organization. The IMS shall be used to “broadcast” business problems or broad questions aligned with the corporate strategy. This allows for cross-departmental cooperation by involving all employees in the pursuit of finding solutions to the problems (Bank & Raza, 2014; Gamlin et al., 2007; Iversen et al., 2009). However, finding the right idea challenge is difficult, as it needs to be broad enough to allow for the idea participation of the entire organization, yet narrow enough to focus upon strategic goals.

When considering the actual implementation of an IMS, Gamlin et al. (2007) argue for the importance of having a predefined path where responsibilities are clearly communicated to inform how users are expected to work with the IMS. Connecting this to our discussed conceptual model of an IMS, a detailed roll out plan can include how and when to inform employees about what role they will play, how the system works and what responsibility they are expected to take. Thus effectively communicating the purpose behind the initiative and what is expected of the employees, is one important factor in motivating employees to participate and engage them in the IMS. As only about 5% of all generated ideas can be expected to be valuable for the company, it also becomes important to effectively communicate and inform employees about this in order to better manage and meet their expectations (Murah et al., 2013).

The organizational success factor of communicating strategy and purpose can be linked to the earlier discussion of innovation energy. As argued by Tidd and Bessant (2011), successful innovative organizations cultivate an innovative attitude by succeeding in having employees feel that they can make a difference and contribute to their companies development. They

stimulate innovation by linking employees' personal activities to corporate visions and purposes. In this pursuit, we argue that communicating the strategic rationale and purpose plays a crucial role in generating innovation energy and motivating employees.

An organization needs to have a clearly structured **leadership** where the management truly supports the IMS initiative. This is another fundamental aspect in the pursuit of successfully running an IMS. Bank and Raza (2014) and Gamlin et al. (2007) argue that in order to motivate employees and promote participation it is imperative that the top management supports and pushes the initiative together with the department responsible for the initiative in order to help employees to perceive the IMS initiative and implementation as important. It is also important to apply executive support and strong leadership that engages all levels of management to support of the initiative. Leadership also plays an important role in providing employees with recognition from managers (Gamlin et al., 2007). Therefore, it becomes imperative that leadership provides constructive feedback to employees thanking them for participating and submitting ideas. Another important aspect here is to manage expectations, that the expectations of the IMS are met in the actual implementation of ideas. By communicating to employees what happens with ideas that have been regarded as practicable, managers assure employees of what they can expect; successful ideas in the IMS will receive recognition and will be implemented. It is therefore important that it is communicated effectively throughout the organization by the management what happens to ideas that are being progressed. Another important aspect of managing expectations is how the management chooses to communicate the reasons behind not promoting ideas. It is important that the management provides a transparent review process of ideas that clearly illustrates why ideas are not forwarded (Murah et al., 2013). Without feedback and proper communication from the management, employees may lose motivation to submit more ideas.

The arguments raised by Tidd and Bessant (2011) regarding innovation energy are directly related to the organizational success factor of leadership. The leadership needs to encourage “green housing” in the IMS and have employees collaborating. Right behavior needs to be recognized and success stories should be celebrated and spread in the organization by the management. However, also failure and non-practical ideas need to be acknowledged in order to stimulate idea generation and promote that failure is a good thing as it a necessity in stimulating learning. In this way, leadership plays a crucial role in providing organizational support for innovation and promoting a creative environment.

In order to overcome the barrier of a “sub-compartmentalized organization”, an organization needs to promote an open company **culture** where it is easy to collaborate across departments and subgroups (Bank & Raza, 2014). Only then, companies can manage to tap into a diverse pool of idea contributors from different departments and cultures (Malik, 2014). Although affecting company culture is rather difficult in a short-term perspective, an open and collaborative culture is one prerequisite and a key success factor for a successful IMS initiative (Tidd & Bessant, 2013).

Having a collaborative and open culture helps to align the strategic needs of the organization to the needs of the employees to feel part of the entire organization and thereby enhance the motivation to participate in the IMS initiative. Gamlin et al. (2007) argue that a company

culture where all employees feel part of the idea management process promotes the exchange of ideas over departmental borders. Although one objective of the implementation of an IMS is to support and foster a collaborate culture and encourage open collaboration among the users (Malik, 2014; Murah et al., 2013), an pre-established collaborative culture is a prerequisite for fully exploiting the true potentials of an IMS. Therefore, in the implementation practice the objective of creating an open company culture needs to be supported by managers that encourage collaboration and knowledge sharing across departments, at least in the long run.

Innovation energy can also be linked to this aspect of culture as attitudes comes down to how employees perceive innovation and related initiatives. In order to have motivated employees participating in an IMS, a majority of employees needs to have the right attitude and open-mindedness towards innovation. If many people are critical, it can hamper the force and undermine innovation capabilities (Tidd & Bessant, 2011).

3 METHODOLOGY

In this chapter we outline the research strategy, research design and research methodology of this project and explain the rationale behind the selected research methodology. The research methodology lays the foundation for the research in our master thesis.

3.1 RESEARCH STRATEGY

The purpose of this research project is to study the challenges and key success factors within the implementation of an IMS at CEVT. The IMS used in the initiative is called InventiveBoard. It provides a systematic tool to synthesize innovation efforts and is a support system for the idea management process to shapes ideas into innovations.

According to Bryman and Bell (2011), a research strategy is the general orientation to conduct business research. Commonly, research is divided into a quantitative and qualitative approach. Bryman and Bell (2011) state that quantitative research translates the information to numbers or measures, while qualitative techniques emphasize words rather than quantification for collecting and analyzing data. They further note that qualitative research implicates a view of social reality in shifting individuals' creation and considers individuals' interpretation of a social world.

For our research we intend to use a mixed method research strategy that combines qualitative and quantitative methods. This means that our approach is deductive and inductive. In other words, we aim to test a theory and also try to understand the topic with the help of collected data. We think that this mix of a qualitative and quantitative research strategy is more flexible and in the end reveals more about the specific situation at CEVT. The qualitative research leaves room for adjustments along the ways e.g. concerning the employees interviewed and the

questions we ask. The combination of both methods will result in a broad picture of the situation at CEVT that a single research method could not provide.

The starting point of our approach are observations and findings, aiming to build theories and simultaneously researching theory. It is inductive in this sense because observations and empirical findings will serve as the base when identifying the challenges within the implementation process. However, it also entails elements of deduction as theory shapes and structures the empirical findings (Bryman & Bell, 2011). Our research can therefore be treated as abduction, as it can be seen as a combination of induction and deduction in an iterative process (Björklund & Paulsson, 2012). Abductive reasoning can be seen as "*inference to the best explanation*" (Sober, 2001) and that is our ultimate goal and rational behind our selected research strategy.

Our approach is based on a grounded theory methodology, which means that we aim to go through an iterative process. We test a theory and also try to understand the topic with the help of collected data and repeatedly refer back and forth between them (Bryman & Bell, 2011). Furthermore, our intention is to take an epistemological positivistic objective approach aimed at generating generalizable knowledge and conclusions about the challenges within the implementation of an IMS. Although our research is composed by a single case study, we hope that future research in other contexts could serve to test the generalizability of our post-research findings.

3.2 RESEARCH DESIGN

Yin (2003) considers different types of case studies such as single case study, multiple case study and the representative case study with an explorative approach. The research design for this study is a single case study at CEVT. Yin (2009) states:

"A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real life context".

Therefore, the purpose is to extract vital information from the empirical findings to identify the challenges and key success factors within the implementation process of the idea management system. We believe that this approach will enable us to answer our main research question in a fruitful manner.

One reason for choosing a single case study instead of a comparative study or a longitudinal study is the limited time of the master thesis. Furthermore, a single case study enables the research to get a detailed analysis of one organization (Bryman & Bell, 2011) while a comparative design aims at comparing two different situations.

Case studies are often associated with qualitative methods. However, it is important to note, that a case study can also make use of quantitative methods, which is the case in our study. By applying a mixed methodology to a single case study, we had the opportunity to focus on a specific organization and gather multifaceted rich data from their situation. Furthermore, we were able to gain an in-depth understanding of a real-life phenomenon through our empirical

investigation. The fact that we had the possibility to physically be at CEVTs offices helped us in this regard. (Bryman & Bell, 2011; Saunders, Lewis, & Thornhill, 2007)

In the first part of this study, secondary data was gathered through a literature review of earlier conducted research and theory. This part aims to introduce the topics discussed in the study and it explores the concepts of the research question. This data helped to build a benchmark case and construct different hypotheses related to the issues that were later investigated and tested at CEVT. As the research progressed, more theory was searched for and reviewed.

3.3 RESEARCH METHOD

To gather qualitative data, we conducted semi-structured interviews with several employees from different departments. The first round of interviews was conducted in mid-February, about two weeks after the launch of the initiative. The second round of interviews was conducted in mid-April after the launch of all three challenges. In addition, two interviews with managers were conducted in February. Furthermore, several meetings were held on a regular basis at CEVT's office between December and May with our supervisor and the project manager of the initiative.

One advantage of semi-structured interviews is that they are iterative. Compared to structured interviews, it was possible ask follow up questions during the interviews. This provided us with more flexibility in our research and we were able to gain rich and detailed answers from the respondents, which contributed to a more complete picture of our research topic. (Bryman & Bell, 2011; Saunders et al., 2007)

The selection of interview candidate was not done by us. We received a list of 17 potential interviewees from a manager at CEVT. For the first round we were able to book interviews with 14 employees of that list. For the second round we contacted everyone we had already interviewed in mid-February. Due to high workload and business trips, only seven employees had time for the follow-up interview in mid-April.

As a preparation for the interviews, we created a guideline with general questions aimed at conceptualizing our research questions. The questions touch upon relevant topics from our literature review. All questions are open-ended in order to avoid leading questions towards desired answers and prevent bias. The follow-up questions focused on significant areas of our study and depended on the interviewee's area of expertise. All interviews except one were conducted face-to-face in meeting rooms at CEVT.

Table 2, Table 3 and Table 4 show an overview of the conducted semi-structured interviews and their settings. The interview guidelines can be found in the appendix chapter 8.1, 8.2 and 8.3 respectively.

Table 2- Interviews with managers

Company	Department	Date	Type	Duration	Language
CEVT	R&D	2016-02-15	Face-to-face	57 minutes	English
CEVT	HR	2016-02-17	Face-to-face	42 minutes	English

Table 3- Overview interviews round one

Company	Department	Date	Type	Duration	Language
CEVT	HR	2016-02-15	Face-to-face	40 minutes	English
CEVT	R&D	2016-02-15	Face-to-face	38 minutes	English
CEVT	PR	2016-02-16	Face-to-face	42 minutes	English
CEVT	R&D	2016-02-16	Face-to-face	36 minutes	English
CEVT	R&D	2016-02-16	Phone	22 minutes	English
CEVT	R&D	2016-02-17	Face-to-face	40 minutes	English
CEVT	R&D	2016-02-17	Face-to-face	27 minutes	English
CEVT	R&D	2016-02-17	Face-to-face	54 minutes	English
CEVT	R&D	2016-02-17	Face-to-face	33 minutes	English
CEVT	Process	2016-02-18	Face-to-face	41 minutes	English
CEVT	R&D	2016-02-18	Face-to-face	40 minutes	English
CEVT	HR	2016-02-25	Face-to-face	49 minutes	English
Consultant	Finance	2016-02-25	Face-to-face	48 minutes	English
CEVT	R&D	2016-02-25	Face-to-face	42 minutes	English

Table 4- Overview interviews round two

Company	Department	Date	Type	Duration	Language
CEVT	R&D	2016-04-11	Face-to-face	31 minutes	English
CEVT	PR	2016-04-11	Face-to-face	31 minutes	English
CEVT	HR	2016-04-13	Face-to-face	33 minutes	English
CEVT	R&D	2016-04-13	Face-to-face	54 minutes	English
CEVT	HR	2016-04-14	Face-to-face	31 minutes	English
CEVT	R&D	2016-04-19	Face-to-face	32 minutes	English
CEVT	Process	2016-04-19	Face-to-face	41 minutes	English

To collect the quantitative data, we created a survey on webpolsurveys.com. The number of questions varied between 13 and 15, depending on the respondent's answers. The first five questions were background questions. The remaining questions consisted of ten closed and three open-ended questions. For most of the closed questions we used either multiple selection or a Likert scale with five possible answers: strongly disagree, disagree, agree, strongly agree and I don't know. The survey questions can be found in the appendix chapter 8.4.

The survey was sent out on 2016-04-18 by an employee, with a motivational text and the signature of the head of R&D. Our intention was to distribute the survey only to a group of employees, since they are the ones who were invited to participate in the initiative. The other group was comprised by consultants who are not directly employed by CEVT. This group was never invited to participate in the IMS and therefore did not receive log in details needed to sign up and use the IMS. Therefore, they were not supposed to be included in our survey. However, by mistake the survey was sent out to both groups. One reason was that we did not discuss the question of who should receive the survey enough with CEVT. However, we

realized what happened only hours after the survey was sent out. We therefore had time to edit the question “In which department do you work?” and add the option “Consultant” which enabled us to distinguish the two groups. Unfortunately, by the time we managed to add the option, we had already received 96 out of our total 180 responses. For most of our questions it was important that they were only answered by employees who were invited to participate in the initiative. However, we later realized that some questions could be answered by consultants as well without affecting the validity for our research.

These measures made it possible to later clear the data and create two samples, one with and one without consultants. Sample one including consultants (S=1) consists of 180 responses and sample two with only employees (S=2) consists of 78 responses. In our empirical data we state in every table from which sample the data derives. Table 5 and Table 6 show the demographics for both samples.

Table 5 - Sample including consultants (S=1)

Gender				
76 % Male			24% Female	
Nationality				
79%	Swedish	5%	Chinese	16% Other
Age				
25 or younger	26 – 35	36 – 45	46 - 55	56 or older
4%	38%	34%	16%	8%

Table 6 - Sample without consultants (S=2)

Gender					
79 % Male			21% Female		
Nationality					
84%	Swedish	5%	Chinese	11%	Other
Age					
25 or younger	26 – 35	36 – 45	46 – 55	56 or older	
3%	36%	39%	16%	7%	
Department					
R+D	B. Office	Finance	HR	Purchasing	PS/PPL+WLM
82%	8%	4%	3%	3%	0%

For most of our questions we use sample two without consultants. To decide whether this sample is representative we compare it to the population of employees at CEVT. The employee structure at CEVT is presented in Table 7.

Table 7 - Employees structure at CEVT

Gender					
75 % Male			25% Female		
Nationality					
84% Swedish		5% Chinese		11% Other	
Age					
25 or younger	26 – 35	36 – 45	46 – 55	56 or older	
2%	33%	34%	24%	7%	
Department					
R+D	B. Office	Finance	HR	Purchasing	PS/PPL+WLM
81%	4%	8%	3%	2%	2%

The comparison of Table 6 and Table 7 shows the following:

- The sample is representative in terms of Nationality.
- The sample consists more male respondents than the population.
- A lower number of employees between 46 – 55 years responded.
- More employees from the Business Office and fewer employees from the Finance department responded.

In general, we can say that the sampling errors are small enough to call the sample representative.

3.4 DATA COLLECTION

For our research project, we collected data from primary and secondary sources. The primary data derived from the qualitative interviews, a quantitative survey, observations and informal conversations. The secondary data was gathered from company reports, presentations, scientific journals, books, CEVT’s intranet and the internet.

To collect qualitative data, we conducted two rounds of semi-structured interviews with employees from different departments at CEVT’s office in Gothenburg. In comparison to structured interviews, semi-structured interviews have the advantage that they give us the opportunity to re-interview and ask follow-up questions during the process. We prepared a guideline for each semi-structured interview with questions related to our research question. The interviews were recorded and transcribed to increase reliability and ensure a thorough assessment of the given answers. Furthermore, we collected data through meetings with our supervisor and the project manager of the initiative at CEVT. The quantitative data was collected through a survey, which was sent out on 2016-04-18 to 1416 people (employees and consultants) at CEVT.

3.5 DATA ANALYSIS

To analyze the collected qualitative data, we relied on grounded theory. This approach indicates an iterative process, meaning that we went back and forth between the collected data and theory. As mentioned before, we recorded and transcribed the semi-structured interviews. This was necessary to interpret and code the data. Table 8 gives an overview of the coding of our qualitative interviews.

Table 8 – Coding of qualitative Interviews

Common Theme	Code	Round one	Round two	Explanation
Collaboration and Environment	Collaboration	x	x	To what degree do the interviewees think that employees at CEVT collaborate across departments
	Company Culture	x	x	What do the interviewees think about the company culture at CEVT
	New ideas		x	Where do the interviewees normally come up with new ideas
Communication	Communication initial	x		How did the interviewees perceive the initial communication until the 1 st round of interviews
	Communication continued		x	How did employees perceive the communication during the initiative until the 2 nd round of interviews
Idea Challenges and Evaluation	1 st idea challenge	x		Thoughts and opinions about the 1 st idea challenge
	2 nd and 3 rd idea challenge		x	Thoughts and opinions about the 2 nd and 3 rd idea challenge
IMS	InventiveBoard	x	x	Experiences and opinions about the functionality and user interface of the InventiveBoard
	Anonymity	x		How important it is to have the functionality of submitting ideas anonymously in the IMS.
Strategic purpose	Attitude and Expectations	x	x	Interviewees attitude and expectations about the Creative@CEVT initiative
	Goals, objectives and purpose	x		How did the interviewees perceive the goals, objectives and the purpose of the initiative?

Leadership	Reward	x	x	In what way should the management reward employees for implemented ideas.
	Motivation	x	x	What has to be done to motivate employees to participate in the Creative@CEVT initiative?
	Management support and feedback	x	x	How does/should the management support the initiative and in what way should employees receive feedback?

To analyze the results from our quantitative survey, we first had to clean the data. Since some of our questions were designed for all employees and others for employees excluding consultants, we had to generate two samples. Sample one including consultants consists of 180 responses out of 1416, resulting in a response rate of 12.7%. Sample two excluding consultants consists of 78 responses of 611, resulting in a response rate of 12.8%.

3.6 RESEARCH QUALITY

According to Bryman and Bell (2011) the most important criteria for the evaluation of a research project are reliability, replication and validity. In this thesis project, we conducted a single case study at CEVT. The complex situation of the implementation of an IMS made it necessary to consider many factors that could influence the outcome. The overall challenge was to achieve our goal to conduct a research with high reliability and high validity.

Reliability can be divided into internal and external reliability. While external reliability refers to the degree to which a study can be replicated, internal reliability means whether researchers agree upon what they see and hear (Bryman & Bell, 2011). In general, qualitative studies are difficult to replicate by other researchers, because it is impossible to “freeze” a social setting and the circumstances of an initial study (LeCompte & Goetz, 1982). This is also the case for our case study at CEVT. By following a clear and transparent structure throughout the study and by documenting our interview guidelines and coding results we tried to increase replicability. For the coding of the open questions of our quantitative survey we included two observers to minimize the lack of consistency. Furthermore, the sample (S=2) can be considered representative. We therefore believe that a replication of our study would lead to similar results.

The concept of validity describes whether you are measuring what you claim to measure or not. It can be divided into internal and external validity. To reach internal validity there needs to be a “*good match between researchers’ observations and the theoretical ideas they develop*” (Bryman & Bell, 2011). External validity refers to the possibility of generalizing the findings. One factor that helps to increase the validity is that our research questions support a clear direction in our research. Furthermore, our quantitative survey can be considered internally reliable, which shows that we can be sure that we measure what we want to measure. As

mentioned before, we always used two observers to minimize the lack of inter-observer consistency. This can also be seen as indicator that the measurement was valid. Based on these arguments, we consider our research to have high validity.

4 EMPIRICAL DATA

In this chapter we present the empirical findings derived from our qualitative and quantitative data. The empirics lay the foundation for the subsequent analysis and have been divided into four parts. At first we present an overview of the coding from our qualitative interviews. We then move on to the background of CEVT and the Creative@CEVT initiative. In the third part, we illustrate the employees' perceptions and experiences with the InventiveBoard. Lastly, we present data from the implementation and results important for conducting the analysis of the implementation process.

4.1 INTERVIEW RESULTS

In Table 9 and Table 10 we present the results of the coding from our two interview rounds. The tables show how many interviewees agree with a certain statement. The categories are derived from our theoretical framework and are later used in our analysis. Our semi-structured approach allowed for flexibility during the interviews. Some important topics that came up along the way were therefor not discussed consequently with all interviewees. The column "Not discussed" states the number of employees that we did not discuss the topic with. If it was not clear if an interviewee agreed or disagreed with a statement, we counted the response as "Other".

Table 9 - Overview results from first interview round

Category	Statement	True	False	Other	Not discussed
Communication	Has received sufficient communication and instructions regarding the tool	0	14	0	0
Strategic purpose	Is positive towards the initiative and understands the value of it	10	2	1	1
Leadership	Thinks that a monetary reward would motivate employees to participate	1	6	0	7
Leadership	Feels that the management supports the initiative.	0	9	3	2
Strategic purpose	Perceived clear goals and objectives of the initiative	2	11	0	1

Strategic purp. / Collab.+Environm.	Thinks that the initiative can improve the innovativeness of CEVT	7	3	2	2
IMS	Thinks that anonymity would improve the quality and quantity of the ideas	4	5	0	5
Idea Challenges and Evaluation	Positive about the first challenge	9	3	0	2
IMS	Thinks that the InventiveBoard provides a good overview of the ideas and has a transparent process.	6	0	1	7
IMS	Had used the system by the time for the first interview round.	5	8	1	0

Table 10 - Overview results from second interview round

Category	Statement	True	False	Other	Not discussed
Result	Thinks that the Creative@CEVT initiative was successful so far	0	3	4	0
Communication	Has heard colleagues talking about the initiative at work	1	6	0	0
Communication	Has perceived an improvement in communication since the first interview round	0	7	0	0
Leadership / Communication	Perceived management presentation in the town hall meeting as inspiring and as an activity aiding the implementation	6	1	0	0
Leadership	Thinks that CEVT has an open and collaborative culture where it is easy to approach colleagues from other departments.	6	1	0	0

4.2 BACKGROUND OF CEVT AND THE INITIATIVE

CEVT is a young company that currently has operations in 5 locations; Göteborg, Hangzhou, Shanghai, Barcelona and Los Angeles. The company has expanded rapidly and employs around 1500 employees in Sweden as of today. Their focus is on cost efficiency while being customer focused and technology oriented, with the goal to radically cut lead time in the development process of technically advanced products. Interviewees perceived that CEVT, being a young company, has initially focused on deliverables and not so much on long-term strategic goals.

The company has so far managed to attract many innovative and creative people to work for the company but there is no formal innovation management process involving all the employees;

"We have not focused on innovation as per say. Then of course you have innovative people developing things that are innovative so to speak, but not as a general process as such" - Manager 1 at CEVT

The management has recently considered implementing strategies pursuing the development of innovation processes aiming at fostering an innovative and open-minded company culture to contribute to innovations in the long-term;

"What has changed is the fact that the growth [of the company] makes it necessary to start to control things. Start to have at least some systems in place. We need to control where to put our efforts, where should we focus the innovative power we have. Not to develop in all directions."- Manager 2 at CEVT

The management therefore has started to think about long-term perspectives in relation to innovation. One initiative in this pursuit is the launch of the Creative@CEVT initiative. The rationale behind the launch of an IMS is gathering ideas from all employees, attracting future employees with the right mindset and fostering a collaborative and innovative culture. With the initiative, the management wants to send out a message to employees that creativity is important and that their ideas are heard. They also want to bring to employees' attention that they are interested in people spending some time to think about the future and innovation;

"If we can't get a creative environment, it will be hard to survive for a R&D company in the long run." Manager 1 at CEVT

"You need to have some way of actually collecting good ideas and people need to know that if I do this way, it will come to management attention. [...] Its important they feel that when you raise the issues, it comes to the correct people's attention. And that I think is an important expectation" – Manager 1

"I think also a lot of people will be attracted by a company that is focusing on innovation, and not just... what do you say "har blicken i plogfåran"[being to narrowly focused on short termed operational aspects and not having a long termed perspective] - Manager 1

Another purpose behind the launch of the Creative@CEVT initiative is to increase collaboration across different departments and cultures around new ideas:

"What I would like to see a bit more in that tool is challenging each other. Because [Manager 1] talked initially about the fact that when you are sitting in one team you are looking at a problem in a very homogeneous way. But then when you have cross functional teams [...] then you start to talk about things and you realize that just being cross functional generates new kinds of ideas." – Manager 3 at CEVT

When asking about the managements role in the initiative, manager one replied:

"It depends on how hard you drive an organization in different directions, people will be more or less creative. So my role is basically to be a catalyst requesting time and allowing people to spend their time to be creative. So that is my main role in this." - Manager 1

The three main drivers behind the initiative are summarized below:

- Include the voice of CEVT employees in identifying solutions to CEVT's challenges.
- Nurture a company culture where creative and innovative thinking is part of how CEVT work.

- Enhance CEVT’s image as an attractive employer for creative and innovative minds.

The initiative is seen by management as pilot. They want to find out if an IMS is the right tool for CEVTs employees to boost innovation and collaboration within the company;

"I hope that it is going to increase the creativity. I am not expecting us in this initiative to come up with one or two brilliant inventions. More like we speed up the creativity, speed up the environment and make it sort of known in the whole company that we are in an innovative and creative world. To make sure that people feel innovation and creativity is at the CEVT world. If this initiative can help to do that, we have reached far and that is my thinking." - Manager 1 at CEVT

4.2.1 COMPANY CULTURE

One of the three building blocks identified in literature necessary for a successful implementation of an IMS is having a collaborative company culture. In order to better answer our sub-research question “*What are the challenges in the implementation practice of an Idea Management System at CEVT?*” we here present data from our survey and semi-structured interviews investigating the company culture.

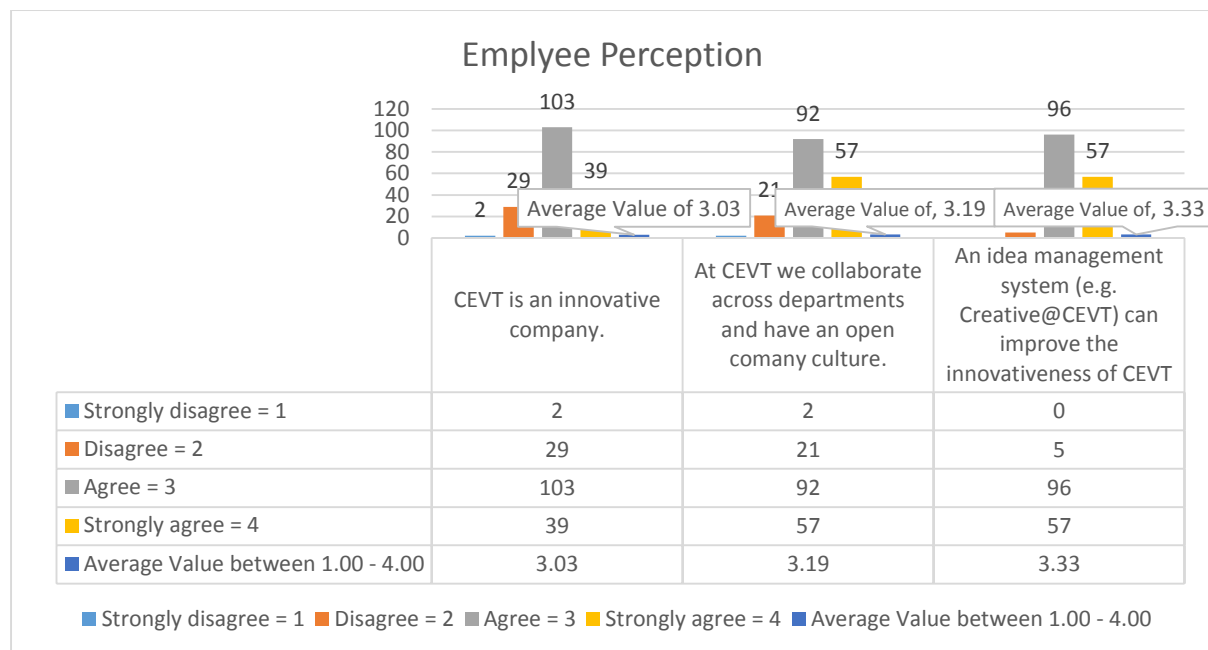


Figure 10 - Employee Perception of CEVT (S=1)

Figure 10 depicts data from the sample including consultants (S=2). All 180 respondents answered this question. The results show that the mean value for all three statements is higher than three. As one is the lowest and four the highest value, a mean of 2.5 means that the respondents in general neither agree or disagree with the statement. Since all values are higher than three, this data indicates that the respondents in general agree with the three statements. This can also be seen in the high count of the persons who responded with “Agree” or “Strongly agree”.

As shown in the Table 10, six out of seven respondents in our second interview round reasoned that CEVT has an open and collaborative climate where it is easy to approach colleagues from

other departments. However, every interview candidate also responded that workdays are very stressful and that the workload is high. This creates the risk that people only work in their own area and just focus on tasks within their departments. As a result, this hampers their possibilities to be creative and collaborate with colleagues across departments.

The quotations below synthesize the general view of the respondents talking about CEVTs company culture in our second interview round:

“Here it is quite easy to do it [get approval for own ideas] compared to [other companies.] [...] Here it is much easier at CEVT, much less slow processes. If you come up with new ideas, people are more positive here.” - Interview round 2

“In the long-term we need more time to work with innovation. We have discussions, collaborations and meetings but it is more on a technical level.” - Interview round 2

“People that came in the beginning were very open minded and creative. It is a culture that should be kept a little longer. It is important in many ways. What I am trying to say is that a creative environment can easily be destroyed. [...] If the company wants to maintain a more creative approach the very difficult balance is for the management to have less control. When the management wants more control there is a great risk to decrease creativity.” - Interview round 2

“We solve so many things in a creative way. But that is within our tasks, we face so many challenges just in the task we are hired for. We are sort of filled there to the limit.” - Interview round 2

Employees feel forced to put all their time and creative energy into solving assigned work tasks and thus lack time to think about other tasks outside their focus areas. Many respondents mentioned that they applied for a job at CEVT after having enjoyed a long and stable career because they wanted a change and to challenge themselves. They perceived CEVT as an innovative and dynamic company where they were able to achieve just that. They were attracted from the fact that the company was new and that it offered opportunities as well as challenges. The fact that the young company has not yet developed a rigid structure and processes, was perceived by many respondents as something allowing for much quicker decision-making and that less effort therefore is needed to get your own ideas heard and acted upon. Therefore, it was perceived by many respondents that at CEVT, they personally play a larger part in the development of the company and are more directly involved by sharing their ideas.

4.2.2 WHERE IDEAS ARE GENERATED

In order to later answer our research question of “*What factors drives a successful implementation of an IMS at CEVT?*” and better assess important features of an IMS in the context of CEVT, we here present data about where employees come up with ideas. The results of our quantitative survey are depicted in Table 11 from the sample (S=1) including consultants.

Table 11 - In what situation(s) do you usually come up with new ideas? (S=1)

At the workplace	44%
During work breaks	37%

During meetings	32%
When using creativity techniques	25%
At home (eating, cooking, watching TV etc.)	43%
In nature (hiking, cycling, climbing etc.)	42%
On business trips / on the way to the office	41%
During recreational exercises / work out	32%
On holidays / travelling	30%
Somewhere else	16%

The data demonstrates that many of the places where employees come up with ideas are outside the company, away from office. Out of 180 respondents, 156 (87%) chose at least one of the six answers. "At home" and "In nature" were the two most selected choices by the respondents in the category "outside the company". However, "at the workplace" was selected by 44% of the respondents as a place for coming up with ideas compared to 32% during meetings.

In our second round of semi-structured interviews, we asked the respondents to freely discuss where they came up with ideas:

"When I work in my garden, out running or when I am commuting to work. That is when I spend a lot of time thinking, sorting my mind out. Then you forget your ideas as soon as you step out of the car. Therefore, it would be good to have a mobile version and the option to record voice messages."

"Usually it is not when you sit in a meeting. Maybe when you sit at home and do something else. When you relax and do other things. When I am stressed at work I get locked by things that I need to do. Then I focus on delivering those things. Then I would not say I am creative. I just deliver."

"Coffee breaks are very rewarding! I try to encourage my employees to have breaks. Then we talk to other people that we normally don't speak to. At work, you have a lot of ideas, a problem and you need a solution, then it's good to talk to other people. You usually find it at work with the right person."

As some of the quotes depict, ideas come up more frequently when employees are less focused on their daily work duties.

4.3 INVENTIVEBOARD

The IMS used in the Creative@CEVT initiative is called InventiveBoard (IB). It is a support system for innovation processes, designed for small- and medium-sized organizations. The web-based application provides a tool to systematize innovation efforts and enables innovations to spread within the organization by highlighting ideas and connecting employees in order to create synergies. (InventiveBoard)

This chapter describes the process and functionalities of the InventiveBoard as well as employees' perceptions and experiences with the IMS during the initiative.

4.3.1 FUNCTIONALITY

The process of the InventiveBoard consists of seven phases: Draft, Approval, Social support, Poll pending, Poll complete, Candidate and Project. Every idea follows these phases from the submission to the implementation. Figure 11 shows an overview of this process.



Figure 11 - InventiveBoard process

To see the process that all ideas pass through, a user has to go to the “All ideas” tab. This view is also called “Idea bank” because it shows all ideas regardless of the status within the process. As mentioned, the process starts with the submission of a “Draft” and advances through the whole process to the seventh phase “Project”. If a user starts writing a new idea and only saves it, it stays in the “Draft” phase. As soon as it’s published, it will either go to “Approval pending” or “Social support”. This depends on the organizations preferences. If they deal with sensitive information as patents or if they want to give an initial feedback to the owner of the idea, it will go to the “Approval pending” phase. Otherwise, phase two can be disabled to have the idea automatically forwarded to “Social support” where it is visible to all users. This is the phase where all collaboration takes place and users are able to comment on and develop ideas. Every idea is connected to a challenge that runs for a specific time. When the deadline has passed or when the organization decides to start the poll, the ideas are moved to the “Poll pending” phase. When that happens, users automatically receive a notification in the notification center. After the voting is completed, the average of every evaluation criterion is available. It is not possible to see individual results because the voting is anonymous. In the “Poll completed” phase, a decision committee or management team comes in to review all evaluated ideas and to decide upon which ideas should be forwarded. Along this process, the ideas that are rejected are moved to “Archived”. Those ideas are stored in the “Idea bank” and are available for future access. The ideas that are selected are forwarded to the “Candidate” phase and await implementation. As soon as the implementation starts, the idea is moved to the final phase of the InventiveBoard and becomes a “Project”. (InventiveBoard, 2015c)

To gain a better overview of the submitted ideas, the application allows for ideas to be filtered by “Classifications” such as process improvements, product development, business development and cost reduction. Furthermore, it is possible to filter by “My ideas” or “All ideas” and “Include archived” or show “Just archived” ideas. An “A” in the right corner identifies the archived ideas. Otherwise, a number shows the phase the idea holds in the process. It is also possible to filter ideas by a specific phase. All this makes it easy for users to navigate through the process and find ideas that are of interest.

4.3.1.1 CHALLENGES

Idea challenges are a main part of the InventiveBoard application. They can be used to open up various problems faced by the organization so that employees can offer suggestions or radical new ideas connected to these challenges. This setup allows for the guidance of ideas and control where employees will focus their efforts. Every challenge runs for a specific time e.g. one month, which is set by the management when the challenge is launched. The application allows for filtering the view by “All challenges”, “Open challenges” or “Closed challenges”. Figure 12 shows an example of three idea challenges.

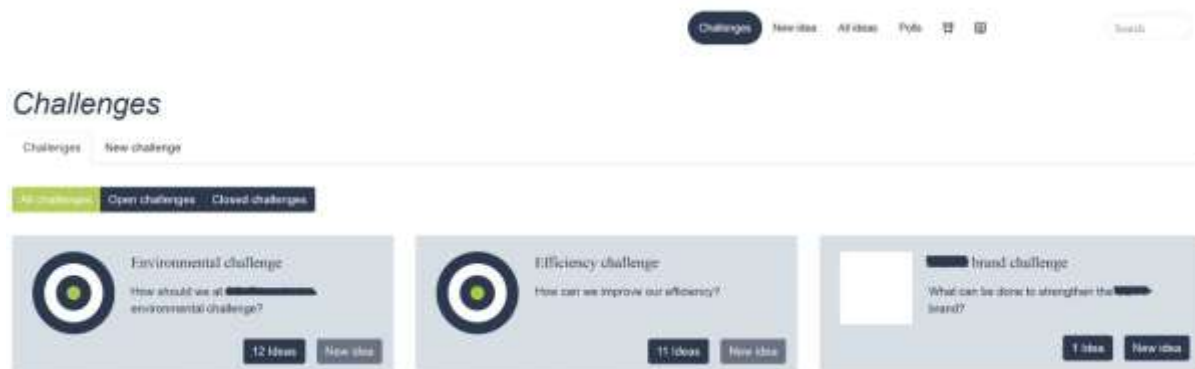


Figure 12 - InventiveBoard idea challenges

4.3.1.2 IDEAS

Every user of the InventiveBoard has the possibility to submit an idea that is connected to one of the challenges. To draft a new idea, the user has to click on “New idea”. This will show the form presented in Figure 13.



Figure 13 - InventiveBoard New Idea

Every idea needs a title and description. Furthermore, a challenge and a classification like process improvement, product development, business development or cost reduction has to be chosen. The application provides the option to upload supporting documents like an image,

sound file or sketch. When the idea draft is ready it can be submitted by pressing the “Save and Publish” button. Depending on the setup of the application the idea goes to the “Approval pending” or “Social support” phase. (InventiveBoard, 2015a)

In the “Social support” phase, ideas can be commented on and improved by other users. Furthermore, the management has the option to give feedback to the submitted ideas. All this functionality allows for collaboration between employees around ideas to solve specific problems and develop the organization.

4.3.1.3 POLL

The voting feature of the InventiveBoard allows all ideas to be assessed by a chosen jury. The evaluation criteria of the system are based on empirical research carried out at the School of Business, Economics and Law, at the University of Gothenburg about the success of entrepreneurial companies working with innovation (InventiveBoard). Four examples of evaluation criteria are:

- Contributes to Challenge Goal
- Contributes to Project Deliverability
- Contributes to Efficiency
- Contributes to Org. and Employee development

However, the criteria are dynamic and can be adjusted according to the unique needs of the organization and challenge. The assigned criteria are then weighted by each jury member in a five-level Likert scale as they execute the poll. To evaluate an idea, a user has to click on the “Polls” button in the menu. This will revile all ideas that a user has been assigned to vote on. (InventiveBoard, 2015b)

4.3.2 EMPLOYEES’ PERCEPTION

One part of the two qualitative interview rounds and the quantitative survey was to find out about the employees’ experiences with the InventiveBoard and their perceptions of its functionality and interface. In our quantitative survey we asked the employees to what extend they agree that the InventiveBoard IMS is easy to use and follow up submitted ideas through the process. Figure 14 shows the result of this question.

skeptical if it is the right place to post a patentable idea and develop technological innovations. Other respondents commented on the interface of the tool itself and how it should be combined with other complementing activities to better stimulate creativity. Some relevant quotes are shown below:

“Give a group of people the time to solve a task. Give them lots of whiteboard, use your hands, writing that’s how ideas come up. If you make a tool it should appeal to your natural senses. We need audiovisual to be creative, we need interaction. You need impressions, you need to work. If you are really pressed, put everybody in a shrinking room. Then they will be creative.”

“The system looks very good. You can always discuss what you do before putting ideas into the system. Like a pre-work, e.g. meet in teams before and discuss. I think that could even generate better ideas from my experience.”

“The Inventive Board is just a tool to make sure you listen to all the employees. Whereas truly innovative processes include all the senses. All comes down to time, you need to dedicate time!”

“There is no tool for innovation. Innovations come up when you are in a bar or while traveling. You need to have time! [...] Innovations don’t come out of the blue. It’s a combination not something totally new. You need to spark the combination and give other input. If you want to innovate the XX industry, you need to put other influences in to the XX industry.”

4.3.3 ANONYMITY

Here we present data about employees’ perception of the function anonymity; whether the feature is perceived as important by the employees at CEVT or not.

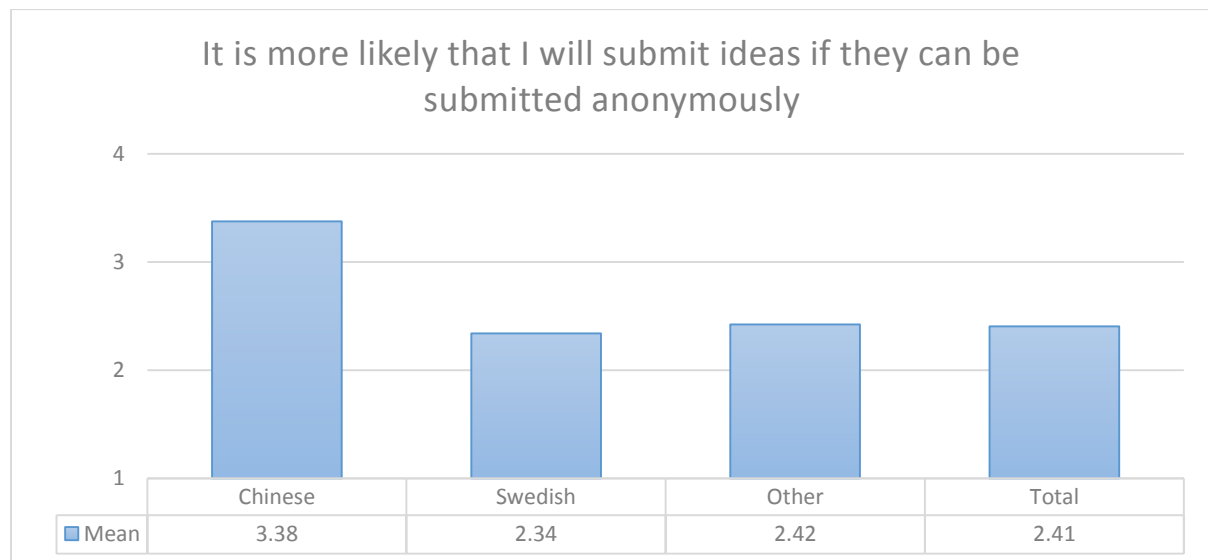


Figure 15 - Importance of Anonymity (S=1)

The extracted data reviewed in Figure 15 is derived from the sample including consultants (S=1) and consisting of 180 answers. We received 22 “I don’t know” answers and therefore ended up with 158 valid answers. For all respondents together (Total), the result has a mean value of 2.41. Since the mean value is below 2.5, the data indicates that employees in general slightly disagree with the statement. The question was answered by 143 Swedish, 10 Chinese

and 28 other nationals. In the group comprised of Swedish respondents, the preferences varied, indicating that some preferred anonymity while others did not. Noteworthy is that the result of Chinese respondents', although the number of respondents is small, deviates from the other groups. They strongly lean towards the statement that allowing for anonymity would increase their likelihood of submitting ideas.

In our first round of semi-structured interviews, we touched upon the subject of anonymity in nine of 14 interviews. Four employees thought that anonymity would improve the quality and quantity of the submitted ideas whereas five thought it would not improve the quality and quantity. With the remaining five interview candidates, the topic was not discussed. Thus, the preferences for and against anonymity seen among the Swedish interviewees in our first interview round corresponds to the quantitative results presented in Figure 15 above. We also discussed the topic of anonymity in our second round of qualitative interviews. The following quotes extracted from both our interview rounds summarize the reasons why interviewees perceived that the option to submit ideas anonymously could be beneficial:

“Could help if people think that it is a strange or a bad idea. I think the option should be there.” – First interview round

“I have a lot of Chinese colleagues that would not come up with an idea if they have not gotten the approval from a manager or senior. In that way it is important to be anonymous” – First interview round

4.4 IMPLEMENTATION

In this part we present relevant data necessary to later assess the challenges and KSF behind a successful implementation. We start with presenting reasons stated by employees in our quantitative survey for not using the tool. We also present the reasons for not submitting ideas in the system which was only answered by employees who had used the tool but not submitted an idea. The reasons stated will later be referred back to when presenting other empirical data systematically. The results in Table 12 and Table 13 were extracted from the sample excluding consultants (S=2).

Table 12 - Reasons for not participating in the initiative (S=2)

Rank	Reason	Score	Percentage of maximum score (324)	Percentage that select the reason
1	I did not know about the initiative	199	61%	81%
2	There is no time allocated to use the InventiveBoard	173	53%	72%
3	No one instructed me how to use the InventiveBoard	165	51%	70%
4	I do not feel that the management support the initiative	121	37%	69%
5	It is too complicated to access the InventiveBoard	90	28%	63%

6	I did not regard the initiative as important	79	24%	63%
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Table 12 shows the ranking of reasons why employees did not participate in the initiative. Every respondent was asked to choose between zero and six reasons and sort them from most to least important. The ranking was created by assigning weights to each answer. If respondents choose a reason as most important, a score of six was assigned, whereas the least important reason received the score of one. The question was answered by 54 employees. This results in a maximal possible score of 324 (54x6). The right column shows the percentage of respondents that chose the reason regardless of its rank.

The score in Table 13 was calculated in the same way with the only difference of containing seven possible answers. This question was answered by 17 people resulting in a maximal possible score of 119 (17x7). Only the respondents that had used the tool but not submitted an idea were asked this question in the survey.

Table 13 - Reasons for not submitting an idea (S=2)

Rank	Reason	Score	Percentage of max. score (119)	Percentage that select the reason
1	I use other channels to pitch my ideas	61	51%	65%
2	I did not relate to or understand the challenges so far	50	42%	65%
3	I did not have an idea	48	40%	59%
4	I had an idea but it was not connected to the challenge	46	39%	47%
5	It is not clear upon what criteria ideas will be evaluated	34	29%	47%
6	It is not possible to submit ideas anonymously	32	27%	53%
7	There is no financial or other reward	24	20%	53%

4.4.1 COMMUNICATION OF THE INITIATIVE

In this part, the communication efforts related to the implementation will be presented together with how employees received and perceived it.

The initiative was initially communicated through a short email sent out to all participating employees on January the 18th 2016. It was a teaser informing employees to look out for the upcoming Creative@CEVT initiative, scheduled to be launched on 1st. The email was intentionally short to briefly inform employees about the objectives of the upcoming initiative:

- Assess the willingness of CEVT employees to be involved in generating creative ideas to challenges defined by the CEVT Management.

- Find out if CEVT is able to define creative solutions and make CEVT an attractive company and place to work at.

The next step was to send out an email regarding the actual launch and instructions of how to log in. The email was a personal invite containing instructions of how to register in the InventiveBoard web-application. News updates on CEVTs intranet informed employees about new challenges each month. This was also accompanied by emails.

To communicate the launch, CEVT also used visuals to market the initiative. Balloons stating Creative@CEVT were hung on several places in the company's office buildings.

In the beginning of March, one of the managers held a speech during a meeting involving all employees of CEVT. The speech was about the rationale behind the initiative and why it is necessary for the company.

Also in the beginning of March, an email was sent out to 14 employees that were invited to participate in a jury assigned to conduct the evaluation of ideas generated in the first idea challenge; Environmental Challenge. The email contained instructions on how to conduct the voting and on which criteria the ideas were to be evaluated on.

The results in Table 12 presented above, depict reasons related to how the executed communication was received by employees. The highest ranked reasons for not using the InventiveBoard was “I did not know about the initiative”. The third most ranked reason was “No one instructed me how to use the InventiveBoard”.

In the first round of interviews (see Table 9) all 14 interviewees stated that they had not received enough information about the initiative. Only five of them had used the InventiveBoard at that time. Prior to our interviews, every interviewee had received an email with instructions of how to sign up and log in to the system. However, as many employees felt they were drowning in emails, not everyone had read the mail. Below, we present some quotes from the first round of interviews synthesizing the general view:

“Would be very good for the management to highlight the purpose and why they are interested in the initiative. Did not hear anything from them, they should highlight it. Only got it through emails and there is so much emails at CEVT.”

*“We live in a world where we get a lot of emails so I tend to priorities and not read everything. I have seen the email but not opened it. Assumed it was internal, came from ***.”*

“I think that communication and how we are rolling out new work methodology or systems or instructions, is a week point for us. And I think that it has a lot to do with that we have so much to do.”

“If the management only use the intranet to highlight important initiatives, it is a risk that employees won't understand the importance. I think it should be good if things like this would be presented on the weekly meeting, then I can inform my employees because then they also know that I support it. Otherwise it is hidden among all the other information. I know that it is not working like this, but it should come from all the management levels.”

“[What would make you use the InventiveBoard?] Better to inform on company level before a mail is sent out that looks like a spam-mail” - Answer from open question in quantitative survey

During our second round of interviews, we asked the interview candidates how they perceived the message that was presented by the management during the town hall meeting in mid-march. As the coding of our second interview round presented in Table 10 depicts, six out of seven candidates perceived the message as being both inspiring and important, only one candidate was critical towards the management's message. Some opinions are reviewed below:

*"It was inspiring actually, *** is a very good presenter. *** did a good job actually. [do you think that this helped to create more awareness...?] I would say that, for the time being. But then when you get back to your desk, you have to do what is on your priority list. But I definitely understand why it is important to be part of this when we are in a competitive business."*

"It was a good message, but it should have a follow up in the line management structure"

*"Maybe *** focused too much on usage of statistics. Should have put more emphasis on the value and highlight some of the ideas to make an example"*

In the second round of interviews we asked the interview candidates if they perceived that the communication had improved since our first interview session. As the coding from our second interview round depicts, seven out of seven interviewees did not perceived that communication in relation to the IMS had improved since the first interview round. Together they provide an unambiguous message; the respondents do not think that communication has improved with the exception of the speech from the town hall meeting.

We also asked the candidates during the second round of interviews about if they had heard any colleagues talking about the initiative. Out of the seven interviewed, only one candidate had heard other colleagues talk about the initiative.

In order to dig deeper into the employees' perception of communication in relation to the Creative@CEVT initiative, we asked them in the quantitative survey to value the importance of certain communication aspects. In Figure 16 below, we present empirics related to the perceived importance in comparisons to perceived executed communication efforts. For this question we used the data derived from sample two (S=2) excluding consultants in order to ensure the validity of the data. Consultants had to be excluded for this question since they never received information and were not invited to use the IMS.

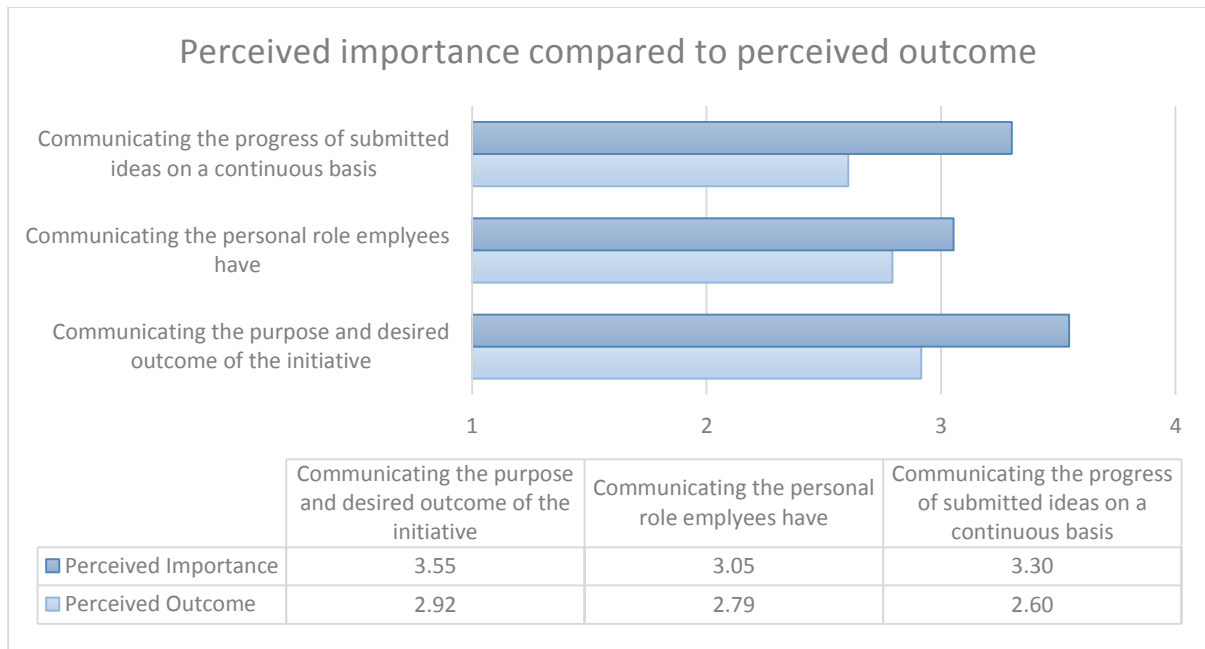


Figure 16 - Perceived importance vs. perceived outcome - Communication (S=2)

In the data presented in Figure 16 above, employees were first asked to what extent they agree that the three statements are important for a successful implementation of an IMS. They had to decide on a four-level Likert scale ranging from “strongly disagree” to “strongly agree” plus the option “I don’t know”. After that they were channeled to a new page with the same statements but a new question; “To what extent do you agree that these factors have been emphasized upon in the actual implementation practice of the Creative@CEVT initiative?”. In this way, we were able to compare the perceived importance to the perceived outcome of communication efforts. The data demonstrates a pattern where the perceived importance scores higher than the perceived actual efforts executed by management in all three areas. The factor “Communicating the progress of submitted ideas on a continuous basis” received the largest discrepancy of 0,7. “Communicating the purpose and desired outcome of the initiative” came close and second with a discrepancy of 0.63 while “Communicating the personal role employees have” resulted in the smallest discrepancy 0.26.

4.4.2 IDEA CHALLENGES AND EVALUATION CRITERIA

The Creative@CEVT initiative ran over a period of three months. Each month the management released a new challenge to focus the scope of generated ideas. The three different challenges were:

- Environmental challenge - How should we at CEVT handle the environmental challenge?
- Efficiency challenge - How can we improve our efficiency?
- CEVT brand challenge - What can be done to strengthen the CEVT brand?

We discussed the challenges during both rounds of interviews to get an impression of the employees’ attitude and thoughts about the challenges. Nine out of twelve employees mentioned in the first interview round that they were positive about the “Environmental

challenge” and that they thought that it is an important topic to address. The generated ideas show that the challenge can be interpreted in many different ways (e.g. work environment or energy consumption). The following quotes give a general overview of the interviewees’ perception about the three different idea challenges.

Environmental challenge:

“I think it is probably better to narrow it down in the context. What do we mean global with “environmental”? Global warming or environmental challenges from the product?”

“You need to connect them to goals, not just environmental. You need a context, e.g. we need to reduce energy consumption. Being specify in a way e.g. “we need to decrease 30% energy consumption”.”

“Environmental issue are important but we do not talk about it in our strategy. CEVT does not have any clear strategy. That is something to come. Maybe being environmental friendly will be part of this strategy”

Efficiency challenge:

“If you post that question, it will be very wide question, you perhaps need to cluster it and be more specif. Efficient in what term?”

*“I interpret that as efficiency within the organization. I think that a lot of people have many ideas here. I think a lot of people have ideas how to do things, either according to how they used to do it at *** or *** or whatever. I think that is because a lot of people have ideas of how the company should be because this is a fresh company.”*

CEVT brand challenge:

“Very interesting thing, because in our town hall meeting the marketing manager went up stage and told us about the plan for this new brand of CEVT. They have high expectation; they are going to think outside the box according to them. So it’s going to be excited to see what comes up.”

*“The challenge that I have in my work is that the management and the board does not have any idea where the company wants to go. So it is kind of hard for employees to know how to strengthen the brand and how to make us look like a popular and caring company. If you want to go specifically e.g. the “thought-leader” in *** then we are not equipped for that.”*

“I do not know how much value that brings. This is the task of the marketing department. I’d say it is the wrong audience to ask everyone.”

Another possible setup for an IMS is not to have idea challenges that guide ideas and thereby allow for all kind of ideas. We discussed the pros and cons of this possibility in our second round of interviews:

“Maybe you should have both, I think that challenges are good because they force you to think about specific areas, obviously it is important for the company. However, I think that you always should have like an open forum for all ideas that could be valuable for the company. If you have ideas that don’t fit into the scope of the challenges they might forget about it.”

“I think you need to have some kind of frame. Otherwise, it is hard to compare. When all kind of issues can be raised, how do you take care of that? It is better to have some kind of subject that you should relate to.”

“I would like to initiate my problems. It is easier to generate ideas if it is a more specific problem. I think there are few people here who have time to think about a challenge that is not in their immediate surrounding.”

"99,9% of the engineering problems are related to the projects were we have deadlines and we have our own system for that."

"When I saw it, first I thought it is more related to our products and processes."

As presented in our methodology, our quantitative survey also allowed participants to answer openly on certain questions. When asking the question "What would make you submit ideas in the InventiveBoard?" we received the following answers relevant to the idea challenges and how to stimulate ideas.

"A stronger connection between challenges in the tools and the business/vision of the company"

"If the challenges were more specific, more related to daily work etc"

In the end of the first idea challenge, a group of 14 employees was chosen to participate in a jury to evaluate the generated ideas. Only five out of the invited jury members participated in the evaluation of the ideas generated in the first challenge. The settings for the evaluation of the ideas was configured so that the following criteria applied to all ideas:

- Contributes to Challenge Goal: 1-5
- Contributes to Project Deliverability: 1-5
- Contributes to Efficiency: 1-5
- Contributes to Org. and Employee development: 1-5

In our second interview round, we managed to interview seven of the 14 employees that were assigned to participate in the jury. Before the invitation, no one knew about the criteria that the ideas were evaluated upon. After receiving the instructions by email, the employees invited to participate in the jury felt that it was not a straightforward task of how to evaluate and assess the ideas. Below we summarized quotes from the interviews:

"Even though I had the instructions, it was still challenging to know what I should measure it against. What are the company targets? What do we want to achieve with it? I can judge in general if it is good or not but does it support this or that activity? That is hard to do without company targets."

"It was not so straight forward what the meaning of the different criteria was. It was not clear how to understand them. What does project deliverability mean? Efficiency? That is also a little bit strange. The first and the last is ok[Challenge Goal and Org. & Employee development]. Maybe it should be done in a different way."

"I did not participate. It was just an Email. It was not clear why I was selected for the evaluation. I think I just deleted it. Maybe there was an explanation in the Email. I was not approached before. No one asked me if I want to be part of it or explained what the objective was. I have a lot of things to do. I have to prioritize. I did not understand why I was picked for the jury."

4.4.3 RESULTS

A total of 525 employees were invited by email containing personal instructions of how to sign up for the InventiveBoard. Table 14 below contains statistics extracted after the end of the initiative in the end of April. It shows the number of subscribed users and total logins per month. For a complete overview, see the appendix chapter "8.5 Detailed statistics from InventiveBoard".

Table 14 - Number of subscribed users and logins

Month	Date	Number of subscribed users	Percentage of all invited employees	Total number of logins per month
FEB	2016-02-01	183	35%	599
	2016-02-21	240	46%	
	2016-02-22 (new invite)	289	55%	
MAR	2016-03-01	307	59%	222
	2016-03-08 (town hall)	314	60%	
	2016-03-09	315	60%	
APR	2016-04-01	319	61%	82
	2016-04-16	319	61%	
	2016-04-30	319	61%	

In February every employee logged in two times on average, in March 0.7 times and in April 0.3 times. In total this results in 2.8 logins per user over the period of three months. In reality the number of logins is a bit lower, because the data includes logins from the administrator and researchers. Table 15 below summaries the user activity during the Creative@CEVT initiative.

Table 15 - User Statistics of the InventiveBoard

	Number of users	Total number of ideas
No of employee with 1 idea	11	11
No of employee with 2 ideas	4	8
No of employee with 3 ideas	2	6
TOTAL	17	25
Comments on other ideas	13	
Total given likes on other ideas	108	
Likes received by top 3 ideas	21, 12 and 8	
Ideas per challenge		
Environmental Challenge (FEB)	12	
Efficiency Challenge (MAR)	11	
Brand Challenge (APR)	2	
Ideas per classification		
Process improvements	5	

Product development	4
Business development	4
Cost reduction	1
Other	11
One completed poll of the Environmental Challenge with 12 ideas	

In the first challenge, “Environmental Challenge”, the most popular idea received 21 likes. The types of ideas that was posted were very wide spread, ranging from improving working environment, making employees more environmental aware by changing their personal behavior to incorporating sustainability thinking within R&D requirements regarding environmental effects.

In the second challenge “Efficiency challenge”, the most liked idea received 5 likes. The types of ideas that were submitted were also very widespread: Improving working environment efficiency e.g. improving virtual meeting efficiency, promoting healthy living and promoting brainstorming sessions.

In the third challenge, “CEVT brand challenge”, only two ideas were submitted. Both received two likes.

In the second interview round, we asked the candidates about what they thought of the results from the Creative@CEVT initiative so far. Four out of seven found it hard to judge since they had not looked into the IMS to review the most recent ideas. The remaining three thought that the result so far was below their expectations.

4.4.4 PERCEPTION OF STRATEGIC RATIONALE

In the first interview round, we asked 13 interview candidates whether they knew what the goals and objectives of the initiative are. As our coding depicts in Table 9, only two out of the 13 candidates knew about the goals and objectives of the initiative at the time of the interview. The two who knew about it claimed that the only reasons they knew about it was because other managers had approached them and discussed it with them.

During the first interview round, we also asked the candidates whether they thought that the initiative could increase innovativeness at CEVT. Out of the twelve candidates we asked, seven were positive and thought it could help boost innovation at CEVT, three were negative and two were unsure. Below we present important quotes from the first interview round:

“For the employees it could have the benefit of them feeling that they are being recognized from the management and the company. And from the perspective of the company, you could get better processes.”

“I think it can facilitate innovation but not the tool itself. The tool is only a channel. The right climate is important. The tool can only be the catalyst that facilitates the innovation process that is driving innovation.”

“Is this the stuff that is on the net? Sorry I don’t believe in it at all. It might be something that new kids, our kids, my kids will grow up with but not my generation. I think that creativity comes from [human]interaction. I clicked in to it and nothing for me.”

4.4.5 PERCEPTION OF LEADERSHIP

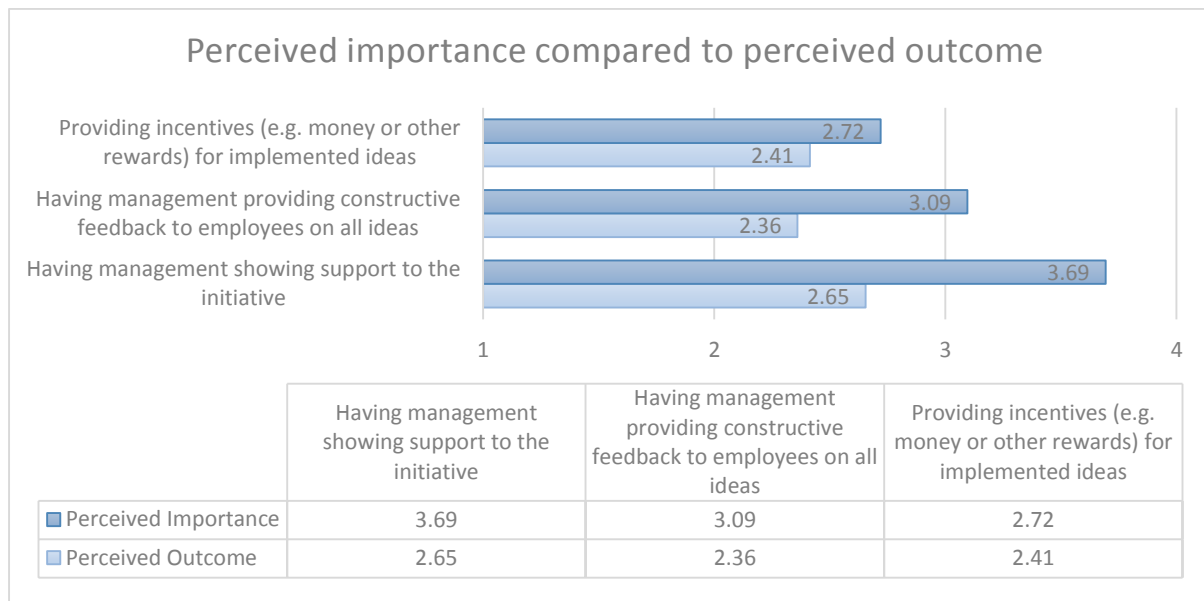


Figure 17 - Perceived importance vs. perceived outcome (S=2) – Leadership

In order to investigate how employees perceived the role of leadership, we asked them to what extent they think that the three statements presented in Figure 17 above are important for a successful implementation of an IMS. In the same way as the questions in Figure 16, respondents had to decide on a four-level Likert scale ranging from “strongly disagree” to “strongly agree” plus the option “I don’t know”. On the next page of the survey the same statements were presented with a different question; “to what extent do you agree that these factors have been emphasized upon in the actual implementation practice of the Creative@CEVT initiative?”. In this way, we were able to compare the perceived importance to the perceived outcome of leadership factors.

For the same reasons already discussed, we did not use the sample including consultants as they were not invited to participate in the initiative. Hence, we used Sample two (S=2) excluding consultants in order to analyze the importance of leadership and ensure validity.

The result depicts the largest discrepancy of 1.04 between perceived importance of “having management showing support to the initiative” and the perceived execution of leadership support. The second largest discrepancy of 0.73 can be seen between perceived importance of “having management providing constructive feedback to employees on all ideas” and the perceived executed feedback by the management. The third statement “providing incentives (e.g. money or other rewards) for implemented ideas” was perceived as the least important factor with a mean of 2.72 on the four-level Likert scale. The discrepancy was also the lowest for this factor resulting in 0.31.

4.4.5.1 MANAGEMENT SUPPORT

During our first round of interviews, we discussed how the candidates perceived the support from the management for the initiative. The coding results show that out of the twelve

candidates we discussed the topic with, nine did not perceive that the management supported the initiative while the remaining three candidates were unsure. Below we summarized important quotes that reflects the general view of interviewees opinions about management support:

*“The company is sort of jumping on many new things which is great but we need to decide how we should sort of spread our minds and capacities. We are asking a lot of our employees already so it should be clear what they should do. So that it would be very good if it was clear that this [IMS] came from the management, that it is important and supported by them. I know that it was an email from ***, but it would be good to have the information during meetings with management. Would be very good for the management to highlight the purpose and why it is interested in the initiative. I have not heard anything from them, they should highlight it. I only got it through emails and there is so much emails at CEVT.”*

“As a manager it is important to support it and have the possibility to support it. I have not seen in my budget any time allocated for my employees to spend on it. Getting extra time over, also coming from the management is hard. How can we support and fund this? If it’s a small group that can work certain hours, easier. It is always interesting how we can support such things”

“I think the management team can support this more and be a role model.”

Several interviewees expressed how important it is that the management acknowledges and supports the initiative by allocating time for employees to work with the InventiveBoard. From the open question “What would make you submit ideas in the InventiveBoard?” in our quantitative survey, we received the following quotes:

“Allocated time and seeing that the management really wants to implement new ideas that come from employees. We only got mails about the initiative and there was some talk on the town hall meeting, but never got properly instructed on what kind of input we should provide: organization-specific, product-specific, processes etc.?”

“Creativity must be cultivated in a different way! During all these short delivery tasks - the mind is not free to experiment with ideas. Also this is very difficult to develop under pressure and short deadlines why I believe we lack this part in the organization”

“It always means increased workload for the managers that they cannot handle. For such a system to work and have bottom manager full support & encouragement, there needs to be an organization handling the execution of the ideas.”

“Maybe to have a small workshop or send a newsletter weekly to make awareness about it So that people are more aware and get to see it regularly as it can sometimes be difficult to manage time for it with the existing work load”

As discussed earlier, one of the managers held a speech during a meeting involving all employees of CEVT in the beginning of March. This message was perceived by the employees as a good step in showing management support. Although it was not considered enough to talk about it once, the attempt was very well received. In our interviews we frequently heard that employees would like to see more similar initiatives by the management.

4.4.5.2 INCENTIVES

During both rounds of our semi-structured interview, we occasionally discussed the topic of providing incentives to stimulate idea generation. Two kinds of incentives were discussed; having the management providing recognition and feedback to idea submitters and having management providing rewards for successfully implemented ideas. Below, we summarize important quotes regarding these topics:

“If the management would now select one idea and implement it right away that would probably create many new ideas. It would show the management support.” - First interview round

“Feedback and recognition motivates people to come up with ideas, people like to have likes. Some immediate feedback that people will see. Management recognition is important.”- First interview round

“Have a reward! Maybe once a year a really good reward that is highlighted. Some kind of reward when you actually earn money on the task itself. In my role, as a manager, I have other channels to put my ideas and receive rewards by efficiencies that I contribute to every day. But for employees it is very important to have some kind of carrot to actually do the extra effort. Then I think that we would definitely have a spin on that. Then it would be incentivizing, it could be small rewards. It could be rewards of having a small thing, like cinema ticket. Some kind of small rewards. Not necessarily financial rewards, even though if we make really good proposal that would result in the company saving a lot of money, then I think it should be a monetary reward. If we make a good idea that saves money, then It should be money reward.” - Second interview round

During our interviews, we also occasionally discussed the importance of managing expectations of employees:

“It is a very good idea to have such a tool. But you have to make sure that we are able to do something with it. It opens up a lot of expectations. We have to be sure that we can handle this otherwise the interest in it will go down. If we do not make sure that we have the resources, people will lose motivation. This could also affect other areas and other initiatives.” - First interview round

“It is crazy to get them [the management] to focus on key issues already. Will they be able to take responsibility and to answer and to get things approved or rejected when it comes to things that are good ideas that are not connected to the core business. Will they prioritize this? [...] It is a waste of time if it does not get recognition afterwards” - First interview round

5 ANALYSIS

In our analysis we connect the theoretical framework to our empirical findings. In order to answer our sub-research questions, we start by identifying challenges faced by CEVT in the different phases of the idea management process. We then continue by comparing identified KSF in theory and relate them to our empirical findings in order to identify KSF relevant for the implementation practice of an IMS.

5.1 CHALLENGES

In our theoretical framework we present the different phases of an IMP. As argued before, for a short-term study of an implementation of an IMS, the four first phases are the most relevant ones to study. Therefore, in order to answer our first sub-research question “*What are the challenges in the implementation practice of an IMS at CEVT?*”, our analysis of the empirical findings will focus on identifying challenges CEVT faced in these four phases. However, in order to create a better understanding for the challenges in general related to all different phases, we start our analysis by linking the outcome of the initiative to the two organizational challenges identified in our theoretical framework; **lack of employee motivation** and **sub-compartmentalized organizations**. Although our research focus is on the short-term challenges and KSFs in the implementation practice of an IMS, we believe that studying employees’ perception of the company culture will help to generate a deeper understanding behind the challenge to motivate employees in relation to the implementation practice.

As argued by Alessi et al. (2015) and Bank and Raza (2014), companies face a challenge in motivating its employees to participate and see a purpose in submitting ideas and being active in the IMS and therefore suffer from **lack of employee motivation**. Our empirical findings clearly show that this has also been a challenge for CEVT in the implementation practice. As the number of logins depicts, employees only logged in at least once per user in the first month; an average of two logins per user. In the following months, the number decreased to an average of 0.7 in March and 0.3 in April. In total, 61% of the invited users signed up in the system. This clearly demonstrate that CEVT faced a challenge in motivating employees throughout the initiative, particularly towards the end.

The second challenge of **sub-compartmentalized organizations** was argued in Imaginatik research (2001) to be a barrier for collaboration across departments upon the ideas in the IMS. As argued by Bank and Raza (2014), especially growing companies face an eminent challenge here. Newly created sub divisions tend to focus only on their own tasks, which can lead to tunnel vision within departments. Although we can confirm that employees at CEVT are very much focused on their daily tasks within their departments, our empirics shows that employees perceive in general that it is easy at CEVT to collaborate across departments and that the company has an open company culture. Employees are also very open-minded towards the initiative and think that it can improve innovativeness at CEVT. This view was supported by the fact that many employees sought employment at CEVT partly as they perceived the company as being innovative and less bureaucratic.

The argument raised by Gamlin et al. (2007) and Malik (2014) that subcultural barriers derived from a mix of multiethnic employees can lead to a lack of collaboration between cultures, cannot be confirmed or rejected in our empirical findings. As our interviews did not include any other nationalities than Swedish, we did not manage to further investigate this from a multiethnic perspective in more depth. Therefore, we cannot confirm that it is the lack of open culture and collaboration across departments that hampers activity and participation in the IMS. However, we see that tunnel vision within departments and time pressure to focus on daily tasks is a challenge CEVT faces that hampers participation in the IMS.

5.1.1 INSPIRE AND INVOLVE

As Alexe et al. (2014) and Iversen et al. (2009) argue, the challenge in this initial phase of an IMP is to inspire and involve the user of an IMS. They stress that it is important that the goals and objectives of the initiative as well as the value added from submitting ideas are known to the assigned participants in advance. At the time of our first round of qualitative interviews, only two out of 14 interviewees knew about the goals and objectives of the initiative. This shows that the communication was insufficient and therefore poses a challenge for CEVT.

The first step that was taken to communicate the launch of the Creative@CEVT initiative and to inspire and involve employees to participate was a teaser sent out in the form of a Mail to all assigned participants. Many interviewees mentioned that they did not regard that message as important. The second Mail contained instructions on how to sign up and log in to the InventiveBoard. As employees receive a high amount of emails, many never opened this mail. Others pointed out that it looked like spam since it came from an external sender. These Mails were crucial parts of the pre-launch communication to inspire and involve employees. The highest ranked reasons for not using the IMS was that employees did not know about the initiative (S=2), mentioned by 81%. Thus, our empirical findings show that the used channels were insufficient and ineffective in inspiring and involving employees. Although, on the day of the actual launch, 183 users (35%) signed up for the InventiveBoard which demonstrates that many employees showed interest in the initiative in the very beginning, compared to later phases.

Alexe et al. (2014) also argue that employees must be aware of the used IMS and its functionalities as well as potential nonfinancial and financial rewards in this initial phase. CEVT communicated that they were going to use the InventiveBoard in their initiative. The information posted on the intranet before the launch included links to introduction videos of the InventiveBoard. Yet, in our survey 70% of employees mentioned that they had not received instructions of how to use the IMS. This shows that the provided information did not reach most of the employees. Furthermore, potential rewards were not communicated prior to the launch or for the duration of the initiative.

Another challenge for CEVT in this phase was to successfully communicate that the IMS contained a transparent review process. As argued by Alexe et al. (2014), employees have to feel that the process is transparent and that the opportunities are equal for every participant in order to manage expectations and inspire them to engage in the IMS. Prior to the launch, CEVT had not decided who will be part of the jury for the evaluation of ideas and therefore could not communicate this in order to inspire employees and manage their expectations. Furthermore, the evaluation criteria had also not been decided upon at this time and therefore could not be communicated to employees to assure a transparent review process. This demonstrates that CEVT faced a challenge in managing employees' expectations by communicating such information in an early phase. As argued by Summa (2004), failing to do so can demotivate employees and discourage them to participate and interact in the IMS.

Overall we can conclude that CEVT faced a challenge in inspiring, involving and motivating employees to participate in the initiative. This is strengthened by the findings presented in Figure 16 about employees' perception of the communication efforts.

5.1.2 GENERATE AND CAPTURE

An important part of this phase is to record the employees' ideas and make them visible to all participants. A standardized form to outline the details of the idea can help to analyze the ideas on the same criteria in later stages (Alexe et al., 2014). This is the phase where ideas are stored in the IMS for the first time and CEVT used the InventiveBoard for this purpose. While the choice of the right IMS is one important factor for a successful implementation, the challenge in this phase is to identify several areas of interest for the company and use those areas to guide employees to generate ideas related to these areas. The difference to the inspire and involve phase are the techniques applied to stimulate ideas from individuals or groups. The main challenge is to motivate employees to submit their ideas into the system. The approach used by CEVT to generate and capture ideas was to launch three separate challenges each running for one month. The technique was to send out information by mail and to post on the intranet and informing employees about each upcoming challenge.

As our empirical findings show, the environmental challenge resulted in twelve ideas derived from 306 subscribed users. Most of our interview candidates considered the challenge as important. However, many also expressed that the connection to CEVT's strategy was not clear to them. None of the interviewees had heard talks about environmental issues related to corporate strategy before.

The efficiency challenge was more perceived as being directly linked to CEVT's strategy and goals, which was the motivation for one interviewee to participate. Also, since CEVT is a relatively new company, interview candidates found that an efficiency challenge could be very beneficial for CEVT and generate valuable ideas. This is because employees perceived that existing work-processes at CEVT have a lot of potential for improvements based on earlier work experiences from senior employees. Some interviewees criticized that the efficiency challenge was too broad. This made it difficult for them to relate to the challenge and come up with ideas. The efficiency challenge resulted in eleven ideas from 319 subscribed users by the end of March.

The brand challenge was launched in the beginning of April, after the management talked about the initiative in the town hall meeting. During that meeting the marketing manager also talked about the new plan for the CEVT brand. One interviewee therefore found the challenge very interesting as it was perceived by the respondent to be connected to CEVT strategy presented during the town hall meeting. However, other employees found that since the general strategic focus of CEVT is not clear, it was hard for them to contribute to this challenge. The brand challenge resulted in only two ideas, derived from 319 subscribers by the end of April.

Overall we can say that a stronger connection between idea challenges and the strategy and vision of the company is needed. We see a challenge for CEVT to formulate the idea challenges in the right way, since it is a fine line between having too broad and too narrow challenges.

The fact that CEVT is a young and fast growing company makes it more difficult to find suitable idea challenges that include and inspire all employees, yet at the same time is perceived as being aligned to the company's strategy. The three idea challenges are good attempts that deliver valuable insights for new idea challenges.

5.1.3 DEVELOP AND ENRICH IDEAS

The main challenge in this phase is to involve employees in the development of ideas. Summa (2004) argues that it is unlikely that one person generates an idea and develops it until it is implemented and becomes a project. This underlines the importance of collaboration in this phase of the IMP.

The results of the Creative@CEVT initiative show a low level of interaction on submitted ideas. Only 13 comments were posted and 108 likes were given on the total 25 ideas. That is 0.52 comments and 4.32 likes per submitted idea. These numbers indicate that it is a challenge for CEVT to make employees login to the InventiveBoard and collaborate on a continuous basis.

When we asked employees in our survey about reasons why they did not use the IMS, 63% stated that "it is too complicated to access the InventiveBoard". This was also criticized by some of our interviewees. They mentioned that they do not know where to find the link to the InventiveBoard. Some suggested connecting the tool to CEVTs Intranet, for example by posting a link and "idea of the day" in the news feed. The fact that the InventiveBoard is its own system creates an obstacle for the employees of CEVT and thereby hinders the collaboration on ideas.

Over the period of three months in total 319 employees (61%) signed up for the InventiveBoard which depicts that a large number of employees logged in at least once. However, the number of recurring logins per user, comments and likes was low which shows that employees do not work with the tool on a continuous basis. Many of our interviewees mentioned that they are stressed and too focused on their regular tasks in order to have time to work with the IMS. Furthermore, they did not perceive that the management truly supported the initiative and regarded it as important. As a result, employees did not prioritize working in the IMS. This supports the view that employees are not motivated and cannot find time to be creative and interact on submitted ideas in the InventiveBoard. Therefore, CEVT faces a challenge in having employees spending time in the IMS and to convincing them that the management regards the initiative as important.

5.1.4 EVALUATE AND SELECT IDEAS

The evaluation and selection of ideas is a critical parts of the IMP, because poor idea evaluation can be very demotivating for the employees and in such case have a negative impact on employees' motivation to participate in the IMS (Summa, 2004). One challenge in this phase is therefore to identify feasible evaluation criteria that can be used to assess ideas in coherence with organization's strategy and vision. In this way, the evaluation and selection phase plays a

crucial role in managing employees expectation by guiding and inspiring future idea generation.

The employees invited to participate in the evaluation jury received an Email with instructions on how to conduct the evaluation. They were assigned to evaluate the twelve ideas generated in the first idea challenge within one week. The employees were supposed to assess the ideas after certain criteria on a scale of one to five; contribution to the challenge goal, project deliverability, efficiency and organization and employee development. As depicted in our empirics, some employees struggled to understand the evaluation criteria and their connection to the idea challenge. This indicates that the criteria are not connected to CEVTs vision and strategy. Furthermore, Alexe et al. (2014) and Iversen et al. (2009) state that it is important that the evaluation criteria are adjusted in accordance with the ideation event and focused problem. However, this was not the case in the initiative as the same criteria were used for all ideas and in all challenges, regardless of idea categorization and topic.

Out of the 14 invited employees that were assigned to participate in the evaluation process, only five participated. In our second round of interviews, we discussed the reasons why employees did not participate. One reason was that they only received an email and never discussed this during meetings or were approached by a manager. Our empirical findings show that this was not enough to convince the invited employees of why they were assigned to the jury and what the benefits of evaluating ideas were, which is one reason named by Summa (2004) for having a poor idea evaluation process. Invited employees that declined to participate in the jury stated that the reason was that they had not been informed of why they had been selected. No one approached them in advance to explain why the management wanted them to evaluate the ideas and how their knowledge and skills could be valuable for the evaluation. All this shows that CEVT faced a challenge in selecting and motivating jury members by communicating the benefits and reasons of participating in the evaluation process. Furthermore, as was mention in the inspire and involve stage, the selection process of the jury was not transparent and the reasons behind choosing employees not communicated in advance. As argued by Summa (2004), selecting the jury members with the right skills and competences for the evaluation is important in order to avoid a poor idea evaluation process which has an negative effect on motivation for employees to participate in the IMS in general.

In order to promote a good idea evaluation process, it is important that the assigned criteria are known in advance by all participants in order to manage expectations (Summa, 2004). None of our interview candidate in the first or second round knew about the evaluation criteria. In our second round of interviews, which only involved jury members, all interviewees claimed they did not know about the evaluation prior to receiving the email. This demonstrates that CEVT faced a challenge in communicating the evaluation criteria to the participants in advance.

5.2 KEY SUCCESS FACTORS

In the subsequent part of our analysis, we will connect our theoretical finding with the identified challenges in the implementation practice in order to answer our second sub-research question: “*What factors drives a successful implementation of an Idea Management System at*

CEVT". In this part of our analysis, we will therefore identify KSFs relevant for overcoming the identified challenges.

5.2.1 COMMUNICATION

As was highlighted in our theoretical framework, one very important aspect to consider when launching an IMS is to **communicate the purpose and strategic rationale** behind the launch. This aspect was identified as particularly important for young and fast growing companies that are in the process of shaping their strategy as those companies often struggle to communicate the corporate strategy to their internal audience (Bank & Raza, 2014).

In the **inspire and involve** phase we identified two challenges; encourage participation and provide instructions on how to use the IMS. One KSF identified in theory to encourage participation is to communicate the purpose and the strategic rationale of the initiative prior to launch. As our empirics depict, very few interviewees knew about and understood the strategic rationale behind the launch of the InventiveBoard by the time for the first interview round conducted in mid-February. We therefore argue that one identified KSF in the implementation practice at CEVT is to communicate the strategic rationale and purpose of the initiative. This KSF is particularly important before the launch in order to overcome the challenge to motivate employees, manage expectation and successfully inspire and involve users to subscribe to the IMS.

During a town hall meeting in the beginning of March where all employees of CEVT were invited, the management talked about the purpose of the initiative. This was perceived by employees as helpful to demonstrate that the management supports the initiative and why they regard it as important. However, only doing this once during the initiative was not considered to be enough to truly encourage employees and make the message credible and convincing. Therefore, we argue that it is a KSF for CEVT that the management uses this forum on a continuous basis to demonstrate their support and explain the purpose of the initiative, especially before the launch of the IMS. This is important to overcome the challenge of encouraging participation in the inspire and involve phase.

According to Gamlin et al. (2007) it is important that it is clear from the beginning on what criteria ideas in the IMS will be evaluated on to support a fair review process. Our empirical data shows that it was not communicated before the launch on what criteria ideas were going to be evaluated upon in the evaluation phase. Neither was it clear who was going to be part of the evaluation jury. Both factors are important to encourage participation and ensure a transparent review process for employees. We therefore argue that it is a KSF to communicate suitable evaluation criteria prior to the launch of an IMS. This could be done in meetings while demonstrating the functionality of the IMS.

Another important aspect related to communication that was identified during our literature review was to have a predefined path for the launch of the IMS that effectively communicates what is expected from employees (Gamlin et al., 2007). It was stressed that expectations and responsibilities needs to be communicated in an early phase of the IMP. Furthermore, Tidd and Bessant (2011) argue that in order to create innovation energy amongst employees and

motivating them to participate, a company need to make employees feel that they can make a difference by involving them and explaining why it is important to participate in the initiative. In our empirical findings we can see that even though CEVT had a predefined path for the launch that involved a teaser and instructions on how to sign up for the InventiveBoard, many employees did not perceive their individual role in the initiative. We therefore argue that clearly communicating employees' role before the launch of the initiative is a KSF that helps to overcome the identified challenge of encouraging participation.

The second challenge we identified in the **inspire and involve** phase is to provide instructions on how to use the IMS. The information posted on the intranet before the launch included links to introduction videos of the InventiveBoard. In our survey 70% of employees mentioned that they had not received instructions of how to use the IMS. This shows that the provided information did not reach most of the employees. During our interviews employees stressed that it is important for them to get a demonstration of the InventiveBoard during meetings in order to learn about the functionalities, better understand what they are expected to do and how ideas will be evaluated. In the pursuit to overcome the challenge of providing instructions, it therefore is a KSF to use other means of communication than e-mail to demonstrate the functionalities of the IMS.

The identified challenge connected to communication in the **generate and capture** phase is to encourage idea submission by employees. One way that supports idea submission is to formulate the idea challenges in the right way (Bank & Raza, 2014; Gamlin et al., 2007; Iversen et al., 2009), since it is a fine line between having too broad and too narrow challenges. In our survey 65% stated that a reasons they did not post an idea was that they did not relate to or understand the idea challenges. Several interview candidates suggested that there should be an open challenge running parallel to the specific idea challenges, similar to the notion presented in our theory of having a pull approach in tandem with a push approach to maximize generated ideas (Alessi et al., 2015). Therefore, since CEVT faces a challenge in defining and specifying idea challenges linked to strategy that successfully manage to inspire and encourage employees to generate and submit ideas, we argue that a KSF to have an open idea challenge running parallel with more specific idea challenges. Thereby ideas that are not connected to a specific challenge will be captured as well. However, applying proper evaluation criteria could be challenging since the spectrum of submitted ideas most likely would be very wide. Nevertheless, we argue that the value from having an open idea challenge would lead to more interaction in the IMS and thus could contribute to encourage more employees to submit ideas.

During our interviews many employees stated that they are too focused on their daily tasks and therefor find it difficult to find time for other tasks such as the Creative@CEVT initiative. In order to still participate in the initiative some suggested to have brainstorm sessions during weekly meetings to come up with new ideas collectively. We therefor argue that a KSF to encourage idea submission is to discuss the idea challenges in weekly meetings.

The challenge connected to communication in the **development and enrichment** phase is to encourage collaboration on ideas. Summa (2004) argues that in a modern, complex world where organizations often work in cross-functional teams, it is unlikely that one person generates an idea and develops it until it is implemented and becomes a project. Therefore, to

create a competitive advantage and develop ideas towards innovations it is necessary to continuously develop the ideas through collaboration by having other participants adding comments, pictures, links etc. in this stage to registered ideas (Iversen et al., 2009; Summa, 2004). Our empirical findings show that over the period of three months only 13 comments and 108 likes were generated. This shows that the collaboration and therefor also the development of submitted ideas was low. We therefor argue that a KSF to encourage collaboration on ideas is to discuss the generated ideas in weekly meetings.

The identified challenge connected to communication in the **evaluation and selection** phase is to motivate and select employees to participate in the jury. As argued by Alexe et al. (2014), the review process needs to be transparent so that employees know how the submitted ideas are assessed. However, in order to communicate the strategic rationale and a review process linked to corporate strategic objectives, a prerequisite is to have the corporate strategy properly defined and communicated in the company. Only then, feasible idea challenges with suitable evaluation criteria can be defined. According to Summa (2004), selecting the jury members with the right skills and competences for the evaluation is important in order to avoid a poor idea evaluation which has an negative effect on motivation. All interviewed candidates from the second round were invited to be part of the evaluation jury. Some of them struggled to understand the evaluation criteria and their connection to the idea challenges. They also did not know why they were selected for the evaluation. No one approached them in advance to explain why the management wanted them to evaluate the ideas and how their knowledge and skills could be valuable for the evaluation. In the end, only five out of 14 invited employees conducted the evaluation of the ideas from the first challenge. We therefor argue that it is a KSF to communicate employees' role in the evaluation process to motivate them to participate in an evaluation jury.

Table 16 below summarizes the identified challenges and linked KSF within communication in each phase.

Table 16 - Challenges and KSF within Communication

Identified Challenges	KSF
Inspire and involve	
Encourage participation	Communicate the purpose and strategic rationale
	Talk about the initiative in the town hall meeting
	Communicate evaluation criteria in advance
	Communicate employees' role in the initiative
Provide instruction on how to use the IMS	Demonstrate the functionalities of the IMS in a meeting

Generate and capture	
Encourage idea submission	Have an open idea challenge running parallel with specific idea challenges
	Discuss idea challenges in weekly meetings and brainstorm on new ideas
Development and enrichment	
Encourage collaboration on ideas	Discuss submitted ideas in weekly meetings to encourage collaboration and the development of ideas
Evaluation and selection	
Motivate and select employees to participate in the jury	Communicate employees' role in the initiative

5.2.2 LEADERSHIP

It was argued by Tidd and Bessant (2011) that the three fundamental parts needed to generate innovation energy and to motivate employees to engage in creative activity, such as submitting ideas and participating in an IMS, are the individual's **attitude**, a group's **behavioral** dynamic and the **support an organization provides**. We argue that two of the building blocks, attitude and behavioral dynamic, are present at CEVT. Starting with **attitude**, we can see in our empirics that employees at CEVT in general have a positive attitude towards innovation and the majority regarded the initiative as important. Continuing with a group's **behavior**, we can see that many of the interviewees perceive that CEVT has a legacy of entrepreneurial expansion from the formation of the company which results in an open culture and collaborative behavior. In our quantitative data, we also see support for this. The last necessary block to generate innovation energy, the **support an origination provides**, seems to be where CEVT faces the greatest challenge. Some of the organizational structures that Tidd and Bessant (2011) argue are necessary such as rewards, successfully communicated goals, and perhaps most important leadership seem to be missing in relation to the implementation of the IMS initiative. The management needs to support innovation by successfully sharing their views and communicating the purpose, ambitions and desired behavior as well as encouraging employees to participate in the IMS by allocating time for such activities (Tidd & Bessant, 2011). Therefore, the way leadership is executed plays a very important role in a successful implementation of an IMS.

In the first phase of the implementation, the **inspire and involve** phase, CEVT faced a challenge in encouraging employees to participate in the IMS. In both interview sessions, none of the interviewees knew about what was going to happen with ideas after the evaluation. Therefore, CEVT's management needs to explain what will happen with ideas and inform employees prior to launch about any reward for ideas that are regarded as useful. Therefore, one KSF helping CEVT to overcome the challenge of encouraging participation in the inspire and involve phase is to have leadership providing incentives through emphasizing on the appreciation and importance of participating in the IMS and providing the possibility to receive rewards for successful ideas. By informing employees about incentives and rewards prior to

launch, the management could act as catalysts to inspire employees of the coming launch of the IMS.

In the **generate and capture** phase, CEVT faced the challenge of encouraging idea submission. One important aspect of leadership highlighted in our theoretical framework was its role regarding incentives (Gamlin et al., 2007); providing recognition and feedback on submitted ideas to manage expectation and stimulate idea generation. The discrepancy seen in the perception of leadership in our empirics, demonstrates that employees perceive that having the management providing constructive feedback to employees on all ideas is very important for a successful implementation of an IMS. By allowing for a transparent review process where leadership provides constructive feedback and highlight ideas that are regarded as desired, expectations can better be managed and new ideas guided and inspired. Also, by providing incentives through recognizing ideas and rewarding idea submitters with symbolic gestures such as cinema tickets, the management can encourage and involve employees to partake in the IMS. However, it should be said that it was highlighted in the theoretical framework that the actual implementation of ideas and how they are followed up in later phases plays a crucial role in inspiring employees and managing their expectations of the initiative (Alexe et al., 2014; Iversen et al., 2009; Malik, 2014; Summa, 2004). Although the short-term focus of our thesis did not allow us to study the actual implementation of ideas, we argue based on our findings that providing constructive feedback already on submitted and evaluated ideas is important in order to manage expectations, inspiring and motivating employees to participate already in the initial period of the implementation. By having the management providing constructive feedback to idea submitters in the generate and capture phase, the challenge of encouraging idea submission can be tackled by inspiring others to submit ideas as they notice that idea submitters receive recognition and constructive feedback from managers. Therefore, a KSF that helps CEVT to overcome the challenge of encouraging idea submission in the generate and capture phase is to have the management providing recognition and constructive feedback.

Another challenge faced by CEVT in the **generate and capture** phase was to define suitable idea challenges. CEVT faced a challenge in having employees seeing the connection between the idea challenges and CEVT's corporate strategy. As discussed among the challenges and KSF of communication, the young company CEVT struggled to communicate its corporate strategy to employees. Therefore, in order to encourage employees to submit ideas, the management needs to select idea challenges that are connected to corporate strategy and vision known among the employees. However, as was discussed in KSFs of communication, having an open challenge running parallel to the idea challenges is necessary to help increasing idea submission and involvement in the early period of the implementation. Therefore, a KSF for overcoming the challenge of defining suitable idea challenges that inspires idea submission is to connect idea challenges to strategy and vision while simultaneously running an open idea challenge.

Our empirical findings show that CEVT faced a challenge in both, the **generate and capture** and **development and enrichment** phase to motivate employees to participate in the IMS, prioritize it, submit ideas and collaborating by commenting on other ideas. As was stressed by scholars in our theoretical framework, having clearly structured leadership involving all levels

of management supporting an IMS initiative is considered an organizational KSF (Bank & Raza, 2014; Gamlin et al., 2007). However, at CEVT we see that employees did not perceive that leadership fully supports the initiative. Employees had not been approached by managers demonstrating their support behind for the initiative or heard discussions about it during meetings. Middle-level managers also criticized that they had not been approached by higher level managers in person weekly meetings. If this would have happened, middle level managers argued that they could have demonstrated support for the initiative by talking to their employees during weekly meetings to better inform them and manage their expectations. Moreover, the main challenge identified in the area of sub-compartmentalized organizations was that perceived lack of time hampered participation in the tool due to tunnel vision and a narrow focus on tasks within departments. High workload and the focus on daily tasks led to a low priority of activities such as participating in the IMS. It therefore becomes imperative that leadership demonstrates that this initiative is important and that employees should prioritize it and spend time in the IMS. Therefore, we argue that in order to overcome the challenges in of motivating employees to submit ideas, prioritize the IMS, commenting and collaborating on submitted ideas, KSFs are to have all levels of management showing strong support for the initiative by encouraging collaboration across departments and allocating time for employees to spend in the IMS.

CEVT faced a challenge in the **evaluation and selection** phase in selecting the right evaluation criteria and jury members and in motivating them to participate in the jury. As already mentioned, the perception of the employees involved in the evaluation process of the IMS together with the fact that only five out of 14 invited jury members participated in the evaluation, reveals that CEVT faced a challenge in informing and motivating employees to evaluate the ideas. As discussed before, this can lead to a poor idea evaluation process (Summa, 2004) which could be very demotivating for the employees and thus hamper a successful outcome of the implementation of an IMS. The reasons listed by Summa (2004) for a poor evaluation process can partly be identified in the evaluation activates at CEVT. Our empirical findings from the second interview round confirm the argument that the persons responsible for the evaluation do not see the benefit and reward of participating. As expressed by one of the invited employees, sending and invite by email was not enough to convince the person of why he/she had been selected to participate in the jury and what the objectives were. Therefore the interviewee did not consider this activity as important. Others mentioned that with the information provided in the e-mail, it was challenging to understand how to evaluate the ideas and how the criteria should be applied. Since there was no reward or allocated time for the evaluation, the responsible employees had to cope with the extra work together with all other work duties. Continuing with the arguments for a poor evaluation process (Summa, 2004), the employees assigned to evaluate the ideas did not perceive that the management truly supported it. As the intended jury was never approached by managers in this matter, they did not perceive that it was regarded as an important or prioritized task. Therefore, a KSF for CEVT is to have the management showing strong support for the evaluation process and explaining to the invited jury members why they have been selected to participate as well as the rationale behind the evaluation criteria and how they are intended to be applied in the evaluation of ideas. We

believe that this helps CEVT to overcome the challenge of motivating selected jury members to participate in the evaluation process.

Furthermore, another important aspect that will affect the outcome of the implementation is to select jury members with the right knowledge and skills to evaluate the ideas. As already discussed in the KSF of communication in the **evaluation and selection** phase, the rationale behind selecting the jury members and evaluation criteria should be aligned with the corporate objectives in order to avoid a poor idea evaluation process which can have a negative effect on employee motivation to participate. Moreover, this should already have been communicated in the first phases of the implementation in order to manage expectations and inspire employees.

Table 17 below summarizes the identified challenges in each phase and linked KSF within leadership.

Table 17 - Challenges and KSF within Leadership

Identified Challenges	KSF
Inspire and involve	
Encourage participation	Provide incentives and rewards
Generate and capture	
Encourage idea submission	Providing recognition and constructive feedback
	All level of management should encourage employees to work with the tool and demonstrate support
Define suitable idea challenges	Connect idea challenges to strategy and vision while simultaneously running an open idea challenge parallel
Development and enrichment	
Make employees prioritize the initiative	All level of management should encourage employees to work with the tool, demonstrate support and allow employees to spend time in the IMS
Encourage collaboration on ideas	Encourage collaboration across departments
Evaluation and selection	
Selecting the right criteria, jury members and motivating them to participate in the jury	Explain the evaluation process, evaluation criteria and why the jury members were selected

5.2.3 FUNCTIONALITY

In our theoretical framework, we identified six functionalities of an IMS that scholars argue support a successful implementation. In this chapter we analyze to what degree these functions are also important at CEVT to answer our second sub-research question; “*What factors drives a successful implementation of an Idea Management System at CEVT?*”

Scholars argue that it is important for an IMS to have a **simple user interface** (Marcelo & Almeida, 2014). It should be as user friendly as possible in order to facilitate for its users.

During our interviews, many employees mentioned that the workload at CEVT is very high and that they feel stressed and too focused on their daily deliverables. This makes it difficult for employees to find time for other tasks like the Creative@CEVT initiative. Therefore, it is particularly important for CEVT to have a IMS that is very visible and easy to access in order to minimize efforts needed to interact. Thus, lowering the barriers for employees to find and access the IMS is one KSF to encourage them to participate in the IMS. It is also important that the system has a simple user interface to minimize time that employees have to spend on submitting or contributing to other ideas.

Another function that scholars argue is important for an IMS is **anonymity** (Alexe et al., 2014; Marcelo & Almeida, 2014). The possibility to submit ideas anonymously ensures that even the most out-of-the-box thinking ideas are captured. The current IMS used by CEVT, the InventiveBoard, does not allow for anonymity. We discussed this topic with our interviewees and received different opinions. Many employees were critical towards this function because it involves the risk that the IMS is abused to “blow off steam” as often seen on other online platforms. Therefore, having the functionality to submit ideas anonymously would make it necessary to moderate the tool, e.g. by approving every idea before it goes public. Since we only interviewed Swedish employees, the generalizability of our qualitative data is very limited, considering that CEVT is a very multinational company with employees from more than 20 countries. Our interview candidates were not representative for that environment. However, some of our interviewees reflected upon this environment and argued that allowing for anonymity could be beneficial to encourage idea submission, especially for Chinese colleagues. In the pursuit of getting a general view on this topic including other nationalities’ perspective, we asked the question in our quantitative survey. The results presented in our empirical findings indicate that anonymity is more important for Chinese employee compared to Swedish and other nationals. As a large number of employees at CEVT are from China and the Chinese culture is an integrated part of the company, we argue that allowing for anonymity in the IMS is a KSF. Due to the multinational company culture, it is an important function for CEVT to inspire and involve more employees from different cultures to submit ideas.

Another KSF identified in theory is that the IMS **enables for idea challenges** (Gamlin et al., 2007; Imaginatik research, 2001; Marcelo & Almeida, 2014; Spencer, 2007; Summa, 2004) . The system should allow for the function of creating certain challenges that guide generated ideas and focus on specific areas. The InventiveBoard does support this function which can be seen as a prerequisite for a successful implementation of an IMS. As discussed earlier, it is important to communicate the purpose and strategic rationale behind the initiative and then link them to the idea challenges. Furthermore, based on earlier arguments, the system should allow for an open idea challenge running parallel to the specific idea challenges, in order to involve and inspire more employees to participate and submit ideas.

An IMS should have automated **feedback functions** (Gamlin et al., 2007; Imaginatik research, 2001) providing idea submitters with feedback for their ideas to keep them informed of how the ideas is being processed between the stages. The InventiveBoard offers notifications within the web tool that inform the user about that status of the ideas. Since employees find it hard to find and access the tool it is very important the it is more connected and visible. We therefor

argue that it is not enough to have notifications in the web tool. As depicted in our empirics, employees need to be informed about the progress and collaboration of their ideas in a more visible way e.g in the newsfeed of CEVT’s intranet. A functional KSF is therefore to have such automated feedback functions integrated in other communication channels.

As argued before, it is a challenge to have an **efficient idea evaluation** process (Alessi et al., 2015; Gamlin et al., 2007; Imaginatik research, 2001; Murah et al., 2013) capable of accurately assessing the potential and quality of the ideas in the IMS. The InventiveBoard has an evaluation function where ideas are assessed upon up to six criteria on a scale of one to five. We argue, that this functionality can be seen as a KSF necessary for a successful evaluation and selection process that supports a successful outcome of the implementation. However, as discussed before, the real challenge is to select appropriate evaluation criteria and communicate the strategic rationale behind them in order to manage expectations and inspire employees to interact in the IMS, particularly in the early phases of the implementation.

The last functional KSF of an IMS is that it should be **mobile** (Alessi et al., 2015; Marcelo & Almeida, 2014); accessible and available anytime and anywhere to employees, e.g. as an app or mobile website. In our quantitative survey 156 respondents (87%) chose at least one answer corresponding to coming up with ideas outside office. To better capture these ideas generated outside the work environment, we argue that it is necessary to have the IMS available as an app or a website suitable for a mobile phone.

Table 18 below summarizes the implications of theoretical KSFs for the functionality of an IMS at CEVT.

Table 18 - KSF for a successful implementation – IMS functionality

KSF identified in theory	KSF at CEVT
<p>Simple user interface The system should be as user-friendly as possible in order to facilitate for its users.</p>	For CEVT it is important to have a system that is very visible, easy to access and have a user friendly interface to decrease the effort needed to use the IMS.
<p>Allow for Anonymity The system should allow for user anonymity in order to capture even the most out-of-the-box thinking ideas.</p>	Due to CEVTs multicultural company culture and large variation among preferences of anonymity, it is important to allow users to submit ideas anonymously to increase idea submission.
<p>Enable for idea challenges The system should allow for the function of creating certain challenges guiding idea generation attempts.</p>	For CEVT, the IMS should enable for both specific idea challenges and open idea challenges to be run parallel.
<p>Feedback functions The system should have automated functions providing idea submitters with feedback for their ideas to keep them</p>	As it is not enough to have automated notification functions in the IMS, a KSF for CEVT is to have automated feedback functions integrated with other communication channels.

informed of how the ideas is being processed between the stages.	
<p>Efficient idea evaluation function</p> <p>The system needs to have an efficient method capable of accurately assessing the potential and quality of the ideas in the IMS.</p>	Having an efficient idea evaluation function is also an functional KSF for CEVT. The available evaluation function in the InventiveBoard of weighing criteria on a Likert scale of one to five is an efficient evaluation function suitable for CEVT.
<p>Mobility</p> <p>The system should be accessible and available anytime and anywhere to employees, e.g. in an app in employees' cellphones.</p>	To capture ideas that come up outside the office, it is necessary for CEVT to have an IMS accessible as an app or a mobile version of the IMS.

6 CONCLUSION

In this part we summarize and discuss the conclusions drawn from our two sub-research questions in order to answer our main research question “How can CEVT successfully implement an Idea Management System?” by discussing recommendations and implication for CEVT. Ultimately we discuss implications and recommendation for future research.

The corporate objective of our master thesis was to study the implementation practice of an IMS at CEVT in a single case study. In this way we want to help to improve future implementations and come up with valuable insights and recommendations for CEVT. In this pursuit, our academic objective was to contribute to the bridging of the identified research gap; examine the actual implementation practice of an IMS in an organization. In order to answer our main research question “How can CEVT successfully implement an Idea Management System?” we have two guiding sub-research questions laying the groundwork to answer our main research question. The first sub-question “What are the challenges in the implementation practice of an Idea Management System at CEVT?” was answered by reviewing the challenges CEVT faced in the implementation practice of the InventiveBoard. The concluding challenges answering this sub-research question is summarized below:

In the **inspire and involve** phase CEVT faced a challenge in encouraging participation and successfully communicating what employees should expect and how they should interact in IMS. In the following **generate and capture** phase, CEVT faced a challenge in encouraging idea submission and defining inspiring idea challenges connected to their strategy and vision. In the subsequent **development and enrichment** phase, CEVT faced the challenge of Encourage collaboration on ideas and have employees prioritizing the initiative. In the final phase included in our research scope, the **evaluation and selection**, CEVT faced a challenge

in selecting the right participants, motivate them to participate and select correct criteria feasible for assessing the generated ideas.

By identifying the challenges in the implementation practice of an IMS at CEVT, we successfully answered our first sub-research question. The answers then laid the foundation for answering our second sub-research question “*What factors drives a successful implementation of an Idea Management System at CEVT?*” by linking KSFs identified in theory to KSFs identified at CEVT. Thereby we answered our second sub-research question and identify KSFs relevant to overcome previously identified challenges. The concluding KSFs answering this sub research question are summarized below.

KSFs identified in the **inspire and involve** phase:

- Communicate the purpose and strategic rationale
- Talk about the initiative in the town hall meeting
- Communicate evaluation criteria in advance
- Communicate employees' role in the initiative
- Discuss the initiative in meetings to demonstrate the functionalities of the IMS
- Provide incentives and rewards

KSFs identified in the **generate and capture** phase:

- Discuss idea challenges in weekly meetings and brainstorm on new ideas
- Connect idea challenges to strategy and vision and simultaneously run an open challenge
- Provide recognition and constructive feedback
- All levels of management have to encourage employees to work with the tool, demonstrate support and allocate time for employees to engage and submit ideas in the IMS.

KSFs identified in the **development and enrichment** phase:

- Discuss submitted ideas in weekly meetings to encourage collaboration and the development of ideas
- All levels of management have to encourage employees to work with the tool, demonstrate support and allocate time for employees to engage and submit ideas in the IMS.
- The management has to encourage collaboration across departments.

KSFs identified in the **evaluation and selection** phase:

- Communicate employees' role in the initiative
- Having the management selecting and explaining the evaluation criteria and process to jury members and why jury members and criteria were selected.

We also identified functional KSFs necessary to overcome identified challenges and to have a successful outcome of an implemented IMS:

- Simple user interface, very visible and easy to access to decrease barriers to use the IMS
- Allow for anonymous idea submission
- Enables for idea challenges and open challenges running in parallel

- Have automated feedback functions integrated in other communication channels
- Have an efficient idea evaluation function
- The IMS should be accessible as an App or a mobile version

The concluding discussion above enables us to answer our main research question. Since we provide valuable recommendations to CEVT for the implementation practice of an IMS, we will answer the question in the subsequent chapter of recommendations.

6.1 RECOMMENDATIONS

By answering our main research question “*How can CEVT successfully implement an Idea Management System?*” we provide recommendations for the company, based on our findings derived from CEVT’s unique corporate context. Our strongest recommendation to CEVT in relation to how the company could successfully implement an IMS is to allocate more time and to have the management strongly support the initiative. In the pursuit of a successful implementation that gains momentum from the beginning and yields high employee participation rates, engagement and idea submission, the time, resources and effort needed should not be underestimated. The willingness of the management to truly commit to such an initiative is vital for the implementation and can make or break the success of the initiative. Even if all other important KSFs are fulfilled, such as of having a clearly communicated strategy and rationale behind the IMS, without the strong support from the management showing employees that the initiative is important, an implementation will most likely never be successful. As time was one of the most frequently reoccurring argument for employees not to participate in the IMS, the management needs to decide if they truly want employees to withdraw time assigned to operational tasks and allocate it to engage in the IMS. Time is money and the management therefore should carefully consider if this is the right way. Pursuing such an initiative halfhearted will most likely result in wasted resources and therefore should be avoided.

CEVT can improve the performance of the implementation practice of an IMS by incorporating our identified KSF helping to overcome challenges faced in CEVTs context. However, as our research only focused on one particular tool supporting the innovation process, the management at CEVT should also consider to implement other tools to achieve their corporate goals and objectives.

Since CEVT is still a young company that just experienced its first attempt to implement an IMS, the company should learn from this experience and use them for better practice in the future. CEVT should therefore also consider other tools and techniques for similar purposes to find out if they might fit better in the corporate context, corporate goals and requirements of CEVT. Therefore, we recommend that the company continues with reviewing and testing its implementation practice, not only to an IMS, but also of other tools potentially suitable for achieving corporate objectives and goals. In this sense, CEVT can improve their implementation methods and techniques in the pursuit of learning more and determine the specific implementation practices that fit best in their unique context.

To conclude, we believe that with the discussion of our recommendations above we answer our main research question and thereby fulfill the corporate objective for our master thesis to help to improve future implementation practices of an IMS at CEVT.

6.2 FUTURE RESEARCH

In this section, we discuss the contribution to our academic objective of bridging of the identified research gap as well as limitations of our study. From limitations we observed during our research we identified other interesting research areas. As partly discussed in our recommendations above, by studying the implementation of other tools supporting the innovation process and comparing the challenges and identified KSFs with the ones in our thesis, we believe that interesting and multifaceted views of the challenges and KSFs could be produced.

Furthermore, as our research was limited to internal idea generation methods that only include employees within the company, investigating the implementation of more complex tools and techniques involving external participants, could lead to interesting findings relevant for a growing audience.

By conducting a longitudinal research, comparable and valuable insights could be used to compare the results of an implementation in a short-term perspective vs managing the implementation in a long-term. Such research could in this way also include studying challenges and KSF in later IMP phases, such as the implementation and post-implementation learning and feedback phases. By doing so their importance in relation to challenges and KSFs in a short-term perspective could be assessed.

Moreover, as another limitation of our study was that only Swedish employees were interviewed, including other nationalities could generate more generalizable findings. Also, by avoiding the problem we had with the two samples, richer data could be produced.

Lastly, as our conducted research was based on a single case study in order to produce more depth in the unique context, we believe that a multiple case study could generate more generalizable findings and thus possibly could be valuable for more companies, yet at the same time achieve a higher academic value.

To conclude, we believe that our academic objective to contribute to the bridging of the identified research gap organization is fulfilled in this thesis.

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8 APPENDIXES

8.1 INTERVIEW GUIDELINE SVP:S

- ❖ **What is innovativeness to CEVT?**
 - How would you describe the term “innovation” in short? (related to their department)
 - Could you tell us about innovation and related strategies of CEVT?
 - ◆ Do you have any existing goals and objectives directly linked to innovation?
- ❖ Do you have any metrics for innovation at CEVT? (ex. patents, revenue derived from recent developed innovations, etc.)
 - Has strategy related to innovation changed much since the foundation of CEVT?

- ❖ **Could you tell us about the Creative@CEVT initiative?**
 - What is the strategic rationale behind it?
- ❖ What function is the idea management tool intended to play in the long run and how is it connected to strategic objectives?
 - What are your expectations of the outcomes of the initiatives?
 - ◆ Why do you personally support the initiative?
- ❖ Are there any specific organizational goals, either tangible or intangible goals, related to the expected outcome?
 - Are they linked to short and long termed strategies?
- ❖ What do you hope to see as a best outcome of the initiative?
- ❖ In what ways do you think the initiative can boost innovativeness at CEVT?
 - What is your personal role in the initiative?
- ❖ Why do you think employees would want to participate and use InventiveBoard, what do you think motivates them?
- ❖ What challenges do you see that might risk a successful outcome of the initiative?

8.2 INTERVIEW GUIDELINE ROUND ONE

- ❖ **Could you tell us about the Creative@CEVT initiative?**
 - What is the purpose for it the way you perceive it?
 - What is your personal role in the initiative the way you see it?
- ❖ What are your expectations on the outcome of the initiative?
- ❖ Do you perceive any clear objectives?
- ❖ What do you think is the goal with the initiative?
- ❖ What happens with good ideas if they are winning the poll at the end of a challenge and are selected as candidates?

- Will the person that posted the idea initially get rewarded in any sense?
- ❖ Do you think that the IMS can boost innovativeness at CEVT?
- ❖ What other benefits can you think of that could be associated with the initiative?
 - How would you describe the term “innovation” in short?
- ❖ **Could you tell us about your user experience so far with InventiveBoard?**
 - Is it easy to use?
 - Is it easy to overview the generated ideas?
 - Have you posted any ideas yourself?
 - ◆ If yes, why did you post it, what motivated you?
 - ◆ If no, what hindered you?
 - Have you given any social support for any ideas? (commented, liked etc)
- ❖ If yes, why did you do so, what motivated you?
 - If no, what hindered you?
- ❖ What do you think of the first challenge topic, environmental consideration?
 - Are you motivated by the topic to come up with ideas?
 - Do you think that any ideas of good quality have been generated so far?

8.3 INTERVIEW GUIDELINE ROUND TWO

- ❖ What do you think of the result so far?
- ❖ Do you think that the Creative@CEVT initiative was successful so far?
- ❖ What do you think are the main challenges to make such an initiative successful and motivate employees?
- ❖ Did your perceptions towards the initiative change since our last interview?
- ❖ Have you heard people talking about the initiative?
- ❖ Have you talked to your employees about the initiative?
- ❖ Do you feel that employees are positive about the initiative?
- ❖ How did you perceive the communication during the last two months?
- ❖ Did it improve?
- ❖ Have you seen any changes?
- ❖ How did you perceive management's presentation in the town hall meeting?
- ❖ Do you think that CEVT has an open and collaborative culture?
- ❖ Do you think the initiative can help to promote collaboration across departments?
- ❖ Do you think that managers encourage collaboration and knowledge sharing across departments?
- ❖ What would motivate you to participate in the initiative?

FUNCTIONAL REQUIREMENTS

- ❖ Have you used the tool?
- ❖ Could you tell us about your user experience so far with InventiveBoard?
- ❖ Do you think that the InventiveBoard has a simple user interface?
- ❖ Do you think that it should be possible to submit ideas anonymously?
- ❖ Do you think that every idea should be connected to a challenge? Or should every idea be allowed?
- ❖ What do you think about the three challenges? (Environmental, Efficiency, Branding)
- ❖ What do you think about the method and criteria of the evaluation?
- ❖ Did you know how ideas are evaluated before the actual evaluation?
- ❖ To what degree do you think the evaluation criteria are connected to CEVT's strategy?
- ❖ Have you heard what will happen with the ideas after the evaluation?
- ❖ Which are implemented, which are not?
- ❖ In what situations do you usually come up with new ideas?

8.4 SURVEY QUESTIONS

1. What is your nationality?

- Chinese
- Indian
- Korean
- Swedish
- Other (specify)

2. Gender?

- Female
- Male

3. In which department do you work?

- Business Office
- Finance
- HR
- PS/PPL + WLM
- Purchasing
- Quality
- R+D
- Consultant

4. How old are you?

- 25 or younger
- 26 – 35
- 36 – 45

- 46 – 55
- 56 and older

5. Do you have a managerial position at CEVT?

- Yes
- No

6. To what extent do you agree to the following statements? (Likert scale: Strongly disagree, disagree, agree, strongly agree, I don't know)

- CEVT is an innovative company.
- At CEVT we collaborate across departments and have an open company culture.
- An idea management system (e.g. Creative@CEVT) can improve the innovativeness of CEVT

7. Have you used the Creative@CEVT tool?

- Yes
- No

8. What are the main reasons that you have not used the Creative@CEVT tool? (multiple selection, 0-6 answers)

- There is no time allocated to use the Creative@CEVT tool
- I did not know about the initiative
- I did not regard the initiative as important
- I do not feel that the management support the initiative
- No one instructed me how to use the Creative@CEVT tool
- It is too complicated to access the Creative@CEVT tool

9. What would make you use the Creative@CEVT tool? (open question)

10. To what extent do you agree to the following statements? (Likert scale: Strongly disagree, disagree, agree, strongly agree, I don't know)

- The Creative@CEVT tool is easy to use
- It is easy to follow ideas through the process

11. Have you submitted an idea?

- Yes
- No

12. What motivated you to submit an idea? (open question)

13. What are the main reasons that you have not submitted an idea in the Creative@CEVT tool? (multiple selection, 0-7 answers)

- I did not have an idea

- I had an idea but it was not connected to the challenge
- It is not possible to submit ideas anonymously
- There is no financial or other reward
- It is not clear upon what criteria ideas will be evaluated
- I use other channels to pitch my ideas
- I did not relate to or understand the challenges so far

14. What would make you submit ideas in the Creative@CEVT tool? (open question)

15. In what situation(s) do you usually come up with new ideas? (multiple selection, 0-10 answers)

- In nature (hiking, cycling, climbing etc.)
- At home (eating, cooking, watching TV etc.)
- On holidays / travelling
- On business trips / on the way to the office
- During recreational exercises / work out
- During meetings
- At the workplace
- During work breaks
- When using creativity techniques
- Somewhere else

16. To what extent do you agree to the following statement? (Likert scale: Strongly disagree, disagree, agree, strongly agree, I don't know)

- It is more likely that I will submit ideas if they can be submitted anonymously.

17. To what extent do you think the following factors are important for a successful implementation of an idea management system? (Likert scale: Strongly disagree, disagree, agree, strongly agree, I don't know)

- Communicating the purpose and desired outcome of the initiative
- Communicating the personal role employees have
- Communicating the progress of submitted ideas on a continuous basis
- Having idea challenges guiding the focus of ideas
- Having management showing support to the initiative
- Having management providing constructive feedback to employees on all ideas
- Providing incentives (e.g. money or other rewards) for implemented ideas

18. To what extent do you agree that these factors have been emphasized upon in the actual implementation practice of the Creative@CEVT initiative? (Likert scale: Strongly disagree, disagree, agree, strongly agree, I don't know)

- Communicating the purpose and desired outcome of the initiative
- Communicating the personal role employees have

- Communicating the progress of submitted ideas on a continuous basis
- Having idea challenges guiding the focus of ideas
- Having management showing support to the initiative
- Having management providing constructive feedback to employees on all ideas
- Providing incentives (e.g. money or other rewards) for implemented ideas

8.5 DETAILED STATISTICS FROM INVENTIVEBOARD

Date	Number of users	Not logged	Total	Percentage of users
160201	183	337	520	35%
160202	202	318	520	39%
160203	209	311	520	40%
160204	213	307	520	41%
160205	217	303	520	42%
160206	217	303	520	42%
160207	218	302	520	42%
160208	222	298	520	43%
160209	225	296	521	43%
160210	226	295	521	43%
160211	229	292	521	44%
160212	231	290	521	44%
160213	231	290	521	44%
160214	231	290	521	44%
160215	234	287	521	45%
160216	235	286	521	45%
160217	236	285	521	45%
160218	238	283	521	46%
160219	238	283	521	46%
160220	238	283	521	46%
160221	240	281	521	46%
160222	289	232	521	55%
160223	297	224	521	57%
160224	299	222	521	57%
160225	301	220	521	58%
160226	302	219	521	58%
160227	303	218	521	58%
160228	305	216	521	59%
160229	306	215	521	59%
160301	307	217	524	59%
160302	308	216	524	59%
160303	308	216	524	59%
160304	308	216	524	59%
160305	309	215	524	59%
160306	310	214	524	59%

160307	313	211	524	60%
160308	314	210	524	60%
160309	315	209	524	60%
160310	315	209	524	60%
160311	315	209	524	60%
160312	315	209	524	60%
160313	315	209	524	60%
160314	315	209	524	60%
160315	315	209	524	60%
160316	315	209	524	60%
160317	315	209	524	60%
160318	315	209	524	60%
160319	316	208	524	60%
160320	316	208	524	60%
160321	316	208	524	60%
160322	316	208	524	60%
160323	317	207	524	60%
160324	317	207	524	60%
160325	318	206	524	61%
160326	318	206	524	61%
160327	318	206	524	61%
160328	318	206	524	61%
160329	319	206	525	61%
160330	319	206	525	61%
160331	319	206	525	61%
160401	319	206	525	61%
160402	319	206	525	61%
160403	319	206	525	61%
160404	319	206	525	61%
160405	319	206	525	61%
160406	319	206	525	61%
160407	319	206	525	61%
160408	319	206	525	61%
160409	319	206	525	61%
160410	319	206	525	61%
160411	319	206	525	61%
160412	319	206	525	61%
160413	319	206	525	61%
160414	319	206	525	61%
160415	319	206	525	61%
160416	319	206	525	61%
160417	319	206	525	61%
160418	319	206	525	61%
160419	319	206	525	61%
160420	319	206	525	61%
160421	319	206	525	61%

160422	319	206	525	61%
160423	319	206	525	61%
160424	319	206	525	61%
160425	319	206	525	61%
160426	319	206	525	61%
160427	319	206	525	61%
160428	319	206	525	61%
160429	319	206	525	61%
160430	319	206	525	61%