

# **IMPLEMENTING AN ENVIRONMENTAL MANAGEMENT SYSTEM FROM THE BOTTOM-UP**

**Jyväskylä University  
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Subject: Corporate Environmental Management  
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## **LIST OF TABLES**

<b>Table 1. Summary of the interviewees .....</b>	<b>27</b>
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## ABSTRACT

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Abstract <p>Micro-CSR has gained increasingly attention within the CSR research lately. The microfoundations of organizations have been studied to understand their impact on the company's CSR. However, studies from the perspectives of individuals are still somewhat lacking. The purpose of this study is to give its contribution especially to the employee perspective in the micro-CSR research.</p> <p>This study aims to answer two research questions: 1. Which factors do employees perceive as supportive and inhibiting for the bottom-up implementation of an EMS like ISO 14001? 2. From the employee perspective how could an EMS like ISO 14001 be implemented from the bottom-up? The questions are approached by conducting 13 semi-structured employee interviews in a chosen case company.</p> <p>From the employee interviews there are five factors identified that employees perceive as supportive for the bottom-up implementation of an EMS. These factors are simple and practical processes; pro-environmental attitudes and values, and emotions such as guilt and anxiety; organizational culture and the supporting structures for pro-environmental behaviour within it; awareness and communication; and rewarding and other incentives. The three inhibiting factors for bottom-up implementation of an EMS that are recognized from the employee interviews are lack of time or resources; emotions of indifference, ignorance and powerlessness and lack of environmental prioritization; and regulatory and safety requirements. The actual implementation of an EMS from the bottom-up can be supported especially by engaging, empowering, and enabling the employees' environmental action and by keeping them informed about the environmental policies and actions of the company.</p>	
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## TIIVISTELMÄ

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<p>Yritysten yhteiskuntavastuututkimuksen sisällä yritysten yhteiskuntavastuun mikrotasot ovat saaneet lisääntyvästi huomiota viime aikoina. Mikrotason rakenteita yrityksissä on tutkittu, jotta voitaisiin ymmärtää niiden vaikutusta yrityksen yhteiskuntavastuuseen. Kuitenkin yksilöiden näkökulmasta tehtyjä tutkimuksia on vielä verrattain vähän. Tämän tutkimuksen tarkoitus on antaa panoksensa erityisesti työntekijöiden näkökulmalle yritysten mikrotason yhteiskuntavastuututkimuksessa.</p> <p>Tämä tutkimus pyrkii vastaamaan kahteen tutkimuskysymykseen: 1. Minkä tekijöiden työntekijät kokevat tukevan ja estävän alhaalta ylöspäin tapahtuvaa ympäristöjohtamisjärjestelmän kuten ISO 14001 implementointia? 2. Työntekijöiden näkökulmasta kuinka ympäristöjohtamisjärjestelmää kuten ISO 14001 voitaisiin implementoida työntekijälähtöisesti? Näitä kysymyksiä lähestytään tekemällä 13 puolistrukturoitua työntekijähaastattelua valitussa case-yrityksessä.</p> <p>Työntekijähaastatteluista tunnistetaan viisi tekijää, joiden työntekijät kokevat tukevan alhaalta ylöspäin tapahtuvaa ympäristöjohtamisjärjestelmän implementointia. Nämä tekijät ovat yksinkertaiset ja käytännölliset prosessit; ympäristöystävälliset asenteet ja arvot, ja tunteet kuten syyllisyys ja ahdistus; yrityskulttuuri ja ympäristöystävällistä käyttäytymistä tukevat rakenteet siinä; tietoisuus ja viestintä; sekä palkitseminen ja muut kannustimet. Kolme alhaalta ylöspäin tapahtuvaa ympäristöjohtamisjärjestelmän implementointia estävää tekijää, jotka tunnistetaan työntekijähaastatteluista ovat ajan tai resurssien puute; välinpitämättömyyden, tietämättömyyden ja voimattomuuden tunteet ja ympäristön priorisoinnin puute; sekä lakisäätteiset ja turvallisuusvaatimukset. Varsinaista ympäristöjohtamisjärjestelmän alhaalta ylöspäin implementointia voidaan tukea erityisesti osallistamalla, voimaannuttamalla ja mahdollistamalla työntekijöiden ympäristötoimia ja varmistamalla, että he ovat tietoisia yrityksen ympäristökäytännöistä ja toimista.</p>	
Asiasanat Ympäristöjohtamisjärjestelmä, ISO 14001, mikro-CSR, yritysvastuu, mikrotason rakenteet	
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# CONTENTS

## ABSTRACT

## TIIVISTELMÄ (ABSTRACT IN FINNISH)

1	INTRODUCTION .....	7
1.1	Background.....	8
1.2	Research questions .....	9
1.3	Scope.....	10
1.4	Motivation.....	11
1.5	Structure.....	11
2	THEORETICAL FRAMEWORK .....	13
2.1	Corporate Social Responsibility (CSR) .....	13
2.1.1	Micro-CSR .....	14
2.2	Environmental management systems.....	16
2.2.1	ISO 14001 .....	18
2.3	Implementation of an environmental management system.....	19
2.3.1	Bottom-up implementation of an environmental management system .....	20
2.3.1.1	Green human resource management .....	21
3	DATA AND METHODOLOGY .....	24
3.1	Methodology .....	24
3.2	Case study.....	25
3.3	Data collection.....	26
3.4	Semi-structured interviews .....	28
3.5	Data analysis.....	30
4	RESULTS AND ANALYSIS.....	32
4.1	Supporting factors for bottom-up implementation of an EMS.....	32
4.1.1	Simple and practical processes.....	33
4.1.2	Pro-environmental attitudes and values, and the emotions of guilt and anxiety.....	34
4.1.3	Organizational culture and organizational structures supporting pro-environmental behaviour .....	37
4.1.4	Awareness and communication.....	43
4.1.5	Rewarding and other incentives .....	48
4.2	Inhibiting factors for bottom-up implementation on an EMS .....	50
4.2.1	Lack of time or resources .....	50
4.2.2	Emotions of indifference, ignorance and powerlessness and lack of environmental prioritization .....	52
4.2.3	Regulatory and safety requirements .....	54
4.3	Implementing an EMS from the bottom-up .....	56

5	DISCUSSION .....	60
5.1	Supporting the bottom-up implementation of an EMS .....	60
5.2	Inhibitors of bottom-up EMS implementation .....	63
5.3	The implementation of an EMS from the bottom-up .....	65
6	CONCLUSIONS, FUTURE RESEARCH AND LIMITATIONS.....	67
6.1	Theoretical contributions .....	67
6.2	Practical contributions .....	68
6.3	Future research.....	69
6.4	Limitations of the research .....	70
	APPENDIX 1: "INTERVIEW QUESTIONS" .....	78

# 1 INTRODUCTION

Organizations' corporate social responsibility (CSR) has become more and more important and relevant over the years, and it has been a focus of several studies. Inside the CSR research attention has lately been given to micro-CSR and the study of individual levels of CSR. Individual employees are often one of the greatest assets organizations have so it makes sense that these individuals and their actions and motivations are studied more closely. It is not only the companies that can motivate their employees towards green behaviour, but the employees' environmental motivations may also contribute to the organizations' green behaviour (Junsheng, Masud, Akhtar & Rana 2020).

Companies' CSR actions usually interest all stakeholder groups from investors and media to the organization's own employees. Therefore, it is important that the organization has its CSR actions and goals clear in their strategy and management and that they are also prepared to communicate them. This type of environmental management often benefits from the implementation of an environmental management system which helps the organization manage their environmental planning and actions on different levels of their business.

Environmental management systems are often built as systems that are implemented from the top-down. Many companies may use standards like the ISO 14001 to formulate an environmental management system. These types of standards also act as a signal to external stakeholders that the company is committed to environmental work and in improving their environmental performance. Even if the company has built an environmental management system and is possibly using a standard such as ISO 14001 it is a different question how that management system is being implemented. The implementation of an EMS may be challenging for companies especially if there are not enough qualified human resources or the support from the management is missing (Waxin, Knuteson & Bartholomew 2019). There may also be practical challenges in the operational implementation of an EMS, or the lack of regulations and the high cost may be causing difficulties in the implementation (Waxin et al. 2019).

Although EMSs are often implemented from the top-down and the systems are built to support that type of implementation, this research is more interested in the bottom-up implementation. In the bottom-up implementation the employees are often in an important role and for instance Waxin et al. (2019) have recognized that the lack of competency, low awareness and poor commitment to the implementation can pose a challenge to an EMS implementation in general. Therefore, it is important to understand how the implementation of an EMS can be expanded to the employee level as well. For instance, in public sector organizations employees are recognized as one of the main three stakeholders that can act as drivers for the EMS adoption (Waxin, Bartholomew, Zhao & Siddiqi 2023). Therefore, it is important to understand the employee perspective and what are the supporting and inhibiting factors for them in EMS implementation.

## 1.1 Background

When looking into research on CSR and the implementation of environmental management systems they are still somewhat lacking the individual perspective. As Yu, Shabbir, Ahmad, Ariza-Montes, Vega-Muñoz, Han, Scholz and Sial (2021) express it, the focus of contemporary CRS literature has largely been on macro or institutional level while the micro-level and the importance of employee pro-environmental behaviour has been rather ignored. This view is also supported by Jones, Willness and Glavas (2017) stating that meso- and macro-level perspectives have been dominant in the CSR research focusing for instance on the connections between the organization's environmental performance and financial performance. Guzzo, Abbott and Madera (2020) also highlight how CSR research is mainly focused on the meso-level perspective and on the development and implementation of CSR on the organizational level. Rupp and Mallory (2015, 225) note that a more person-centric approach to CSR is still somewhat neglected in current research.

Research on micro-CSR has only started to emerge in recent years. Jones et al. (2017) however note that this research has been largely focused on the perceptions and reactions of job seekers and employees to CSR practices. Which indicates that for instance employees' views have been researched more through their reactions rather than through their own actions and motivations. The topic has also been approached from the perspective of managers but the research on individual employees' perspective is still somewhat lacking research (Šlogar & Hrvatin 2023). For example, Onkila and Sarna (2021) have identified some research gaps regarding individual-level viewpoints to CSR and see some possibilities for future research regarding bottom-up CSR actions by employees. Girschik, Svystunova and Lysova (2022) bring up the employee activist viewpoint and suggest more research should be done on that. Their research concludes that the current micro-CSR research is not as transformational as it



could be, and it is still too focused on the status quo rather than bringing up alternative ideas from different levels of the organization.

Yu et al. (2021) then again have studied what kind of role employees' pro-environmental behaviour may have when examining the impact of micro-foundation of CSR in small and medium enterprises' environmental performance. They determine for instance, that workplaces can potentially transfer environmental behaviour to the employees' daily life as well. This way the companies can help increase the employees' awareness which can also lead to economic benefits for the company (Yu et al. 2021).

Another angle for researching the pro-environmental behaviour of employees is the research on green human resource management. For instance, Saeed, Afsar, Hafeez, Khan, Tahir and Afridi (2019) have studied how green human resource management practices may affect employees' pro-environmental behaviour. Tariq, Jan and Ahmad (2016) then again have looked into what type of potential is in empowering employees to make them more motivated to perform environmental tasks. Luu (2020) has discovered that the top-down and bottom-up approaches appear to complement each other with environmental servant leadership supporting employees' pro-environmental behaviour and this pro-environmental bottom-up behaviour influencing the organizations environmental performance. It therefore appears that green human resource management and the promotion of pro-environmental behaviour is necessary in multiple levels of the organization.

## **1.2 Research questions**

Since the focus of this research is on studying the implementation of environmental management systems (EMS) from the bottom-up, particularly individual members of the organization are in a key role here. In this case the focus is especially on employees in different roles in the company. Through qualitative semi-structured interviews with the employees of the case company the aim is to answer the following research questions:

1. Which factors do employees perceive as supportive and inhibiting for the bottom-up implementation of an EMS like ISO 14001?
2. From the employee perspective how could an EMS like ISO 14001 be implemented from the bottom-up?

These research questions are formulated to first discover more closely what types of aspects motivate or invoke action in individual employees and what types of aspects may prevent them from acting or behaving in an environmentally friendly way. Once there is a better understanding of the reasons behind people's behavior it can be easier to see how they could be supported towards a more active role in EMS implementation. When we are looking into individuals there are bound to be differences between people.

Therefore, the goal is to find different approaches to EMS implementation from the bottom-up and to identify the main obstacles and supporting factors for environmental action. Through individual interviews, understanding of the motivations and emotions of organizational members towards environmental actions will hopefully be increased.

### 1.3 Scope

As mentioned, this thesis will focus especially on the implementation of an EMS such as ISO 14001 which is one of the most widely used and known environmental management systems. Since the case company in question is ISO 14001 certified it can offer some insight into how the ISO standard has been utilized and how it shows to the employees. The focus of the study is especially on the employee perspective of environmental management rather than the actual environmental management system itself. Within the micro-CSR research this study is especially focused on employee perceptions of individual action rather than their views on the company's CSR actions.

The scope of this study also covers some elements included in the ISO 14001 standards that might be viewed more as top-down processes like for instance the engagement of the management and the environmental communication within the company. These elements are viewed as well to get an idea of the organizational culture and the attitudes within the company. However, the perspective is limited to the employee perspective although a few of the interviewees may also hold a manager position in the company.

The interviews are conducted in one case company that operates in the technology industry. Although the company itself is international and has operations in multiple countries, the interviews are performed at their site which is located in the Helsinki metropolitan area. Therefore, the results will be focused on the perceptions and thoughts of people working in the Finnish operational environment. As mentioned, the company operates internationally and the staff of around 700 employees consists of people with multiple different nationalities. These features are therefore bound to have their own impact on the company culture as well.

The study is also limited to the implementation of the EMS at the Finnish site. The EMS implementation at other sites or on the global level are therefore excluded from this study and they are not particularly covered. As for the interviewees, although sociodemographic factors have been taken into account in some previous research, they are excluded from this study. The reason for this exclusion is that the focus is on the understanding of different individual perspectives and not so much on looking behind them to see how they have been formulated or what factors may have affected them.

## 1.4 Motivation

When planning this research my initial personal interests were focused on employee engagement in relation to organizations' environmental action as well as on the environmental management systems used by companies. The topic of this thesis was developed from this starting point. As I familiarized myself with the research on these topics, I discovered the concept of micro-CSR. Through the micro-CSR research, I also found the research gaps regarding the bottom-up approach in the environmental management system implementation. As the research is still mostly focused on meso- and macro-levels of CSR I find it relevant to focus my research on the micro-level (Yu et al. 2021, Jones et al. 2017, Guzzo et al. 2020).

Although micro-CSR research has increased in recent years the employee perspective still remains as somewhat underrepresented (Šlogar & Hrvatin 2023). I find it important to increase knowledge on EMS implementation from the employee perspective because they might not be viewed as very active actors in management systems but more as passive implementors. The previous micro-CSR research may have for instance been more focused on employees' viewpoints and reactions to companies' CSR activities rather than on the employees themselves and their role in the implementation of CSR actions (Jones et al. 2017). Therefore, it is important to understand the individual differences between employees and to understand their different motivations. Once we start viewing the employees as more active parts of the environmental management, we can shift them from passive participants to active implementers and innovators.

## 1.5 Structure

The structure of this thesis helps the reader to first understand the relevance and importance of the topic and the reasons for studying it by giving a general presentation of it in the introduction. From there I move on to explain the theoretical background and previous research on the topic. This theoretical framework will be introduced in chapter two, and it is divided into three larger sections. The first section covers Corporate Social Responsibility (CSR) and especially the topic of micro-CSR and the research around it. The second section focuses on environmental management systems in general and looks more closely into ISO 14001. The final section in the theoretical background chapter is about the implementation of an environmental management system and it is particularly focused on the bottom-up implementation of an environmental management system.

In chapter three the data and the methods used in this thesis will be presented and clarified. Chapter four will present the results and the analysis conducted based on the results. This chapter is divided into three sections that

have been formulated from the basis of the research questions. It presents the supporting and inhibiting factors recognized during the research and then describes how an EMS can be implemented from the bottom-up.

The discussion chapter then looks more closely into the connections between previous research and the results of this thesis research. Then the final chapter draws together the main findings of this study and presents the conclusions that have been made based on them. It also presents the limitations of this research as well as suggestions for future research.

## **2 THEORETICAL FRAMEWORK**

The theoretical framework first briefly explains the concept of Corporate Social Responsibility (CSR). Then the research on the more specific topic of micro-CSR is presented more in detail. The micro-CSR offers perspectives on how to view for example the bottom-up implementation of an environmental management system (EMS). Microfoundations can help explain the behaviour and motivations of the individuals that may affect the bottom-up implementation of the EMS. Once the topic of CSR and micro-CSR have been covered the concept of environmental management systems (EMS) are explained. In this section more specific focus is given to the ISO 14001 standard that is also used in the case company. These systems and standards often offer companies the framework for building their environmental work and after their introduction, it is explored how these systems are implemented by reviewing previous literature. This is also to understand the role of the employees in the implementation. Therefore, the focus is brought especially to the implementation of the systems from the employee perspective and from the bottom-up. The literature on the employee perspective and bottom-up implementation of an EMS is very much connected to for instance with the concept of green human resource management.

### **2.1 Corporate Social Responsibility (CSR)**

Corporate Social Responsibility (CSR) has become increasingly relevant and important to both companies and their stakeholders recently. When especially customers show a growing interest towards companies' CSR actions, they need to keep finding the best ways to integrate CSR in their operations. For some companies the implementation of an EMS has been the answer for this need, and it has helped them integrate CSR into their business.

Kiesnere and Baumgartner (2019) have discovered in their study that most stakeholders, especially investors, the media, and the public act even as promoters for the implementation of sustainability in companies. There are also

some stakeholders who might be seen as inhibitors for sustainability implementation like certain suppliers and trade unions according to Kiesner and Baumgartner (2019). An EMS can help companies identify and meet the needs and expectations of these stakeholders. An EMS may also assist them in the planning of CSR work so that the supporting and inhibiting factors are considered. As sustainability and CSR are more often expected from companies than not it is important to address it. Additionally, internal stakeholders such as employees are often impacted by the CSR actions of the company and employees are a group that can also have their own effect on the company CSR.

There is still not a clear consensus on the definition of CSR or of what it exactly entails. However, the topic has been widely researched from multiple different perspectives and it is described for example by Rupp and Mallory (2015) as a “multilevel, multidisciplinary and fragmented construct”. One of the most comprehensive studies on the definition of CSR is offered by Dahlsrud (2008) in their analysis of 37 definitions for CSR. Based on these definitions five dimensions of CSR are identified as those that come up most in the different definitions; the stakeholder, the social, the economic, the voluntariness and the environmental dimensions (Dahlsrud 2008). For example, the United Nations Industrial Development Organization (2022) defines CSR as “management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.” This definition again indicates that an EMS can be a useful tool for the CSR implementation in companies. As Dahlsrud (2008) states CSR definitions often include the economic, social, and environmental responsibility, also referred to as the ‘triple-bottom line’ and the CSR actions regarding these aspects are done usually voluntarily or they are seen as something that might not be legally required but still expected by the stakeholders for instance.

### **2.1.1 Micro-CSR**

The focus of this thesis is more specifically on the micro-CSR of organizations and especially on the perspective of the employees because the organizational microfoundations can have a significant impact on the implementation of an EMS. The microfoundations of a company are closely related to the bottom-up implementation of an EMS as they often create the conditions for the bottom-up implementation of an EMS. Aguinis and Glavas (2012) define the microfoundations of CSR as “foundations of CSR that are based on individual action and interactions”. Felin, Foss and Ployhart (2015) add that in microfoundations research also the influence of these actions and interactions in producing organization-level and collective CSR is researched. So instead of researching the organization as a homogenous unit we should focus on the individuals it consists of.

However, Aguinis and Glavas (2012) also point out that research on CSR should be more multilevel because the macro- and microlevels complement each other. Multi-level analysis, mixed methods approaches and experimental research on microfoundation research are also supported by Haack, Sieweke and

Wessel (2019). This means that the organization and its individual members cannot be observed in a void since they are connected and influencing each other. For instance, a company's CSR initiatives can have a positive impact on individual employees' commitment and identification with the company (Aguilera, Rupp, Williams & Ganapathi 2007).

Rupp and Mallory (2015) offer a definition for micro-CSR where they state that it is "the study of the effects and experiences of CSR (however it is defined) on individuals (in any stakeholder group) as examined at the individual level". This definition focuses more on how CSR is viewed from the individual perspective. However, microfoundations are often studied and viewed as interactive in the sense that the research can focus both on the individual patterns of behaviour but also on how those patterns might change and affect the collective patterns of behaviour for instance in an organization (Haack et al. 2019). Rupp and Mallory (2015) also note that from most employee-focused micro-CSR research the assessment of how micro-CSR targets are reached is missing so that its impacts on the individual level cannot be assessed.

There is still very little research done on micro-CSR especially from a more person-centric perspective to understand the experiences of individuals when engaging with organizations and society (Rupp & Mallory 2015, 225). Aguinis and Glavas (2012) have also recognized that there is a knowledge gap in individual-level research. Instead, much of the research is still focused on the organizational and institutional levels (Aguinis & Glavas 2012). Although research on employee-focused micro-CSR has increased (Rupp & Mallory 2015) there are still some research gaps to be filled. Onkila and Sarna (2021) for instance recognized a gap in research regarding employees and CSR and the bottom-up approach. Most of the employee-CSR research has been done from the top-down management perspective in which employees are mainly seen as the implementers of the CSR practices (Onkila & Sarna 2021). Onkila and Sarna (2021) noted that more qualitative research is needed since so far most of the research has been approached quantitatively.

Gond, El Akremi, Swaen and Babu (2017) have found that prior studies on person-centric micro-CSR are divided between three main streams: individual drivers for CSR, individual processes for evaluating CSR, and individual reactions to CSR. They point out that the focus of micro-CSR research has been especially on the individual reactions to CSR and the research on the drivers of CSR is only getting started. Therefore, one focus of this study is on the individual drivers of CSR in employees. Gond et al. (2017) categorized the drivers found from previous studies into the following categories: instrumental drivers, relational drivers, moral drivers, and other individual drivers. The instrumental drivers can be related to things like personal goals and self-interest while relational drivers suggest that the concern for social relations and bonds with different types of groups drive people to take interest in CSR (Gond et al. 2017). Moral drivers then again may be related to for instance personal values or general moral considerations that may be very different between individuals (Gond et al. 2017). Other individual drivers that Gond et al. (2017) recognize from previous

studies are for example sociodemographic or cultural characteristics, political orientations, personality traits, emotions and knowledge or awareness of CSR.

Employees are often one of the biggest assets companies have and the organization's success is dependent on their contribution (Al Dhaen 2022). Therefore, it is important to understand what aspects drive and motivate them. Collier and Esteban (2007, 19-20) point out that employees are often also the ones who are responsible for the daily CSR implementation in the company. Therefore, it is important that the employees support the company's CSR aspirations and are committed to them (Collier & Esteban 2007, 20).

This commitment starts with the motivation to implement the CSR principles (Collier & Esteban 2007, 22). Asrar-ul-Haq, Kuchinke and Iqbal (2017) show how the commitment works both ways by presenting a significant relationship between perceived CSR and job satisfaction and organizational commitment. This significance shows that while employees are needed to support the company's CSR aspirations the company's CSR actions can also help in creating job satisfaction and commitment among the employees. This finding is supported by Barakat, Isabella, Boaventura and Mazzon (2016) and Chaudhary (2017) who demonstrate that companies' CSR actions can lead to increase in employee satisfaction or make employees less likely to leave the company. Therefore, it is important to keep the employees aware of the company's CSR efforts as well (Chaudhary 2017). As it is also discovered by Engert and Baumgartner (2016) employee motivation appears to be one key factor when implementing sustainability initiatives successfully.

Aguinis and Glavas (2012) highlight that they are usually individual actors who strategize, make decisions, and execute CSR actions. In this case they are more likely to be actors in managerial positions but nonetheless their individual thoughts and motivations often direct them in the decision-making. Allen, Attoh and Gong (2017) also find that transformational leaders can help employees view the organization as making an effort for CSR which can increase their commitment to the company.

Girschik et al. (2022) bring up viewpoints on how employees can pressure the companies towards certain CSR actions as well. They view that previous micro-CSR research is still more focused on the employee perceptions and reactions of the company CSR practices rather than embracing the individual voices, ideas, and activities of activist employees.

## **2.2 Environmental management systems**

As CSR issues have become increasingly important in the eyes of different stakeholders, organizations have received more pressure to deal with these issues. Many organizations have started implementing environmental management systems (EMS) to help them manage their environmental work and performance and to help them communicate about it to the stakeholders (Disterheft, Ferreira da Silva Caeiro, Ramos & de Miranda Azeiteiro 2012). An



EMS can be a useful tool for companies in the planning and management of their environmental work by offering a framework for it. An EMS can help integrate the environmental sustainability also to the company's strategy and make it a part of its core business (Jell-Ojobor & Raha 2022). This integration in turn can motivate the employees to adopt sustainable thinking as a part of their own work as well (Jell-Ojobor & Raha 2022).

However, these are not the only reasons for adopting an environmental management system. An EMS can for example help companies foster green innovations (Li, Tang & Jiang 2019). However, improving the environmental innovation and performance of a company requires more than just the presence of an EMS (Amores-Salvadó, Martin-de Castro & Navas-López 2015). An EMS may support the environmental innovation in the company by giving the tools to manage the process, but it requires existing environmental innovation capabilities from the company as well (Amores-Salvadó et al. 2015).

Large multinational companies in certain fields are also interested in extending the EMS standards to their suppliers (Morrow & Rondinelli 2002). If the company itself has successfully integrated EMS standards into their own operations it can help them require the same from their suppliers as well. Often companies that have adopted an EMS end up implementing green supply chain management as well which can help them improve environmental sustainability throughout their supply chain (Darnall, Jolley & Handfield 2008). In addition, Jell-Ojobor and Raha (2022) have found that an ISO-certified EMS can help companies develop green supply chain management that leads to financial advantages.

The motivations companies have for adopting an EMS are manifold but can often be divided into two categories, internal and external sources of motivation (Heras-Saizarbitoria, Arana, & Boiral 2016). Heras-Saizarbitoria et al. (2016) have recognized that the internal motivators are often related to environmental efficiency improvements and environmental problem minimization. The prevention of environmental incidents is a motivational factor recognized also by Singh, Jain and Sharma (2015). Then again Morrow and Rondinelli (2002) also recognize that companies' desire for environmental performance improvement and better use of resources may act as motivational factors for EMS adoption. In large multinational companies the parent corporation may also set the requirements for the integration of the environmental management and environmental performance as a part of the management and strategy (Morrow & Rondinelli 2002). They also find that motivating employees and staying ahead of legal requirements can act as motivators in some cases. This demonstrates how different types of CSR action can be integrated as a part of the company operations with an EMS.

External motivators are often related to different types of demands from stakeholders, the improvement of company image or gaining competitive advantage (Heras-Saizarbitoria et al. 2016). Especially the companies' desire for image improvement as a motivator for EMS adoption is recognized by several researchers in different parts of the world (Morrow & Rondinelli 2002; Singh et

al. 2015). The competitive advantage is also a rather common motivator for firms to adopt an EMS (Singh et al. 2015). Heras-Saizarbitoria et al. (2016) have found that companies with both internal and external motivational factors for the EMS adoption are the ones that experience better outcomes from that EMS adoption than those with just internal or external motivators.

Some organizations might opt for an informal environmental management system which can act as a great tool for environmental management within the company. However, there are also formal environmental management standards of which the two best known and most international ones are ISO 14001, developed by the International Standardization Organization, and EMAS (Eco-Management and Audit Scheme) by the European Union (Disterheft et al. 2012). By using these formal standards, the organization can receive an official certification and demonstrate to their stakeholders how they are conducting their environmental management (Disterheft et al. 2012). As these third-party standards show outside stakeholders the companies' commitment to improve their environmental performance it can often also give the competitive advantage in the market (Iraldo, Testa & Frey 2009). Iraldo et al. (2009) also find that it is not enough for a company to adopt an EMS, but they need to implement it and it needs to be integrated into the company structure and management to truly bring competitive benefits.

### **2.2.1 ISO 14001**

ISO 14001 is one of the most widely adopted standards that helps organizations implement and maintain an environmental management system (Mazzi, Toniolo, Mason, Aguiari & Scipioni 2016). In their 2005 study Gutowski, Murphy, Allen, Bauer, Bras, Piwonka, Sheng, Sutherland, Thurston and Wolff (2005) note that attitudes towards the standard may vary based on the region of the world with European companies eager to integrate the standard into existing environmental strategies and Japanese and the U.S. companies seeing it more as a requirement for market entry. Therefore, in all three regions ISO 14001 appears to be viewed as important for business for different reasons. Mazzi et al. (2016) have found that in the context of Italian ISO 14001 certified organizations the main benefits of the certification are connected to compliance with legal requirements, human resource management and environmental performance assessment. However, the legal requirements and compliance evaluation are also something that the ISO certified organizations struggle with (Mazzi et al. 2016). Other difficulties within the ISO 14001 are related to competence and awareness and operational control (Mazzi et al. 2016).

ISO 14001 requires a third-party certification to be valid and it is valued by many stakeholders so much so that some of them even pressure firms to get ISO 14001 certified (Castka & Prajogo 2013). Gutowski et al. (2005) note that although ISO 14001 is voluntary for companies to adopt once they do so their suppliers often follow the lead. The certification can therefore extend even to the supply chain this way. Castka and Prajogo (2013) also find that being ISO 14001 certified often leads to reputational benefits for the company that adopts it, and it is seen

as a strong signal of the company's environmental work. However, the pressure from stakeholders to adopt ISO 14001 does not necessarily lead to actual internalization of ISO 14001 (Castka and Prajogo 2013). If the motivation to adopt the standard is coming mainly from external stakeholders, the focus is not so much on the potential improvements but rather on the certification itself (Ivanova, Gray & Sinha 2014). This means that the focus seems to be on getting the certification to satisfy the stakeholders rather than to actually integrate the standard's requirements into the operations in order to enhance environmental performance.

Environmental management systems such as ISO 14001 help companies plan and execute their environmental management. An ISO 14001 certified EMS is based on a cycle of Plan-Do-Check-Act (PDCA) where the company must first introduce their environmental policy and plan for their environmental work (Arimura, Hibiki & Katayama 2008). This phase is followed by the actual implementation of the environmental management into the operations which is then corrected and improved as needed and reviewed by the management (Arimura et al. 2008). This model allows for a continuous improvement of the EMS. This thesis is especially focused on the implementation phase of the standard and more specifically interested in the role of employees in that phase.

All ISO standards have been agreed upon by experts internationally, states the ISO standard's official website (iso.org, 2023). These standards have been created to help establish best practices for different operations. For instance, in the case of ISO 14001:2015 it means the best practices regarding environmental management. There are also different standards to help with for example quality management and energy management. This research will be focused especially on looking into the environmental management standards (ISO 14001).

## **2.3 Implementation of an environmental management system**

The implementation of an environmental management system can bring companies many benefits but there might be some difficulties in the actual implementation or especially in the effective implementation of an EMS. Often EMSs are implemented more from the top-down with a focus on the management processes that have been put into place and that are being supervised by the management. This managerial support has been recognized to be essential also in promoting the pro-environmental attitudes and behaviour of the employees so often the implementation of an EMS requires both bottom-up and top-down actions (Junsheng et al. 2020). The importance of the involvement of employees alongside the management commitment has also been noted for instance by Chiarini (2019) who has found it to be the most significant factor in the successful implementation of ISO 14001. Chiarini (2019) has found that employees are in the forefront in the improvement of environmental performance since they can have a direct impact on it. Therefore, it is important to make sure with sufficient and

relevant training that their environmental awareness is on a good level (Chiarini 2019).

### **2.3.1 Bottom-up implementation of an environmental management system**

Environmental management systems usually offer tools for the implementation of CSR and especially for the environmental work related to it. For the successful implementation of an EMS often both top-down and bottom-up approaches are needed. Disterheft et al. (2012) studied the top-down and participatory approaches in a university setting and discovered that a top-down approach might be less time consuming and more focused on operational aspects like environmental performance and compliance than a participatory approach. A participatory approach then again might take up more time and resources, but it is more focused on the creation and strengthening of empowerment and awareness to better incorporate sustainable development into the organization as a whole (Disterheft et al. 2012). Therefore Disterheft et al. (2012) saw that in the implementation of an EMS in a university setting it would be most effective to use either a participatory approach or a mix of top-down and participatory approaches. Ivanova et al. (2014) bring up an important proposition that the involvement of employees is needed for the successful implementation of an EMS because the system needs to be internalized on all levels of the organization.

Ivanova et al. (2014) also recognize that when the decision for adopting an EMS like ISO 14001 is internal and not posed by external stakeholders it often leads to high support from the top management and to better internalization of the standard into existing processes. Once the top management shows support for adopting the standards it also increases the positive attitude of the employees towards it (Ivanova et al. 2014). Integrating the standards as a part of the existing procedures is also found to foster employees' positive attitudes towards the standard implementation (Ivanova et al. 2014). One more tool Ivanova et al. (2014) have found useful in the involvement of employees in the standard implementation is the use of technology. Different technological solutions help the employees stay informed and give them the opportunity to participate for instance in the reporting and give them access to the relevant data (Ivanova et al. 2014).

However, Girschik et al. (2022) point out that although bottom-up activities within an organization may result in new initiatives, they are not really a driver for a transformational change. The impacts of these initiatives often remain relatively small and insignificant while employee efforts challenging the status quo are still rather underexplored (Girschik et al. 2022).

When we look into ways to support bottom-up CSR actions in the organization we need to also understand what might be inhibiting it. We will need to understand the individual obstacles that the members of the organization might have, prohibiting them from participating in the CSR actions or having negative emotions or thoughts towards it. For example, Kiesnere and Baumgartner (2019) found that the lack of resources for the implementation of

sustainability was acting as a barrier between employees and the sustainability implementation. These types of issues have been identified also in the management level where Šlogar and Hrvatin (2023) have found administrative burden and lack of human resources as some of the most significant barriers for the implementation of an EMS. This may be one reason why necessary resources are not always given to the employees since they are needed for something else (Kiesnere & Baumgartner 2019). This gives the impression that perhaps sustainability is not seen as a priority, or it is not seen beneficial to use limited resources to it which in turn shows that sustainability is not perhaps embedded very strongly in the organizational culture or strategy. Kiesnere and Baumgartner (2019) also point out that at times companies also list the lack of personal interest by the employees as one inhibiting factor for sustainability implementation. Here the more important question might then be, what is the root cause for the lack of personal interest and could it be affected somehow by the company.

Other inhibitors for EMS implementation that Šlogar and Hrvatin (2023) have identified within managers are the lack of knowledge and time. Among managers Luo, Chau, Fan and Chen (2021) have also identified some barriers in the implementation of green practices. They researched the resort sector where policies and regulations, management, resources, costs, and awareness were identified as barriers to the implementation of green practices.

### **2.3.1.1 Green human resource management**

The concept of green human resource management has come up in research as something that can empower and motivate employees towards environmental behaviour. It may therefore help companies in their EMS implementation. The effective integration of green human resource management practices can help companies achieve sustainable business performance together with for instance the promotion of green transformational leadership and the inclusion of green innovation into company operations (Singh, Yadav & Pandey 2023). Green human resource management has also been found to influence in-role green behaviour directly and indirectly, especially if there is also an existing psychological green climate in the organization (Dumont, Shen & Deng 2017).

When environmental values are considered already in the recruitment phase it helps find the employees whose environmental values match the organization's environmental culture which in turn can help strengthen the culture even further (Singh et al. 2023). Zhou, Zhang, Lyu and Zhang (2018) have discovered that individual green values together with green transformational leadership are important in the creation of a green psychological climate in the organization. This type of psychological climate in turn can for instance enhance the organization's green product development (Zhou et al. 2018). Graves and Sarkis's (2018) findings support this because their study has found that seeing managers engage in environmental transformational leadership can result in greater internal and external motivation in employees especially if the employees already possess strong environmental values. Therefore, it is especially

important to match the green values of the employees with managers who share similar values. Garavan, Heraty, Rock and Dalton (2010) have also recognized the importance of corporate values in advancing proactive CSR behaviour in employees and they view that human resource development can be a useful tool in achieving this. Human resource development can help companies find those of their values that either prevent or drive the company CSR (Garavan et al. 2010).

Tariq et al. (2016) have discovered in their research that in order to be motivated and to take responsibility of environmental tasks the employees need to feel encouraged, empowered and eco-conscious. Luu (2020) then again would focus on fostering a pro-environmental servant leadership amongst managers together with green HR practices to transform it into pro-environmental behaviour in employees. Luu (2020) suggests using for instance different types of training, feedback, recognition, and information-sharing practices that would promote pro-environmental skills, knowledge and values and train servant leadership skills like empowering employees. Dumont et al. (2017) also suggest that employees should be offered sufficient training and educational opportunities regarding environmental issues and make sure that their work tasks include the requirements of the organizational environmental policy. This will give the employees sufficient knowledge for the implementation of environmental work and make it a part of their standard work. Dumont et al. (2017) bring up different types of encouragement as well when they suggest that organizations would offer employees appraisal in the form of promotional opportunities, pay and compensation for their environmental behaviour. These types of incentives could act as motivation and enhance the implementation of EMS goals.

Employees' environmental values are also found to be positively connected with their motivation (Graves & Sarkis 2018). Based either on their own values or on external factors the employees often have some type of an attitude towards environmental work and organizational CSR activities. There may be a multitude of factors that affect employees' attitudes so it may not always be clear how they can be influenced.

Wagner (2013) has connected HR management and job satisfaction, recruitment, and staff retention within it to EMS implementation. Especially job satisfaction benefits are a strong predictor of EMS implementation (Wagner 2013). Job satisfaction in turn can be derived for example from the feeling of meaningfulness (Glavas & Kelley 2014). Glavas and Kelley (2014) discovered that the perceived CSR, meaning the situation where the organization does good to third parties and contributes to the society can result in an increased feeling of meaningfulness. Therefore, it appears to work in both ways. The EMS implementation and positive actions from it create the sense of meaningfulness and job satisfaction in employees while also being a strong predictor of further EMS implementation.

Daddi, Todaro, Marrucci and Iraldo (2022) have also recognized that the satisfaction of environmental managers might have its own positive effect on the

internalization level of an EMS as well. This satisfaction in turn can be supported for example by giving recognition to the environmental certification among staff as well as by strong commitment from the top management (Daddi et al. 2022). Daddi et al. (2022) suggest that by giving the environmental manager the adequate resources and by enabling their work cross-functionally as well as helping in involving employees to the EMS the environmental manager can be supported and their job satisfaction increased. Therefore, for example the ISO 14001 standard has included in its latest revision the section of leadership that encourages the top management to be involved in the EMS as well (Daddi et al. 2022).

### **3 DATA AND METHODOLOGY**

This thesis is focused on discovering how from the perspective of employees can an environmental management system (EMS) such as the ISO 14001 be effectively implemented from the bottom-up. The study aims to find both, factors that employees perceive as supportive to the bottom-up implementation of an EMS and factors that they view may inhibit EMS implementation from the bottom-up. The study is especially focused on the employee perspective and aims to gain a deeper understanding of their thoughts and views regarding the research topic.

#### **3.1 Methodology**

Since the research is striving for a deeper understanding of the issue, a qualitative approach was chosen here. As Eriksson and Kovalainen (2008, 5-6) state qualitative approaches are often used when the goal is to gain a holistic understanding and interpretation of the issue that is being studied. They describe that quantitative research has a more long-standing history in business research and therefore usually qualitative research may be seen more as supplementary or as initial research on a topic that cannot yet be studied properly with quantitative methods (Eriksson & Kovalainen 2008, 5-6). However, they do present qualitative research as a valid method on its own.

The research subject could have been approached with quantitative methods as well for instance by using a quantitative survey. If the goal was for instance to test certain hypothesis or do a statistical analysis, quantitative methods would offer a better approach (Eriksson & Kovalainen 2008, 5-6). However, because the research questions this study aims to answer are trying to find reasons and motivations behind people's behaviour qualitative methods are more useful here. The qualitative method gives the interviewees more freedom in their answers and may help them bring up novel perspectives while quantitative methods may have restricted them too much to certain predetermined viewpoints.



Since the research explores people's subjective experiences and tries to discover the subjective motivators behind people's actions this study is approached from an interpretive perspective. The choice of an interpretivist perspective also supports the choice of qualitative methods for the research as they are often most effective in gaining a deep understanding of the subject (Saunders, Lewis & Thornhill 2012, 140). An interpretive approach highlights the role of humans as social actors who each interpret the world from their own perspective and operate from that premise (Saunders et al. 2012, 130-140). As a research paradigm the interpretive paradigm leans on a subjectivist and regulatory perspectives which means that the research is focused on current state of affairs and how it could be improved by exploring individual interpretations (Saunders et al. 2012, 140-143).

The purpose of the research is to discover the reasons behind people's behaviours and motivations and find their connections to the implementation of an EMS. Therefore, the purpose of the study could be described as explanatory (Saunders et al. 2012, 172). According to Saunders et al. (2012, 172) causal relationships between variables are researched in explanatory research which in this case means the relationship between employees' actions to implement an EMS from the bottom-up and the personal or organizational motivational factors effecting that action. For this purpose, also a quantitative method could have been chosen as they are often suitable for researching causal relationships. However, in this case quantitative methods would not allow for the exploration of the interviewees own views to gain a deep understanding, but the research would then be more focused on the statistical analysis and studying of correlations.

### **3.2 Case study**

Since this research is qualitative and explanatory, a case study has been chosen as the research strategy here. In a case study there is usually a case, or several cases constructed, and the research questions aim at understanding what the case is about and trying to find a solution for it (Eriksson & Kovalainen 2008, 115). A case study aims at understanding the research topic within a certain context (Saunders 2012, 179).

In this study the case is about bottom-up implementation of an EMS like ISO 14001 and how employees view it could be done successfully. Therefore, the research could be described as an embedded case study where the units being examined are the individual employees and the bottom-up implementation is the topic of interest which is being studied in this organization's context (Saunders 2012, 180). Woodside (2016) describes case study research as "an inquiry that focuses on describing, understanding, predicting, and/or controlling the individual (i.e., process, animal, person, household, organization, group, industry, culture, or nationality)". In the case of this research the focus is

especially on understanding the EMS and its implementation in the organization from the perspective of the individual employees.

There is an international company from the technological industry chosen as the case company for this study. The company has operations in multiple countries around the world, but the interviews of this study are conducted at their site in Finland where they have both production and engineering functions as well as certain supporting functions. The site in Finland has approximately 700 employees working either fully on site or partially from home with the hybrid model.

The company also has an existing ISO 14001 certification which makes it well suited for this research. With the company being ISO 14001 certified it offers an example of how the standard is currently being implemented in the company and how it shows to the employees. By interviewing individual employees, it is possible to get a view on how the employees see the current implementation of the EMS and where they see the most important challenges and successes at the moment. In individual interviews it is also possible to hear out the employees' suggestions on how the EMS could best be implemented from the bottom-up and what would support or inhibit this type of implementation.

Case study research is not so much a method of research but an approach or strategy for research (Eriksson & Kovalainen 2008, 116-117). In case study research multiple empirical sources are often used to produce a holistic view of the topic (Eriksson & Kovalainen 2008, 116-117). Woodside (2016) also states that often multiple research methods from different time periods are useful if we want to achieve a deep understanding of the case. It is also common to use triangulation and mixed methods, for instance both quantitative and qualitative, in case studies (Saunders et al. 2012). In this thesis, several semi-structured interviews are used as a primary empirical method of research to get a broad view of the case from different perspectives. In this case for instance a quantitative questionnaire could have been used to support the findings as well but due to the nature of the research as a master's thesis the focus is on gaining deep understanding through semi-structured interviews. In addition to the interviews a literature review on the topic is produced so that it can be reviewed how the results drawn from the interviews differ from or support the previous research on the topic.

### **3.3 Data collection**

The data is collected by conducting semi-structured interviews in the case company. The employees at the site are of various nationalities but the ones who have signed up for these interviews are all from Finland and the interviews are therefore also conducted in Finnish. The interviewees have varying amounts of experience from working for the company. Their work years vary from less than a year to over 25 years. Therefore, the interviews give a good overview of the

personnel when there are six employees with at least 6 years of experience with the company and seven employees with less than five years of experience.

To get a comprehensive sample of interviewees an open invitation to the interviews was sent out to all employees in the company via their internal communications channel. This internal communication channel is used in the company for posting different kinds of news and messages for everyone to see meaning that it has quite a good reach on all employees in different positions. The interviews were also promoted at a daily operations meeting where for instance production supervisors and employees from supporting functions like for instance finance and supplier quality are present. Interviewees were then able to book a time for an interview that was suitable for them via email.

The purpose of these open interview invitations was to gather people from many different functions of the company to get an extensive overview. The functions of the company can be roughly divided into three categories: production, engineering and supporting functions. The production consists of all the production workers and production supervisors. Engineering includes all the employees working in different kinds of engineering functions like product design and in the testing of new devices in the design phase as well as all kinds of product improvements to mention a few. The supporting functions are basically all other functions like for instance HR, supplier quality, EHS (environment, health, safety), lean, finance department, legal department, and sourcing.

The interviews that were conducted have a good representation of all three main functions: production, engineering and supporting functions. To ensure the anonymity of the interviewees these main categories are used in their grouping and for the same reason the supporting functions are further grouped together with production. This means that there are five interviewees from engineering and eight interviewees from production or supporting functions. Below is a summary of the interviewees (see Table 1).

*Table 1. Summary of the interviewees*

<b>Code for the interviewee</b>	<b>Function in the company</b>	<b>Time with the company</b>	<b>Interview date</b>
P1	Production	10 years	20.4.2023
P2	Production	25 years	20.4.2023
E3	Engineering	6 years	20.4.2023
P4	Production	6 months	20.4.2023
P5	Production	15 years	20.4.2023
P6	Production	3-4 years	20.4.2023
P7	Production	4-5 years	21.4.2023
P8	Production	17 years	21.4.2023
E9	Engineering	4 years	21.4.2023
P10	Production	~1 year	21.4.2023
E11	Engineering	7 years	21.4.2023

Code for the interviewee	Function in the company	Time with the company	Interview date
E12	Engineering	2 years	2.5.2023
E13	Engineering	2 years 8 months	2.5.2023

As it can be viewed from Table 1 above, the interviewees are coded based on their work function in the company. If they are engineering employees, they are coded with the letter E and if they are production employees or working in the supporting functions, they are coded with the letter P. The numbers they are coded with are simply the numbers in which order they were interviewed. The time they have been working in the company is also listed to get a sense of how much experience each of them has with the company. Some of the employees may have started out as contract workers so that they have not had a direct contract of employment with the company, but they have still worked there. This time is also calculated into their time with the company as they have gained understanding about the company practices and culture regardless of the type of contract they have had. Lastly the date each of them was interviewed is listed in Table 1. All interviews for this thesis are conducted in Finnish so the quotes that are presented in the results section are translated into English. Some of the quotes have also been shortened to make them clearer and the part that has been left out has been marked with three dots.

The interviews were conducted on three separate days the first two being the 20<sup>th</sup> and the 21<sup>st</sup> of April 2023 and the third day being the 2<sup>nd</sup> of May 2023. Altogether there were 13 interviews during these three days: six interviews on the 20<sup>th</sup> April, five interviews on the 21<sup>st</sup> May and two interviews on the 2<sup>nd</sup> May. Nearly all interviews were conducted face-to-face with only two interviews done via Teams in a video call.

### 3.4 Semi-structured interviews

Semi-structured interviews are chosen as a data collection method for this study because they give the interview some structure and help guide it around certain topics but also allow for flexibility. Saunders et al. (2012, 376) have identified semi-structured interviews as a data collection method that is often used to gather data that is then analysed qualitatively for instance as a part of a case study. Saunders et al. (2012, 377) also recognize that semi-structured interviews are suited for explanatory studies if the research design adopts an inductive approach. Since this study is being conducted as an explanatory case study from an inductive perspective the semi-structured interviews are well suited as a data collection method.

As Eriksson and Kovalainen (2008) describe a semi-structured interview usually has a preprepared outline for the interview. In this case the outline has been structured around a few different themes like individual values and awareness, the interviewees views on the company's environmental

management and the role of the employees in it and the company culture and environmental communication. The advantage of this interview style is that it provides quite systematic and structured data but is flexible and informal in the actual interview situation which may help the interviewees relax and speak more freely (Eriksson & Kovalainen 2008). Semi-structured interviews also allow for more freedom in asking specifying questions from the interviewees and gaining more insight from their answers which is important in interpretive research such as this one (Saunders et al. 2012, 378).

The interviews are started with more specific questions about the interviewees' backgrounds, and these types of questions are later used to ask for descriptions on the current state of affairs (see Appendix 1). However, these questions are usually followed by open questions. The open interview questions give the interviewees the freedom to really think about their answers thoroughly and to formulate their answers independently. Open questions can encourage the interviewees to answer more extensively and to provide more information about their underlying attitudes (Saunders et al. 2012, 391). There are also a few probing questions used in the interviews to gain more insight into how the interviewees see certain things in the organization or what would be their vision on certain topics. Probing questions are used to explore some topics more in detail and often their purpose is to gain a better understanding on something already said or to focus on particular details (Saunders et al. 2012, 392). Saunders et al. (2012, 378) describe how semi-structured interviews are well-suited for finding causal relationships and understanding the interviewees behaviour or the attitudes behind it more deeply.

The approach chosen for the study is very employee-oriented since the purpose of the research is to study specifically the bottom-up implementation of an EMS. Therefore, the approach to the interviews is also rather emotionalist or subjectivist as Eriksson and Kovalainen (2008) have described it. The purpose of the study is to get information on the interviewees' experiences which is why the questions are very much focused on asking the interviewees' how they feel or how they view certain things (Eriksson & Kovalainen 2008, 80-81). Of course, there are some more informational questions as well to get a better understanding of the processes in place in the company, but the focus is on the subjective experiences of the interviewees. As Eriksson and Kovalainen (2008, 80-82) also instruct it is often effective to use both 'what' and 'how' questions. In the interview questions these different types of questions are varied to establish a view of the person's current experiences or values and then to get a more specific picture of their views and possible ideas.

To get a wholesome view of the topic the interviewees are also asked questions related to the current state of the environmental management in the company. Some of these questions may be more related to the top-down approach of the management that is often in the focus of EMSs like ISO 14001. However, it is important to establish the ways in which the ISO 14001 is being currently implemented in the company to gain better understanding of how it supports the employee participation at the moment. The goal in this research is

to find ways in which the employees can be encouraged and supported to actively implement the EMS so that the initiative comes from the bottom-up.

### 3.5 Data analysis

Eriksson and Kovalainen (2008) suggest starting the construction of the case in a case study by making a case record where all the empirical data is gathered into one package. In this case the data from the interviews is first transcribed and then the answers are gathered in a single file. Eriksson and Kovalainen (2008) give two examples of how the case record can be assembled: thematically or chronologically. The material of this research was assembled thematically.

As the purpose of the study is to find reasons and motivations behind people's behaviour, the analysis of the data is done mainly by using inductive reasoning. In inductive reasoning the theory is developed from the collected data as a result of the data analysis (Saunders et al. 2012, 144-148). Inductive reasoning is especially useful in this research because the data is collected by conducting interviews and specific themes are then being identified from the interview material. Of course, the research is started from an overview of the theory to get a view of the existing literature and research on the topic. This type of approach is supported also by Saunders et al. (2012, 163) who describe how an already existing theoretical perspective can be extended with new research. Therefore, also in this research the analysed data will be compared to existing literature to find possible connections to previous research and to see if new themes have risen from the current research and if the themes in the current research have been identified in previous research as well.

The analysis of the gathered data is started by collecting all the interview data in the same file. This file is constructed so that under each interview question there are all the answers by different interviewees to keep track of which question the answer is related to. Next this data is read through multiple times to identify different themes related to the research questions. There are two broader categories under which the different themes are divided. Categorising the data rather broadly first helps in creating an initial structure for the research and in categorizing the data in a clearer format (Saunders et al. 2012, 557). These two broader categories are directly derived from the research questions with the first one being factors that employees find supportive for the bottom-up implementation of an EMS and the second being factors employees perceive as inhibiting for the implementation of an EMS. Based on this categorization the data is divided into two separate files that can be analysed further.

Under the two larger categories the themes are first recognized by skimming through the interview material and by spotting certain keywords or phrases that repeat in the answers. For example, in the supporting factors words such as easy, simple, and practical repeat in several interviews and these answers are grouped under the theme simple and practical processes. Once a general idea of the themes has been established, they are coded with specific colours chosen

for each theme. This colour coding helps noting how much a certain theme is repeated in the answers and in which answers. When doing the coding new themes may also be recognized or the initial themes may be altered to better describe the findings. For instance, at first values, attitudes and emotions are recognized as separate themes in the supporting factors but with further analysis they are grouped under one theme as they are so interconnected. Other themes recognized as supporting factors that employees identify for the bottom-up implementation of an EMS include the organizational culture and its structures that support pro-environmental behaviour, environmental awareness and communication and lastly rewarding and other incentives.

In the category of inhibitors, the employees recognize the lack of environmental prioritization and emotions such as indifference, ignorance and powerlessness, the lack of time or resources and different types of regulatory and safety requirements to inhibit the bottom-up implementation of an EMS. In the inhibiting factors for example words like regulations and requirements repeat quite often and they are firstly colour coded to highlight them and then further analysed to determine if they fall under the same theme, in this case under the regulatory and safety requirement theme. In both the supporting and inhibiting factors, the key words and phrases that can be categorized under a certain theme are colour coded into the material each with a specific colour chosen for the theme. This way it is possible to draw together all the interview answers supporting each theme.

## **4 RESULTS AND ANALYSIS**

The results are gathered into three sections to answer the research questions. Chapters 4.1. and 4.2. answer the research question 1. Which factors do employees perceive as supportive and inhibiting for the bottom-up implementation of an EMS like ISO 14001? Chapter 4.1. is especially focused on bringing up the employees' perceptions of what are the factors that support bottom-up implementation of an EMS. This chapter is further divided into sections based on the themes or in this case the more specific supporting factors that are recognized in the interviews. Chapter 4.2. also offers a partial answer to research question 1 but from the opposite perspective. This chapter presents the factors that employees find inhibitors in the bottom-up implementation of an EMS. This chapter is also divided into subsections based on the themes that are recognized to be the inhibitors. The final chapter 4.3. draws together the answers to answer research question 2. From the employee perspective how could an EMS like ISO 14001 be implemented from the bottom-up?

### **4.1 Supporting factors for bottom-up implementation of an EMS**

Research question one asks, "Which factors do employees perceive as supportive and inhibiting for the bottom-up implementation of an EMS like ISO 14001?" and this chapter aims to provide this question with a partial answer. This chapter describes the interviewees views on what they see as supporting factors for the bottom-up implementation of an EMS. In the interviews five recurring themes arise when employees consider which factors support the bottom-up implementation of an EMS.

First supporting factor is that the environmental action and behaviour has been made simple and that it is practical with clear processes. This comes up most often in several of the interviewees' answers. Another supporting factor that can be drawn from the interviews are people's pro-environmental attitudes and values, and the emotions of guilt and anxiety. There are certain attitudes, values,



and emotions that people have that can amplify their enthusiasm towards environmental action and behaviour. These same aspects can however also act as inhibiting factors if the attitudes, values and emotions are discouraging towards environmental action.

The third supporting factor that comes up in the interviews is the organizational culture and the structures within it that support pro-environmental behaviour. A certain type of organizational culture can act as validation and encouragement for employees' environmental aspirations. If the culture also contains structures that help the employees express their environmental behaviour it supports EMS implementation even better.

Awareness and communication from the company also appear to be in a key role in promoting and supporting environmental behaviour. These are closely related as communication often helps increase awareness as well. Additionally, one more supporting factor for the bottom-up EMS implementation are different types of rewarding and other incentives. This may not always mean monetary or tangible incentives but also different types of validation and encouragement.

#### **4.1.1 Simple and practical processes**

Simplicity and practicality are themes that come up multiple times in many of the interviews when environmental action and behaviour are discussed. Out of the interviewees nine mention simplicity and practicality at some point during their interviews. For instance, when the interviewees are asked what motivates them to behave in an environmentally friendly way, five of them mention that they are motivated when environmental action is made easy for them or when there are practical processes in place for it.

*P1: That it would be as easy and simple as possible ... That the easier it is then the easier it is to carry out and then, if it requires some extra effort, then it is easily left undone. Whatever it is.*

Especially recycling is discussed in this context and the interviewees see that it needs to be organized in a practical and easy way so that it becomes somewhat of a routine for people. For example, E3 states that they usually choose the option that is the most time efficient or what has been made easy for them. If this option is not the sustainable one it does not matter because the easiness and practicality are more important in this case. These answers suggest that the company should integrate the environmental approach into the work environment and work processes as well as in the everyday routines of the employees.

Simplicity, practicality as well as clarity come up again when the interviewees are asked what kinds of things they wish from the environmental management of the company. Especially clarity and simplicity like clear instructions for environmentally friendly behaviour as well as practical and concrete examples are mentioned by four interviewees. Three interviewees

mention communication about different kinds of instructions and rules for example regarding recycling as environmental communication they have noticed from the company. E9 in turn brings up transparency. They believe that this type of information can motivate people to act and give them the tools for it as well. With the help of communication and instructions the company can help guide the employees towards environmental action and help them in the implementation of environmental practices.

*P8: Practicality, that kind of clarity and that things are not made like too difficult to understand, so that they would be somehow easy to observe in your own work environment all the time.*

The interviewees are also quite directly asked what types of things support them in acting in a more environmentally friendly way. Supporting factors that are most mentioned by the interviewees include making sustainable choices as easy as possible, mentioned by four interviewees, and organizing the circumstances so that the best course of action is the sustainable one, mentioned by three interviewees. This might happen for instance by integrating it into the standard work or by creating opportunities for learning or making sustainable choices in the workplace.

*P2: ... if everything like that is organized easily, that you can recycle ... Then yes just that kind of that not like that if it's too difficult, difficult a thing then it might be left undone then that that it is like easily easily available that information ...*

When discussing about the current company culture P8 mentions that they already see environmental awareness as a part of the procedures and that it has been made rather easy. This statement would suggest that the company has already on some level managed to integrate the environmental behaviour into their operations.

#### **4.1.2 Pro-environmental attitudes and values, and the emotions of guilt and anxiety**

Quite significant supporting factors that the employees identify for the bottom-up implementation of an EMS and for pro-environmental behaviour are people's pro-environmental attitudes and values as well as certain emotions like guilt and anxiety. Often environmental behaviour may be internally motivated when people feel like it is something that is important to them or when they value it in their life. Environmental behaviour can also be driven by emotions, either positive or negative.

Already in the beginning of the interviews when the environmental awareness of the interviewees is discussed they express their pro-environmental values and attitudes towards the environment. At least five interviewees express their interest towards environmental issues or the importance of the environment

in their own lives. It might show for instance in their consumption choices or encourage them towards different environmental action like volunteering.

*P2: ... I'm like such a trash can cop, trash can cop they say. There again I checked that no not again someone has put something else in that plastic bin, that to me these recycling things and in general environmental issues are important ... you could say that I'm such a nature freak ...*

When we look more closely into how environmental awareness and pro-environmental behaviour show in the interviewees lives five of them mention paying attention to their consumption choices in everyday life. There are also those who do not view it as a priority in their consumption choices but who might still rather choose the more sustainable option if it is easy or cheaper than the other option. Three interviewees talk about choosing the type of energy they consume and another three connect environmental friendliness to choosing more sustainable modes of transportation. For three interviewees environmentally friendly behaviour can be seen in their eating habits. They have for instance been choosing more locally grown and organic food or reduced the consumption of meat which is also connected to the animal welfare angle.

*E11: Well ... in practical things it means recycling at home and at work, waste sorting. Then in transportation it means that well you use public transportation a bit more. Electric vehicles. Then well it affects with quite many different things for example to food consumption habits it has started to affect now in recent years that I eat quite little red meat anymore and these are the things that first come to mind.*

P5 highlights that it is each of our duty and responsibility to leave a healthy environment for the next generations. E13 also expresses this desire to have a better future for the earth and the people in it. These attitudes indicate that the interviewees have a general concern for the environment and its state in the future which might inspire them to action.

*E13: Then I guess I would want for a better future ... for the earth, world, people, maybe that everyone on this planet could live where they live and there would not be some horrible drought or that the temperatures would not rise so much that you can't live there anymore. Then ... I don't know if I have any personal motivator kind of that in my opinion it comes from that situation where this has become such a bad crisis, and we need to act on it.*

It is also important for the values of the company to be in line with the values of the individual employee. For instance, two of the interviewees state that they could probably not imagine going to or working for a company that would not care about environmental matters. P2 also feels content that for example the recycling in the company has been made so easy and versatile. P6 then again feels that their manager shares the same environmental values as they do which is important in creating the type of culture where the same values are shared

throughout the company. For instance, E13 would like to see that the environmental management would be a more significant part of everything and that it would be valued more in the company.

*P8: It is nowadays completely so that it is a total imperative that I could not even imagine that I would go to a company where these things weren't considered at all, that would be horrible.*

Some of the interviewees mention that they are already taking environmental matters into consideration in their work. E11 notes that considering environmental issues in the work is important and should at times even be demanded. There are at least three interviewees who express the desire to make environmentally friendly decisions whenever it is possible in their work or to participate in projects improving sustainability. This suggests that there is internal motivation for the interviewees to engage in sustainable behaviour. When asked how the interviewees would like to be a part of the company's sustainability work many of them express that they would like to continue being a part of it as they currently are. Six of the interviewees also consider EMS as an important tool and view the different benefits that can come from utilizing it.

By enabling the employees to behave in a way that fits their values, the company can support and encourage pro-environmental behaviour and the implementation of the EMS. This of course works best for those employees who initially already have pro-environmental values. For these employees it is important to offer the best circumstances for the pro-environmental behaviour they are already practicing in their everyday lives. For some employees it may also be motivating to see others act and see other people's motivation. For example, P5 mentions that they are motivated by seeing the increase in general interest towards environmental topics and seeing how people are getting more and more involved. This way the attitudes of others can be contagious in a way and impact others too.

*P5: What motivates me at the moment is that it is starting to be like quite mainstream. It has been really nice to notice that, that we have an active Green Team, and we have sustainability, those ads ... now I'm noticing already a clear change in the society that the interest is something very different from what it was ten years ago.*

Two of the interviewees mention how they would like to influence the environmental values of other stakeholders as well. They both talk about taking environmental values to both customers and suppliers but from a slightly different angle. P8 would like to extend the good environmental values the company currently has also to suppliers. P6 then again would like to make a more significant change in the environmental values of the company and recognizes that this shift would require building new customer relationships from the ground up again.

In addition to the pro-environmental values and attitudes, certain emotions are also recognized as a supporting factor for EMS implementation and pro-

environmental behaviour from the employee perspective. Depending on the emotions and how they are taken into consideration they can act either as a supporting or an inhibiting factor. There are for instance three interviewees who state that they have an internal motivation to do good and to act in an environmentally friendly way. They mention for instance the feeling of anxiety or a guilty conscience that might bother them if they do not act in an environmentally friendly way. On the other hand, this suggests that they get positive feelings from acting in an environmentally friendly way and according to their own values. P2 also recognizes the feeling of irritation when they see something that could be done in a more sustainable way but is not. These emotions that are mentioned can act as a driving force for environmental action if they are harnessed well. What the company can do is quite simply support this internal motivation or drive these employees already have and give them opportunities to realize this behaviour. However, if we want to tap into the more negative feelings then invoking those might also lead to people acting simply so that they could avoid those negative feelings.

*P8: Well for me maybe as a person, ... I then get like that I have to like care more about this issue. Maybe it is then the kind of, can I say guilty conscience, that I have ... For me it comes from within that ... if you throw a piece of trash on the ground what kind of a feeling you get. So, I would never throw a piece of trash on the ground because well I could not be with myself.*

#### **4.1.3 Organizational culture and organizational structures supporting pro-environmental behaviour**

Certain structures in the organizational culture like the sharing of ideas can also be viewed as supporting for the pro-environmental behaviour of the employees and the implementation of an EMS from the bottom-up from the employee perspective. Some of the interviewees view that already an organizational culture that is positive towards environmental action and the sharing of sustainability ideas can encourage people to participate in pro-environmental behaviour. Therefore, the organizational culture itself may also be viewed as supporting the bottom-up implementation of an EMS. The management support and engagement are not irrelevant here either as they can offer support for the bottom-up implementation of an EMS as well.

If the company wants to engage the employees in pro-environmental behaviour it is important to foster a culture where environmental and sustainability related ideas are welcomed and where environmental action is encouraged. Currently nine of the interviewees see environmental awareness or pro-environmental behaviour in the company culture in some way which is a good indicator. Nearly all interviewees think that environmental awareness should be a part of the company culture in some way which demonstrates that the organizational culture is already rather pro-environmental, and the company should foster that aspect.

The ways in which the interviewees have noticed the pro-environmental culture in the company include for example people's positive attitudes towards environmental awareness and action. Most of the interviewees consider that environmental awareness is a part of today's world and that it is more and more required by outside stakeholders as well. Therefore, by demonstrating a pro-environmental culture in the company it may improve its image as a workplace as well and attract new employees.

*E11: Yes, it does show. ... that mainly people do act in the right way here and it is very neat here and there is a place for all waste and people use a lot of public transport and biking and such. ... it would probably be considered frowned upon in our environment if someone was being ignorant or had a bad attitude towards the environmental thing then yes that would surely be frowned upon that there is a bit that kind of a culture.*

The interviewees have also noticed how environmental awareness and pro-environmental behaviour are a part of the procedures in the company as well as people's habits like the use of green commuting which is also financially supported by the company. The topic of recycling is especially something that comes up and multiple interviewees mention that it is one way in which environmental behaviour is visible in the company. The way people in the company view recycling, is a good depiction of the organizational culture because even those people who do not view environmental aspects as very important still abide by the rules and certain norms that have been set in the company regarding recycling.

*E12: Well yes it now shows in like these everyday that ... for example when commute cycling is encouraged and ... you can for instance charge some electric car here at work or so ... Well I do see it that way that like especially in Finland it is taken well into consideration, ...*

However, it is recognized by at least four interviewees that there are still differences in how people in the company view environmental issues. The interviewees recognize that some people in the company are not that interested in environmental issues and do not necessarily view them as important as others do. Although there might be some level of consensus in the company about the importance of environmental action it may not show so clearly in the culture.

*P1: Some are really environmentally aware and they are very particular about how these things are handled and some then well for them it does not like matter and they are not interested at all ... that it is a bit like about people and you can tell that there is that age question too that the more aged they are then the less it is of interest because never before did they have to and then when we those students and young summer workers come here then they are really particular about those and they are for them like obvious things and this this is how we operate and they do not even have to think about it.*

Three interviewees do not really see environmental behaviour in the current organizational culture at all and two interviewees note that there are certain operations inside the company where environmental thinking is not yet seen so much even though its importance may have been increasing lately. P6 also notes that they do not see that companies would on their own really adopt environmental awareness as a part of their operations or culture unless they were required by some type of laws or regulations. So, there are clear differences in how environmental issues are viewed throughout the company and in its culture.

*P10: ... but no it may not show so much ... I don't think that like there are such climate fanatics, that more like maybe it is considered maybe like quite not not really talked about really by anyone.*

One of the structures that especially comes up in the interviews as supporting the bottom-up implementation of an EMS is a system for sharing ideas from the bottom-up. Currently all interviewees know some channel where they would be able to bring forward their own ideas related to sustainability or environmental action in the company. There are some differences between the respondents on which channels they would use. The EHS team is mentioned the most with nine interviewees stating that the EHS team could be one option to whom they could bring their ideas. There are also seven interviewees who mention their own supervisor or another manager as a person who they could bring their ideas to. Especially employees in the production see the EHS team or supervisors as the best channel for advancing their ideas.

*P8: I know, we have an EHS organization where we can take these ideas either directly ourselves or then via a manager or even a shift manager. We have so many channels where we can take our ideas and improvement suggestions forward.*

There is also an online tool used in the company where employees can report their ideas for improvement or concerns, they might have, and this is mentioned by three interviewees. The company's Green Team which is a team of voluntary employees is mentioned by three interviewees as another platform through which they could bring forward their ideas. A few interviewees also mention that they feel that the ideas they present do go forward and that they are advanced. If the ideas are seen as beneficial and easy to do, then they are often advanced more efficiently. These answers suggest that there are channels in place for sharing ideas and structures in place to advance the ideas. These types of structures can help empower the employees to bring up their ideas especially if the surrounding organizational culture is also encouraging towards that.

*E11: Yeah we do have all kinds of channels and it is, it is probably like around ten different channels through which you could go present for example we can make, even make a concern if you have a reason and that type of a problem or then [internal communication channel] post and then there are managers and EHS team so in the end it is very much*

*up to you if you want to start bringing forward and then there are several of those channels.*

However, it is often not enough that there are simply existing channels for reporting ideas, but they need to be encouraged and supported too. This is where the management plays an important role. For instance, P5 feels that the management supports environmental work by giving sufficient resources for it. This statement is backed up by P4 and E11 who say that the leadership listens to concerns and that you can always get support from them with environmental aspects. Although E11 also recognizes that the project and business are often the priorities, but the environment is still considered in the background.

*E11: Yeah well yes, it is always so that it in our daily ... work it is the project and business always first and as a priority but there is in the background then that environment too that we operate in its frames that surely no supervisor or management will come tell or instruct in anyway wrong or to operate ... in a way that could be harmful to the environment ... And they do support when needed.*

Ideas are also generally encouraged in the work community and teams. The interviewees describe that the ideas are shared and discussed and that at the least people usually receive thanks for their ideas. P8 also highlights how the positive reception of ideas can give the employees the feeling of success.

*P8: Yeah. We encourage in our own team just because we see what a big impact even small ideas can have in our own occupational well-being, safety and comfort and that when an employee gives an idea then when everyone around sees that what a good thing it is to give ideas that also gives to the employee that feeling of success ... I have like noticed that change in my like work environment that we get those ideas and improvement suggestions and concerns more easily.*

*Interviewer: Yeah. Why do you think that is?*

*P8: From that kind of like culture that it is like taken forward and it is encouraged. It is visible, it is being talked about.*

In the management there are of course differences in the attitudes towards environmental aspects. The interviewees recognize that it may not be a priority for all managers and their attitude may also depend on their own work tasks and how closely related to it the environmental aspects are. However, the managers are also seen following the rules and guidelines that have been set in the company. For instance, P1 and P8 talk about management following the rules and instructions rather than working actively on these issues themselves. P8 also adds that they consider the attitude of the management towards environmental responsibility to be exemplary and that they also lead with example.

Based on these comments it seems like the managers are also following the organizational culture where the rules are set from the top down, and they take care of implementing them. What is not really being conveyed from the interviews is the kind of proactive initiative that would be an indication of a more



bottom-up approach to environmental work in the company. Since there are already employees who consider the managers to be leading by example and who look for their example it might be affective if the management would also show some example in the type of initiative that is hoped for from the employees.

There are also other ways in which the management can support pro-environmental behaviour and try to create an organizational culture that encourages people to environmental action. The interviewees have recognized some ways in which the management demonstrates environmental responsibility. They mention for instance that there is encouragement from the management to report ideas and concerns. Then there are the continuing benefits that the leadership has implemented throughout the company for instance for greener commuting. The interviewees also recognize the other supporting structures like a well-functioning recycling system. There is communication and campaigns as well as separate improvement projects done at the site. However, E9 and E13 also mention that environmental aspects are not really talked about regularly or very much at all which might demonstrate that it is not really an integrated part of the organizational culture or the management practices.

*E9: Well suddenly like this there aren't any like good examples that come to mind of how it would show, but well of course those commuting benefits and others, electric car charging those are ... the kind of things that maybe directly ... show but ... those are not like daily ... there is no discussion in any way regularly that how ... it could be like improved or advanced further.*

How the interviewees hope the management would support the pro-environmental culture in the company is for example by encouraging people's ideas and integrating the environmental aspects into decision-making and different functions of the company. They seem to want both some top-down support and guidance that has already been present in the company and the support on bottom-up action. For instance, E12 brings up that it would be good to bring cases to the employee level and engage the employees more.

*E12: Well maybe as a good example now is that sort of those things are somehow brought to ... to the employee level that they are not just like that it is somewhere there some organization somewhere that it is somehow that kind of very far away that it is maybe good that ... these kinds of like cases and then like those are kind of presented then maybe encouraged ... that kind of involving ... everyone ... that the people do not feel like it is somehow something distant ... that it is like sufficiently like kind of low threshold then that maybe ... they ... feel that they can like participate and influence ...*

However, the management alone cannot create a pro-environmental work environment. They can give some frames for it but to create a pro-environmental work environment that supports the bottom-up implementation of an EMS also individual employees are needed. Nine of the interviewees indicate that they want to be a part of the company's sustainability work in some manner which is a good starting point for the creation of a pro-environmental culture. Four of

them are happy to continue doing their part as they have done so far and for instance E12 explains how they would like to play their part in creating the type of atmosphere where ideas are encouraged and listened to and where they are realized. P6 and E13 mention how they would like for environmental aspects to be a part of their work or how they would like for them to be integrated more into everyone's work. It therefore appears that the current organizational culture gives everyone the opportunity to participate in the environmental work as they see fit.

*E12: Well maybe in that way that ... these like ideas ... people are encouraged to bring them up and ... that kind of like atmosphere ... is created that those and those like have an effect and kind of that those are listened to, and they can kind of like be realized that maybe then like that way.*

Most of the employees also seem to already feel like they are a part of the company's sustainability work at least in some small scale or as a part of the whole. This would indicate that the company has the type of culture that engages the employees so that they participate in the environmental work in some way that is suitable for them. The way in which most of them describe their participation is mainly by doing their part and acting in a way that has been agreed upon. Three of the interviewees also state that they do not personally find any reasons for preventing them from behaving in an environmentally friendly way.

*P5: ... that yes, I do feel like that, that in some way I am a part, a part of it, but my work is to this like factory and in Helsinki that I cannot affect what comes from there like outside the borders then and happens unfortunately.*

There are of course also employees who do not either currently see themselves as a part of the company's sustainability work or they do not even wish to be a part of it. For instance, three of the employees do not see the connection of sustainability work to their own work, or they might feel like their own impact on anything is very small. Some of them do not know how they could affect anything other than by recycling. They may then be interested in doing their part but just do not see how they could do it. This would require for the company to perhaps clarify more the ways in which people can be involved in the company's environmental work and the types of impacts their actions can have. These employees might need clearer instructions on how they can participate.

*E9: Well, I don't have a very good grip for it that, that actually like the only what I can daily think about is that do I take a disposable coffee cup or and recycle my own snack snack things and other trash like correctly and especially that electronic waste but other than that I have not really come across at least anything like that here ...*

Then again two of the interviewees state directly that they do not really want to be a part of the company's sustainability work. However, they do still mention that they will continue to do their duties that are required or that they simply want to be a part of the whole and do their part. These types of answers where the interviewees just want to do their part or where they see environmental aspects as a part of their work already are brought up by at least five other interviewees as well. Therefore, it appears that even if the employees do not seek an active role in the company's environmental work, they are still content in following the current environmental policies set by the company. This in turn might indicate that many of the employees might simply want a more passive role in the environmental work of the company. Among these employees it can be difficult to encourage them to take a more active role.

*E11: Yeah, yes, I do. I don't necessarily want to be there like as a forerunner, pioneer, front man there but I want to for my part keep my plot in order so to speak.*

#### **4.1.4 Awareness and communication**

Communication and people's awareness on environmental issues are also aspects that come up as something that employees mention as supportive to the EMS implementation and pro-environmental behaviour of employees. At least five interviewees describe having a good general environmental awareness that provides them with enough knowledge to make for instance sustainable choices in their everyday life. Three of the interviewees also consider their own managers to be very aware of environmental issues and that their manager takes environmental aspects into consideration in their work. The interviewees have also noticed environmental awareness in their colleagues and the work community as well as in customers and their demands. Four interviewees mention that clarity and the organization's efforts to increase environmental awareness could further support sustainable behaviour. Based on the interviews it seems like the employees hope for guidance from the company regarding environmental action. They do not perhaps seem so eager to increase their awareness on their own but hope for more clear structures to guide them and show them the best course of action.

*P8: Let's say this that clear instructions, ... That increasing awareness. But just that it is there visibly in your own work environment then that is yeah one of those most important things that you don't even forget it. ... It is like all the time present and visible. ... That it is kind of like a self-evident thing ...*

Environmental awareness can be seen as one motivation for pro-environmental action. For instance, E11 mentions that the understanding of the state of the world motivates them to "do the right thing". There are also five other interviewees who talk about how understanding the current state of the world and receiving all the information and news about topics like climate change make them more motivated to do more for the environment. This understanding may

be somewhat tied to emotions as well if the knowledge for example invokes feelings like fear or frustration that then fuel the action. However, for many it may simply be the feeling of solidarity towards others and the idea of being a good member of society that make them want to act. Especially if they see the issues can be solved and that they can make an impact then that hope can be a good motivator. For example, P6 and E12 bring up all the potential that future solutions for environmental issues hold and describe how that motivates them to act. Therefore, it appears that people need to be aware of the environmental issues to first form an opinion or a reaction towards them and then start acting based on that.

*E11: Well, yes well, this environmental topic has now been more broadly here very much in the headlines. From there comes that kind of internal motivation that when you understand the state of the earth, then you feel the desire to do the right thing on your part.*

In addition to using clear instructions for raising people's awareness on environmental issues the use of environmental metrics comes up multiple times too. The interviewees hope to see concrete environmental data and metrics to gain an understanding of the company's current environmental state. E9 also notes that using and communicating about environmental data may also motivate people if they get to see their own impacts. The topic of data and metrics comes up especially when discussing what type of content the interviewees would like to see in the environmental communication of the company, and when they are asked how they would implement environmental work in the company.

*P8: Maybe that things are made visible that people are informed about them that how we can with our own action like have an effect ...*

Communication about concrete examples, impacts, use cases and successes are hoped for by four interviewees. Four interviewees also mention that sharing metrics and increasing awareness about core environmental issues are something they would do if they were in an environmental management position. Some of them would for instance set goals and metrics to follow how they are reached and to communicate about the actions being done to reach them. By showing concrete cases in the communication the company can keep employees informed and aware of environmental aspects relevant in the company. When the awareness of the employees is kept up to date and when they are kept informed about what is going on in the company's sustainability it may perhaps help engage them in the environmental work as well by bringing the issues closer to them.

*E11: Well then, I guess engineers like very much all kinds of numerical data and metrics and such so ... that would be really interesting to follow some of these metrics maybe monthly or quarterly that for instance energy consumption and food waste from the cafeteria and then ... how much of that kind of waste, waste material we produce. So, it*

*would be interesting and then when something is measured then usually it can also be improved ...*

The current environmental communication in the company seems to contain for instance different types of campaigns since they are mentioned most in the interviews. Particularly the energy saving campaign seems to be in the interviewees' minds probably because it has been the most recent one. At least six interviewees mention different types of campaigns as a way the company supports or encourages to environmental behaviour. However, P6 and E12 also bring up the point that usually the environmental action should not focus only on temporary campaigns but be more continuous and aim at larger improvements instead of only focusing on the behaviour of individuals.

*P6: Well it is a bit like outsourced to EHS in like those greening campaigns that after all are like quite small, ... that what we can affect are the usage of the lights in the toilets and the coffee break room's ... recycling systems that then when the amount of trash what one individual person here for example during a workday produces is so small compared to what like for instance the amount of thrash that comes from the work process ...*

However, the interviewees have also noticed environmental communication for instance via email from the company's global level and locally from the EHS team in the form of EHS newsletters. Other internal communication channels that are in use are the company's intranet channels, elevator posters or EHS slides in team meetings. Four interviewees have noticed the global level communication in the email or intranet or in the form of the company sustainability reporting. However, the global level communication is often in English which is not very accessible to a large part of the employees who only understand Finnish. The hopes for more environmental communication in Finnish is also brought up by two interviewees from the production since especially in the production departments of the company Finnish is the main language. Therefore, it is important that the company shares the relevant messages not only through the correct communication channels but in a relevant language as well considering the target audience. The choices made in the planning of the communication may also depend on the interest levels of the employees. Some of them may want to have more knowledge on the subject and some may simply want a brief info package.

*P2: Yeah well, these News of course they come is it now once a month? ... basically when it comes via email then those who use a computer a lot then, then it comes to them, they check it and so but then when of course line workers they do not have it, they do not read that email, they just work, that then it needs to be somewhere, somewhere on an info wall or somewhere on a screen then visible ...*

However, the types of communication channels that are mostly described in the interviews can be considered as a more top-down approach to environmental communication. They may be good for raising awareness or

offering people tips on sustainable practices, but they do not really allow for dialogue unless there is some type of a participatory element in the messages, or the employees are given a chance to react to the communication. That is another reason why face-to-face interaction might work better for encouraging a bottom-up approach to EMS implementation.

*P7: ... I would see that this like together going through then I see that that is like the right solution ... That's the way it goes, discussion always brings up new innovations ...*

The content in the company's environmental communication consists often of tips and reminders on how individual employees can make an effect or what they can do themselves. Eight interviewees have noticed this type of communication where instructions or advice on individual action are shared. It may be for example recycling instructions or reminders about turning the lights off to save electricity. P8 mentions that this type of communication can be motivating for some employees when you are reminded of the impact individual actions can have.

However, P4 and P6 also point out that often the effects of individual action may not have a very significant impact in the bigger picture and that the management should also be involved in making more sustainable decisions. Although this is usually the case, individual action is still needed too. Especially when we are talking about the bottom-up implementation of an EMS it would be important for the employees to feel empowered and that they can also make an impact. If we start from the premise that the responsibility is shifted entirely to the management, it may not encourage the employees to take initiative. By empowering the employees and giving them the channels for making an impact they can perhaps be encouraged to act as well. At the same time, they should be communicated what is being done on the upper levels of the company to establish the feeling that all levels of the company are striving for the same goal.

*P4: ... that maybe individual employee can't like do miracles that the part of the management, part of the environmental management is then quite like big after all ... But then that whole, the bigger decisions then those do maybe have after all quite a big significance in the whole. Of course, an individual can somewhat influence but not endlessly.*

At the moment many of the interviewees appear to be connecting environmental friendliness especially to recycling and waste sorting perhaps because it is an environmental aspect that is very visible in the company. Recycling is a theme that comes up in seven interviews when environmental friendliness is discussed. Also, when the interviewees are asked if they have a possibility to consider environmental aspects in their own work recycling comes up again in the discussions. Four interviewees state it as one environmental aspect that is often considered at the workplace.

This would suggest that the environmental communication in the organization has a strong focus on recycling related matters perhaps because it is something where individual employees can make a concrete impact. It can also

be viewed as a good example of employee engagement that the recycling related issues seem to be rather clear for the interviewees. However, what is highlighted again are the instructions and rules provided by the organization rather than perhaps the ways in which the individual could for instance be more proactive and think of ways to reduce the waste rather than simply knowing how it should be sorted. If the organization wants to encourage more bottom-up behaviour they would need some other ways for that for instance encouraging more dialogue and raising more awareness even about the waste sorting.

In the interviews it also becomes rather clear that the environment is at times understood as the work environment in general and therefore it may at times be connected to for instance workplace safety too when discussing environmental awareness. This connection may simply demonstrate that the company has a strong EHS culture where environment, health and safety are all quite tightly knit together and may not be considered so much separately. The health and safety aspects appear to have more long-standing position in the company culture which the environmental consideration has perhaps not yet quite established. This is shown also when seven of the interviewees express feeling that considering environmental aspects is a part of their work tasks in some way or they connect it to workplace health and safety. This demonstrates that there may be a need to separate the environmental aspects more clearly from the health and safety aspects to make people aware of the actual environmental issues to company may face.

As a form of communication more dialogue and face-to-face interaction are also hoped for by four of the interviewees. They hope that environmental aspects would be brought up more in conversations in team meetings or in different types of events. E12 and E13 also bring up the presentations about different types of cases related to environmental sustainability as a useful tool in communication. Discussion and face-to-face interaction can help share ideas and increase everyone's awareness which is mentioned by P7 who highlights that often the team spirit and the conversation may even spark new ideas and give people different perspectives. P8 supports this idea by noting that often different types of team exercises or idea sessions may break the ice and spark ideas also from those people who may not otherwise speak up. Face-to-face communication is especially effective in bottom-up communication if it sparks new ideas and gives the employees a chance to get their voices heard. For this to happen it of course also requires that the management or other relevant parties are listening to the employees' message. P6 also brings up the usefulness of communication between departments like the cooperation between engineering and production teams. As the company works also in product design this type of collaboration is very useful also from a sustainability perspective.

*P8: ... And those like certain kinds of like group work or teamwork ... I feel that it also improves that like unified working, sharing ideas and like improving in the team ... when we get the opportunity and the time to sometimes do like as a team different exercises or like these kinds of thinking exercises ... It also breaks the ice for people for many, they might have so many ideas and potential but then it can be ... that they are missing that*

*certain type of like courage or possibility to like talk and work on those even if we encourage them to tell us.*

#### **4.1.5 Rewarding and other incentives**

In the interviews, different types of rewarding and incentives also come up in several answers. It is not always necessarily about tangible or monetary rewards or incentives, but the interviewees might refer to intangible rewarding as well. Mostly all the types of rewarding that are discussed, are brought up in a positive light and the employees view that they support the environmental behaviour or encourage to environmental action.

Different types of rewarding and incentives are discussed especially when the interviewees are asked how sustainability related or environmental ideas are rewarded or encouraged in the company. Ten of them have noticed at least some type of rewarding for these ideas, either tangible or intangible. Eight of the interviewees bring up candy bars that are given to all those who make an improvement suggestion or concern.

Seven interviewees bring up that the reward for bringing forward environmental or sustainability related ideas is often general encouragement and thank yous. P8 has noticed that there has been some change in the situation and that people pay more attention and report more ideas than before. They suggest that this might be due to the increased encouragement and the fact that the culture has shifted so that these ideas are made more visible, and they are celebrated as exemplary behaviour. So, drawing from this it may not always be so much about the rewarding itself but about the encouraging environment and culture that supports people to bring forward their ideas.

*P8: We encourage in our own team for that reason that we see how big of an impact even small ideas can have ... and that when an employee tells an idea then when people around see what a good thing it is that you give ideas. It also gives the employee that kind of feeling of succeeding and yes ... we then get thanks from EHS department, manager, can come from your own team and then you get a candy bar.*

Some of the interviewees have also noticed that often people do not need or want any rewards for the ideas they present. Most of the time they are happy with the thank yous and they simply wish to give their own contribution. It is also important for them to see that the idea they present is being implemented and that they get feedback for it. Two of the interviewees also note that they themselves do not really need any special rewarding for the pro-environmental behaviour they do. They might see it as a part of their work or simply do it out of their own desire.

*P5: ... but I have come to the conclusion that a person, when they make the suggestion then for them the biggest motivator is that something is done about the proposition not that you get a candy bar for it or that you get something else for it but that you, they have this idea and that something is done about it and that they get the feedback for it.*



There is currently also some financial support the company gives to encourage and support environmentally friendly and sustainable behaviour like green commuting. This support includes the monetary encouragement for public transport tickets and electric bikes as well as the possibility to charge electric cars at the workplace which are noted in different instances by six interviewees. These forms of incentives come up for instance when discussing ways in which the management or the company support or encourage to environmentally friendly behaviour.

E13 for one sees these monetary incentives as an effective tool to encourage people and finds them as something that supports pro-environmental behaviour in their own work. However, they also bring up some more subtle nudging the company does. As an example of this nudging, E13 gives the fact that only non-disposable coffee cups are available in the company café instead of disposable ones. P8 then again brings up the use of different kinds of reminders in the work environment to make people more aware of their choices and to remind them about sustainable actions like turning off the lights. In these examples the less sustainable option might be taken away completely, or the employees might be encouraged financially towards the more sustainable option.

Monetary rewarding is also mentioned by P5 and E12 when talking about the encouragement the company gives for bringing forward environmental or sustainability ideas. However, they mention that these monetary awards are currently given to employees usually only for ideas that have a larger impact and that lead to larger improvements. This is noted by P6 as well who then again states that environmental ideas are not encouraged or rewarded unless they enhance efficiency somehow. Though they do add that employees still often act in an environmentally friendly way. This statement seems to indicate that it is mainly the culture and perhaps the intangible rewarding that encourage people more than the financial gain.

*P5: There is a rewarding system in place in the firm so each idea ... is rewarded with something small and then ... gift cards can be rewarded so bit bigger rewards so that a person who made this innovation and it achieved significant savings on a yearly level then it was rewarded with something bigger ...*

E11 suggests that perhaps some type of rewarding system could be extended to connect to certain environmental metrics too. They suggest that tying the rewarding to tangible metrics the company might help motivate some employees who are more metrics oriented, and they could be encouraged to strive for better results. There is also one interviewee who mentions money as a motivational factor in their decision-making process when asked about the motivation for environmentally sustainable behaviour. However, this comment is more related to making purchasing decisions.

P4 also mentions some prizes that have been given out for ideas that were made for a specific environmental campaign. E11 remembers some small gifts that have been given for the participation in some extra EHS activities. So clearly

there appear to be multiple different types of rewarding in place in the case company. However, not all employees seem to be so aware of them. As it is mentioned though it might be more relevant for the company to focus on the intangible rewarding since it seems to be important to many people as well. What is important to remember is that when for example ideas for improvement are given, they are noted and the employee making the suggestion is informed about their possible implementation. People like to see how their ideas move forward and perhaps also get feedback for them if they cannot be implemented.

## **4.2 Inhibiting factors for bottom-up implementation on an EMS**

Research question one also aims at discovering which factors do employees perceive as inhibiting for the bottom-up implementation of an EMS. Based on the interviews there are three themes that seem to come up the most. The inhibiting factor that gets mentioned the most is lack of time and resources. Another factor the interviewees mention as something that may prevent them from taking the most sustainable road every time are the limitations from different regulations and safety requirements. Lastly the interviewees recognize that the lack of environmental prioritization and emotions such as indifference, ignorance and powerlessness towards sustainability can cause obstacles for environmental behaviour.

### **4.2.1 Lack of time or resources**

The lack of time or resources are identified as inhibiting factors for pro-environmental behaviour or EMS implementation in at least some form in eight interviews. When asked about the main reasons that may prevent individuals in the company from acting in an environmentally friendly way at least four interviewees recognize hurry as one reason for this. When the employees feel like they do not have the time to for instance find the correct waste bin or to find the most sustainable option they take the less environmentally friendly road.

E13 also notes that the pressure from tight schedules may not always encourage to spend time in trying to find the most sustainable option either. This suggests that environmentally friendly choices are often viewed as something that take more effort or are more difficult in some way. This inhibitor is therefore somewhat connected to the easiness, simplicity and clarity that were mentioned in the supporting factors earlier. When environmentally friendly behaviour is made easy for the employees, they are more likely to act that way too.

*E13: ... when there are many other requirements too but then there is also that timetable pressure and it may not be taken completely like as the most important priority, that environmental aspect.*

P2 also mentions that some people may say that hurry could be a preventing factor for environmental behaviour but that P2 themselves does not have anything that would prevent them from acting in an environmentally friendly way at work. This answer indicates that at times it is more about the mindset than about the actual working conditions. However, it is also important to note that people might have individual differences in how they experience for instance hurry or pressures from timetables.

It is not only the hurry or lack of time that is viewed as an inhibitor for EMS implementation but also the lack of resources comes up in some comments from the interviewees. This is also tied to the statements about how easy environmental action has been made. When asked how the interviewees would implement environmental work in the company if they were in charge, P2 notes that it would require time and resources that would have to be provided.

P1 and E3 also bring up the simple lack of employees and resources which have resulted in situations where certain employees or managers may have so much on their plate that environmental aspects are somewhat forgotten. P1 does however note that lately there has been an increase in resources and the situation has gotten better. This improvement has also resulted in changes going forward faster than before.

*E3: ... but due to that lack of resources we do not have like any persons named who would think about environmental things like that we try to get that device to function and that takes up like all the time and ... if someone would like to like develop it further, that okay we could make this more environmentally friendly then that would just require more staff then and not not like current resources are not enough to do this.*

On an individual employee level some interviewees may feel like they do not have the capacity to make the effort to act in an environmentally friendly way. Two of the interviewees also mention that it seems like some of the responsibility for environmental action might have been shifted to employees or voluntary groups within the company. The problem with the potential divide of responsibility is that these employees or voluntary groups may not have the resources or the power to make an actual difference. Therefore, it is important to communicate clearly which are the responsibilities of the company and how employees and voluntary groups can support the environmental action.

*E13: ... That then that Green Team is funny that it is just like kind of that like it is really good, and it is a wonderful place and like that really important and good things have been done there. ... but it's funny that it is just like it is kind of left to the employees. ...*

For example, P6 and E13 pay attention to the effects employees can have and how some things seem to be relying quite heavily on the employees' own activeness. P6 notes that the impact employees on the grassroots level can have, is often quite small but in other situations big improvements can be made when there is more collaboration between for instance production workers and the engineering department. E13 in turn states that even if individual employees are

eager and even able to act and make changes it may still require support from people in different positions and levels to truly make a difference. So, collaboration throughout the organization is key here.

#### **4.2.2 Emotions of indifference, ignorance and powerlessness and lack of environmental prioritization**

The emotions of indifference, ignorance and powerlessness and the lack of environmental prioritization are factors that come up in at least seven interviews as some type of inhibiting factors for EMS implementation and pro-environmental behaviour. There are some emotions that can act as a supporting force for EMS implementation too, but especially emotions like indifference and ignorance towards environmental issues are quite often a very strong inhibitor for it. Environmental action often provokes many different emotions in people, and it is important for the company to recognize these different types of emotions and the values and attitudes behind them so that they know how they can best be approached. The lack of prioritization of environmental issues either in the organizational level or on the individual level is often connected to the values and attitudes of the individuals or the organization. When the environmental issues are not prioritized, they are usually not seen as particularly important or something else is valued over them.

Indifference and ignorance are some aspects that come up in the interviews already when discussing the environmental awareness of the interviewees. They might be aware of the environmental issues and know what the most environmentally friendly course of action would be, but they do not view it as a priority. Therefore, they might for instance choose the option or action that is easiest for them or that suits them best.

*P1: ... I know that there are these kinds of things and some things I abide by, and some things are indifferent to me.*

Indifference and ignorance may be difficult for the organization to tackle but they are often something that can be influenced with the organizational culture. As one of the interviewees well points out people might look to others and their actions to see what behaviour is socially acceptable in the organization and within its culture. Therefore, if the culture for instance supports pro-environmental behaviour and rewards for it then people might be keener on acting that way.

*P10: ... And then if people are like indifferent that if others don't do then why should I. And then well then again there is that ignorance ...*

Another emotion that arises in the interviews that may be seen as an inhibitor for the EMS implementation and pro-environmental behaviour is the feeling of not being able to influence. For example, E3 points out that they do not feel like they can really take environmental issues more into consideration in

their work than what they are currently considered. Individual employees might not see how they personally could have an effect. This feeling perhaps suggests that the employees could be empowered more or that they could be engaged more in the planning of the environmental management.

*E3: I don't really know. I'm not really ... in contact with any outside parties and I actually in my own work very little like responsible ... but from the perspective of the environment then I can't really affect much of anything. ...*

Prioritization is also something that is discussed in several of the interviews. What comes across in these discussions is that the lack of prioritization is at times what is inhibiting the EMS implementation on multiple levels. It may be the fact that environmental issues are not viewed as a priority on an individual level and is it not an important value for some or it might not be viewed as a priority on the organizational level or in management. For instance, E13 notes that environmental responsibility may not show so much in the behaviour or actions of some managers although they are not particularly negative about it either. E13 also notes that the environmental issues are not particularly talked about and that there could be more encouragement.

*E13: That yeah, you can't maybe see in any way directly anything radical but maybe not anything really super negative either that quite like neutral attitude. ... Yeah, there has been something small but .... But I would say that maybe, maybe there could be even more encouragement. These things are quite little really talked about.*

The interviewees recognize that it varies a lot how people view environmental aspects and that for some it is more important than for others. E12 has also noticed this in managers that for some managers environmental aspects are more important than for others. However, it is also important to note that even if the interviewees do not see environmental aspects as a very significant part of their own life, they still often mention that they abide by the basic rules that are usually perhaps seen as socially acceptable. These rules include for instance recycling the waste they produce and doing the things that they are expected to do either by the workplace or the community. It is simply highlighted that environmental aspects are not the priority in their life, and that they do not do things that may be beneficial from the environmental perspective if those require extra effort.

*E12: Well it ... depends probably like on the person ... and then on the other hand it can also be so that if you have certain types of work then you cannot like have an effect ... that even if you have like great ideas and good ideas but your like job description just does not link to it in any way ... you cannot really like bring it to the daily work if it is not like among the things you can control.*

Some of the interviewees have also noticed this type of attitude in others. They note that even the people who may not care too much about environmental

issues still abide by the rules that have been agreed upon in the company. P10 also brings up the distribution of different attitudes in different age groups. They view that often young people may find environmental issues more relevant and important than older people. P7 then again reminds that everyone might not have the interest for environmental issues, or they may not even be as aware of them as others.

*P10: That I don't believe that ... anyone is like that they are not interested at all, but I don't think that it is like as a priority in life. ... the age distribution is probably, because it is maybe more like young people's like this kind of nowadays this repeated and the age distribution maybe and then that there are so many people from like different backgrounds ... that there is such a diverse group of people that.*

#### **4.2.3 Regulatory and safety requirements**

Especially interviewees from the engineering also bring up that at times different kinds of regulations and requirements for safety can be more important than the sustainability angle. These requirements are mentioned by three interviewees from engineering. In addition, one of the production employees has also seen the influence of different safety requirements on environmental considerations.

In engineering and especially product design E12 and E13 mention that often safety is the number one priority. This requirement for safety usually overrides the sustainability in both the manufacturing and the design of the devices. There may also be other requirements for instance for the functionality of the devices which are treated as priorities over the sustainability. This aspect is therefore also tied to the prioritization of requirements. As one solution E13 suggests that if the environmental aspects were integrated into the product requirements alongside the safety and functionality, they might be considered better in the product design process.

*E13: But then we have those tough ... requirements that it has to be safe, and it has to be like certain functionality so those like kind of maybe like overrule it that what kinds of like recyclable materials can be used and then there is also that it needs to be like easy to use. ... But if it was that kind of imperative factor maybe like ... from the company then I would feel like they might also give more like space and possibilities for it ... if there was a third measure like maybe this sustainable development then it would probably be given space and also those like financial opportunities.*

Then again E9 brings up the viewpoint that there is some amount of freedom in the design process of the products as well which gives individual employees the opportunity to make more sustainable choices. However, they also recognize the limitations caused by different regulations and certain sustainability requirements. Although there is some freedom in the design process it does not come up in the interview whether this freedom is used that much. E9 also brings up the other side of the requirements by mentioning that there are currently also some environmental requirements that need to be filled

which therefore also increases the environmental considerations in the product design.

*E9: Well we have pretty ... free hands about everything in that sense that what we for instance procure for us there, work equipment and others, then the design ... is like also very self-initiated and such ... that you can like think already at that state that can you do something so that the product or what whatever it is then that you could like improve its environmental friendliness in some way already at that point when you design it ... well of course this is a very regulated business and, in that sense, like you can't always necessarily go environmental awareness first in product decisions and others, but they can still be brought up ...*

When asked specifically what prevents environmentally friendly action at work E12 mentions that often the evolution of the devices is very slow and making changes to their design or production may not be easy or fast. P6 brings up a viewpoint from the production side where they feel like work instructions and the strictly standardized work often prevent environmentally friendly behaviour. This of course is again somewhat connected to the previously mentioned requirements for safety. However, P6 also mentions the collaboration between engineering and production. They describe how for example ideas of improvement for sustainability have come from the production department and how they have been implemented together with the engineering teams. It is still important to note that this process has required extra activeness and initiative from the production employees and good collegial relationships with the engineering employees to lead to successful collaboration.

*E12: ... you have to go like with safety first and kind of all changes are like quite like big that you can't make maybe like too fast moves ... the life cycles of products are long like ... slow this kind of evolution ... and then ... these regulatory requirements and others ...*

When discussing how the interviewees consider environmental aspects in their work P2 and P6 recognize some important environmental aspects in their own work but see that they do not have direct control over them. Then there are some interviewees who do not see how they could really affect any environmental aspects in their own work or who feel that there is a lot of regulation coming from above. This legislation and regulation may direct quite extensively for instance which components can be used or how the work should be done to guarantee the safety of the work process as well as the product. In this case again the regulation comes into play and employees are feeling like it is restricting them from acting in an environmentally friendly way.

*P6: ... at the moment I have to say that I cannot really consider [environmental aspects] when I can primarily just observe that my work methods and choices at work are pretty much tied to all ... guidelines that are not ... dictated by me and then those guidelines need to be like followed for instance in packaging material choices ...*

### 4.3 Implementing an EMS from the bottom-up

Research question two in this study aims to answer from the employee perspective how an EMS like ISO 14001 could be implemented from the bottom-up. One approach to this would be that the company would focus on amplifying the supporting factors presented earlier and on removing the obstacles that might hold people back, also presented in the earlier chapters. When looking at the supporting and inhibiting factors for the bottom-up implementation of an EMS we can see that they are from many angles connected. For example, different types of attitudes, values, and emotions can act both as a supporting factor or an inhibiting factor. By raising awareness about environmental aspects and by communicating about them the company can perhaps change these attitudes and values towards a more environmentally friendly behaviour and make people more motivated to act. Then in turn this will lay the foundation for an environmentally friendly organizational culture. This pro-environmental organizational culture then again can be supported for example with different types of rewards and incentives.

The current state of the environmental management in the company is also discussed with the interviewees to get a view on how the bottom-up implementation might be showing there now. The interviewees are asked for instance in what ways does the organization or the management support or encourage pro-environmental behaviour or whether they do so at all. All interviewees can name some ways in which the company supports or encourages this type of behaviour. However, there are some differing views on whether these ways are seen as effective or if this type of encouragement is seen only a little. Two of the interviewees have not particularly noticed much encouragement or support for environmental issues except for perhaps their morning meetings where EHS is at times the topic of the day. On those days these issues are brought up more and they are discussed.

*P10: I haven't really like paid attention, but I guess then in some like at times comes up something like for instance in morning meetings or in some events that kind of things come up.*

As for the support and encouragement the interviewees recognize especially three ways in which the company supports or encourages to environmental behaviour. At least six interviewees mention different types of campaigns or communication as a way the company encourages to environmental behaviour. The encouragement for reporting concerns and ideas is mentioned by four interviewees. P8 brings up that often these ideas are also advanced, and changes are made so that it is not just talk. P1 says how they have noticed that these issues are talked about more and more and how changes have been happening faster than before at least regarding smaller things that have required fixing. The encouragement for greener commuting is mentioned by three interviewees. They bring up the financial encouragement the company



offers for example for public transport and for electric bikes as well as the possibility for charging electric cars at the workplace. There are also some mentions about the recycling opportunities the company provides to encourage people to recycle waste as well as the possibility to participate in Green Team activities.

*P1: Well, it is talked about a lot and yeah changes have happened there that yes then it is like maybe talked about a bit more ... Yes, in my opinion during the last couple of years we have managed to make those changes faster than before.*

The hopes the interviewees have for the environmental management of the company include especially adequate resources for the environmental work, making environmental work approachable and listening to employees' ideas. Three interviewees view it as very important that the resources for the environmental work in the company come from the top management and that environmental aspects are considered in decision-making as well. Whether it be financial or other type of support or simply the will to improve these aspects these interviewees consider the management's support to be important.

*E13: Well probably just that it is like first of all that there would be like resources, people, money, the will for it. ... to my own job it would affect maybe more that there were like then somehow more of those opportunities or there was that time to look for some materials for example that would be recyclable and more time to study those ...*

Approachable environmental management is hoped for by four interviewees who suggest bringing things to the employee level and listening to the employees' ideas. They find for example listening to the employees' suggestions to be an asset in many cases because it can help improve processes. However, it is also noted that this involvement requires approachability and the type of environment where ideas are welcomed and encouraged. P4 does mention that at the moment employee suggestions are quite well taken into consideration already.

One interviewee mentions it to be important that it is checked that the relevant regulations are followed which is usually considered as the minimum requirement for environmental management as well as any management. Another interviewee talks about taking environmental matters into consideration in the best possible way, not necessarily seeing them as a priority but considering them in a sensible way. E12 also brings up benchmarking as a way to find out where the company is in comparison to others and for instance which environmental aspects are seen more as a requirement already in the market and which are those nice-to-have aspects.

There is an EMS currently in use in the company, and they are ISO 14001 certified as well but as terms these are not very familiar to the interviewees. Five interviewees say that the term environmental management system is not familiar to them. However, when it is briefly discussed what it means and what is the purpose of this type of system most of them see its importance. Nine of the

interviewees have an idea of what this type of system might be. However, the interviewees show some indications that they have internalized some aspects of the EMS as a part of their own work even though they may not be aware of what the ISO 14001 standard is. It indicates that the standards have been integrated into the existing management systems in the company.

What seems to be a more familiar term in the company is the EHS (environment, health & safety) system. This system also entails the management of health and safety on top of the environmental aspects. For this reason, it seems that many of the interviewees connect the talk about environment to the general work environment and health and safety issues too. As some interviewees connect for example safety to the EMS as well it may increase its significance in their mind because safety appears to be a priority in the company.

*P5: Well, we have an EHS system, and we operate pretty much in those frames. It has come from the business as a given and we cannot affect it and it is a good system because we have the requirements and we have the tools and we have the support for it and back up and audits ... that it is actually the management system by which we operate and in addition we have ... certified ISO 14000 environmental management system which like really well does support ... this EHS system of ours but it is still a bit separate but now the business has also realized that it is useful to the direction of the customer ... but more and more we are in my opinion going towards someday having only one management system.*

Most of the interviewees also see the importance of having an EMS from some perspective. E11 and E12 see it almost as a necessity that should perhaps even be required from many companies. P5, E9 and E12 see the importance of having an EMS from a reputational point of view as well as from the customer perspective with customers nowadays often asking for environmental certifications. It is therefore seen as a marketing benefit as well. P6 notes that utilizing systems like EMS is the only way to organize long-term business and E13 wants to bring up the current context of the changing climate and the state of the world which make it all the more important for companies to adopt an environmental view on their operations.

*E11: Yeah yes, it is very important and then it is even ... I would guess that it should be required ... from big companies and why not from smaller ones too.*

E3 and P4 note that it also depends a lot on the type of company and for instance on the size of it whether an environmental management system is truly useful and important. They see that for companies with more environmental impacts or that are larger in size it is more useful to have an EMS than for example for consulting companies with lower environmental impacts. This is an interesting viewpoint also because this often only accounts for direct environmental impacts. However, if we look at the company's actions as a whole, then usually those consulting companies too can have a big impact on the environment but just in a more indirect way. E3 and P4 also recognize the

customer demands and their requirements for these types of management systems to be in place.

*E3: Well yeah it depends very much on the company, what that company does so if it is a fully consulting based company and they do not produce anything then they have a very small impact anyways ... then like if you have a factory or a bigger complex that is for example heated then of course already because of financial realities we should think about those things ...*

When it is discussed how the interviewees would execute environmental management in the company a few points that come up include for instance extending the environmental awareness more to the product design phase as well and leading by example. P4 and E13 both mention that they would like to see more environmental awareness added to the product design phase and P10 mentions they would like to lead by example to motivate everyone. Four interviewees highlight that the focus should be on the big picture like emissions reductions on the large scale. P6 would opt for an even more drastic change in the values of the company to make it more oriented towards building lasting devices with longer lifecycles. This would also mean changes in the customer relationship that would require communication so that the new values could be explained to the customer as well and the operations would be more in the limits of the earth's resources.

## 5 DISCUSSION

In this section the interconnections between previous research and the themes recognized in this study are being analyzed. The themes recognized in this study by employees as supporting or inhibiting factors for EMS implementation are being projected against previous findings that have been made about these topics. The research questions are answered by utilizing the results found in this study and the findings from previous studies. The purpose is to gain a comprehensive view on how employees view that an EMS could be implemented from the bottom-up and what might support and inhibit that implementation.

### 5.1 Supporting the bottom-up implementation of an EMS

Based on employee interviews there are five themes recognized that employees view as supporting for the bottom-up implementation of an EMS. The first theme is simple and practical processes. It can be described so that the work environment is created to support environmental behaviour and action as well as possible. These supporting elements can for instance refer to different kinds of procedures and structures in the organization's operations and culture. When the standards are integrated in the procedures employees are more likely to have a positive attitude towards the implementation of an EMS (Ivanova et al. 2014). However, it is important to note that these types of structures do not necessarily encourage employees to take initiative or act proactively but rather they simply guide the employees to take part in the environmental action coming from the top down.

If the goal is to simply get the employees to participate in environmental action it is effective to make it simple for them. When environmental action is integrated into the everyday routines of the employees it makes it easy for them to choose this course of action and they stay motivated. If the sustainable actions require more effort from them, they might not view it as something worthwhile. If the company wants to strive for encouraging a more proactive behaviour in

employees that in turn might require some additional supporting structures. Of course, the individual attitudes and values of the employees play a role in their participation as well.

Pro-environmental attitudes and values, and emotions such as guilt and anxiety are other factors that are identified from the interviews as supporting factors for EMS implementation and in some cases different attitudes, values and emotions can then again be inhibiting factors. Previous research has also found employees' environmental values to be positively associated with their motivation for pro-environmental behaviour (Graves & Sarkis 2018). In Gond et al.'s (2017) categorization of drivers for CSR engagement especially values would be categorized as moral drivers.

As a first step it would be important for the company to recognize the underlying values and emotions people have towards environmental behaviour, and then understand in what types of attitudes they might manifest in. Once these underlying attitudes, values and emotions have been identified it can help the company plan how they can be harnessed into working towards an organizational culture that the company wants to achieve. Therefore, it is also important for the company to determine what is the type of organizational culture they would like to promote. However, it is also important to note that especially when talking about people's personal values they often cannot be changed, nor should they be. The challenging part is finding out how those personal values can be utilized in the creation of a pro-environmental organizational culture that still allows the employees to act according to their own values. For this purpose, Stahl and Sully de Luque (2014) have suggested at least for managers training and education. They highlight that although personal values and attitudes may be difficult to change new managers can be trained to learn the values present in the company and the social codes that they are expected to follow (Stahl & Sully de Luque 2014). Therefore, it is important that the company has clear pro-environmental values and that the organizational culture supports these values.

The emotions related to pro-environmental behaviour that are identified in the interviews are for instance guilt and anxiety. However, it may be useful to look into the cause of these emotions like the anxiety which in this case appears to stem from actions that are against the person's values and sense of right. As Crilly, Schneider and Zollo (2008) state values help determine how much importance is placed on certain moral considerations. In this case it can mean that pro-environmental values place environmental action as something rather important in the minds of some employees. In addition, Crilly et al. (2008) suggest that affect and emotions can motivate individuals to engage in responsible behaviour although they have not found a connection between employees experiencing guilt and engaging in responsible behaviour.

Another important point that can be derived from the interviews is that the values of the employee should be in line with the values of the company or at least the employee should have the possibility to act according to their own values. This is somewhat supported by Zhou et al. (2018) with their research

results that verify that when the employees' green values are supported by the management with green transformational leadership it creates a green psychological climate in the organization and can enhance the organizations green product development. It is therefore quite clear that the employee needs support from the leadership as well and that the company can benefit from the employees' existing green values. Graves and Sarkis (2018) even suggest organizations should select employees who already have strong environmental values if they want to achieve environmental goals.

In the creation of a pro-environmental organizational atmosphere and culture it is important to see the motivation towards environmental work not only from leaders and management but also from colleagues. By creating this type of culture, the drivers Gond et al. (2017) would define as relational may be reinforced as there will be a common concern for environmental issues created and the organizational members may seek the sense of belonging by participating in CSR action. This is where the shared values are important. Organizational culture and the structures within it that support pro-environmental behaviour are another factor recognized as supporting the implementation of an EMS from the bottom-up. For instance, creating clear channels for the employees to bring forward their sustainability related ideas can be helpful in bottom-up EMS implementation. If the surrounding organizational culture is also supportive towards presenting ideas the system works even better. Other structures in the organizational culture that are recognized as supporting for the pro-environmental behaviour are for instance different kinds of support from the management whether it be in the form of financial benefits, well-functioning recycling systems or environmental communication. All these aspects seem to highlight that some form of a top-down environmental management is desired to create the optimal conditions for the bottom-up activities.

It may also be necessary to increase the employees' environmental awareness, or the current environmental activities of the company should be presented to the employees more than they currently are. By increasing the knowledge and awareness of the employees they can be supported better and encouraged towards environmental action. This view is supported in previous research where training on environmental issues is found to support in the implementation of EMS goals by giving the employees sufficient knowledge and necessary skills (Dumont et al. 2017). Therefore, awareness and communication are recognized as another supporting factor for bottom-up EMS implementation.

Awareness is quite logically a good starting point for any environmental action. Once the employees are aware of the environmental issues and aspects and how they can affect them they are better able to engage in environmental action as well. The interviews highlight that environmental awareness can also act as a motivator for pro-environmental behaviour when environmental issues and their impacts on our environment are understood better.

The increasing of environmental awareness is quite closely connected to communication as well. For instance, Garavan et al. (2010) have recognized that communication and especially training are important when trying to raise

awareness about CSR issues in the organization. The type of communication that is hoped for by the interviewees in this study includes especially instructions for environmental action and concrete environmental data and metrics. The sharing of data and metrics is found to be both useful and motivating for the employees. In this case it is therefore the concrete guidance that is hoped for rather than perhaps the general awareness.

The type of communication that is found to be supportive of the bottom-up implementation of an EMS varies a bit in the interview answers. What seems to be most relevant is that the communication channel and language are chosen based on the employees the message is targeted to. An important aspect in the communication is also that it empowers the employees to take initiative and gives them the possibility for a dialogue in some form. Face-to-face interaction and dialogue are something that some of the interviewees also hope for to share ideas and give employees the chance to get their voices heard. The promotion of this form of communication is also supported by Montabon, Melnyk, Sroufe and Calantone (2000) who have found cross-functional programs and cooperation to be one important factor in implementing the ISO 14000 standards. When employees are brought together across the organization it can help spark new ideas and give each member of the organization opportunities to participate.

The last supporting factor for bottom-up EMS implementation that is recognized in the interviews is rewarding and different types of incentives. These types of factors could be defined as instrumental drivers in Gond et al.'s (2017) categorization of drivers for CSR engagement. The interviewees in this study find rewarding and incentives useful at times in encouraging employees to participate in environmental action. If there are some types of monetary rewards used those that are directed especially at supporting environmental action are seen as the most effective. Dumont et al. (2017) support the view on offering employees encouragement especially for the participation in green activities and for their contribution to green management objectives. However, the incentives that are mentioned are not just monetary or tangible ones but also simple signs of appreciation. Again, it is highlighted that the employees wish to get their voices heard and that they can get the feeling of success and perhaps feel that they are an important part of the organization.

## **5.2 Inhibitors of bottom-up EMS implementation**

The factors that are identified as inhibitors for EMS implementation and pro-environmental behaviours are the lack of time and resources, safety and other regulatory requirements and the emotions of indifference, ignorance and powerlessness and the lack of environmental prioritization. Out of these factors Luo et al. (2021) have also recognized the resources and policies and regulations as barriers for the implementation of green practices more specifically among managers. Among the most important barriers they recognize the resources,

awareness and management which differ a bit from the results of this thesis raising different issues important among managers (Luo et al. 2021).

However, it appears to be relevant among both employees and managers that the lack of resources is an inhibitor for the implementation of an EMS. This same obstacle has been recognized in previous research as well (Kiesnere and Baumgartner 2019; Šlogar and Hrvatin 2023). This discovery in turn would suggest that environmental management might not still be placed among the top priorities in many organizations, and it is therefore not assigned enough resources. Kiesnere and Baumgartner (2019) have also pointed out that often managers may be reluctant to give employees the necessary resources when they find that there is some better use for them. This type of attitude suggests again that environmental action is not seen as important or that something else is prioritized over it. One reason for this type of thinking might be that there is not very strong legislation and regulation related to it yet so environmental action might be seen as something extra that can be dealt with later. It also appears that often environmental action may be seen as something that requires extra effort and therefore it is viewed as something that would require some additional resources or time as well. This may be the case especially if there are no clear processes in place for environmental action in the company.

In the interviews it is also mentioned that some responsibility for the environmental action has been shifted to the employees or voluntary groups within the company, but they may not have the necessary resources for the environmental action. It would be important for the companies to recognize which actions should be carried out by the management and where employees can be given opportunities and resources to influence. If the desire is to encourage bottom-up implementation of the EMS, the employees will need to have sufficient resources to act and possibilities for cross-organizational collaboration may also be needed and advanced.

The policies and regulations then again are approached a bit differently by Luo et al. (2021) as they view that there is a lack of regulation to drive pro-environmental action in companies. This thesis identifies the other side of the regulations which is for instance different types of safety regulations that may be limiting the EMS implementation and for instance the encouragement towards eco-design in the company. However, there are a few interviewees who also identify the apparent need for either outside regulation or internal policies that would require an eco-friendlier approach to the product design. The again it is also necessary for the organization to ensure the sufficient resources for this type of actions. It is however important to note that the policies and regulations differ in different countries and in different industries as well so for instance Luo et al.'s (2021) research is not directly comparable with this thesis although it gives indications that regulation is an issue in other industries as well. What is apparent in the results of this thesis is that the environmental aspects are not given sufficient significance alongside the safety requirements and therefore they are often overlooked.



This described prioritization is an indication of the values and attitudes seen perhaps both in regulations globally and in the guidelines and instructions within the company. If environmental aspects are not valued sufficiently, they are not noted in regulations and guidelines either. In the interviews the lack of prioritization also comes up in some interviews and it demonstrates that the attitudes towards environmental aspects are not very proactive, and they may often be rather low priority issues. However, it is also noted that for many of those employees who may not view environmental issues as something very important it does not prevent them from doing what is required. In a way there is the type of attitude present that the rules and guidelines set by the management are followed but the proactive action may be lacking.

The emotions that are recognized as inhibitors for EMS implementation are for instance ignorance and indifference. Kiesnere and Baumgartner (2019) have also recognized the lack of personal interest as something that may prevent employees from sustainability implementation. These emotions can be difficult for the company to address and influence. However, if the company wants to motivate the employees to environmental action it needs to find the values that do motivate them and connect the significance of the environmental action to those values. If the company is able to demonstrate the importance of environmental action to the employees, they may be more likely to have a positive attitude towards it.

In previous research also the lack of knowledge or awareness have been recognized as inhibitors for EMS implementation especially among managers (Šlogar and Hrvatin 2023; Luo et al. 2021). These aspects have not particularly come up as barriers during this study and the interviewees have not seen that a lack of knowledge or awareness would prevent them from participating in environmental action. Although it is mentioned that increasing awareness could support the EMS implementation and pro-environmental behaviour the interviewees have still felt that they currently have sufficient knowledge for instance for making sustainable choices in their everyday lives. So, the increasing of environmental knowledge might help encourage more proactive environmental action and produce ideas but for maintaining the current level of environmental work the employees appear to have sufficient knowledge.

### **5.3 The implementation of an EMS from the bottom-up**

The third research question in this thesis is: from the employee perspective how an EMS like ISO 14001 could be implemented from the bottom-up. In the previous research it has been brought up that often both top-down and bottom-up approaches may be needed for the successful implementation of an EMS (Disterheft et al. 2012). Indications of this can also be spotted from the results of this study. The interviewees seem to hope for management guidance and instructions for environmental work and pro-environmental behaviour and action. It has also been recognized in previous research that management support

is often essential in promoting pro-environmental behaviour in employees (Junsheng et al. 2020). However, the interviews also indicate that it is hoped that employee ideas and suggestions are listened to and welcomed as well. In this respect the interviewees hope for an easily approachable environmental management and the type of organizational culture where employee initiatives are supported and encouraged.

It is important to note that having a certification such as ISO 14001 may not lead to the actual internalization of the EMS especially if the motivation for it is external (Castka and Prajogo 2013; Ivanova et al. 2014). That is one important reason why the company should motivate the employees to be involved in the implementation of the system. The interviews demonstrate that many of the employees do understand the importance of an EMS especially for large firms, but they may not view their own role in it so clearly.

## **6 CONCLUSIONS, FUTURE RESEARCH AND LIMITATIONS**

This chapter draws together the conclusions that can be made from the results of this study and explores its theoretical and practical contributions. The possibilities for future research and the limitations of this study are presented as well. This study identifies five factors from employee interviews that support the bottom-up implementation of an EMS. It also recognizes three factors that employees view as inhibitors for the bottom-up implementation of an EMS. These factors are viewed especially in the context of the case company and compared to previous research on the topic.

### **6.1 Theoretical contributions**

This study contributes to the research on micro-CSR and especially on the individual level research where knowledge gaps have been identified (Aguinis & Glavas 2012). There has not been much research on a bottom-up approach to CSR and this research now offers some insight into that topic from the employee perspective. This study identifies factors that may support or inhibit the bottom-up implementation of an EMS and it offers some suggestions for implementing an EMS from the bottom-up. In previous research the employees have not necessarily been seen as very proactive initiators for environmental action but rather as the implementers of a top-down management system (Onkila & Sarna 2021). This study offers a different perspective by presenting how employees could best be supported into taking more initiative or action.

This study recognizes five factors that employees find as supporting for the bottom-up implementation of an EMS. These factors are simple and practical processes; pro-environmental attitudes and values, and emotions such as guilt and anxiety; organizational culture and the supporting structures for pro-environmental behaviour within it; awareness and communication; and rewarding and other incentives. These findings are also supported by previous

research on individual drivers for CSR (Gond et al. 2017). Out of the factors recognized in this study the simple and practical processes seem to be the only factor that has not been noted much in previous studies. The significance of different types of supporting structures for the bottom-up EMS implementation could also be studied further as they appear to be in an important role in supporting the employees in environmental action.

There are also three factors in this study that employees recognize as possible inhibitors for bottom-up EMS implementation. These inhibitors are lack of time or resources; emotions of indifference, ignorance and powerlessness and lack of environmental prioritization; and regulatory and safety requirements. In relation to other studies especially the lack of resources and time as well as the emotions recognized here are something that have also been identified in previous research (Kiesnere and Baumgartner 2019; Šlogar and Hrvatin 2023). The more novel observation this study brings to the research is the perspective on certain regulations and safety requirements that may act as a barrier for pro-environmental behaviour in certain industries. It could also be further researched if this barrier can be identified in other companies in this specific industry as well.

## **6.2 Practical contributions**

This research also offers some practical contributions for the implementation of an EMS from the bottom-up. The results suggest that the bottom-up implementation also needs the support of certain top-down processes as employees hope for clear and simple structures for environmental action from the company. However, in addition to different types of instructions, the employees should be offered opportunities for voicing their own ideas and suggestions. Firstly, this requires clear and functional processes for the processing of those ideas and for taking them forward or implementing them. Secondly, the surrounding organizational culture should be supporting and encouraging towards these types of ideas and suggestions.

The exchanging of ideas can be supported for instance with communication, especially face-to-face communication where ideas are welcomed and discussed. It is also important to communicate about the environmental practices of the organization and to keep employees aware and informed about what is being done on the organizational level. Although many employees appear to have a general knowledge of environmental issues, their awareness on environmental matters should still be increased particularly related to the organization's own environmental practices. Therefore, from the employee perspective specific environmental training may not be seen as very useful but they hope for more concrete information about the company's own environmental actions and metrics.

It is also important for organizations to recognize the inhibiting factors that may be preventing employees from participating in environmental activities. If the organization wants to encourage employees' environmental participation

and initiative, they need to demonstrate that help and resources are offered for environmental action. It is not simply about allocating the sufficient resources for environmental work either but about demonstrating that environmental issues are valued in the company. When environmental thinking is integrated in the values of the company it is also easier to affect the values of the employees. Even if the employees do not internalize the environmental values they are still operating in an organizational environment where environmental values are important and where these values guide the everyday operations. A pro-environmental organizational culture can also be encouraged with different types of rewarding and incentives which can be either monetary or intangible. In this study the employees viewed that especially the incentives that are directed at the environmental action or that act as a direct incentive or encouragement for environmental action are the most effective.

To tackle the barrier of regulations and safety requirements the environmental requirements need to be raised alongside them to stress the importance of both safety and environmental sustainability of the products. As long as the environmental aspects are not visible in the company's requirements, they will remain secondary and be viewed as something extra. When the environmental aspects are integrated into the processes employees will see their significance.

Then related to the sufficient resources and values of the company, the environmental values should be prioritized throughout the organization so that sufficient resources are allocated for the environmental work and that a pro-environmental organizational culture can be encouraged. The organization needs to be clear on effective allocation of resources too. Environmental action cannot be left only to individual employees but the larger structures and policies in the organization need to promote pro-environmental action and offer support for it as well.

Companies should also note that it may not always be enough just to have an EMS that is being implemented from the top down. This type of system or a certification like ISO 14001 is not a guarantee of the implementation and internalization of the system in the whole organization but other approaches may be needed as well. This thesis suggests that encouraging the employees to take an active role in the implementation of an EMS in multiple ways can help the employees internalize the environmental behaviour and help them realize it in their work.

### **6.3 Future research**

As for future research, the correlations between the different values, attitudes and emotions of the employees and factors they view as supporting or inhibiting in EMS implementation could be studied a bit more closely. This type of approach would help us gain better understanding of which values, attitudes and emotions are more tied to certain supporting or inhibiting factors and for instance

what type of encouragement different people might need. In this study the focus is more on identifying those supporting and inhibiting factors of EMS implementation and certain types of values, attitudes and emotions are recognized as factors both supporting and inhibiting the implementation. Their correlation with the actual action and behaviour is not so much looked into. Also, the other supporting and inhibiting factors and their connection to bottom-up EMS implementation could be further researched.

#### **6.4 Limitations of the research**

This research is not without its limitations firstly because it has been conducted in a single company and it is limited only to one site of that company. Since the research is done at a Finnish site the operational environment is different from other sites in other countries. Therefore, these results cannot be generalized. The interviewees are also all Finnish despite the international nature of the company, so their answers are bound to reflect Finnish values and culture.

The data has been collected only using semi-structured interviews which means that the study is mainly limited to the perspective of the individuals in one company. However, this is especially suitable for a study where the individual perspective is being researched. If the goal was a more comprehensive view, other research methods could have been used as well to gain more insight.

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## **APPENDIX 1: “Interview questions”**

### **Basic information**

Name? / **Nimi?**

What is your role in the company? / **Mikä on työtehtäväsi tässä yrityksessä?**

How long have you worked for this company? / **Kuinka kauan olet työskennellyt tässä yrityksessä?**

### **Attitudes, values, knowledge**

How would you describe your own environmental awareness? / **Kuinka kuvailisit omaa ympäristötietoisuuttasi?**

What does being environmentally friendly mean to you? / **Mitä ympäristöystävällisyys sinulle tarkoittaa/merkitsee?**

Do you consider environmental issues and aspects in your own work? In what way? Why or why not? / **Huomioitko ympäristöasiat ja -näkökohdat omassa työssäsi? Millä tavoin? Miksi tai miksi et?**

### **EMS and ISO 14001**

Can you describe with your own words and based on your current knowledge what is an environmental management system and what is its purpose? / **Voitko kuvailla omin sanoin ja nykyisen tietämyksesi perusteella mikä on ympäristöjohtamisjärjestelmä (engl. Environmental management system) ja mikä sen tarkoitus on?**

How important do you think it is that a company has an environmental management system? / **Kuinka tärkeänä pidät sitä, että yrityksellä on ympäristöjohtamisjärjestelmä?**

What kinds of things do you wish from the environmental management of the company? / **Millaisia asioita toivot yrityksen ympäristöjohtamiselta?**

Do you currently feel that you are a part of this company’s sustainability work? In what way? / **Tunnetko tällä hetkellä olevasi osa tämän yrityksen vastuullisuustyötä? Millä tavalla?**

Do you know how you as an employee could bring forward your ideas related to sustainability or environmental action in this company? / **Tiedätkö miten**

**pystyt työntekijänä tuomaan esiin ideoitasi liittyen vastuullisuuteen tai ympäristötoimiin tässä yrityksessä?**

Are these ideas encouraged or rewarded in some way? If so, how? / **Kannustetaanko tai palkitaanko näitä ideoita jollakin tavoin? Jos kyllä, niin millä tavoin?**

In what ways does the organization or the management support or encourage environmentally friendly behaviour or does it do so? / **Millä tavoin yritys tai johto tukee tai kannustaa ympäristöystävälliseen käyttäytymiseen tai tekeekö se niin?**

What kinds of things do you think would motivate you to environmentally friendly and sustainable behaviour, actions or thinking? / **Minkälaisien asioiden kokisit motivoivan sinua ympäristöystävälliseen ja ympäristön kannalta kestävään käyttäytymiseen, toimintaan tai ajatteluun?**

How would you describe the attitude of your manager or of the leadership of this company in general towards environmental responsibility? How does it show in their actions or behaviour? / **Kuinka kuvailisit esihenkilösi tai yleisesti tämän yrityksen johdon suhtautumista ympäristövastuuseen? Millä tavoin se näkyy heidän toiminnassaan tai käyttäytymisessään?**

Do you know what ISO 14001 is? / **Tiedätkö mikä on ISO 14001?**

In your opinion, how is ISO 14001 connected to your own work? / **Miten ISO 14001 on mielestäsi yhteydessä sinun omaan työhösi?**

Do you find ISO 14001 to be a useful tool? In what way or why not? / **Pidätkö ISO 14001 hyödyllisenä työkaluna? Millä tavoin tai miksi et?**

## **Company culture**

In your opinion, how do environmental awareness or environmentally friendly behaviour and action show in the current company culture, or do they show in any way? / **Millä tavoin ympäristötietoisuus tai ympäristöystävällinen käyttäytyminen ja toiminta mielestäsi näkyvät tämänhetkisessä yrityskulttuurissa vai näkyvätkö ne millään tavalla?**

If these things do not show, why do you think that is? / **Jos nämä asiat eivät näy, mistä luulet sen johtuvan?**

In what ways do you feel environmental awareness and action should be a part of the company culture or do you find them necessary or relevant at all? / **Millä tavoin koet, että ympäristötietoisuuden ja -toiminnan tulisi olla osa yrityskulttuuria vai koetko niitä tarpeelliseksi tai relevantiksi ollenkaan?**

What kind of communication is there in the company related to environmental sustainability or corporate social responsibility and what is your opinion about it? / **Millaista ympäristön kestävyteen tai yritysvastuuseen liittyvää viestintää yrityksessä on ja mitä mieltä olet siitä?**

What type of company communication would you like there to be within the company related to environmental sustainability or corporate social responsibility? / **Millaista viestintää kaipaisit yrityksen sisällä liittyen ympäristön kestävyteen tai yritysvastuuseen?**

In your opinion, what kinds of things support environmentally sustainable behaviour in your job? / **Millaiset asiat sinun mielestäsi tukevat ympäristön kannalta kestävää käyttäytymistä työssäsi?**

What kinds of things prevent you from acting in an environmentally friendly way in your work? / **Minkälaiset asiat estävät sinua toimimasta ympäristöystävällisesti työssäsi?**

In what ways would you like to be a part of the environmental work in the company? / **Millä tavoin haluaisit olla osa yrityksen ympäristötyötä?**

How would you implement environmental work in this company? / **Miten toteuttaisit ympäristötyötä tässä yrityksessä?**