Becoming a High Involvement Innovation Organisation

How to enhance internal innovation within an IT-infrastructure company by involving employees

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Becoming a *High Involvement Innovation Organisation*: How to enhance internal innovation at an IT infrastructure company by involving employees

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Sammanfattning

Ökat engagemang hos medarbetare i innovationsaktiviteter öppnar upp för möjligheter att tillämpa tidigare oanvända resurser inom etablerade nätverk för medarbetare. Trots att ökat deltagande medför identifierade möjligheter finns det ingen tidigare forskning som undersöker hur ett företag inom IT-infrastruktur kan öka medarbetarnas engagemang i innovationsaktiviteter. Därför undersöker denna avhandling hur ett marknadsledande, nordiskt IT-infrastrukturföretag kan öka sina medarbetares deltagande i innovationsaktiviteter genom att bli en *High Involvement Innovation Organisation*, och syftet med avhandlingen är att utveckla en rekommendation innehållande åtgärder att vidta för att öka medarbetarnas engagemang. För att uppfylla syftet med avhandlingen genomfördes en fallstudie hos ett företag bestående av semistrukturerade intervjuer och två kvantitativa enkäter. Projektet inleddes av en omfattande litteratursökning av de sex identifierade huvudområdena inom *High Involvement Innovation*; Ledningsstöd, Kommunikation, Resursallokering, Kompetensutveckling, Incitament samt Mätningar och KPI:er.

Resultatet från studien visar att avsaknaden av tillräcklig kommunikations och ledningsstöd är de viktigaste utmaningarna för företag att övervinna, vilket bekräftas i litteraturen. Slutsatsen är att det undersökta företaget har goda förutsättningar för att öka sina anställdas engagemang i innovation, och den tillhandahållna rekommendationen består av fem åtgärder för företaget att vidta; Kommunicera hur brådskande innovation är, Implementera ett feedback-system, Stimulera tävlingsinstinkten genom ett system för uppskattning, Etablera mätbara innovativa KPI: er samt Utveckla utbildningsplaner som är inriktade på innovation.

Nyckelord: Innovation, Medarbetarengagemang, IT-infrastrukturföretag

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Abstract

Increasing employee involvement in innovation activities opens up for opportunities to apply previously unused resources within established employee network connections. Despite identified possible outcomes from increasing participation, no previous research investigating how an IT infrastructure company can increase employee involvement in innovation activities exist. Therefore, this thesis investigates how a market-leading, Nordic IT infrastructure company can increase their employee participation in innovation activities through becoming a *High Involvement Innovation Organisation*, and the purpose of the thesis is to develop a recommendation of actions to take to increase employee involvement. To fulfil the purpose of the thesis, a single case study consisting of semi-structured interviews and two quantitative surveys was conducted. The project was initiated by an extensive literature search of the six identified main fields within *High Involvement Innovation*; Management support, Communication, Resource allocation, Competence development, Incentives and Measurements & KPI's.

The results from the study show a lack of sufficient communication and management support to be the main challenges for companies to conquer, as is confirmed in the literature. The conclusion is that the investigated firm has good preconditions to increase their employee involvement in innovation, and the provided recommendation consists of five actions for the firm to take; Communicate the urgency of innovation, implement a feedback system, stimulate the competitive culture through a recognition system, establish measurable innovation KPI's and develop educational plans targeting innovation.

Keywords: High Involvement Innovation, Employee Involvement, IT infrastructure firm

Acknowledgements

HII   *High Involvement Innovation*

HIIO   *High Involvement Innovation Organisation*

HIIPs   *High Involvement Innovation Practices*

EDI   *Employee Driven Innovation*

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The following chapter will introduce the reader to employee involvement through a background of the subject. The aim of the introduction is to provide an understanding of the purpose of the thesis, described later on in the chapter. Furthermore, the delimitations of the thesis will be brought up at the end of the chapter.

1.1 Background

The world is in an era of digitalization creating an extensive amount of opportunities alongside many challenges, especially for companies fighting competition in crowded markets with rapid growth, the IT industry being an example (D'Alvano & Hidalgo, 2012; Mouritzs, 2016). The importance of staying relevant and keeping up with the technological development has been evident for decades (Mitchell, 1990) and continues to put pressure on players on the market (Burchill & Fine, 1997).

Firms try to cope with the digital transformation through strategic operations for innovation. To establish these, management look for possible unutilised resources to engage from all areas in their organisations to handle the transformation (Smith, 2018). Indecisive firms failing to see the benefits of investing in innovation will in a long-term perspective suffer financially (Christensen et al., 2008). Thus, the interest of how to achieve effective operational continuation within firms through workplace practices is therefore high amongst academics as well as practitioners (Ramstad, 2014). The capacity to be innovative and possess expert knowledge are important factors for all innovation appearing within an organisation (Hallgren, 2009). Means to enhance this capacity is taken through internal and external actions such as; involving more employees in innovation activities, extending the R&D departments, using open innovation sources or establishing partnerships (Chesbrough, 2003). Literature further states that approximately fifty percent of a firm's innovation initiatives arise internally (Terwiesch & Ulrich, 2009) and a majority of "best" ideas originate from firm's internal resources (Barsh et al., 2008). Therefore, with increasing turbulence and uncertainty on today's market characterised by customer-centricity and information & communication technology, the need for companies to extend the internal ability to find innovative solutions is growing (Bessant & Caffyn, 1997; Ramstad, 2014).

Innovation is dependent on systematic development of creative capabilities built upon insights, intuitions and interpretations of each individual employee (Nonaka, 1994), therefore, sustaining the company's dynamic capabilities involve understanding the important part employees play (Teece, 2007). Individuals can facilitate personal skills while integrating external information with internal knowledge and technology, which can provide an organisation with a significant contribution to innovation and improve innovation outcome (Abu El-Ella et al., 2013). Employees can work as an extended arm between the company and the market, identifying possible business ideas which can be combined with internal capabilities of the firm (Chesbrough, 2003; Whelan et al., 2011), thereby maintaining a company's competitive advantage (Wallace et al., 2013). Increasing employee involvement opens up for opportunities to apply resources previously unused for innovation within established employee network

connections (Kesting & Ulhøi, 2010). The importance of trying to foster employee involvement in firms can therefore not be ignored.

Documented attempts to managing employee participation in innovation can be traced back to the 18th century when a suggestion box was implemented in Japan by Yoshimune Tokugawa (Boer et al., 1999). Boer et al., (1999) describes employee participation as all individuals have the possibility and capacity to contribute to the organisation's agenda of innovation through creative problem-solving. Thus, the responsibility for generating new ideas lies within the entire organisation (Cooper & Edgett, 2007).

The total amount of research covering employee involvement consists of patching terms, which combined results in a well-acknowledged theme within innovation literature (Schroeder & Robinson, 2004; Pfeffer & Veiga, 1999). Examples of occurring terms in literature are: "high-commitment" (Wood, 1996), "high performance" (Appelbaum et al., 2000), "participative" (Ramstad, 2014; Kesting & Ulhøi, 2010) and "high involvement" (Pil & MacDuffie, 1996). However, a general, evidence-based consensus of practices targeting enhanced participation in innovation where productivity and employee satisfaction are well-functioning does not yet exist in the literature (Ramstad, 2014). Other areas overlooked in research involve how to manage and adopt practices targeting enhancement of employee participation in organisations and how the introduction of them occur (Ramstad, 2014).

The nature of innovation is dynamic and related practices not fully understood (Hallgren, 2009) and as a result, practitioners search for a way to manage challenges related to involving employees to a higher degree in innovation activities. Though the concept might seem simple, putting it into practice involves many challenges (Boer et al., 1999). However, general guidelines or recommendations of how to overcome such issues are presented in the reviewed literature. These guidelines were often found to be either wide and unspecific or very narrow, targeting one certain department within a case company.

In the fast-moving digital transformation employee involvement in innovation is proven by research to be a crucial factor for improving and maintaining a competitive advantage, and much research is conducted on finding the important factors to stimulate creativity and engagement amongst employees. Nevertheless, the number of empirical studies focusing on how to implement a practical solution to achieve high involvement are fewer, therefore identifying and establishing guidelines to foster employee involvement in innovation within firms must be further investigated.

1.2 Purpose

The purpose of the master thesis is to investigate how an IT infrastructure company can increase employee involvement innovation activities. This involves gathering knowledge of current idea management processes and identifying tensions, challenges and enablers in order to increase involvement in innovation activities. In addition, a recommendation involving specific actions of how to implement practical solutions for enhancing employee participation will be provided.

1.3 Delimitations

The study was conducted as a Master's Thesis according to requirements from the KTH Royal Institute of Technology. The time frame has been twenty weeks with a start date in mid-January 2020.

The focus was on employee involvement in idea management processes and data collection was made mainly through qualitative interviews. Results of the study will exclusively provide a recommendation on *how* to manage identified challenges and not specific implementation plans.

The thesis work was conducted in collaboration with a case company acting on the Swedish IT-infrastructure market. Selected individuals from all five regions of the investigated company have taken part in the study, however not all local offices were represented through these. The study is anonymous and therefore selected quotes have been edited/neutralised before publication.

Following chapter will bring forth findings from literature regarding why employee involvement in innovation is beneficial and which fields are of importance in order to become a High Involvement Innovation Organisation, HIIO. The aim of the chapter is to provide the reader with a thorough understanding of existing research by presenting the main findings from reviewed literature.

2.1 Employee participation in innovation activities

Traditionally, innovation has often been divided into a separate unit involving "specialists" working apart from other operational functions in an organisation, R&D units as an example. Attempts trying to establish these types of functions can be traced back to the late nineteenth century (Bessant & Caffyn, 1997). More recent literature implies individual knowledge is an often-unutilised resource (Kesting & Ulhøi, 2010) and that each individual's creativity can be used for solving problems in innovation activities (Abu El-Ella, 2013). For example, individuals contribute with context-dependent knowledge to organisations, a crucial factor in the search for new innovations and where external knowledge plays a key role in new, internal knowledge creation (Nilsson et al., 2015). Therefore, increasing employees' involvement in such activities is a good strategy to sustain continuous improvements and enabling a better capacity to innovate within the firm (Kesting & Ulhøi, 2010; Bessant & Caffyn, 1997).

A positive effect of employee participation is it results in both a supplementary information flow of employees tacit knowledge and increased work satisfaction (Kesting & Ulhøi, 2010). Allowing employees to have a larger participation in processes related to problem-solving and innovation activities will enable individuals to take on greater responsibilities with increased autonomy (Paré & Tremblay, 2007), leading to enhanced motivation (Ramstad, 2014) and will to be a part of development (Hölkkä & Eteläpelto, 2013). However, involving employees is dependent of individuals being informed, receptive to participate in training and work beyond assigned tasks if the aim is for them to commit and contribute in processes related to innovation (Wood & Ogbonnaya, 2016). Furthermore, a possible negative outcome of involving more employees is that the time allocated to innovation activities are time taken off other duties (Kesting & Ulhøi, 2010).

In literature, employee participation has been divided into two fields; *Employee Driven Innovation,* EDI, and *High Involvement Innovation*, HII. The foundation for EDI is to allow employees to take responsibility for driving innovation, where the focus is the individual's own will to engage in idea generation and development without being assigned the task (Høyrup, 2010; 2012). HII, on the other hand, focuses more on the creation of a culture "[...] *in which innovation is a way of life*" (Bessant, 2003: p.49).

The thesis focuses on involving all employees in innovation, which is why the field of *High Involvement Innovation* will be investigated. Studied practices within the field are often named *High Involvement Innovation Practices,* HIIPs (Bessant & Caffyn, 1997; Ramstad, 2014).

2.2 High Involvement Innovation

Creating a *High Involvement Innovation* culture implies focus should not be on encouraging occasional, market-changing breakthroughs but rather the incremental innovations emerging from everyday problem solving (Hallgren, 2009; Bessant, 2003). The concept of HII mainly targets involvement and stimulation of creativity amongst *all* employees with the aim to enhance capabilities within innovation. However, it also goes beyond increased participation among employees since HII practices focus on creating an innovative culture throughout the organisation (Bessant, 2003). Building new behavioural patterns and establishing habits is key for managing a transition towards a *High Involvement Innovation Organisation*, HIIO (Bessant & Caffyn, 1997).

Employees "[...] *carries the basic creative capabilities for finding and solving problems and exploring new opportunities*" (p.50) therefore, involving employees is a relatively simple path for organisations to enhance incremental innovation (Hallgren, 2009). However, there are several reasons why management fear an expansion of employee involvement in innovation, for example, the creation of an uncontrolled change (Kesting & Ulhøi, 2010) and disbelief in employee capacity (Bessant & Caffyn, 1997). Despite that, management often has a belief in "problem-solving specialists" who are assumed to create "big-bangs". Even though such specialists contribute with crucial knowledge for success, issues lie within the limited capacity of dealing with all tasks involved in these activities (Bessant & Caffyn, 1997). The disbelief in non-specialists origin from the fear of lack of skills and understanding the concept (Nilsson et al., 2015).

Employee involvement in idea management can be difficult to achieve in a long-term perspective due to the complexity of creating and sustaining an intra-organisational innovative culture of participation in innovation, although long term strategic benefits can be achieved (Abu El-Ella et al., 2013). Management often expects the outcome of innovation activities to be instant and have a tendency to only focus on the short-term perspective (Bessant & Caffyn, 1997) instead of trying to grasp an understanding of innovation being a process and not a result (Crossan & Apaydin, 2010).

An organisational structure that involves the ability to support innovation activities is crucial and if not existing it can militate against implementing functions focusing on employee involvement in innovation (Bessant & Caffyn, 1997). A key enabling factor for such a structure is to apply a bottom-up approach, providing employees with a clear understanding of *how* innovation should be dealt with (Nilsson et al., 2015). Ramstad (2014) adds that it is also important to organise a new structure for innovation activities in such a way that both productivity and the well-being of the employees is enabled.

Another necessary precondition for becoming a HIIO is a safe environment to enhance possibilities for individuals to contribute with sharing ideas and tacit knowledge (Kanter, 1988). In such an environment, potential failures must be accepted, and internal politics put aside (Kesting & Ulhøi, 2010), aspects which previous research also has shown leads to increased work performance and flexibility (Huselid et al., 1997).

Routines in innovation activities are often discussed to be a possible impeding factor of creativity (Amabile et al., 1996). Despite that, firms trying to strengthen creative capabilities can find routines and work processes to be applicable for this task (Napier & Nielsson, 2006). Although, research on how organisational routines can enhance innovation is insufficient and needs to be further investigated (Kesting & Ulhøi, 2010).

A fundamental aspect to include in work with innovation is diversity since various personalities, backgrounds and competencies are critical when working with all types of innovation (Nilsson et al., 2015). Engaging a diverse set of employees in e.g. debates, open communication forums or divergent thinking is a way for managers to encourage employees' innovation behaviour (Denti & Hemlin, 2012). Managers need to establish an open, accepting environment in teams and across the organisation for employees to fully embrace diversity (Nilsson et al., 2015).

If an organisation succeeds with setting a stage for HII, awareness must be dedicated to the possible outcomes of HII, see Table 1.

Table 1 - Identified possible outcomes through the usage of HIIPs according to reviewed literature.

Positive / Negative	Outcome	Reference
+	**Quality** - Consistency and increased quality of products and services	(Bessant & Caffyn, 1997).
+	**Efficiency -** Involvement amongst employees increases the possibility to continuously learn and educate themselves to become more effective	(Wallace et al., 2013).
+	**Courage** - Employees understand their power to make own decisions and are encouraged to act on them	(Wallace et al., 2013)
+	**Morale and Health** - Decreased sickness levels combined with increased morale amongst non-managerial employees.	(Smith, 2018)
-	**Cost** - Employees not being used to participate in innovation activities can lead to managers anticipating the risk of high costs and low return	(Nilsson et al., 2015; Smith, 2018)
-	**Time** - Time spent on innovation activities take time from the tasks in daily work	(Kesting & Ulhøi, 2010)

2.3 High Involvement Innovation fields

Following chapter will highlight findings from reviewed, relevant research of how to achieve *High Involvement Innovation* within an organisation. Researchers approach HII in a variety of manners, suggesting practices and highlighting fields of focus. Practices include specific tools and methods to achieve high involvement (Ramstad, 2014), but can also be more general guidelines (Bessant, 2003). The identified practices were clustered into six fields, which all are frequently presented in the literature. Due to the researchers' various approach on HII, the selected fields occasionally overlap each other.

Further on in the thesis, when discussing "practices", the authors refer to the overall methods, tools and general guidelines within the specified *High Involvement Innovation* field. The six fields, involving related practices, challenges and enablers, are further presented in the sub-chapters below.

Management support

Research implies heightened intra-organisational support is positively associated with increased levels of employee involvement (Kesting & Ulhøi, 2010). The role managers possess in order to enable innovation can vary from contributing with support and guidance to ease interactions in initial phases (Smith, 2018; West, 2002) to resource allocation such as time and money (Mumford & Licuanan, 2004; Smith, 2018). Support and active encouragement from leaders and supervisor are key for non-managerial employees behaviours and habits in terms of performing in innovation activities (Ramstad, 2014; Hallgren, 2009). Although previous research show results of the benefits and possible outcomes of employee involvement managers might not put innovation activities in focus but prefer targeting day-to-day tasks and dealing with challenges related to these (Nilsson et al., 2015). Employees' drive for taking initiative is to a large extent dependent on the managerial culture where both allowances to move away from day-to-day tasks (Kesting & Ulhøi, 2010) and managers showing a positive attitude towards innovation (Amabile et al., 2004) are key factors. Management fear to hand out power related to future opportunities to non-managerial individuals and decisions of a more radical nature require larger participation from management (Kesting & Ulhøi, 2010). Amabile et al. (2004) only raised aspects and behaviours elevating the employees' perception of managerial support and aspects affecting the employees' general performance, not specifically their performance or participation in innovation.

Employees have various needs to be involved in innovation and management might need to initiate actions with the employee in order for them to move out from their comfort zone and forward ideas. Such actions can consequently be seen as a burden for some managers (Smith, 2018). Nevertheless, the study does not present *how* managers try to cope with such issues today or *what means* are necessary.

In the study conducted by Nilsson et al., (2015), a majority of involved managers claim their own involvement in innovation activities is key in order to decrease possible complexities and act as a filter for weak ideas. What the literature fails to discuss are possible effects of managers using a "personal" filter as a refinement process of employees ideas, political aspects and personal chemistry can ergo affect the outcome without consciously being aware of it. In the

study, managers also brought up two methods for managing such support; (1) actively working with goals and supporting employees in how to meet these and (2) knowledge sharing. However, it is important to highlight that the variety of management support styles has not been researched in a systematic way (Kesting & Ulhøi, 2010). What is found though, is that managers taking on a more active role within knowledge sharing is a key enabler for *High Involvement Innovation*, however, research related to the role of managers in HII must be conducted to a further extent (Nilsson et al., 2015).

Communication

Power distribution and hierarchical structure within companies affect the motivation for employee participation (Hallgren, 2009). Non-managers must be seen as equals and not inferiors (Kesting & Ulhøi, 2010) and the larger the hierarchical distance between employees, the more difficult it becomes to participate and encourage engagement in innovation activities (Hallgren, 2009). In order to successfully become a *High Involvement Innovation Organisation*, communication must appear in a multi-directional manner (Bessant, 2003). For example, in the study by Nilsson et al. (2015), managers express the need for facilitating discussions combined with one-on-one meetings of importance for enabling individuals to enter dialogues due to employees' need of feeling confident in creative, risk-taking activities.

The importance of a *top-down communication* approach when spreading an innovation definition across an organisation has been supported in several studies (Bessant, 2003; Nilsson et al., 2015; Abu El-Ella et al., 2013), highlighting that managers need to have a clear communication with their employees. In addition to previously mentioned communication paths, individual feedback should also be prioritised when mobilising for a sustained HIIO (Abu El-Ella et al., 2013; Bessant, 2003). Moreover, *bottom-up* or *lateral* approaches to communication are often fewer (Gallagher et al., 1997) but of equal importance (Nilsson et al., 2015). As described above communication in organisations appear in different forms, which is why this *High Involvement Innovation* field is divided into three sub-areas.

Top-down

A barrier for achieving a higher organisational involvement in innovation is a possible lack of a clear direction when implementing new practices for innovation (Abu El-Ella et al., 2013). The responsibility lies at managers, who must prioritise the creation of a clear and commonly shared understanding of the firm's scope for employees and define boundaries of employees participation (Kesting & Ulhøi, 2010).

Research highlight the establishment of an innovation definition as a critical factor (Crossan & Apaydin, 2010). In the case study conducted by Nilsson et al. (2015) a company successfully managed to increase participation in innovation through *"communicating a broad and inclusive innovation definition"* (p.15). This created a clear *what*, establishing a broader understanding of the goal with innovation activities and thereby each unit were provided with the freedom to create a unique fit for their context and needs. Little research has been found on how an innovation definition should be implemented and if it differs between industries or due to the size of the firm. Even though several sources highlight the importance of communicating a definition, little research provides practitioners with the means to manage this.

Feedback

Organisations face challenges in managing the process of responding to idea submissions to motivate employees (Abu El-Ella et al., 2013). An identified challenge related to how feedback is conducted in the time frame from submission to first response, since *"speed of response is often as important as the nature of that response"* (Bessant, 2003: p.117). This is acknowledged in a case study by Bessant et al., (2001), where it was stated that several organisations provided initial feedback to submissions often within 24 to 48 hours. Another challenge lies in the content of the feedback and how it is presented to the employee since *"ill-conceived feedback* […] *can be just as demotivating as no feedback"* (Bessant, 2003: p.117).

When employees bring forth suggestions or new ideas it is important for management to acknowledge this since these actions question current processes, causing possible negative exposure for the employees if management is not supportive (Kesting & Ulhøi, 2010). Feedback must not only derive from managers posing as support functions for involved employees (Smith, 2018), but also from the idea submission systems (Abu El-Ella et al., 2013).

Lateral

Innovation is, according to Kesting & Ulhøi (2010), born from information sharing and iterations of interactions through involving individuals in a dynamic. Enabling employees with possibilities to network with others is crucial in the strive for innovation (Ramstad, 2014) where various competencies and skills are wanted (Amabile 1988, Leonard-Barton 1992). Broader networks increase the probabilities for ideas and perspectives to be formalised, leading to gained quality and differentiation in business offers (Ramstad, 2014). However, networks can be built as both formal and informal ones (Tsoukas, 1996) and both types must systematically be used in order to enhance probabilities of gaining new capabilities to build valuable innovations (Nilsson et al., 2015). Moreover, collaborations and information sharing constitute mutual trust within the organisation, leading to an increased sense of appreciation amongst employees (Meyer & Allen, 1997).

Resource allocation

In order to fully utilise the potential of the employees, time and resources need to be released (Mumford & Licuanan, 2004) - a challenge many companies face today (Kesting & Ulhøi, 2010). Allocating time is the most common measure firms use to cope with involvement in idea generation activities (Nilsson et al., 2015). Employees must be given the time to adjust to new tools and methods for the implementation of these *High Involvement Innovation Practices* to be successful. If time away from day-to-day tasks is not provided, new practices will not be prioritised (Abu El-Ella, 2013). Kesting and Ulhøi (2010) argue that employees, unless no action is taken by management to divide their labour, already have a full schedule of tasks and would not have time to innovate unless it takes place outside of their regular schedule. However, an issue raised by Smith (2018) is the fear of employees using the opportunity to engage in innovation activities as "time off duty", and not to value-creating activities. This was highlighted in the study by both management and employees. Yet another source for mistrust from employees can originate in them not being provided with the opportunity to participate themselves (Bolton & Laaser, 2013).

Even though time is a critical aspect for innovation, time management focusing on replacing current activities with the new ones rarely occur in organisations today (Nilsson et al., 2015). Therefore, tensions in resource allocation may arise when aligning new practices with daily work (Abu El-Ella et al., 2013). One way of managing tensions is addressing the responsibility of resource allocation, both time and competencies, to an "innovation coach" (Nilsson et al., 2015), however, the authors do not mention how this should be approached.

Competence development

Another crucial method to successfully achieve long term involvement from employees in a sustainable manner is influencing the behaviour through a rehearsed learning process, where the goal is for innovation to become embedded in the daily tasks (Bateman & David, 2002; Abu El-Ella et al., 2013). In order to sustain daily innovation and continuous improvement, at least some part of the workforce needs competence in product and process development (Alasoini et al., 2008; Hallgren, 2009). Moreover, activities focusing on enhancing individual competencies provide a receipt to employees that their contribution is valued, and firms want to invest in them in a long-term perspective, creating an atmosphere of safety (Patterson et al., 2004). What is not discussed in the literature is to *what extent* a teams' competences within innovation management are necessary in order to succeed. The study by Hallgren (2009) showed increased innovation results emerging from competence development within a targeted group of employees, but this study is conducted at one case company and further research is necessary to confirm the findings.

However, learning and developing new capabilities can be seen "*as a journey, not a destination*" (Bessant & Caffyn, 1997, p.16) or new and inconvenient to apply to everyday work (Abu El-Ella et al., 2013). Therefore, initial learning activities must focus on building an understanding of basic, systematic problem solving combined with applying facile techniques and methods for this (Bessant & Caffyn, 1997). Providing employees with such tools, if well-constructed, can create a path for communication and collaboration, generating less resistance amongst employees when introducing these new activities (Kelley, 2009). Enabling a broad base of various tools can intensify probabilities of each individual, both employees with and without managerial responsibilities, being involved due to an increased sense of being invited into innovation activities (Nilsson et al., 2015). Abu El-Ella et al. (2013) suggests that simple and easily understood tools and methods for innovation activities such as fishbone-maps or brainstorming can be applied. However, providing tools and material for the employee to use and apply is not of as great importance as the comprehension of the learning process (Hallgren, 2009). In order for organisations to manage this learning phase, research suggests it is necessary to develop an effective knowledge management system (Nonaka & Kennedy, 1991; Bessant & Caffyn, 1997; Hallgren, 2009) or create *Virtual Expert Communities* to get access to expert knowledge (Abu El-Ella, 2013).

Research suggests that employees do not have the necessary skills needed for sufficient problem-solving (Abu El-Ella et al., 2013). In a study involving over 30 managers within high-technology firms, respondents agreed on the importance of providing employees with individualised innovation training through knowledge sharing and interaction with specialised individuals with the aim to practice skills (Nilsson et al., 2015). Another study highlighted

employees not feeling qualified enough to be a part of these activities due to lack of experience (Smith, 2018). One reason why individuals hesitate to hand in ideas is due to uncertainty concerning electrical idea management systems and insufficient knowledge of underlying functions. This lack of knowledge creates a sense of lack of control once ideas have been submitted (Smith, 2018). Knowledge of submission processes and stages will ergo further increase motivation (Abu El-Ella et al., 2013). Moreover, Kesting and Ulhøi (2010) state that specification and descriptions of ideas must be easily handed in by employees; "*The broader the definition, the more employees can exploit their information and experience*" (p.77).

The lack of experience surfaces the need for proper education as is recognised above as an enabler for employee involvement (Smith, 2018). Individual education plans can increase employee competence to meet this tension and build over the experience gap (Ramstad, 2014; Nilsson et al., 2015). What the authors fail to present to the reader is how this education is to be brought out in an organisation, who should educate the employees and what resources should be prioritised. The literature presents a set of tools for practitioners to use, but it fails to explain what tools to use in specific cases with certain preconditions or in what phase in the learning process. What is successfully highlighted is the importance of not trying to deal with all problems at once (Hallgren, 2009).

Incentives

Another challenge that comes with a lack of allocated resources for innovation is incentives for employees to actually participate in innovation activities. In many cases, monetary compensation is what drives individuals to perform a certain task and if that reward is removed due to little allocation of resources, only intrinsic aspects remain to motivate the employees (Kesting & Ulhøi, 2010). To counteract the employees' lack of motivation, recognition systems can be used as an extrinsic driver without involving monetary expenses (Abu El-Ella et al., 2013). Rewarding and recognising employees for participation is a key driver for enhancing motivation to be involved in idea generation and decision processes (Kesting & Ulhøi, 2010; Wallace et al., 2013; Bessant & Caffyn, 1997). However, innovative projects have a high failure rate and as a result, it can be challenging to establish a culture of reward and recognition only for participation (Kesting & Ulhøi, 2010). Moreover, Abu El-Ella et al. (2013) also highlights the importance of creating different forms of incentives and to fit them not only for individuals but also for teams to increase teamwork and team performance.

Research suggests internal competitions or challenges as a means to achieve engagement in innovation to develop successful new ideas (Chesbrough, 2003). Although, while stimulating the will to participate with motivation from competitive instincts or monetary compensation, more recent research suggests that targeting innovation as the goal rather decreases the quality of innovation (Abu El-Ella et al., 2013). This can be interpreted as an intrinsic motivation to stimulate innovation is preferable compared to an extrinsic. To further strengthen this assumption, a case study conducted over two-and-a-half-year period of time at a company, with focus on developing innovation competence rather than attended to monetary resources (Hallgren, 2009). The emerging results from the research showed innovation improvements only through the usage of intrinsic motivation.

Measurements and KPIs

A challenge for the implementation of *High Involvement Innovation Practices* is that firms often are not familiar to mobilising employees to the desired extent (Bessant & Caffyn, 1997). Employee involvement in innovation activities can create challenges related to the ownership of new ideas - who owns innovation when the task to innovate is diffused outside the R&D department (Nilsson et al., 2015)? When restructuring the way of working with innovation, it is important to take into account that humans in many cases are bound by routines and metrics in existing day-to-day work (Kesting & Ulhøi, 2010), implying that succeeding with HIIPs involves making innovation a daily routine. In order to manage this and to set a culture involving innovation KPI's with an attitude of innovation being part of everyday work, there must be a will to take on the innovation path in the organisation (Bessant & Caffyn, 1997).

Smaller companies tend to use a more participative approach in involvement mechanism compared to larger corporations within which a higher degree of formalisation is often applied (Smith, 2018). In the study by Smith (2018), the difference in the degree of formalisation lied in the task distribution at the different companies. Involved companies in the study were all call centres where the employees were measured by KPIs to rate their performance, employees within a larger cooperation had higher occupancy and more routine calls to make in comparison to the employees at a smaller company. Although the case study covers only one specific type of business, it can be premised that the findings regarding involvement systems can be applied to other companies whose employees' performance are measured through KPIs.

Establishing individual goals focusing on employees' dual roles in terms of generating ideas themselves *and* encouraging and supporting co-workers to do the same pose as a key driver (Nilsson et al., 2015). KPIs and performance measures used for enhancing innovation increases the importance of formalised processes (Smith, 2018). Moreover, Smith (2018) states measurements related to being involved in innovation should focus on more qualitative targets than quantitative ones. However, qualitative targets, such as "*degree of involvement; employee participation; understanding and learning in regard of innovation*" (p.54) are more difficult to measure (Hallgren, 2009).

2.4 Summary of challenges and enablers within HII

Benefits, outcomes, challenges and enablers in *High Involvement Innovation* literature have been thoroughly discussed throughout the previous chapter. Routines within innovation activities involving high involvement are demanding to establish, however taking a shortcut by trying to apply procedures from one context into another is not feasible since these have been processed for a longer period of time in order to fit the specific context (Pavitt, 1991; Bessant & Caffyn, 1997). The transition to becoming a *High Involvement Innovation Organisation* involves several challenges, but also enablers making the change easier. Based on the reviewed literature, the identified challenges and enablers are summarised in Table 2.

Table 2 - Summary of HII fields and corresponding challenges and enablers

HII field	Challenges	Enablers
Management support	Managers do not prioritize innovation Managerial fear of handing out power to their employees Not presented in literature how to push employees out of their comfort zone Managers using a "personal filter" to select good or bad ideas	Management support is positively connected to increased involvement An active managerial role in knowledge management is beneficial for employee involvement
Communication	Large hierarchical gaps impede participation in lower ranks Lack of clear direction when implementing new practice Little research on how to implement a common understanding of innovation	Communication structures affect employees' will to participate Enabling individuals to enter dialogues leading to learning and confidence Enabling employees with possibilities to network is crucial in the strive for innovation
Resource allocation	Time and resources need to be allocated to innovation Employees need time to learn new tools for innovation while having a full schedule Time is needed to innovate although having a full schedule Management focusing on replacing current activities with the new ones rarely occurs in organisations today	
Competence development	Creating a knowledge management system from scratch Employees do not feel qualified enough to take part in innovation due to lack of experience There is uncertainty concerning electrical idea management systems and insufficient knowledge of underlying functions	Experimental studies show increased innovation results from competence development Providing employees with tools can nurture communication and collaboration, creating less resistance amongst employees when introducing new activities
Incentives	Lack of resources to implement incentives Identify if intrinsic or extrinsic incentives motivate individuals Challenging to establish incentives only targeting participating since innovation projects often have a high failure rate	Internal competitions or challenges can increase employee involvement
Measurement and KPI's	Firms are not familiar to mobilising employees to the desired extent Ownership of new ideas - who owns innovation when the task to innovate is diffused outside the R&D department?	

Following chapter aims to provide the reader with a thorough understanding of the methodology applied in the thesis. The chapter describes the different methods used, both for collecting data through various sources and how the analysis of that data was performed.

3.1 Research Setting

The research was conducted as a single-case study of a company in the IT sector. The thesis was conducted under the supervision of two supervisors, who acted as support and provided direction when needed. One supervisor works at the investigated company as a manager and the other supervisor as a professor at KTH Royal Institute of Technology within the field Integrated Product Development.

The aim of the study is to provide actions to take in areas the company should address focus in order to increase employee involvement in innovation. Furthermore, the study aims to contribute to research in the field of High Involvement Innovation and how it can be applied within an IT-infrastructure company. The process of creating theory based on information from the case study will be a highly iterative process containing a data collection with a corresponding analysis (Eisenhardt, 1989).

Presentation case company

The company of investigation operates in the IT infrastructure industry in Sweden as a full-service provider of IT solutions, mainly for corporate customers. The business is divided, on a national level, into three business areas, which are merged together at the regional level through a matrix organisation. A simplified model of the matrix organisation is shown in Figure 1.
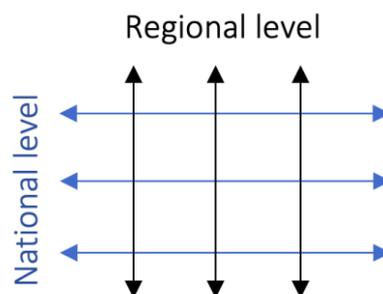
Figure 1: Illustration of the investigated firm's matrix organisational structure

The company combines hardware and software components supplied through partnerships with market-leading producers. A culture of low innovation characterises parts of the company due to a reliance on the partner companies' providing highly innovative, components which the investigated firm embed in the value offers provided to customers.

The company currently faces changes in how innovation work is conducted since a new innovation strategy is in the initial stages of implementation. Due to the firm's large size, the employees and internal processes will need time to make the transition. The new strategy changes the process of idea generation and management, and challenges are faced in how to

get all employees engaged in the new way of working internally with innovation. A common framework for customer approach and economic aspects occur in the company, but the different regional divisions work and act in various manners due to the liberty of how to conduct innovation activities. With long traditions and as the leader of the market, challenges occur in the process of changing the culture and ways of working since current operations and strategies are successful.

3.2. Research Design

The study was initiated through a meeting at the focal company, encountered in December 2019, with the purpose to perceive a comprehension of challenges, needs and possibilities within the company related to the field employee involvement. The initial step of the project execution was a literature review of existing research, with the aim to identify challenges and enablers suggested and discussed by published researchers. Examples of examined research involve books, articles, qualitative and quantitative case studies from various industries on the theme of employee involvement. Several search engines were used in order to identify relevant research, the following are examples of used search engines: *Google Scholar, KTHB Primo, IEEE, Researchgate* amongst others. The following search words were used:

> *"Employee Participation", "Employee Involvement", "Employee Involvement Practices", "Employee Innovation", "Employee Driven Innovation", "High Involvement Innovation", "High Involvement Innovation Practices", "High Involvement Innovation Organisation", "Managing High Involvement"*

After reviewing articles and finding *High Involvement Innovation, HII,* rather than *Employee Driven Innovation, EDI,* to be more in line with the research question and purpose of the thesis, *EDI* was removed from the list of words.

During the case study the focus was put on understanding how the current internal innovation processes function. The planned approach for execution, a single case study, lay ground for an analysis of the unique interplay between a phenomenon and its' associated dynamic context (Dubois & Gadde, 2002). Theory built by the case study approach closely reflect reality (Eisenhardt, 1989) and will ergo ensure a more thorough understanding of challenges (Dubois & Gadde, 2002) related to employee involvement within innovation activities. The case study approach is applicable in the initial stages of state-of-the-art management theory in the investigation of the relationship between key variables (Gibbert et al., 2008). It is also appropriate to use such an approach if the context of investigation is complex and the number of variables influencing the situation is more than what is found in available data (Yin, 2014). Since this study is conducted within an IT-infrastructure company, the investigation becomes state-of-the-art due to a limited amount of previous research. Furthermore, the collected data provides perspectives from several hierarchical levels in order to identify as many influencing variables as possible.

In case studies, data collection often occurs through multiple sources and a broad literature review is usually an initial step, focusing on discovering theoretical propositions which can act as an aid when navigating through data collection and analysis (Yin, 2014). Through methodological triangulation, a method for attempting to improve the validity of research, data

was collected from various sources through different techniques (Jack & Raturi, 2006). Findings from the literature set the scene for interview guides, coding of the interviews and survey layout. Semi-structured interviews with managers at various hierarchical levels combined with a survey, targeting non-managerial employees provided insights from various perspectives. As a result, possible fragile data from one source could be balanced and strengthened by the other through triangulation of data. The results can thereby be proved through alignment of various perspectives (Jack & Raturi, 2006). Collected data from the various sources provided a foundation to initiate the creation of a framework.

3.3 Data collection

Data was collected through qualitative interviews and two quantitative surveys. The following chapter will describe the approach for each method used.

Interviews

The primary data collected was from 16 interviews conducted in February-April 2020 with managers at various hierarchical levels at the focal company. Based on a discussion between the authors and the company supervisor, the authors were provided with a list of 20 suggested respondents. Out of these, 16 replied and were interested to participate in the study. The reason the interviews targeted only managers is due to the power to change and influence the employees' behaviour lie with them.

All three business areas were represented amongst the interview objects; however, one area was involved to a much further extent due to a majority of the innovation arise within this area, according to the company supervisor. Respondents were stationed at both the national and regional level. Two out of 16 of the interviewees identified themselves as women while the rest identified themselves as men. The average period of employment amongst the interviewees was 11 years, with the shortest employment period of 2 years while the longest was 35 years. Each interview was recorded and thereafter transcribed. The longest interview lasted for 1 hour and 7 minutes while the shortest lasted for 35 minutes, and the average duration was 46 minutes. The interviews were conducted both through physical meetings and through virtual ones. The ambition was to conduct face to face meetings to the greatest possible extent, however, due to geographical distances several interviews had to be conducted through digital means. Each interviewee was provided with a respondent index in order to refer to each individual in the presentation of results. Furthermore, the interviewees were divided according to their hierarchical ranks as; *lower, middle* or *top* manager, see Table 3 below.

Table 3: Information about interviews

Index	Managerial level/Rank	Company-level	Length
1:A	Top manager	National level	35 min
1:B	Top manager	National level	35 min
1:C	Top manager	National level	54 min
1:D	Top manager	National level	38 min
1:E	Top manager	National level	52 min
1:F	Top manager	National level	42 min
1:G	Top manager	National level	55 min
1:H	Top manager	National level	1 h 7 min
2:A	Middle manager	National level	35 min
2:B	Middle manager	Regional level	55 min
3:A	Lower manager	Regional level	47 min
3:B	Lower manager	Regional level	43 min
3:C	Lower manager	Regional level	53 min
3:D	Lower manager	Regional level	52 min
3:E	Lower manager	Regional level	44 min
3:F	Lower manager	Regional level	55 min

An initial interview guide was composed of semi-structured questions and based on areas of interest according to findings from the literature study. See Appendix A for the initial interview guide. The aim of the interview guide was to map the focal company's current situation in terms of idea management processes, used means for managing employee involvement in innovation, challenges and opportunities according to managers. Some questions were targeted towards managers on higher or lower hierarchical levels and therefore adaption of questions occurred. The interview guide was revised during the project; questions were changed, added and some annulled based on when questions were considered to be saturated or new areas of interest arising during the interviews. See Appendix B for the final draft of the interview guide.

Although interviews with key employees can provide valuable insights the method can prone to human errors for example biases, interviewees' poor recall and the Hawthorne effect (Yin, 2014). Moreover, research show students within innovation have a tendency to favour this and therefor biases can arise (Rogers, 2003) . To diminish the risks of observer biases, as well as proper documentation of collected material, data from interviews were recorded and transcribed (Voss et al., 2002). The transcriptions were also used in contemplation of facilitating and increasing the quality of the analysis of the results (Fejes & Thornberg, 2009).

Workshop survey

During the project, the authors of the thesis were invited by the supervisor at the investigated firm to take part in a workshop aiming to further develop a new business concept where the supervisor were the workshop leader. Following section of the chapter will describe the agenda of the workshop, how the selection of participants occurred and the data collected through a workshop follow-up survey.

Workshop agenda

The workshop was scheduled for five hours, divided into two sessions with a one-hour lunch break in between. The agenda of the workshop was distributed in advance to the participants, but the sessions did not cover all bullet points at the agenda due to the time running out, and the last session was cut after the situation analysis. The following agenda was used;

- *Customer journey* - The workshop participants were asked to envision the customers' perception of their current situation and how they act in the specified situation; before, during and after performing a certain task.
- *Problem definition* - The participants were asked to brainstorm as many possible enablers and challenges in three stages of the situation of the customer; before, during and after performing a certain task. Thereafter, the main challenges were summarised and clustered in each stage of the customer journey
- *Evidence* - The participants were asked to line up the evidence for the defined challenges and enablers
- *Value Proposition Canvas, VPC* - The participants were asked to fill in a value proposition canvas with the following focal areas:
  - *Customer jobs* - The tasks defined in the customer journey were translated into "customer jobs" in the VPC.
  - *Gains* - What positive effects emerge from the customer jobs?

○ *Pains* - What negative outcomes come from the customer jobs?
○ *Gain creators* - What value can be created for the customer when performing the customer jobs?
○ *Pain relievers* - What changes can be made to relieve the customer from pains when performing their customer jobs?
○ *Products and services* - What new products or services can be built from the gain creators and pain relievers?

● *Situational analysis* - The participants were asked to investigate what s made in this area by competitors and research up until now.
● *Thesis* - The participants were asked to in groups formulate a thesis that proves the customer need of the developed products or services.
● *Customers/Partners* - Brainstorm which customers could contribute to the development of the product/service.
● *Business model* - Develop a business model to realise the developed idea for a new product or service.

Selection of participants

During the workshop, eight employees from various departments and regions participated. All participants of the workshop, except one, were selected by their closest manager who were responsible to appoint an employee they considered to be suitable for the task based on the business concept described by the workshop leader. Out of the seven elected participants, none were female, and the average age was estimated to be plus forty years. The eighth participant were a female in mid-twenties and was not chosen to participate based on the same principle. The eighth participant had instead shown an interest to the workshop leader to be involved and was therefore included. Beyond the eight employees, the two authors also participated in the activities.

Workshop survey

After the conducted workshop the participants were asked to answer a short follow-up survey, created by the authors. The survey consisted of nine quantitative and qualitative questions, presented in Appendix C, aiming to;

● Increase the understanding of what was well functioning or missing in order to enhance employees' will to be involved in these activities.
● Increase the understanding of what was well functioning or missing in order to create a successful outcome of the workshop.

Employee survey

The quantitative part of the study targeted employees on a regional and national level, with and without managerial responsibilities and aimed to investigate if managers perception of what their subordinates' needs, for increased involvement in innovation activities, were aligned or differed. Hence, the results from the survey were not analysed through a tool to see differences between a number of groups, but only with a conformational purpose. Moreover, the survey aimed to understand the employee's perception of their own involvement in innovation activities.

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The content of the questionnaire was established through gathered theory from literature combined with findings from conducted interviews divided into approximately 20 statements and responses was divided on a Likert scale from 1 to 7. The survey layout is available in Appendix D. The design of the survey was developed through inspiration from Alasoini et al.'s, (2008) questionnaire *The High-Involvement Innovation Practice Survey* and Bessant's (2018) *High Involvement Innovation - Self-assessment questionnaire*. In order to enhance the response rate, the survey was constructed to be no longer than 5 minutes and was handed out through email via the supervisor from the company of investigation.

3.4 Data analysis

Collected data was complex and several of the discussed areas were interrelated, thus analyses of data appeared through several sessions in order to ensure the analysis was correctly performed.

Interviews

Continuously throughout the interview process, each dialogue with interviewees was transcribed and coded, as a result, data collection and analysis occurred parallel to one another. Through Open coding, which was used for the initial phase of the coding process (Given, 2008), gathered data was divided into several narrow themes for interpretation of the results in the 1st order coding (Strauss & Corbin, 1998). Each theme involved a few statements identified through specific words, terms or lines outspoken by the interviewees. However, criticism concerning this type of microanalysis involves "*stripping away context and thereby obscuring larger storylines*" (Given, 2008) so in order to ensure no information was neglected due to this, the initial phase involved several iterations of analysing the collected data.

After the initial phase of analysis, the number of codes was extensive. Therefore the 2nd order of the analysis attempted to pair each theme with identified practices from literature through axial coding. The second phase aimed to identify internal affiliation and thereby reduce the number of codes while constructing the base for a conclusion (Strauss & Corbin, 1998). The 1st and 2nd order codes are presented in Table 4 below.

Table 4: Coding in 1st and 2nd order

1st Order Codes   2nd Order Codes

| A common vision among top management team exists
Innovation mindset must be born and nurtured through leadership
Top management team is responsible for creating a rhetoric around innovation
Management must understand the importance of innovation
Managers need to feel a drive for innovation
Managers should provide employees with possibilities to take part of innovation
Managers on a higher-level priorities "their" projects
Managers need to encourage and show appreciation for participating employees
Managers is not responsible for ensuring employee participation in discussions related to innovation | Management support |

| Lack of clear or structured communication related to innovation
Terminology around innovation is not established
Innovation is not communicated as an important part of the firm
Feedback is not structed when employees take part of innovative activities
Feedback loops are slow and doesn't involve feedback from start
Lack of established formal and informal networks | Communication |

| Focus lies on meeting current demands rather than exploring new ones
Time allocation for innovation is necessary
Assigning resources to innovative projects is challenging
Assigning ownership to innovative projects is challenging
An external money pot for financial aid doesn't exist
Allocation of profitable consultant hinders innovative projects | Resource allocation |

| Employees need to understand the importance of innovation
Employees are not used to work with iterative and innovative activities
Managers find it difficult to discuss innovation due to low competence within the field
Frustration amongst employees exist due to broad span of understanding
Innovation is not a natural part of day-to-day work | Competence development |

| Employees doesn't understand why you as an individual should be involved
Threshold for involvement must be low in terms of simplicity and speed
Reward or recognition system must be established
Competitions or challenges can increase participation
Incentives must be developed depending on the target group
Present possibilities and positive aspects of earlier projects to involve sceptics
Identify employees who are interested | Incentives |

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What is measured is what is sold	
Every region has different processes and measurements	
Focus lies on reaching existing KPI's which doesn't focus on innovation	Measurement and KPI's
Goals needs to be inspiring and measurable	
Measurement of innovation could be a part of employees salary	

Workshop survey

Each workshop participant was asked to answer a survey, handed out via email, to evaluate the workshop and five of the participants responded. One reason for the low response rate is assumed to be due to a few of the participants had to leave before the end of the workshop, even though the survey was sent out through email to those as well. Moreover, it is important to highlight that the participants were only a small fraction of all employees within the firm, therefore the results will only give a small hinge of the overall situation. However, the authors considered the follow-up survey as an important step in the study in order to further understand the employees' perception of the firms innovative capacity.

Employee survey

Results from the employee survey, which was structured as a Likert scale, were analysed and presented through descriptive statistics. Therefore, the frequency distribution, possible skewness and/or kurtosis, as well as variance and standard deviation measurements, were examined and evaluated for a thorough analysis. Moreover, the analysis focused on identifying similarities between the survey results and findings from literature and interviews in the previously mentioned practices.

3.5 Method assessment

Ensuring high quality throughout the research process was of importance in all methods used in the different phases of the research. To achieve a high quality of the research Yin's (2014) four recommend tests, divided into tactics seen in Table 5, have acted as guidelines.

Table 5: Tactics for acquiring quality and reliability to a higher extent (Yin, 2014)

Tests	Tactics	Research phase in which tactics occur
Construct validity	Use multiple sources of evidence	Data collection
	Establish a chain of evidence	Data collection
	Have key informants review draft case study report	Composition
Internal validity	Do pattern matching	Data analysis
	Do explanation building	Data analysis
	Address rival explanations	Data analysis
	Use logic models	Data analysis
External validity	Use theory in single-case studies	Research design
	Use replication logic in multiple-case studies	Research design
Reliability	Use case study protocol	Data collection
	Develop case study database	Data collection

Validity

The validity of a case study can be divided into three tests. *Construct validity* within data collection focus on gathering knowledge from multiple independent sources in order to create a chain of evidence (Yin, 2014). A comprehensive review of existing literature laid the foundation to the thesis, followed by semi-structured interviews which aided to establish a chain of evidence and measurements to use for answering the research question. The research area is multidimensional and broad, therefore triangulation through the usage of a survey provided results from various perspectives creating a higher degree of validity. By applying both qualitative and quantitative methods a more in-depth analysis could be conducted since the company environment was investigated from several angles. The composition of interview guides, surveys and report structure were reviewed by external parties before finalising them in order to ensure a high quality of the thesis. The three tactics have been applied in the study and therefore the construct validity is recognized to be high.

The internal validity is dependent on processes used in the data analysis phase. Yin (2014) states the internal validity can be managed through four tactics, which are very similar and often cross each other. *Pattern matching*, which is similar to the usage of *logic models,* focuses

on comparing the empirical findings from the study with literature findings established for the specific case prior to data collection. The aim of the analysis is to find congruence by identifying patterns within and between the data sources. Through *explanation building* focus lied on creating an understanding of gathered data in order to provide the firm guidelines based on their specific context of where to invest resources. In this stage, the investigators separately listed possible *rival explanations,* which later were presented and discussed between the two authors. Since all four tactics have been applied to the degree of quality of internal validity is considered to be high.

External validity reflects the degree to which the proposed guidelines can be generalised and adapted to another setting within another context. While some literature claim single-case studies are not appropriate for generalising findings, Yin (2014) claim that if both analytical and statistical investigations are involved, single-case studies can provide findings which can be transferred to a context outside the study. However, the case study should be transferable and tolerate variations in terms of geographical places, people and processes/procedures. Even though all interview objects and survey respondents acted in the same organisation, they were located in several geographical areas and departments, within which the employees work in very different manners. The interviewees entailed various roles, from top management team located at headquarter to managers in lower hierarchical positions situated from the southern parts of Sweden to northern ones. The involved individuals also possess a various degree of competence within innovation, which is also considered to be recognisable in other firms. Due to these variations at the investigated firm, the guidelines are considered applicable to other organisations as well. Based on the study a recommendation will also be provided for a long-term perspective with actions to take in the change towards increased involvement. Therefore, other parties can be inspired by which guidelines are applicable to their current context. Due to all of these factors, and the study involved both statistical and analytical investigations, the study is considered to entail high external validity since the dimensions of the research are many and can be adapted to specific settings.

Reliability

According to Yin (2014, p.49), "*the goal of reliability is to minimize the errors and biases in a study*". Moreover, reliability also refers to the possibilities of repeating identified findings and conclusions if another investigator would conduct the study again. During this thesis, material from literature, interviews and surveys was gathered and stored in a database, available for reinvestigation or future work. Data sources not established by the two authors were thoroughly investigated in order to reduce possible biases and increase the reliability of the study. For example, cited articles were scanned in order to verify sources of information used to confirm or build an argument for the findings presented in the reviewed literature.

The empirical data collection occurred through three methods; semi-structured interviews, an observation session of a workshop including a follow-up survey and thirdly, a large survey for confirmation of the previous findings. Following chapter will present findings from all three sources.

4.1 Interview findings

The findings from the interviews are presented below, highlighting challenges and enablers for each *High Involvement Innovation* field within the firm, aiming to provide a comprehension of the current state of employee involvement in innovation at the investigated company. Initially, the interviewees' perception of innovation, in general and at the firm, is presented in order to lay the foundation for evaluating their ability to become a *High Involvement Innovation Organisation.* Thereafter, the interview results connected to each HII field are presented.

The interviews illustrated the participating managers' perception of the current level of innovation at the firm;

> *"Historically, we've looked most at what our partner companies provide [...] there are no natural ways in for our own ideas" - 2:A*

> *"I don't know if we [the team, editor's note] can do much more than we already are doing"* and *"We are 36 offices, some are very much in forefront [in innovation, editor's note] while some are far behind, it varies" - 1:A*

> *"I think we're innovative in certain areas" - 1:C*

> *"We [the company, editor's note] have a great drive and a great engagement and willingness to conduct a change [...] I claim that we already are an innovative corporation" - 1:D*

Several respondents highlighted that the firm is not known at the market as an "innovative" company but has focused their main business on resale and consultancy services. Accordingly, there has been little focus on radical and market changing innovations but more focus on incremental improvements performed in various manners throughout the organisations. Some respondents were of the opinion that the firm is modern and innovative, while others expressed a worry of obsolescence;

> *"People don't think we work with innovation, they think the firm is outdated" - 1:G*

Despite that, managers at all levels agreed on;

> *"Innovation is absolutely crucial for the company's future" – 3:F*

This statement was frequently repeated in several interviews with top, middle- and lower managers, for example, 1:A, 2:A and 2:B to mention a few. Another facet to the importance of innovation was highlighted during one of the interviews, where a respondent agreed that

innovation sure is said to be important to many, but that people saw it as something necessary in the near future;

"Many of us think it's important, but few think it's urgent." - 3:C

In order to succeed with enhancing innovation at the firm, some respondents believe success lies in implementing the change narrowly, thereafter gradually letting any measures taken to change the employees' behaviour grow into the company culture in order for the employees to fully commit;

"It is about slowly moving it [the company in change, editor's note] culturally" – 1:E

Management support

The perception amongst the respondents of the general, overall support provided by management at the company was found to be good. Employees and managers at various levels expressed satisfaction with their team, their boss and their day-to-day-work. However, the perception of managerial support towards employee engagement in idea generation and other innovation-related activities showed to differ between the interview objects. One of the top managers, 1:D, was of the opinion that the responsibility lies with the employees to engage in dialogues highlighting innovation. The same respondent continued by saying;

"I don't go out there to push others, I don't. I am busy managing my own tasks. [...] I don't steer other people, they're gonna have to figure out themselves that they're not good" - 1:D

On the other hand, interviewed managers with a lower hierarchical position were of the opinion that a precondition for making innovation a part of daily work is that such a mindset must be born and nurtured by the leadership. Several interviewees further claimed that managers at all levels and ranks should be responsible for supporting innovation and making sure it is immersed in the rhetoric of the company. To further illustrate the importance of the managers' role, a majority of the interviewees agreed on the need for management to understand the importance of innovation and engagement in order to push their employees to take part in innovation at the regional offices.

"All leaders should be able to give their employees that possibility [to take part, editor's note]" - 1:F

"[It's the respondent's responsibility to, editor's note] Support and coach my employees so they dare to stand in the front, and make sure they have the support they need around them" - 1:H

"The responsibility [...] to be honest, is on a managerial level because the employees cannot bear that. [...] Us managers must decide who owns the question and how to delegate" - 3:E

Further, it was brought up that the entire top management team does not see the issue of remaining in what has always worked nor understand the importance of innovative work. Over 50% of the respondents express a belief that managers bear the greatest responsibility for, and

that it is important for them to give permission to innovate and communicate the significance of such activities.

Several interviewees expressed that one possible reason why employees do not engage in innovation activities could be that they do not feel important enough to raise their opinion. The employees need encouragement and a sense of contribution, which several interviewees agreed on is founded in a supportive leadership. One middle-level manager was of the opinion that the employees should be supported and credited for their work, and emphasised that;

> *"If one of my co-workers presents a good idea, I see it as my obligation to present it to the top management team"* - 3:B

Answers from respondents at various managerial levels and geographical locations indicate that there is a lack of understanding and/or drive for innovation amongst top management. An emerging result is a resistance amongst employees to be involved in innovation activities, thereby old mindsets and ways of working are not considered to be harmful.

> *"Our CEO has a good vision [...], but if you go down to the next managerial level, this does not shine through"* - 3:F

Ideas and projects from employees with a higher hierarchical position within the firm are currently prioritised, according to 1:C. These projects often emerge from trending technical solutions or successful projects in other countries instead of arising from customer needs on the Swedish market which causes a tension related to trust amongst employees with a lower hierarchical rank.

Communication

Issues related to communication exists in various forms at the firm; communicating general information, changes in the work process and how feedback is given to employees' performance to mention a few. In a majority of the interviews, a lack of clear communication from higher hierarchical levels was highlighted. Moreover, structured feedback for actions focusing on innovation appeared to a low extent, and the lateral networks between offices were preferably used, rather than presenting ideas further up on a national level.

Top-down

Many interviewees claimed that a definition of innovation is not communicated across the organisation to all employees. Respondent 3:E claimed their understanding of innovation did not emerge through an official communication channel but was spontaneously brought up in a one-on-one conversation with a representative from Business Development and Innovation department. The respondent continued by saying;

> *"It [innovation, editor's note] is an expression which, surely, has an equal amount of tastes as there are people in this corporation, maybe even more since it is shaped by the individual's purpose of the day"* - 3:E

In multiple interviews, the personal definition of innovation was "borrowed" or influenced by the respondent's conversation with the same representative from the Business Development and Innovation department. The remaining respondents' answers of what innovation is according

to them, varied from anything that is rethinking old ways, according to 1:B, to only radical, market-changing ideas, stated by 1:C. Thus, the individuals' understanding of this varies to a broad extent within all hierarchical levels. However, respondent 3:B reflected during the interview if the focus should lie on creating understanding for everyone or rather on taking action. The interviewee claimed that sometimes too much focus is put on communicating a common understanding than actually taking action.

The perception of the importance of innovation was also a diverging area of discussion. Approximately 75% of the interviewees claimed an increased innovation capacity is important to the firm and to their department. Interviewees from top management agreed that innovation is crucial for sustaining the company's position on the market. Despite that, three out of three interviewed managers at the same hierarchical level, who often work together, gave contradictory statements to if innovation is important for them and for the firm during their interviews. Two indicated they perceive innovation as important, while at another time in the interview one had to rethink if it really is important for that person's team. The other interviewee stated it has not felt relevant to participate in innovation activities. The third interviewed manager at the same level thought innovation should be a part of everything the employees do and that it is important to constantly renew the firm's offers. The respondent continued with highlighting that the managers lead, but later on said it is not part of the assigned role to encourage employees further down the ranks. The managers present a scattered front and communication between the parties seem to be insufficient.

Further out in the organisation, several lower and middle managers were of the opinion that the top management team has not fully succeeded in communicating the importance of innovative behaviour across the firm. Some lower managers were of the understanding that innovation is a part of the company's vision and mission, although not expressed, while others did not perceive any signals to enhance innovation from the central parts of the organisation. Several interviewees brought up that the top management team claim innovation is important to the organisation, yet in a new establishment for enhancing innovation they allocated only 17% of a requested number of employees needed to successfully run the establishment. The allocation of resources from the top management team sends a clear signal to the rest of the organisation;

> *"How many people important is innovation?" - 1:E*

Several managers had the belief that employees across the company consider innovation to be of importance, although it is not pronounced.

> *"The firm has, just like other firms, realised that we need to change, we need to refine our current business and add more value. One of the values we've said is we need to add innovation and I think some are more comfortable with 'what does it mean' and 'how do we add it'." - 3:B*

From the interviews, it emerged that the need for innovation has evolved from a societal and industrial transformation rather than from management, according to 2:A.

Feedback

A formal and systematic feedback system for submitted ideas at the firm is non-existent, according to several respondents. A top manager described the normal responding behaviour as;

> *"Damn, that was a good idea. Keep it up" - 1:D*

Moreover, an interviewee working as a lower manager said;

> *"I know that we have presented an idea for the nationally responsible, but where it went after that, I'm gonna have to pass [...]" - 3:B*

Slow or absent feedback causes the employees to hesitate to hand in new ideas or propositions of improvement which causes a loss of energy in project involvement. In the initial steps of increasing involvement, several respondents agreed that feedback and confirmation of submissions are especially needed when stepping out of the comfort zone.

For increased participation in innovation, the interviewees highlight the importance of instant feedback and give reading ack's as an example of how this could be achieved. Employees could also be interested in seeing the outcome of an idea and retrieve constructive feedback with the submitted propositions in order to understand what to focus further on for next idea submission. However, there is a discrepancy between expected response time and the understanding of time needed for a thorough evaluation of possible realisation of the ideas. Therefore, interviewees highlight that the slow feedback process is assumed to cause tension between employees and the usage of this type of system.

Lateral

At the firm, there is a challenge with communicating ideas to the right people. Feasible and economically profitable ideas are sometimes communicated between offices instead of brought up to business development at the national level. Several other respondents; 1:C, 1:D, 1:F, 3:D, further highlighted the use of personal networks to submit, discuss and receive ideas. It was evident that employees with a bigger network generally know better who to turn to with new ideas.

> *"He has contacts on the national level, and therefore he has pulled the project nationally" - 3:B*

The lateral communication is to a great extent dependent on informal networks. The employees are encouraged, according to managers, to extend their personal networks, both as a mean to climb in the hierarchy and increase internal collaboration. Furthermore, it emerged from the interviews that a lack of internal, both formal and informal, networks results in ideas not reaching higher hierarchical level due to a lack of knowledge where or who to turn to.

> *"Very unclear who to turn to due to size and organisational structure" - 3:C*

Although there are exceptions, the general perception amongst the interviewees was that it is easier for employees to just make a call to a well-established connection on an equal hierarchical level compared to contacting an unknown business developer at a higher level.

Furthermore, the long lead times when submitting ideas makes the regional offices uninterested in national support and therefore lateral, office-to-office communication is used instead.

> *"We've had a business development process earlier, but it was too slow for us [the company, editor's note] to be innovative" - 2:A*

Resource allocation

The firm faces tensions in allocating time and resources for increased participation in innovation activities. Several respondents claim this is due to existing KPIs, focusing on selling current solutions rather than exploring new possibilities. Another reason for low participation aerated during the interviews was time allocation. When suggesting a higher involvement amongst employees a majority of managers, within all levels, agreed on that there is no time to allocate to anything else but the tasks already in the schedule.

> *"If we want more innovation we must free more time to allocate to it, and we're already working too much" - 1:D*

> *"[...] if I allocate this much time, it will be time beyond regular time. If we cannot find a way to free that time, it will be a task put on top of what you're already doing." - 3:B*

> *"Limited resources in the shape of time are limitations when it comes to working with ideas and similar things" - 3:D*

Respondents claim the responsibility lies with the managers to find a way to allocate resources to innovation activities. Moreover, the issue of allocating resources is specifically prominent when dealing with innovation outside the firm's business areas. There is a difficulty in assigning ownership to those kinds of projects and to find employees willing, and able, to push them forward.

> *"We must be aware of where the project should be conducted - noone have time or energy to push the project forward if we create things that 'doesn't fit'." - 1:D*

Similar problems also occur when new ideas emerge that crosses borders between product categories, according to some respondents. Another aspect related to resources necessary when initiating a project is the allocation of financial means.

> *"If you consider innovation to be important, which I don't know if it is the general perception, in that case allocation of financial resources is crucial" - 3:C*

Currently, no external money pot exists on a national level to financially support projects of a more radical nature, even though the Business Development and Innovation department mainly is located at this organisational level. The regions invest in the projects they believe will be profitable, causing hesitation to invest in innovative projects with a higher risk and unknown nature. Another financial challenge with allocating resources emerges when wanting to involve consultants in internal innovation activities. The tension lies in allocating consultants' time in-house since it causes a lack of profit from sold consultancy hours. One middle manager said;

"Quite often, the central office is interested in some of my consultants and their competence [...] I'm happy to lend them out, but it won't cost 540 SEK in internal pricing but 1500 SEK because I must see to my office's profitability" - 2:B

Competence development

The firm is not known as one of the "innovative tech firms" at the market, and their employees are not fully comfortable with the term innovation and its' corresponding activities. Many employees with close customer relations are used to working with best practices, therefore challenges lie in taking on a more iterative approach of testing and evaluating customer needs. Additionally, sales representatives are hesitant to carry out new solutions to the customers due to a poor understanding of new ideas or products. Since not being trained in innovation activities, the employees' general competence within the area is too low to fully realise the urgency and importance to apply it within the firm, which is evident amongst managers as well as other employees;

"I have a hard time saying anything if I don't know what it is, e.g. innovation. I know too little about it" - 1:E

"I would like to read more and attend education to stimulate innovation within my team, but other things come first" - 2:A

To enable the employees to work more with innovation, they need to be trained in suitable innovation activities in order to understand its' purpose and benefits. Currently, several managers sense frustration amongst the employees emerging from a lack of a definition of innovation.

Hesitation in the submission of ideas and propositions from the employees currently emerges from a lack of knowledge of innovation and a fear of not being able to perform the tasks in a sufficient manner. Additionally, the employees are not used to talk about or nurture innovation in their daily work. Respondents highlighted education as a key to impel employees to participate in innovation and said they need to understand the tools in order to use them;

"There is a fear of submitting projects; how shall one express oneself?" - 1:F

"Educate us, we need to feel that we have the right competence" - 3:A

Incentives

In order for employees to engage in submitting ideas and changing current behaviours, several managers believed that the process of handing in ideas must be intuitive, quick and easy;

"If we put it in a process to fill in a form [...] I don't think everyone will contribute with ideas because it'll be too complicated. [...] I believe it should be as easy as possible [to submit ideas, editor's note]" - 3:B

Approximately 50% of the interviewed managers expressed that a majority of the employees at the company do not understand why they should be involved in innovation activities or how it matters. A mindset of "What do I gain from participating? What's in it for me?" occur within the firm, and a respondent expressed it as;

"No one thanks us if we are innovative in 2020, but if we deliver good sales numbers we get a lot of praise" - 3:C

To manage this tension, the managers believe a big incentive for making employees participate is if their ideas are promoted and the originator is given recognition for their achievements. However, to only credit the participants will not encourage all employees. Therefore, to also involve the sceptic, it was suggested that successful projects need to be presented for everyone to see the possible benefits of involving a broader base of competence in innovation. Suggestions of several reward systems emerged during the interviews to further increase the will to participate, showcasing a possible need for various types of rewards targeting different employment forms or occupational groups.

"You also have to consider the target group, because consultants are very keen on sustaining their brand [...] That you promote people the way they want to be seen [...] Account managers may want to be promoted at sales events [...] to, in some way, promote them in the forums they want to be showcased in" - 1:H

However, a suggestion from an interviewee, to make the most of available resources, was to focus more on the employees who are willing and excited to participate instead of focusing on engaging everyone. A majority of the interviewed managers have extensive experience of working within the company and claimed that allocating resources to those who are interested in developing new ideas would be more profitable than involving everyone. On the other hand, no propositions were given of how to distinguish the willing from the "unwilling" employees.

While many respondents suggested internal competitions and challenges as methods to increase participation within the firm, there were also voices raised against those types of incentives. On the one hand, many employees are encouraged to participate in such activities, but on the other hand there is a risk of submitted ideas being forced and not thought through. Additionally, one respondent addressed the fact that depending on what type of product or service the competition is aimed at it can be harmful rather than helpful for customer relationships;

" [...] then we make a sales competition out of it, which can be very stupid since advisory services are earned, not sold" - 3:F

Measurements and KPI's

The firm evaluates performance and sales by measuring KPI's and revenue in all business areas. One respondent expressed that in order to increase employees' will to participate in innovation, relevant KPI's are necessary;

"What we measure is what we get results in, if we had a measurement [...] maybe we would put time and energy into it [innovation, editor's note][...] now it is just a pain we know we have to manage. [...] Innovation is not on top of the agenda [...] we focus on where we earn money" 3:C

Therefore, to define inspiring and measurable goals, focused on innovation and connected related activities, was suggested by several interviewees. An issue with measurements and restricting innovation is the same as with turning it into a competition; ideas are forced and

there is a risk of low quality, therefore KPI's needs to be very thought through in order to not inhibit creativity.

Further, on the subject of measuring innovation, several respondents expressed concern regarding how to manage it since regional offices are measured at various KPI's. Measuring is a mean for calculating the employees' salary, and the respondents were hesitant to how innovation could be measured to resemble current KPI's. On the other hand, other interviewees added that including innovation KPI's into the calculation of salary is an important incentive to encourage employees and increase participation. Additionally, including innovation to the KPI's would make it a priority amongst all employees, in contradiction to today;

> *"The regional manager is of the opinion that 'we have to reach our goals for this month first, then we have time for this' [innovation, editor's note]" - 3:F*

4.2 Workshop survey

The workshop was initiated with presenting its' purpose combined with intended methods and tools to apply, see Chapter 3.3. During the presentation of some of the tools and methods used, questions of how to use them and their purposes arose from several of the participating employees. Thereby, it was evident the participants were not used to, and some had never been exposed to, working with the product- and service development in that manner before. Accordingly, it was a challenge for some to comprehend the tools and get started with the tasks. However, once they understood how the outcomes from the activities would fulfil the purpose of the workshop they were all willing and eager to participate.

The survey used to follow up the workshop activity was provided to all participants and were responded by five, see the full survey result in Appendix E. The overall experience of the workshop was found to be positive since the average rate of the experience was 4.2 out of 5, were 5 was rated as "Very good". Moreover, all survey respondents expressed a will to be involved in similar activities again. When asked what was considered to be good, three respondents described the selected group to be accurate for the task and the overall engagement was considered strong. A fourth individual wrote;

> *"The free, creative exploring part was good and it was interesting to analyse the question from many different perspectives in a way that is not very often done"*

The fifth respondent answered in a free-text question that the exercises were moderate and easy to understand, as well as the group having relevant competence. However, when asked to grade on a 5-point scale if the group was considered to be relevant for the aim of the workshop, the same respondent scored average.

Overall, all respondents perceived the workshop agenda to be relevant for the cause with an average grading of 4 out of 5. The allocated time for the workshop received a rate of 4.2 although the time was too short to conduct all planned activities, and two individuals expressed a need for longer workshops in order to engage in further discussions. Suggestions of what could further be improved were expressed by one respondent as;

> *"Try questioning the obvious a little more, it's good with long experience but we get stuck sometimes in technical aspects."*

Another participant thought the project for which the workshop was conducted was not in the "right phase" for being a part of this type of activity, the idea was not developed enough. Moreover, the same participant claimed that such an activity should involve guidelines such as target customer and financials. Results from the survey also showed that one out of five highlighted it to be beneficial to increase diversity in the group as well.

When asked what they would bring from the experience, all respondents seemed to have gained insights and learnt something. One expressed to have learned the importance of breaking down a problem into smaller areas to develop a solution, and another thought it was interesting to learn how large corporations, such as the firm of investigation, work with these types of activities. A third participant expressed in the survey interest in how to further work with;

> "*The more free way to screen ideas and how you can work with generating and developing in relatively early phases.*"

4.3 Employee survey

The exact number of surveys handed out to employees within the company is not known, therefore an estimation has been made to perceive a somewhat accurate response rate and the calculations are presented in Appendix F. The survey was estimated to be handed out to 1098 individuals and received 185 responses, giving a response rate of 16.8%. According to the supervisor at the investigative firm, a response rate of 15-20% is equivalent to the general response rate of similar types of surveys within the organisation. Thereby, conclusions that employees are not interested enough in innovation to respond to a survey cannot be drawn, it is rather more likely the lack of responses is founded in a lack of time or information noise. However, from a researcher's perspective, the response rate is considered to be scientifically unacceptable for an email survey (Mangione, 1995). Despite that, the amount of responses is sufficient enough to be interesting to compile the result and evaluate possible differences to the interview results even though the results cannot be applied to all employees at the firm.

Furthermore, the employee survey was handed out to two groups, divided into four roles; non-managers who considered their role within the company to be identified as "Account Manager" or "Consultant" and to managers who considered their role within the company to be identified as "Sales Manager" or "Consult Manager". All five regions and parties acting on a national level took part in the survey. According to the results, 102 respondents considered themselves as "Account Manager" or "Consultant" and 83 as "Sales Manager" or "Consult Manager", therefore almost 55% of the respondents were non-managers.

The average findings from the quantitative survey is presented below according to the six identified *High Involvement Innovation Practices,* see Table 6. For all findings from the survey see Appendix G. For each practice a number of statements were given to the survey respondents and the answer scale ranged from *1 - I don't agree at all* to *7 - I fully agree*. The three initial statements were of a more general character and aimed to provide a better understanding of how the respondents perceived their own actions and participation in the investigated firm's internal innovation activities.

Table 6 - Average survey score managers and non-managers

HII field	Question	Average score [1-7]	
		Managers	Non-managers
Employee information	Q1 – According to your tasks - which of the following groups do you identify with?	Control question	
	Q2 - To what region do you belong?	Control question	
General questions	Q3 - I often take part in internal activities focusing on the firm's innovative ability.	4.80	4.05
	Q4 - When I take part in internal innovation activities, I consider myself pull and lead the discussions in greater occurrence than a means participant	4.48	3.99
	Q5 - When I take part in internal innovation activities, I actively contribute to a greater occurrence than a means participant	4.61	4.05
Management support	Q6 - My closest manager actively supports me when I take part in innovation activities.	5.36	4.96
	Q7 - My closest manager encourages and challenges me to actively take part in innovation activities	5.07	4.96
	Q8 - I experience that my closest manager is willing to realise elaborated ideas of improvements	5.71	5.67
	Q9 - I experience that managers in my surrounding are involved in innovation activities	4.64	4.70
Communication	Q10 - I experience that my management team at a local level express the importance of innovation	5.45	4.98
	Q11 - I experience that the management team at a national level express the importance of innovation	5.46	5.30
	Q12 - The presented definition of innovation is well aligned with my own definition of innovation	6.16	5.72
	Q13 - I experience that the firm's hierarchy limits my participation in innovation activities.	2.93	3.39
	Q14 - It is clear who to turn to with good ideas of new processes, services or products.	4.39	3.87
	Q15 - I actively network with co-workers from other departments and offices in matters concerning internal innovation.	4.11	3.84
	Q16 - I get constructive feedback from managers on submitted and presented ideas and suggestions.	4.36	4.13

Resource allocation	Q17 - I would like to engage more in internal innovation activities to a larger extent than what I do today.	4.71	4.98
	Q18 - I need help from my manager to allocate time for innovation.	3.48	4.47
Competence development	Q19 - I experience that my competence in innovation limits my participation in innovation activities.	3.18	3.26
	Q20 - I want to develop my own competence to be able to work with internal innovation to a further extent than what I do today.	4.45	4.88
	Q21 - I get educated by the firm in techniques and tools for problem-solving and innovation.	2.36	2.44
Incentives	Q22 - It is important that I as an individual engage and contribute with innovation to the firm.	5.87	5.75
	Q23 - I get appreciation when I contribute to innovation activities.	5.10	4.79
Measurements and KPIs	Q24 - My team's local goals include increasing innovation in the firm.	4.76	4.25
	Q25 - Innovation must be measured and followed up in order for me to participate.	3.36	3.51

Following chapter is divided into the six High Involvement Innovation fields and contains a discussion of the empirical data in correlation to the literature findings. Given the purpose of the study, the discussion aims to present possible paths for the investigated firm in order to become a High Involvement Innovation Organisation, HIIO.

5.1 Management support

During the interviews, it was evident the interviewed managers were of the opinion that the relationship between managers and employees are overall good across the firm and that management is supportive in many areas, but not in innovation. A concern highlighted by the managers were that the employees currently do not feel important enough to submit ideas. Moreover, the managers at all levels highlighted concerns regarding employees neglecting ownership of ideas and several top managers considered the employees' will to participate to be yet another challenge, which lower managers did not fully agree on. Results from the employee survey further strengthened these two concerns; When engaging in innovation activities, the non-managers had the overall perception of themselves actively participating less than the means participant. Managers, on the other hand, had a greater confidence in rating their active participation. Furthermore, the survey illustrated that employees perceive their closest manager's support as higher than their own contribution when participating in innovation activities. To summarise, the managers currently give more support than they receive from the employees in active engagement. On the other hand, the employee survey results, see Q6 in Table 1 and Table 2 in Appendix G, show a scattered perception, suggesting the support might differ between the business areas or the regions. The literature clearly states the high importance of management support in order to achieve *High Involvement Innovation* within organisations (Ramstad, 2014; Hallgren, 2009). Thus, if management at the firm should practice the same support in innovation activities as they do in other areas, they bear a good chance to become a HIIO.

An emerging opinion in literature and the collected data were that managers are responsible for accelerating the work related to HII forward (Ramstad, 2014), however neither source define where the extra tasks should be fit in their schedule, which based on the interviews are considered to be full. Literature assigns the responsibility of increasing involvement in innovation to the managers, claiming it's their job to encourage their employees to participate (Smith, 2018; West, 2002). The interviewed managers, on the other hand, angles the responsibility towards the employees, claiming they are responsible for actively taking part in innovation activities. To help employees step out of their comfort zone and embrace a more innovative mindset, literature suggests that managers need to actively push and support them (Amabile et al., 2004; Smith, 2018). According to the employee survey results, managers succeed to a moderate extent in supporting their employees' work with innovation. Furthermore, the employee survey results show the encouragement from managers to take part in innovation activities were considered to appear in a moderate extent, but the results also show there are room for improvements. The ratings were equally distributed across the middle

section of the scale, implying the encouragement varies amongst managers and possibly business areas and regions.

In regards of how much of a leading role the employee survey respondents take on when participating in innovation activities, the non-managers had a lower response rate than the managers. Although rating it higher, managers still did not rate their own leadership in innovation activities higher than an average of 4.5. Whether this emerges from bad confidence, an unwillingness to participate or something else, it is surprising for managers to have such a low score, especially since the encouragement from managers had a relatively high rating in both respondent groups. To further support their employees, the interview respondents expressed the need for managers to make "innovation" part of the rhetoric at the firm, which goes hand-in-hand with the literature stating that managerial support is key to forming new habits (Ramstad, 2014; Hallgren, 2009). Judging from this, the investigated firm is on the right track in regard to what is necessary in order to become a *High Involvement Innovation Organisation*.

The interview respondents' various views of the perception of innovation and where the responsibility to increase it should lie paints the picture of a disjointed front to the employees, causing confusion towards understanding the purpose of working with innovation. What was stated in the interviews, that leaders show the way in order for the employees to follow, is confirmed by the presented research showing the culture amongst managers strongly affects the employees' drive to take initiative and engage (Kesting & Ulhøi, 2010; Nilsson et al., 2015). Data from the employee survey shows that both managers and non-managers had the perception that their closest managers are involved in innovation activities to a moderate extent, but that the they are more willing to realise suggested ideas and suggestions from their teams. These findings are identified on more than one hierarchical level and is positive in regard to increasing participation in innovation.

The interviews have showcased different manager styles within the same firm, and literature cannot pinpoint a best practice in this area (Kesting & Ulhøi, 2010). What is clear though, is incremental innovation requires less manager support than radical innovation (Kesting & Ulhøi, 2010), which further speaks to that increased manager support to achieve a bigger participation in innovation activities at the firm is possible. Although, since the firm originally is not considered to be an "innovative" firm, manager support will be needed to establish an innovative mindset and to instil the changes in the organisation.

What is also needed to further investigate, is if ideas from top management are really prioritised and if so, why? Is it because they understand the business case better or is it because the other ideas do not reach them? Do employees need a better understanding of how business development work in order to engage more? These issues will not be further discussed in this thesis but are suggested to further study in future literature as well as at the investigated company.

5.2 Communication

Literature states hierarchical structures and the way power is distributed across a firm affects how employees at a firm communicates (Hallgren, 2009; Bessant, 2003), a statement that cannot be confirmed by a single case study but which can affect the recommendation of how to improve the communication at the investigated firm. A challenge lies within implementing HII since communication must function in multiple dimensions in order for the transition of becoming HII to be successful in an organisation (Bessant, 2003). The reason for the interviewees' perception of the flaws in internal communication can emerge from the information noise apparent in the communication channels at the firm, which in turn is an issue the organisation is aware of.

Top-down

A common understanding and definition of "innovation" is a key enabler for achieving *High Involvement Innovation* (Crossan & Apaydin, 2010). The interview results show that the definition of innovation was not communicated throughout the organisation and the understanding of it varying to a broad extent. Many of the interview respondents had a similar answer to what their definition of innovation was, despite having different opinions about its' importance within the firm. It did not emerge during the interviews if the managers understood what the definition of innovation implies, or if they only repeated the words. What emerges from the employee survey, on the other hand, was that a majority of all respondents perceived their own definition of innovation to be similar to the one presented to them in the survey. This implies that either the general understanding of innovation across the firm is better than what was found during the interviews, or that the survey respondents agreed without knowing the implications of the definition. A parallel can again be drawn to the interviews, where several respondents had a similar definition of innovation but who, later on during the interview, did or said something contradictory. Nevertheless, it is a positive finding that the innovation definition is not unfamiliar to the employees, something that will be helpful in the strive to increase employee involvement in innovation activities.

Moreover, the interviewees experience a lack of clear communication from higher hierarchical levels within innovation work at the firm. Some interview respondents highlighted that middle managers have a general perception of "it's all talk" when it comes to top management's attitude towards innovation. Though, in the employee survey both managers and non-managers expressed a high understanding of management's opinion that innovation is important. The non-managers rated the national, top management team's intermediation of the importance of innovation higher than the local management, which is slightly contradictory to what was found in the interviews. A possible reason for this can be local managers perceiving their way of encouraging innovation as similar to the top management team, or that they consider innovation to be up to top management to promote, and not their responsibility. Either way, it is clear that local managers in the regions should highlight innovation to a further extent in order to display a united front and encourage innovation involvement. Several interviewees states that it is not their job as a manager to encourage innovation across the firm, which directly contradicts what is stated in literature where researchers state the responsibility to create a clear understanding of the scope and direction of the firm lies with management (Kesting & Ulhøi, 2010). At the

firm, lower- and middle managers had the perception that top management had not succeeded in communicating the importance of innovation and participating in corresponding activities. In order to increase the participation and engagement in innovation, an important factor, according to the literature findings, is for the managers to encourage innovation in the daily work (Amabile et al., 2004). Important to bear in mind is that there are reasons for top management's hesitation to encourage innovation, e.g. the limited monetary means possible to allocate to it, which in turn can be a reason for some managers attitude that they do not consider it of relevance to participate in innovation.

If the firm wants to increase the employee involvement in innovation, they must communicate that innovation is important and what it implies for them since literature has confirmed the importance of having a clear direction when implementing new practices (Abu El-Ella et al., 2013). One of the respondents raised the question if focus should lie on understanding the definition or if it is more important to take action, but according to literature, a common understanding of "innovation" is important to enable HII amongst all employees (Nilsson et al., 2015). Furthermore, interviewees highlighted the firm has realised a need for change, although not pronounced or defined it. The realisation of the necessary change evolved from societal transformation rather than the top management team. To once again draw a parallel to the employee survey question if managers participate in innovation - taking action and leading by example influences the employee more than forming a definition and handing out flyers or posting information on the intranet. It was learnt during the interviews, that if the managers at the investigated firm does not take action, the employees would not either, no matter how well established the definition is.

Feedback

Research states feedback is essential for employees to receive from both managers and submission systems to sustain motivation (Abu El-Ella et al., 2013; Smith, 2018) and that new ideas are important for managers to acknowledge (Kesting & Ulhøi, 2010), yet no systematic system for feedback to ideas and suggestions exists at the firm. Moreover, only 6% of the employee survey respondents from both target groups fully agreed that constructive feedback from managers is provided when submitting or presenting ideas. However, 49.4% of the managers and 37.2% of the responding non-managers agree they receive constructive feedback to a moderate extent, which can be considered an acceptable result but far away from a positive result. As literature states, feedback motivates us (Abu El-Ella et al., 2013), thus if no feedback is given it sends the signal your time and effort spent in the idea was not worth it, so why should employees allocate their resources into it again?

In order to increase participation, a key enabler is to establish a well-functioning feedback system (Bessant, 2003), and in the process not neglecting the managerial feedback only because there is a digital system to provide it. Since a new system for managing ideas is currently developed, a system for feedback should be implemented to increase participation as well. During the interviews, instant feedback such as reading ack's were requested, which can also be a part of a feedback system. When establishing such a system, the firm must be aware that the speed of the response is equally important as how it is forwarded to the employee (Bessant, 2003). Examples from successful cases aimed to have a response time on 24-48 hours, where

the content of the feedback is highlighted as important as well (Bessant et al., 2001). At the investigated firm, the interview respondents perceive the feedback, if given, as slow - showcasing an area of possible quick improvement.

Lateral

Sharing information and knowledge amongst employees constitutes mutual trust within the organisation (Meyer & Allen, 1997). The lack of informal and formal networks used for innovation within the firm results in difficulties in how to submit ideas or who to turn to in corresponding matters, which is aligned with the data from the employee survey. The managers participating in the survey agreed to a moderate or a high extent, while non-managers had a lower rating and thereby expressed an uncertainty where to turn with ideas. The discrepancy between managers and non-managers in this question displays a need for the firm to establish better communication paths for innovation. Furthermore, this shows the new idea management system must be straightforward and easy for the employees to use. Despite rating their knowledge higher in the employee survey, managers expressed during the interviews that when ideas are not aligned with existing business areas come to their attention they do not know where to turn to, therefore it is assumed several of these ideas never even reach an individual with the drive to take on such challenge.

Literature states that enabling possibilities to network is a crucial factor for increasing involvement (Ramstad, 2014), and according to interviewees the employees are encouraged by management to network in a lateral manner. However, the employee survey did not investigate if employees perceived their managers provided them with these opportunities, instead focus lied on understanding if they considered themselves to actively use current networks with other employees from other departments and offices in innovation related questions. The survey results reflecting that managers actively networks to a higher degree than non-managers were expected, even though the difference was small. The difference might occur because managers tend to have a better understanding of the organisational structure and are due to their responsibilities often involved in various networks to a greater extent than the non-managers. Moreover, the overall results from the employee survey show a positive attitude towards being engaged in innovation, but these results show neither managers nor non-managers take on a particularly active role to actually create new connections. As mentioned above, focus further needs to be addressed to what means can enhance networking, aiming to enhance *High Involvement Innovation*.

5.3 Resource allocation

Findings from the interviews highlight time allocation to be crucial for further employee involvement in their current state, which literature states is the most common measure for trying to cope with innovation (Nilsson et al., 2015). While there are several challenges mentioned by both these sources, both parties suggested a method to manage it is through assigning the managers the task of allocating time for innovation (Kesting & Ulhøi, 2010), however in the interviews it was clear that several of the interviewees referred to managers on a higher hierarchical level rather than themselves. When asked in the employee survey if support to allocate time to innovation was necessary, the difference between managers and non-managers

was distinct. The average perception amongst managers was that a need for help was not apparent, while non-managers expressed it as necessary to a moderate degree. The overall need for help was perceived as lower amongst managers compared to the other target group of the survey. A reason for that could be managers availability to their employees, causing them to effectively learn to allocate their time. Another reason could be ignorance and a general perception that they do not need to allocate time since it is not their job to innovate. The employee survey data from the managers show a clear gap in this question, 22% fully disagreed with the statement of needing help for time allocation while 31% expressed a need for help to some extent, which is almost a third of the participating managers. Thus, resources to unburden managers or providing education in time management could decrease the gap.

Even though there is a strategic path for the investigated company of how to meet goals and targets, managers at all levels need to act upon them since they are the initial power for change. Overall, the interviewees expressed several challenges within the company and when asked what they can change themselves many thought they could not do more than what they are currently doing. Furthermore, both the managers and non-managers in the employee survey claim they want to take part of innovation to a larger extent than today. Moreover, the respondents without executive responsibilities further state they neither agree nor disagree with the statement "*I often take part in internal activities focusing on the firm's innovative ability*" while managers consider themselves to take part in such activities to a much larger extent.

Time and monetary resources must also be allocated (Mumford & Licuanan, 2004) to provide the employees with thorough training and time to adapt to new tools, methods and practices in order to enhance knowledge and motivation to participate in innovation (Abu El-Ella et al., 2013). The investigated firm's money pot for more innovative projects origin from the regions and can sometimes create a blockage for the company to engage in the search for taking on more radical projects. Moreover, regional managers face challenges in allocating their consultants' time due to a tension in profit vs. time. Despite the consultants' competence and will to participate in innovation, their time is too expensive to allocate to internal activities. In order to fill the regions' monetary goals, the consultants' time is necessary to allocate to customer projects. As a result, regional offices prefer to use their human resources to meet existing and local KPI's rather than allocating time to internal innovation. This tension is necessary for the investigated company to be aware of and understand, however the challenge of providing accurate guidelines in how to allocate resources is too extensive and complex to take on in this thesis.

5.4 Competence development

Competence, in terms of knowledge related to innovation, is considered relatively low within the company compared to other firms within the IT industry, but it is important to highlight that despite the lack of general innovation knowledge, there are still a few individuals devoted to innovation. The firm is not used to nurture innovation and often work according to best practices. However, some managers, even at the lower levels, mentioned during the interviews that they are trying to take on more iterative processes in development of new products and services. It was clear during the workshop that usage of creative and problem-solving tools was not an established habit amongst the participants, which was also reflected in the results from

the workshop survey. When asked in the employee survey if the firm of investigation provided the employees with education of techniques or tools for problem-solving over 60% of the respondents in both target groups fully or to a large extent disagreed to the statement, see Q21 in Appendix G. On the other hand, the employee survey respondents claimed their competence level is not an obstacle when engaging in innovation activities. Since competence is not considered to be the main impeding factor for participation, results from collected data imply the possibilities that the respondents instead consider time to be impeding are high. The employee survey respondents claim they want to participate to a greater extent but necessary techniques for engaging in innovation are not currently provided through educational sessions.

Initial learning should focus on creating an understanding of basic terms and comprehension of the learning process before introducing tools or methods to use (Bessant & Caffyn, 1997). Moreover, the threshold for initiating participation in these activities cannot be high (Abu El-Ella et al., 2013), and neither can expectations of the initial outcome or the first iterations. Since applying new innovation practices can be inconvenient (Abu El-Ella et al., 2013) it is important that top management team understand the importance of educating the employees in order to decrease possible resistance. Furthermore, importance lies in having an understanding of the possible inconvenience an implementation of innovation activities in day-to-day tasks can create.

The lack of knowledge can, according to literature, create a hesitation amongst employees to participate (Smith, 2018). If management does not provide employees with an accurate education or tools, an improved outcome from innovation activities cannot be expected. Providing the employees with education, showing them that the firm believes in them will therefore increase the wanted outcome (Patterson et al., 2004).

Results from the interviews state managers and employees want to take part in competence development related to innovation. Even though the overall results from the employee survey state both groups want to be educated to some extent, it would have been preferable to have a more distinct result showing the interest in competence development amongst the employees to be higher. Despite the non-managers having a higher percentage of wanting to take part in competence development, 22% versus the 11% apparent amongst managers, their individual ratings of the statement were scattered across the scale to a further extent than the managers'. Because of that, it is important to further investigate both parties' will to participate in competence development within the subject and see if time is the only aspect restraining them.

An easy mean for increasing competence development amongst the employees who are interested in engaging in innovation is through establishment of networks or discussion forums. Such action will further increase possibilities of interaction across the firm, and lateral networks are a key enabler for increasing participation (Ramstad, 2014). Literature further highlighted individualised educational plans (Ramstad, 2014; Nilsson et al., 2015) as a mean for each individual to feel valued and appreciated. However, it can be very time consuming and create frustration to establish these as a first step, therefore a start can be to establish it for smaller teams. Engaging in common educational plans will further increase the team spirit since a majority of the company is not even used to discuss innovation and initially it might be easier to take on a task together rather than alone. In this way it will be easier to establish innovation

activities appropriately based on the teams knowledge. However, literature fails to discuss to what extent competence within innovation is necessary in order to become a *High Involvement Innovation Organisation*. Since the company, at all hierarchical levels, seems to have an overall low competence within the field the importance lies in a general increase of innovation knowledge, and currently not in monitoring the level of competence.

5.5 Incentives

A common method for increasing participation, mentioned both in literature and by the interview respondents, were establishment of a reward or recognition system (Abu El-Ella et al., 2013; Kesting & Ulhøi, 2010; Wallace et al., 2013; Bessant & Caffyn, 1997). Overall, the employee survey respondents agreed to a moderate extent that they are given appreciation for taking part in innovation activities. However, one of the most discussed incentives in literature is to receive encouragement and appreciation (Kesting & Ulhøi, 2010; Wallace et al., 2013; Bessant & Caffyn, 1997) when stepping out of the comfort zone. Therefore, the possibility of applying a simple mean, such as appreciation of participation, to engage a broader scale of employees is applicable for the investigated firm. Several interviewed managers suggested it as a suitable way for increasing involvement in the firm and these types of systems or tools are also discussed to a large extent in literature (Abu El-Ella et al., 2013). Another suggestion emerging from the interviews was to compile and present successful projects, involving a broad base of competence, to the firm in order to increase incentives in terms of understanding why each individual's contribution is important.

While increasing motivation and will to participate through intrinsic incentives the challenge lies in the high failure rate innovation projects often involve (Kesting & Ulhøi, 2010). Therefore, literature states it is difficult to reward or provide recognition for only participation (Hallgren, 2009), but easier for actions, e.g. submitting ideas. Interview findings further highlight that encouragement for participating will not be enough to involve all, while at the same time the interviewees state that focus should be on those who wants to be involved instead of trying to engage everyone. Most interviewees expressed that the will to take part in innovation activates is overall high within the company, however innovation does not seem to be "urgent" or "on top of the agenda". When asked in the employee survey if it is important that they as an individual's engage and contribute with innovation, over 47% of the managers and 41% of the non-managers fully agreed with the statement. The survey results further showed that almost 70% of all respondents agreed to the statement to some extent. However, findings from other survey questions, Q4 and Q5 in Table 2 in Appendix G, show that the non-manager employees do not consider themselves as contributors to the leadership in innovation activities to a larger extent than the means participant. This shows a tension in the results, they understand the importance of their involvement, but they do not consider themselves to contribute much more than the average employee. The results imply either a lack of introspection amongst employees, or that the survey results are not fully reliable in the matter.

A suggestion, by both literature (Abu El-Ella et al., 2013) and interviews, where to establish a recognition system focusing on the various types of employees, therefore different employment forms need different types of recognition. Since the firm has a culture with strong team spirit and difficulties lie in rewarding only participation, a tool for identifying participation to a larger

extent can be involved in the idea submission system. If individuals who submit ideas are provided with the possibility to promote a number of co-workers who helped to come up with the idea it will be easier to find individuals who might be very active but does not feel secure enough to submit ideas. If ideas later are promoted and the originator (the individual who submitted the idea), combined with the involved team members receive recognition the team spirit, aligned with trust in oneself to be involved, will increase.

Another method for increased participation is arrangement of challenges or competitions (Chesbrough, 2003). However, both Abu El-Ella et al., (2013) and the interviewees highlight that such activities can increase involvement but simultaneously, developed ideas and concept tend to have a low quality. While competitions can show employees that the firm aim to involve resources to a further extent it can also create a pressure amongst the employees to feel forced to participate, according to the interviewees. Based on these aspects, a recommendation to the firm is to not put all the focus on arranging competitions to nurture innovation but to focus on the all *High Involvement Innovation* fields equally.

5.6 Measurements and KPI's

The majority of current metrics at the investigated firm evaluate performance and sales in quantitative numbers. However, Smith (2018) states innovation might need qualitative targets to a larger extent in order to maintain quality of ideas and engagement amongst employees. When focusing on each employee individual goal for participating in innovation the dual roles must be involved (Nilsson et al., 2015), but it is also important to take into account the measurement of input and output. Therefore, measuring the amount of submitted ideas is not a sufficient way to identify people's degree of involvement in innovation since one idea often emerge from several angles.

Interviewees brought up two specific concerns related to establishing new metrics during the study. First, creating a resemblance between existing metrics and new ones for innovation is difficult since innovation does not always benefit from quantitative metrics, and secondly, regions' goals are often not defined in the same way, thereby making it harder to establish a common understanding of innovation and its' metrics in all offices. Results from the employee survey clearly showed the both groups considered current KPIs to neither focus on increasing innovation nor neglecting it as an important goal. If there is an uncertainty if goals or targets aim to enhance innovation the firm faces challenges in communicating the importance of innovation. Therefore, establishment of targets with a more innovative agenda on a national, regional and local level is necessary in order for the employees and managers to fully understand why they should take part in related activities.

The regions at the investigated firm have various metrics and more or less work as separate units, quite similar to how smaller firms and organisations function. According to literature smaller firms tend to have a more participative approach to innovation and continuous improvement than larger firms (Smith, 2018), thus the organisational structure of the firm can possibly be used as an advantage for a transition towards becoming a HIIO. If each region is seen as its' own organisation, it makes sense there cannot be one set of KPI's targeting innovation which all regions should apply. Thus, the importance lies in developing these goals

through a two-way communication with each region. Knowledge of the regions' culture and identification of measurements they are comfortable with is key for establishing goals aiming to enhance innovation. Despite innovation needing qualitative targets, the chances that the newly developed metrics will be quantitative are high due to the context of the firm's core business. While Nilsson et al., (2015) and interview respondents agree on measuring innovation being an enabler for enhancing involvement, employee survey respondents does not present an aligned perspective, and considered the need for KPI's in order to increase participation unnecessary. There are several reasons why the results differ: e.g. employees perceive new measurement as an extra pressure or since the company is considered to have a low degree of internal innovation. Since several interviewees expressed the habit of taking part of innovation activities to be non-existent it was expected that the results from the employee survey illustrates a sceptic attitude towards measuring what might be seen as something "unknown". Moreover, the employees who responded to the survey might consider current measurement to be enough and therefore the interest in being measured in another area is low. Based on the differences in perception of the necessity of new KPIs, it is important to be aware of how these types of goals affect innovation outcome and existing goals (Smith, 2018). Thus, to develop innovation KPI's will be challenging, however in the long run it will be valuable for the internal innovation at the firm.

Following chapter conclude the main findings from the thesis work and present recommended actions to take to practically implement solutions aiming to increase employee involvement in innovation. The chapter further present the conclusion of the thesis along with future work within the research field.

6.1 Main findings

Literature highlighted the importance of paying attention to six *High Involvement Innovation* fields to stimulate a higher employee involvement in innovation. Intra-organisational support was generally a big influence in all practices, and several examples of support means such as time allocation, recognition systems, monetary means and guidance in innovation activities were presented among more. The literature review revealed that the developed practices cannot directly be applied to all organisations but needs to be adjusted to fit the current state of each firm.

Increasing involvement in innovation is to a large extent dependent on the organisational culture, therefore importance lies in collecting data from various sources and through differentiated methods in order to receive a deeper understanding. The case study revealed a need for the firm to further invest in several of the discussed focal areas. Overall the results show the firm is interested in becoming more innovative but due to the complex organisational structure a main challenge lie in communication throughout the company. Due to this, a challenge exists regarding managers and employees not taking on a leading role or ownership of new innovative projects. The challenges are many and in order for the firm to become more innovative several actions are necessary to take.

6.2 Recommendation

Given the results of the study, this recommendation provides five direct actions to take in order for the investigated firm to increase their employees' involvement in internal innovation activities. The interviews and the surveys showcased the current state of the company with the possibility to improve with simple means to increase involvement amongst the personnel force. The recommended actions to take are presented below in a stepwise order, aiming to provide a clear structure for the organisation of how to increase participation and become a *High Involvement Innovation Organisation*.

First of all, to enable all the actions stated below, it is important to make the transition as smooth and simple as possible. As is stated above in the thesis: "The threshold to participate must be low, and expectations of outcome from first iterations can't be high". Furthermore, it is also crucial to establish a sensible level of expectations from the outcome of taking on the actions since "The level of expectation must be investigated further in order to know where expectations should lie". Too high expectations cause the risk to lose motivation halfway in if the expected results are not instantly achieved. Before presenting the actions, three areas in need of further investigation are highlighted by the authors in order for the transition towards a *High Involvement Innovation Organisation* to be smooth;

- ***What hinders managers to carry out innovation to their employees?***

  By further investigating each region and what managers consider to be possible hinders for innovation participation, the managers can have a conversation with each other of how they should try to take on these challenges through existing discussion forums. However, the importance lies on creating an understanding amongst the managers what hinders are beyond the typical "too little time or money" even though this is a challenge as well. Moreover, it is important to identify what factors might limit participation in educations or workshop targeting innovation.

- ***What means can further enhance innovation networks?***

  A means to increase the amount of relevant innovation at a firm is to enable innovation networks, in some research named Open Innovation Forums. An important reason for increasing relevant innovation is that measuring the number of submissions or participation in innovation activities is not always enough. Bulk submissions are of no use if none of the ideas are valuable for the business. To increase valuable innovation at the firm, encouragement to increase internal forums for innovation would further stimulate the development of ideas and innovations connected to customer benefits and market relevance.

- ***Is time the only limiting factor to competence developing employees in innovation?***

  The firm needs to further investigate which employees are willing to develop a higher competence in innovation in order to distribute resources for education in an effective manner. However, it will be challenging to identify these employees, therefore the firm needs to decide if the focus should lie on an approach of involving as many as possible or only a few selected as mentioned by some interviewees.

The following five actions are developed based on the results of the study and the investigated company's current state. Furthermore, these aim to increase the level of employee involvement in a long-time perspective. Thus, it is crucial for the firm to process all presented actions in order to succeed.

1 - Top management needs to communicate the importance and urgency of innovation through various channels and physical actions

Managers at all levels, and in each business area, must show a united front towards the employees at the firm and agree on what importance radical and incremental innovation have. The firm has defined what the term innovation implies for the organisation. Therefore, the next step is for decision makers to agree on the importance and urgency of innovation before communicating it to *all* managerial levels and employees through several information channels.

To bear in mind when making the transition is that "leaders lead", implying that managers should pose as role models and promote participation in innovation as important through their own actions. Additionally, top management must allocate resources to innovation to send a signal that innovation is prioritised to the rest of the organisation. Furthermore, a way for managers to increase their employees participation is to make it a part of the everyday work through talking about and promoting innovation and corresponding activities.

2 - Implement automatic feedback and features boosting employees in the idea management system

Increasing participation in innovation activities involve employees using the developed idea management system. In order to encourage continuous usage, the system needs an automatic feedback system for the submitter to get reading ack's. Furthermore, the department responsible for managing the system should provide authentic feedback of the submitted content within 48 hours. Important to bear in mind when putting such a system to use is also to not forget personal response from the submitter's manager.

Additionally, in order to further increase motivation, the submission system could contain a feature for the submitter to promote colleagues involved in development of the submitted idea. A suggestion is for the system to send a push notice to the submitters' manager(-s) in order for them to more easily give submission credit.

3 - Develop a directed recognition system to stimulate the firm's internal competitive culture

The firm has a strong culture involving internal competitions and challenges. If arranging a competition or a time limited challenge the firm needs to have an understanding of the participants' motivation and also be aware of the risks that the innovation outcome might be more quantitative than qualitative. Another way to stimulate the competition instinct is to use different forums to promote various occupational groups at the firm, since employees with disparate roles uses various forums for communication and customer relations. Examples of forums where employees can be recognised are the intranet, internal newsletters, the firm's web page or at customer events among more.

4 - Familiarise innovation for the employees by establishing measurable innovation KPIs

Measuring innovation is challenging, but one suggestion to conduct such measurements at the investigated firm is to create a grading system of submitted ideas. The idea management system could involve a feature of rating other employees' ideas based on the level of innovativeness or profitability, making it possible to summarise the ratings and create an average score for each idea. Thereby, the collected scoring can be analysed, and each office can be measured on their average score. Through familiarising innovation through KPIs in this manner, as an example, participation in innovation would increase due to it being involved in the daily work.

5 - Establish basic educational plans for innovation involving the practising of problem-solving tools and methods

An educational plan for the employees at the investigated firm would initially focus on simple goals and connecting to the regions' overall goals. The plan would be divided in two areas; competence development and the dual roles in working with innovation. Competence development should initially focus on teaching the employees basic terms and concepts connected to innovation activities used at the firm. Furthermore, importance lies in teaching tools and methods in the activities along with practical testing of these. The dual roles of innovative work focus on both taking part of innovation activities through, e.g. submitting

ideas, and through encouraging co-workers to take part. For the employees to embrace both roles when working with innovation, both parts must be illustrated in the educational plan.

6.3 Theoretical contributions

Overall, previous literature has a more general approach to employee involvement with the main objective to highlight why employee involvement in innovation is beneficial, and what challenges are related. This thesis has brought to light several new challenges that are not presented in the reviewed literature, e.g. applying consultants' competencies for internal use in innovation activities instead of selling consultant hours and create a more or less immediate profit. Therefore, the theoretical contribution of the thesis involves the identification of new challenges related to employee involvement in a firm applying a business model with consultants in the IT industry.

In order to manage challenges and embrace enablers for involvement, several authors in the literature highlight various practices of how to successfully become a *High Involvement Innovation* organisation. Results from quantitative and qualitative data identify the value of several of these, however, literature often fails to provide specific means of how to establish HII. Despite the research of this thesis being a single case study, the findings are also applicable in other industries where companies use similar business models, both hiring consultants and selling services. The recommendation provides direct suggestions on how to increase innovation while previous research fails to do so.

6.4 Future work

To evaluate the results to a further extent, a T-test could be conducted on the confirmatory survey in order to make more out of the employees' answers and to identify other possible correlations or interdependencies. However, the thesis did not conduct such a test but instead evaluated the survey results towards findings from literature and interviews, therefore future analysis can provide further insights.

Furthermore, to practically evaluate the recommendation in this thesis, a follow-up study should be conducted in order to confirm or decline if the suggested actions have a positive effect on the organisation. Examples of areas to look into are;

- Management support - Have the managers changed their way of mediating the importance of innovation?

- Feedback - What are the effects of promoting colleagues?

- Idea submission - Will the implementation of the recommendation increase the amount and relevance of submitted ideas?

Ideas are often initially brought up to closest managers for a discussion, which often results in ideas being dismissed due to the managers' specific knowledge, understanding of the idea or personal vendettas. The thesis did not investigate this topic, but it can influence the level of innovation at a firm. Therefore, another interesting area for future research is to what extent "personal filters" amongst managers affect the level of innovation at a firm.

As a last suggestion, future research could investigate how employee involvement can be achieved through a multiple case study, thereby reinforcing the recommendation and corresponding actions provided in this thesis along with finding differences and similarities between industries, organisational structures and companies in various sizes.

6.5 Final remarks

Through applying *High Involvement Innovation Practices*, the firm of investigation can enhance internal innovation by involving a broader base of employees. The organisation currently faces many challenges in the initial phases of implementing a new innovation strategy and findings from the study show a need for better communication of the innovation definition and corresponding goals within the firm.

Given the purpose of this thesis, the recommendation and have been developed based on findings from the reviewed *High Involvement Innovation* fields and collected data, which provide practical actions for the firm to take in order to increase employee involvement in innovation. Five actions to take are developed to take action on, based on the current situation within the firm;

1. Top management needs to communicate the importance and urgency of innovation through various channels and physical actions

2. Implement automatic feedback and features boosting employees in the idea management system

3. Develop a directed recognition system to stimulate the firm's internal competitive culture

4. Familiarise innovation for the employees by establishing measurable innovation KPIs

5. Establish basic educational plans for innovation involving the practising of problem-solving tools and methods

Each action is customised to the firm, however, they can be applied to other companies with similar business models. As a result, the thesis successfully contributed to theory by providing a recommendation of several specific actions to take when aiming to enhance employee involvement in innovation.

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Before each interview began the interviewees were shortly introduced to the topic of investigation and the aim of the thesis. Thereafter the layout of the interview was presented and permission to record the meeting was brought up. Below follows the layout and questions used in the first batch. The layout is divided into themes with main questions and supportive questions in italics if necessary.

Basic info about the interviewee and their team

- Present yourself and what you do at (company name)? *Position, responsibilities?*
- What are your and your team's mission and goals? What do you do to meet these missions and reach your goals?
- What is innovation according to you?
  When replied, the interviewer presents the definition according to the innovation team at the firm.

Innovation within (company name) today

- What are your thoughts about the firm's work with innovation today?
- Do you consider innovation to be of importance to the firm? *Why is innovation important to (company name)? Is the vision of the innovative work commonly understood within the company? Is the vision common, does it reach the individuals and creates an understanding for them why they should contribute innovative ideas? Why / why not?*

Innovation within your department - (aim to discuss examples)

- Tell us about a project where you feel that you or your team were working on an innovative solution? Why do you think the project succeeded or failed? Examples of unsuccessful projects - why?
- How does idea generation take place in your department? How do you move forward with ideas? How is feedback occurring, related to this, today? *Do you consider your team to be innovative? Why? What works good and bad? What influences the employees positively and negatively in contributing to idea generation and proposals for new projects?*
- What are the common pitfalls in the initial stages of idea management related to innovation within your team? And within (company name) at large?

Innovation for you

- What do you do to actively work towards a more innovative (company name), for yourself and your employees? *Why? How? Examples*
- What can you change to make you and your employees more innovative? How can you help others become more innovative?
- How do you involve other employees (other managers, your team, your manager) in the work related to idea generation and idea management? *Do other people involve you? How does it happen?*

Possibilities to enable innovation within (company name)

- Are there any other resources you think can be utilized to a greater extent than it is being done today to increase the proportion of innovation / creative thinking / solution-oriented proposals within (company name)? *If unclear, discuss current resources, how can it be used to a further extent? What is the result of using them today? Internal and external resources / methods / opportunities*
- What barriers must be lowered to succeed further with innovation within (company name)?
- How would you and your team prefer the idea management process and system to work when handing in ideas or thoughts?

The company is currently trying to implement a new idea management system →

- How do you think this system will help innovation at (company name)? Why would it not succeed?
- How do you convey such a system to your team? How will you make use of it?
- Whose responsibility is it for (company name) to become a more innovative company?
- What does it take for you and your team to get a part of this and be further involved?

Goals related to innovation within your department

- Do you have goals linked to innovation in your department? Why? How? What are you doing to achieve these goals?
- Who sets the goals? How does this affect your work towards reaching these goals? How is the communication appearing related to this?
- What is the follow-up process of the goals?

APPENDIX B – Final interview guide

Overall the Final interview guide is similar to the Initial interview guide, however, some questions were added or deleted. Moreover, the order of the question was modified to some extent well. Below present the questions added or deleted but the new layout is not presented since is very similar to the Initial interview guide.

Following questions have deleted compared to the Initial interview guide, see Appendix A.

- Are there any other resources you think can be utilized to a greater extent than it is being done today to increase the proportion of innovation / creative thinking / solution-oriented proposals within (company name)? *If unclear, discuss current resources, how can it be used to a further extent? What is the result of using them today? Internal and external resources / methods / opportunities*
- What are your thoughts about (company name's) work with innovation today?
- Whose responsibility is it for (company name) to become a more innovative company?

Following questions have been added to the Initial interview guide, see Appendix A.

- How interested do you think your team is to influence what is happening at (company name)?
- How is the collaboration between you and the business area managers in your region and on a national level? How to your experience the network possibilities?
- How long do you think is reasonable to get feedback on your ideas?
- What tools would you and your team need to become more involved in innovative activities? Why exactly these?
- Would your team want to be involved in influencing how ideas are treated?
- How do you maintain the employee's energy and will to engage in idea generation and idea management?
- Suggestions of other employees to discuss the topics with?

This appendix presents the follow-up survey to the workshop included in the work with the thesis. The survey consists of nine questions and was handed out to all workshop participants.

Q1 - My overall impression of the workshop was

☐ 1 - Very bad ☐ 2 ☐ 3 ☐ 4 ☐ 5 - Very good

Q2 - It was a relevant agenda during the workshop

☐ 1 - I don't agree at all ☐ 2 ☐ 3 ☐ 4 ☐ 5 - I fully agree

Q3 - This is how I experience the time allocated for the workshop

☐ 1 - It was too long ☐ 2 ☐ 3 ☐ 4 ☐ 5 - It was too short

Q4 - The participants in the workshop were relevant for the agenda

☐ 1 - I don't agree at all ☐ 2 ☐ 3 ☐ 4 ☐ 5 - I fully agree

Q5 - Would you consider to take part of a similar workshop again?

☐ Yes ☐ No ☐ Maybe

Q6 - This is what I considered to be good during the workshop

[Free text]

Q7 - This is what can be further developed (Please give examples of specific suggestions of how it can be developed)

|Free text]

Q8 - This is what I bring with me from the workshop

|Free text]

Q9 - Other comments

|Free text]

The purpose of the employee survey was to chart the employees' general perception of areas included in High Involvement Innovation including, for example, communication, management support and competence development. The survey was anonymous and consisted of twenty-five questions and statements that the respondents assessed on a scale from 1 to 7, where 1 was "I do not agree at all" and 7 was "I fully agree".

To separate the answers, the survey was divided into four sections depending on what role the respondent had at the firm, but the questions were the same for all respondents. The roles were later clustered into two target groups; Managers (Consultant managers and Sales managers) and non-manager employees (Consultants and Account managers)

Q1 - According to your tasks - which of the following groups do you identify with?

☐ Consultant   ☐ Consultant manager   ☐ Account manager   ☐ Sales manager

--- Section break ---

Q2 - To what region do you belong?

☐ Northern   ☐ Middle   ☐ Southern   ☐ Stockholm ☐ Western   ☐ National / Other

Q3 - I often take part in internal activities focusing on the firm's innovative ability.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q4 - When I take part in internal innovative activities, I consider myself pull and lead the discussions in greater occurrence than a means participant.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q5 - When I take part in internal innovative activities, I actively contribute to greater occurrence than a means participant.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q6 - My closest manager actively supports me when I take part in innovation activities.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q7 - My closest manager encourages and challenges me to actively take part in innovation activities.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q8 - I experience that my closest manager is willing to realise elaborated ideas of improvements.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q9 - I experience that managers in my surrounding are involved in innovation activities.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q10 - I experience that my management team at a local level express the importance of innovation.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q11 - I experience that the management team at a national level express the importance of innovation.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q12 - The presented definition of innovation [provided the respondent at the top of the survey, editor's note] is well aligned with my own definition of innovation. *Def. innovation: "To transform an idea to something that creates benefit and value to the firm and our customers".*

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q13 - I experience that the firm's hierarchy limits my participation in innovation activities.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q14 - It is clear who to turn to with good ideas of new processes, services or products.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q15 - I actively network with co-workers from other departments and offices in matters concerning internal innovation.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q16 - I get constructive feedback from managers on submitted and presented ideas and suggestions.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q17 - I would like to engage more in internal innovation activities to a larger extent than what I do today.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q18 - I need help from my manager to allocate time for innovation.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q19 - I experience that my competence in innovation limits my participation in innovation activities.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q20 - I want to develop my own competence to be able to work with internal innovation to a further extent than what I do today.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q21 - I get educated by the firm in techniques and tools for problem-solving and innovation.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q22 - It is important that I as an individual engage and contribute with innovation to the firm.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q23 - I get appreciation when I contribute to innovation activities.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q24 - My team's local goals include increasing innovation in the firm.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

Q25 - Innovation must be measured and followed up in order for me to participate.

☐ 1 - I don't agree at all   2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7 - I fully agree

APPENDIX E – Workshop survey results

In this appendix the results of the workshop survey are presented, see Table 1.

Table 1: The workshop survey results

Question/ Respondent	R1	R2	R3	R4	R5
Q1	5	4	4	4	4
Q2	5	4	4	4	3
Q3	5	4	3	5	4
Q4	5	4	3	3	4
Q5	Yes	Yes	Yes	Yes	Yes
Q6	All the engagement	The participation and engagement	Relevant experience amongst the participants. A good level of the exercises, easy to understand but the right types of questions and areas covered.	Good group of people	The free, creative exploring part was good and it was interesting to analyse the question from many different perspectives in a way that is not very often done
Q7	More time during the next workshop	Nothing special	Try questioning the obvious a little more, it's good with long experience but we get stuck sometimes in technical aspects	Longer time for discussion	Maybe in the wrong phase / the idea was not prepared and evaluated enough. I consider one should have a certain framework of considered target groups / costs etc. Not set in stone but a little more of a framework to hold on to. It was very free now and I missed a little of the regular engineering calculations ;-)
Q8	To work similarly in other projects	The importance of dividing the solution in smaller parts	Exciting to learn how to work with this type of process in big corporations	First workshop of this type	The more free way to screen ideas and how you can work with generating and developing in relatively early phases.
Q9	Very good	Received new insights	Would've been good with more diversity in the group	Think it'd been good if *a certain department*	Good day and I'd be glad to participate in similar exercises and concept and

				had participated	process development regarding IMO. Some aspects can be better prepared, participants can read up on exercises and expected outcome to save time at the actual meeting.
			2(2)		

APPENDIX F – Estimation of survey respondents rate

This appendix resents the estimation calculations of the number of respondents to the employee survey.

Preconditions

Preconditions	
Given data	The survey was initially sent out to 158 managers at the firm of investigation
	Each manager has an average of 12 employees within their team
Collected data	185 responses in total: 83 were managers and 102 had a non-managerial position.
Assumptions	The managers who received the email with the survey but did not respond neither forwarded the survey to their team.
	All managers who received the email with the survey and responded sent it to their team as well.

Calculations based on preconditions

Eq1: Total no. team members who received the survey is 996

$$83 * 12 = 996$$

(no. managers) * (no. team members) = (total no. team members who received the survey)

Eq2: Total no. of individuals who received the survey is 1098

$$158 + 996 = 1098$$

(total no. managers who received the survey) + (total no. team members who received the survey) =(total no. of individuals who received the survey)

Eq3: Total response rate for the survey is 16,8 %

$$185 / 1098 \; [f0] \approx 0,168488$$

(no. managers) * (no. team members) = (total no. team members who received the survey)

Result

Thus, the total response rate is estimated to be **16,8%.**

APPENDIX G – Employee survey results

This appendix presents the detailed employee survey results. The percentage of responses to each rating is presented along with the average score for each question in Table 1 and Table 2 below. Table 1 presents the results from managers and Table 2 the results from non-managers.

Table 1: Survey score managers

Question/Score	1 [%]	2 [%]	3 [%]	4 [%]	5 [%]	6 [%]	7 [%]	Average score
Q3	3.6	4.8	9.6	16.9	28.9	27.7	8.7	**4.80**
Q4	3.6	8.4	10.8	20.5	32.5	18.1	6.0	**4.48**
Q5	4.8	4.8	9.6	21.7	31.3	19.3	8.4	**4.61**
Q6	2.4	4.8	6.0	10.8	20.5	27.7	27.7	**5.36**
Q7	2.4	1.2	13.3	19.3	19.3	22.9	21.7	**5.07**
Q8	1.2	1.2	4.8	14.5	9.6	33.7	34.9	**5.71**
Q9	3.6	2.4	10.8	25.3	32.5	18.1	7.2	**4.64**
Q10	1.2	4.8	2.4	13.3	25.3	24.1	28.9	**5.45**
Q11	0.0	1.2	9.6	10.8	20.5	36.1	21.7	**5.46**
Q12	0.0	1.2	2.4	2.4	12.0	37.3	44.6	**6.16**
Q13	25.3	27.7	18.1	3.6	12.0	9.6	3.6	**2.93**
Q14	8.4	7.2	16.9	15.7	20.5	19.3	12.0	**4.39**
Q15	7.2	12.0	12.0	22.9	27.7	13.3	4.8	**4.11**
Q16	2.4	12.0	13.3	22.9	24.1	19.3	6.0	**4.36**
Q17	4.8	8.4	8.4	22.9	14.5	26.5	14.5	**4.71**
Q18	21.7	20.5	9.6	16.9	6.0	18.1	7.2	**3.48**
Q19	15.7	30.1	9.6	20.5	14.5	8.4	1.2	**3.18**

Question/Score	1 [%]	2 [%]	3 [%]	4 [%]	5 [%]	6 [%]	7 [%]	Average score
Q20	2.4	15.7	14.5	14.5	19.3	22.9	10.8	**4.45**
Q21	34.4	29.5	11.5	13.1	8.2	3.3	0.0	**2.36**
Q22	3.3	0.0	6.6	8.2	11.5	23.0	47.5	**5.87**
Q23	6.6	4.9	3.3	23.0	26.2	18.0	18.0	**5.10**
Q24	6.6	6.6	14.8	27.9	26.2	13.1	4.9	**4.76**
Q25	16.4	11.5	19.7	31.1	11.5	3.3	6.6	**3.36**

Table 2: Survey score non-managerials

Question/Score	1 [%]	2 [%]	3 [%]	4 [%]	5 [%]	6 [%]	7 [%]	Average score
Q3	5.9	18.6	11.8	23.5	18.6	11.8	9.8	**4.05**
Q4	9.8	11.8	13.7	24.5	22.5	9.8	7.8	**3.99**
Q5	9.8	8.8	13.7	27.5	20.6	13.7	5.9	**4.05**
Q6	2.9	3.9	5.9	27.5	20.6	19.6	19.6	**4.96**
Q7	4.9	3.9	6.9	23.5	18.6	19.6	22.5	**4.96**
Q8	0.0	4.9	2.0	11.8	19.6	24.5	35.3	**5.67**
Q9	2.0	6.9	8.8	26.5	23.5	22.5	9.8	**4.70**
Q10	1.0	4.9	8.8	20.6	26.5	21.6	16.7	**4.98**
Q11	1.0	2.0	9.8	13.7	23.5	26.5	23.5	**5.30**
Q12	2.9	2.9	1.0	7.8	27.5	33.5	34.3	**5.72**
Q13	20.6	20.6	11.8	16.7	15.7	5.9	8.8	**3.39**
Q14	5.9	18.6	18.6	21.6	15.7	13.7	5.9	**3.87**
Q15	8.8	20.6	12.7	17.6	15.7	12.7	9.8	**3.84**
Q16	4.9	10.8	12.7	34.3	18.6	12.7	5.9	**4.13**

Q17	3.9	8.8	5.9	13.7	22.5	24.5	20.6	**4.98**
Q18	9.8	8.8	7.8	17.6	24.5	16.7	14.7	**4.47**
Q19	16.7	24.5	14.7	20.6	11.8	6.9	4.9	**3.26**
Q20	5.9	5.9	9.8	12.7	25.5	18.6	21.6	**4.88**
Q21	33.5	27.5	15.7	13.7	4.9	4.9	0.0	**2.44**
Q22	2.9	1.0	5.9	7.8	10.8	27.5	41.2	**5.75**
Q23	4.9	6.9	4.9	23.5	22.5	21.6	15.7	**4.79**
Q24	5.9	7.8	15.7	26.5	21.6	15.7	6.9	**4.25**
Q25	16.7	11.8	14.7	24.5	11.8	4.9	5.9	**3.51**