CHALMERS
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Sustainable Project Management

Integrating sustainability in Sweco Management's projects

Master's thesis in the Master's Programme International Project Management

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Master's Thesis ACEX30-18-26
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ABSTRACT

The concept of sustainability has become a recognized component of decision making and gained increased attention in management research and practice during the last decades. Integration of sustainability in project management has picked up momentum in the research field, but there are few studies that illustrate how it can be achieved in practice. As the interest and demand for sustainability within the urban development market is increasing, the aim of the thesis is to investigate how the consulting organization Sweco Management can integrate sustainability into their projects. The study was conducted with a research design called systematic combining where the initial aim and research questions were modified along with an increased understanding of the phenomenon. A qualitative research methodology was chosen with a single case study carried out at Sweco Management. A literature review was conducted along with semi-structured interviews with both project managers at Sweco Management and their customers, participant observations and reviews of the intranet and internal documents.

The study shows that understanding and concretizing of the sustainability concept in projects is challenging. It is unclear what is expected of project managers and they perceive that there are insufficient supporting functions for sustainability work. Additionally, the study shows that working with sustainability entails several values and opportunities implying that there are strong arguments for integrating sustainability into projects. The conclusions indicate that Sustainable Development Goal's (SDGs) provide a meaningful tool for concretizing and understanding the concept and that sustainability can be used in order to maintain market positions. The project managers need to become more proactive and address sustainability in order to meet customer expectations and demands. Vertical integration and supporting functions to embed the concept are needed where the skills, knowledge and mind-set of the project manager are important to consider. The recommendations suggest design and utilization of several methods such as e-learning, workshop, routine at Sweco@Work and checklists. Finally, a corporate environment needs to be promoted where sustainability is discussed and emphasised in order to normalize the sustainability concept.

Key words: Sustainability, Sustainable project management, Sustainable development, Integration of sustainability, Project management

Hållbar Projektledning
Integrering av hållbarhet i Sweco Managements projekt
Examensarbete inom masterprogrammet Internationell Projektledning
MARKUS BOHM ÖHLUND
JONNA SMIDING
Institutionen för Arkitektur och Samhällsbyggnadsteknik
Avdelningen för Construction Management
Chalmers tekniska högskola

SAMMANFATTNING

Hållbarhet har blivit en erkänd del inom beslutsfattande och fått ökad uppmärksamhet i både managementforskning och praktik under de senaste årtiondena. Forskning för att integrera hållbarhet i projektledningsmetoder har ökat men det finns fortfarande få studier som illustrerar hur integrationen kan realiseras i praktiken. Eftersom intresset och efterfrågan av hållbarhet ökar inom samhällsbyggnadssektorn syftar denna studie till att undersöka hur konsultbolaget Sweco Management kan integrera hållbarhet i sina projekt. Rapporten har utgått från en forskningsdesign som kallas 'systematic combining' där det initiala syftet och tillhörande frågeställningar ändrats i takt med en ökad förståelse för fenomenet. En kvalitativ forskningsmetod har använts tillsammans med en fallstudie utförd hos Sweco Management. En litteraturstudie utfördes tillsammans med semi-strukturerade intervjuer med både projektledare på Sweco Management och deras kunder, observationsstudier på företaget samt genomgång av intranätet och företagets interna dokument.

Resultaten visar att det är utmanande att konkretisera hållbarhetsbegreppet och dess relevans i projekt, att det är otydligt vad som förväntas av projektledare samt att det saknas stödfunktioner kopplade till hållbarhetsarbete. Vidare visar studien att det finns många värden och möjligheter relaterade till hållbarhet, vilket indikerar att det finns starka argument till varför Sweco Management bör integrera hållbarhet i sina projekt. Slutsatserna från studien visar att FN's globala mål fungerar som ett verktyg för att konkretisera och öka förståelsen för begreppet samtidigt som hållbarhet kan användas för att stärka ett företags marknadsposition. För att möta kundens efterfrågan måste projektledarna proaktivt föreslå hållbarhetsfrågor och lösningar i projekt. Vidare behövs en vertikal integration samt stödfunktioner för att integrera konceptet inom företaget där det är viktigt att beakta projektledarens kunskap, kompetens och tankesätt. Studiens rekommendationer föreslår utformning och nyttjande av metoder som e-learning, workshops, rutin inom Sweco@Work samt checklistor. Slutligen måste en företagsmiljö prioriteras där hållbarhet diskuteras och främjas för att normalisera konceptet.

Nyckelord: Hållbar projektledning, Hållbarhet, Hållbar utveckling, Hållbarhetsintegrering. Hållbarhetsarbete, Projektledning

Contents

Preface

This master's thesis is the pinnacle of our education, the Master of Science Program International Project management at Chalmers University of Technology in Gothenburg, Sweden. The research was conducted in collaboration with the consulting company Sweco Management, a place where we felt greeted and respected.

We would sincerely like to thank those of you who in some way have contributed to this thesis and extend our gratitude towards our supervisors. First, we would like to thank our supervisor at Chalmers University of Technology Viktoria Sundquist for your knowledge, positivity and support. Your feedback and guidance have been incredibly helpful for us and contributed to a continued improvement of our research. Secondly, we would like to thank our supervisors at Sweco Management, Anders Ekberg and Emelie Lindqvist Person for giving us this opportunity. Thank you for the time and resources you have provided for us and for the feedback you have given during our study. We would also like to thank the interviewees for your time and interest, our opponent for your feedback, and all others that contributed to this thesis.

Lastly, we would like to thank Chalmers University of Technology for these five worthwhile years. We look forward to using our knowledge and experience professionally, but will also miss the wonderful time we have had as students. We hope that this thesis contributes to an enhanced understanding of how project-based organizations can integrate sustainability in their projects.

Thank you all!

Gothenburg, June 2018
Markus Bohm Öhlund and Jonna Smiding

1 Introduction

This chapter explains the background of the sustainability concept, its linkage to project management and why it is an area of interest. It also introduces the experienced problems at the asserted organization. Lastly, it presents the aim, research questions and structure of the thesis.

1.1 Background

The journey towards sustainability has been marked with several milestones, most recently the Sustainable Development Goals (SDGs). Embraced by world leaders in 2015, the SDGs are universally applicable with the aim to mobilize effort from countries worldwide in order to eradicate poverty and inequalities as well as fight climate change by 2030. Sustainability is built upon three elements; economic growth, social inclusion and environmental protection which are all interrelated, meaning that advancement in one field cannot be on the expense of another. The principles are set out to protect the planet by creating an inclusive, sustainable and resilient future through aspects such as equitable economic growth, creation of basic standards of living as well as sustainable use of natural resources and ecosystem services (United Nations, 2018). The concept of sustainability has since its introduction in the Brundtland Report, until today's SDGs attracted attention worldwide (Gareis, Huemann, Martinuzzi, Weninger and Sedlacko, 2013). Businesses all over the world have implemented sustainability policies and the concept of sustainability has become a recognized component of decision making and gained increased attention in management literature and media (Gareis, Huemann and Martinuzzi, 2010). Additionally, as of the 1st of December 2016 the Swedish government introduced a law stating that all organizations that fulfill certain criteria, are obligated to present a sustainability report with information on environmental, social and personal conditions as well as efforts to mitigate corruption (Sveriges riksdag, 2016).

Along with the increased recognition and importance of the concept, the debate regarding the role of businesses in society have also been growing. Businesses are increasingly being seen as social actors with responsibilities that goes beyond the interests of shareholders and stakeholders. Businesses are considered to affect communities and other groups, implying that there is a need for an active responsibility commitment concerning sustainability (Gareis et al., 2010; Silvius, Schipper, Planko, Brink and Köhler, 2012). The increased pressure on businesses to extend their accountability for sustainability performance, besides from the economic performance has helped foster the implementation of sustainable policies and goals (Silvius et al., 2012). Sustainability has mainly been researched in correlation to the field of organizational management and strategy where the concept is linked to

organizational performance and benefits when integrated into core processes (Gareis et al., 2013).

The Project Management Institute (PMI) emphasises that project management is driven by organizational strategies and that projects are a way to deliver organizational strategy in an effective way (PMI, 2013). Therefore, the alignment between an organization and its projects becomes important to ensure an effective outcome. This requires that project management processes are influenced by sustainable practices as mentioned by Silvius et al. (2012). Gareis et al. (2013) and Kivilä, Martinsuo and Vuorinen (2017) argue that the current empirical research implies that sustainability should be integrated in already established project management methodologies rather than as separate systems, hence, minimizing the trade-off between the aspects of sustainability. Similarly, Silvius et al. (2012) examine the integration of sustainability within commonly used project methodologies. In the light of this, the authors demonstrate how the concept of sustainability impacts and change the project manager profession, in addition to how it impacts the most common standards of project management. Tharp (2011) and Deland (2009) have also contributed to the field, attempting to concretize how sustainability aspects can be perceived and how project managers can work with them in practice. However, the field of integrating sustainability in project management methodologies remains an explorative area as few researchers recognize how the integration can be realized in practice (Deland, 2009).

1.2 Problem formulation

Sweco Management has a long experience of working with sustainability and aim to be in the forefront in the construction industry where they see an increased demand and need for sustainability. The company has a firm belief that integrating sustainability in projects would result in a greater value-adding effect for their customers and an enhanced competitive advantage for both. Therefore, methods to accomplish this is sought after and desired. However, acting as external consultants in a majority of projects, their project managers are affected by the customers targets and demands. The customer is the main executive in decision making, thus affecting the project managers' influential level. This requires supportive functions and methods that help project managers to raise sustainability questions, issues and solutions to customers. As such methods and routines are lacking, today's sustainability work remains highly person and context dependent. An ignorance and insecurity about the sustainability concept seem to exist amongst project managers, resulting in limited sustainability integration in projects. Some project managers feel uncomfortable about raising questions regarding sustainability aspects, issues and solutions towards customers, thus, causing a negligence of sustainability in projects. The ambition with integrating sustainability through new methods and routines is to mitigate this negligence in addition to raising the confidence amongst project managers to actively

engage in sustainability work. This study has been initiated by the authors in collaboration with Sweco Management as the company strives for becoming more sustainable in projects.

Sweco Management is part of Sweco Sweden, which in turn is part of Sweco Group. The corporate group has approximately 14,500 employees and 5,500 of them belong to Sweco Sweden (Sweco, 2018a). Sweco Management has approximately 400 employees spread across seven regions, South, North, East, West, Middle and Stockholm. Sweco Management is a consulting company, providing services to both public and private actors. The size and types of assignments and project vary greatly, but mainly include management and project management services in the construction, infrastructure and real estate sector (Sweco, 2018b). In each region, there is a sustainability network and a sustainability coordinator that, in addition to its normal role as a project manager, is responsible for communicating sustainability in its region, developing employees into sustainable project managers and emphasising sustainability work.

Sweco Sweden use an internal management system, Sweco@Work, which is available to Sweco's employees through the intranet. The management system is applied by all employees on all assignments, and there are documents and instructions under the headings: Initiation, Planning, Execution, Control, Closing and Management. Sweco@Work is certified according to ISO 9001 (QA), ISO 14001 (Environment) and OHSAS18001 (Work Environment) and built on PMI's project management principles (Sweco, 2018b).

1.3 Aim and research questions

The aim of this thesis is to investigate how Sweco Management can integrate sustainability in projects. To support and fulfil the aim of the thesis, four research questions were established:

RQ1: *How is the sustainability concept perceived and defined at Sweco Management?*

RQ2*: What are the values and benefits related to sustainability work within projects for Sweco Management and their customers?*

RQ3: *What are the limitations and challenges related to sustainability work within projects for Sweco Management and their customers?*

RQ4: *How can methods for sustainability work be designed and utilized within Sweco Management?*

1.4 Structure of the thesis

The report is based on 7 chapters, structured as follows:

- *Chapter 1 - 'Introduction'*, introduces the background of the investigated subject, the problem formulation at the organization followed by the aim and research questions.
- *Chapter 2 - 'Theory',* the field of sustainability in project management is presented through relevant literature and previous research, providing a theoretical framework used in the analysis.
- *Chapter 3 - 'Research methodology'*, describes the research method and design used when conducting the thesis. The methods of data collection and literature review is explained and justified. The chapter also account for the quality of study and essential ethical considerations.
- *Chapter 4 - 'Empirical findings'*, provides the thesis with the results obtained by the empirical studies.
- *Chapter 5 - 'Analysis'*, compares, analyses and reflects on the empirical findings with the support of the theoretical framework.
- *Chapter 6 - 'Conclusion'*, answers the aim and research questions, summarises the analysis and suggests further research.
- *Chapter 7 - 'Recommendations'*, presents suggestions of how new methods should be designed and what purpose they will serve within the organization.

2 Theory

This chapter aims to provide theory related to the field of sustainability and project management. The theory creates a theoretical framework which is further used for analysis. The chapter starts with a general introduction to the sustainability concept, its value and its limitations of integration. Then, project management, sustainability principles in project management, the role of the project manager, sustainability integration in project process groups are described followed by project interconnectedness. Lastly, the theory is concluded in a theoretical framework for the thesis.

2.1 Sustainable development

Sustainable development is an ambiguous concept. Ever since the most common and generally accepted definition was established by the Brundtland Commission, several scholars and practitioners have created their own alternative definition (Kates, Parris and Leiserowitz, 2005; Alänge and Lundqvist, 2014). Kates et al. (2005) emphasise that this allows the concept to be adapted to different contexts and situations while remaining an open and evolving idea. However, being an elusive concept has resulted in an absence of a clear, fixed and enduring meaning (Kates et al., 2005). Despite this, sustainability rest on some core principles derived from the Brundtland definition which is to meet the needs, now and in the future, for social, economic and environmental development (Kates et al., 2005). As a result, sustainability is usually understood through the concepts three core elements: economic growth, social inclusion and environmental protection (United Nations, 2018). This so-called triple bottom line approach implies a simultaneous focus on social, environmental and economic performance (Colbert and Kurucz, 2007).

Colbert and Kurucz (2007) conceptions of business sustainability display that sustainability can be perceived as an optimization tool in order to sustain a business along with making profit. Meanwhile, it is also perceived as a way to integrate interests and demands from key stakeholders into the company in order to build competitiveness (Colbert and Kurucz, 2007). A sustainable organization can be described as striving to generate benefits for its stakeholders through how it conducts its business (Savitz and Weber, 2014). Sustainable organizations attempt to find a spot where the pursuit of profit blends with the common good which is beneficial for both environmental and social aspects. Savitz and Weber (2014) define a sustainable organization as one that protects the environment, creates benefits for its stakeholders and improve the lives for whom the company interacts with.

2.1.1 Values and benefits of sustainability

The last few decades have seen a growing recognition and importance of the sustainability concept (Gareis et al., 2013; Silvius et al., 2012) and as a result the debate regarding businesses role in society have picked up momentum (Gareis et al., 2010). In light of this, Epstein, Rejc, Elkington and Leonard (2014) mention four main reasons why sustainability needs to be addressed by corporations:

- **Regulations**. Government regulations require companies to address sustainability more frequently. At the same time, noncompliance with regulations can lead to penalties, legal costs, closing of operations and lowered corporate reputation.
- **Community relations**. There is an increased awareness of sustainability among the general public together with an increased understanding of companies' impact on societies. Identifying issues that are important for stakeholders can foster loyalty and trust which can be essential in order for a company to conduct business on a daily basis.
- **Cost and revenue imperatives**. Benefits from sustainability can derive from increased revenue and lowered costs. Improved corporate reputation can lead to increased revenues while more efficient use of resources and process improvements can decrease a company's overall cost. Being proactive and reducing risks for operations that may result in environmental damage can also lower a company's overall cost.
- **Societal and moral obligations**. Due to the fact that companies have an impact on the environment, society and economy they have a responsibility towards managing sustainability.

In addition to this, the potential benefits of implementing sustainability in decision making can act as a driver for change since research has shown that successful implementation can improve businesses in several ways (Epstein et al, 2014; Savitz and Weber, 2014; Silvius et al., 2012). Sustainability is increasingly being referred to as a requirement for competition by business leaders (Millar, Hind and Magala, 2012). Even though it is hard to quantify, both company reputation and competitiveness can be increased through implementing sustainability (Savitz and Weber, 2014; Silivus et al. 2012; Tharp 2011). Porter and Kramer (2006) argue that companies should implement social and environmental issues related to their operations into their strategies since it can be a powerful source of competitive advantage along with innovation improvements. Moreover, research has shown that improved sustainably performance can result in several benefits such as reduced operating costs, reduced risk, increased customer satisfaction, improved processes and improved reputation (Epstein et al., 2014; Silvius et. al 2012). Silvius et. al (2012) further claim that implementing sustainability can result in an improved work environment along with increased motivation amongst employees, thus leading to

decreased employee turnover. Deland (2009) agrees and mention that intangible benefits steaming from sustainability implementation includes increased motivation, trust and participation from employees. Additionally, the principles of sustainability can help protect, run and grow a business (Savitz and Weber, 2014). Management improvements in protecting the business includes limiting regulatory intervention, identifying emerging risk and reducing them in addition to helping the business retain explicit rights to operate. Improvements in operations include cost reductions, waste reduction and productivity improvements while growing the business include increased innovation, reputation and customer satisfaction.

2.1.2 Limitations and challenges of sustainability

Despite the sustainability concept's growing recognition and importance, limitations related to implementing sustainability into practice have been addressed by several authors (Mirvis, Googins and Kinnicutt, 2010; Epstein et al., 2014; Talbot and Venkataraman, 2011; Millar, Hind and Magala, 2012). Mirvis et al. (2010) argue that one main reason within companies is the lack of a clear and agreed upon view of sustainability. Even companies with exemplary sustainability standings have been shown to have differentiating views and perspectives of sustainability within different organizational levels (Millar et al., 2012; Colbert and Kurucz, 2007). This highlights that there is a need for vertical integration of the concept together with supporting practices to successfully embed it (Millar et al., 2012). Mirvis et al. (2010) assert that another reason is the issue related to roles of sustainability. An absence of alignment between the organization and who is responsible for sustainability is explained to hinder the implementation while also creating confusion of how to conduct sustainability work (Mirvis et al., 2010).

Lack of strong commitment from companies towards sustainability is stated as a main barrier to implementation (Mirvis et al., 2010; Millar et al., 2012; Epstein et al., 2014). As a result, sustainability is often set aside for short-term profitability pressures (Mirvis et al., 2010). This is agreed upon by Epstein et al. (2014) mentioning that managers often have consensuses regarding the importance of sustainability, yet pressure on project delivery often incorporates profitability which supersede sustainability priorities. However, clients and shareholders may also change their perspective on trade-offs. At certain times focus may be on social and environmental performance whereas it may be on short-term profitability at other times (Epstein et al., 2014). Sustainability implementation also require a long-term perspective since the cost of implementation is related to an increased initial capital cost (Dobson et al., 2013; Epstein et al., 2014; Silvius et. al, 2012). The potential social, environmental and economic benefits may therefore be hard to quantify (Epstein et al., 2014). Despite these limitations, Epstein et al. (2014) assert that the question is not whether to incorporate sustainability, rather how to do it in the already existing structure.

2.2 Project management

'Project Management' is defined by PMI (2013, p.5) as *"The application of knowledge, skills, tools and techniques to project activities to meet the project requirements*." Projects are complex, temporary and unique endeavours undertaken with the purpose of generating a unique product, service or result (PMI, 2017). Even though the project itself is unique and complex, it generally consists of resembling activities and deliverables (Kerzner, 2014). Tharp (2011) explains that conducting projects is the organization's way of generating the long-term investment goals of a company, which in its turn contributes to sustainability in a long-term perspective. During the project's planning and execution phase, project management usually involves identification of requirements, responding to interests, needs, expectations of stakeholders and balancing project traditional constraints such as time, scope, budget and risk. As opinions on which parameters that are the most vital may vary amongst stakeholders this might become a major challenge for project managers (PMI, 2013). Additionally, Silvius et al. (2012) argue that the complexity of projects requires more accurate measurements than the traditional constraints that incorporates a holistic view of the sustainability perspective that balances ecological, societal and economic factors.

There are various project management methodologies (PMM) such as PMBOK which is globally recognized and applicable in various industries and projects (Špundak, 2014). The mainstream PMM is acknowledged as a method to manage the complexity of projects and used with the intention to increase the chance of project success and enhance project effectiveness (Špundak, 2014; Saladis and Kerzner, 2009; Kerzner, 2014). Implementing and modifying a methodology as a formal project procedure enables project-based organizations to create common and standardized ways of working. Several benefits can steam from common standards, such as predictability of project progress, consistency of project deliverables and optimization of resources (PMI, 2017). However, Cobb (2015) argues that adhering to a traditional PMM enables institutionalized norms, routines and methods which might negatively impact the innovation process. PMBOK is not formulated as a rigorous framework of how to manage project and should therefore be embraced as a guide for project managers helping them to deliver successful project (PMI, 2017; Saladis and Kerzner, 2009). The usefulness of the comprehensive guide, consisting of good practices, tools and techniques, lies within its ability to be adapted and modified by the relevance of the characteristics of the context interconnected with organizations and its projects (Saladis and Kerzner, 2009). Bearing in mind that the methodology itself does not guarantee successful outcomes (Cobb, 2015), the responsibility for altering and implementing a suitable approach is left to each organization (Wysocki, Kaikini and Sneed, 2014). An overly structured method can be perceived as an overloading system, enhancing the possibility of resistance as well as minimizing the motivation and commitment among employees (Cicmil and Hodgson, 2006).

2.2.1 Sustainability principles in project management

Several sustainability principles are suggested to act as guidance for integrating sustainability in project management (Silvius et al., 2012; Gareis et al., 2013). According to Silvius et al. (2012), each principle's relevance and its impact should be considered in projects. The principles are summarized by Forsling (2014) in Table 1.

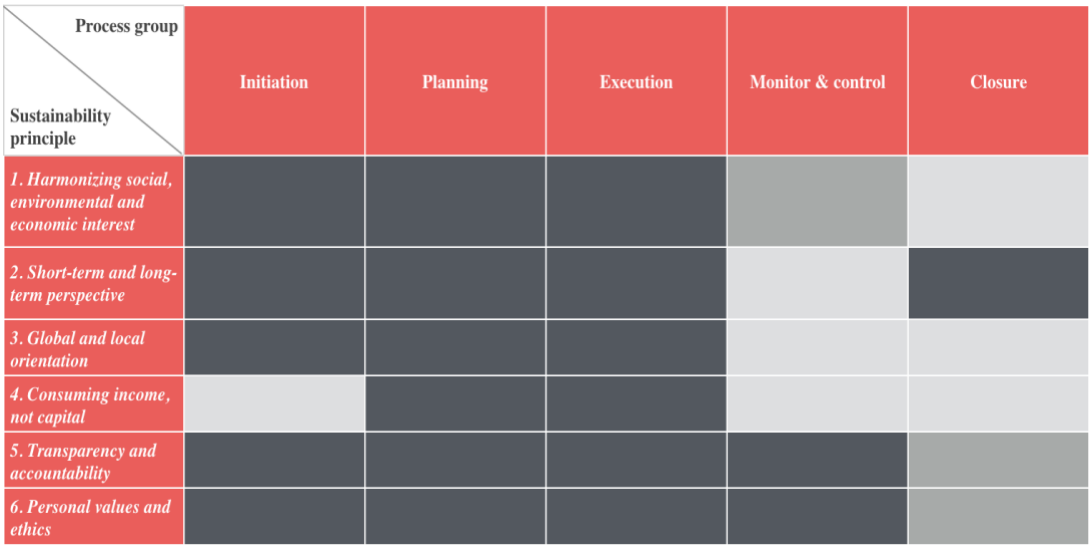
Table 1. Sustainability principles and its usefulness in projects

Sustainability principle	Usefulness in project
1. Harmonizing social, environmental and economic interest Proactive sustainability work enabling virtuous effects instead of reactive work compensating the bad for the good	Has a great impact on the project scope as well as process and will therefore impact almost every project phase. What is established during the planning phase is then carried out during the execution phase. Except status reporting, the monitor and control phase does not imminently integrate sustainability.
2. Short-term and long-term perspective From an economic perspective, companies tend to consider short-term goals where a direct cash flow has more value than a future cash flow according to economic theory. However, the benefits of the project deliverables often occur after the project life-cycle, thus requiring a long-term perspective.	This principle adds a time scale to principle 1. In a long-term perspective, processes, services, products, systems and resources may change, which requires acceptance within the project team. A long-term perspective in projects can change the choice of materials. More sustainable materials benefit ecological, economic and social interests. The principle influences project management in initiation and planning processes in defining scope, risks, planned results, activities, quality and stakeholders. During the implementation phase, employee development can take place from a long-term perspective beyond the project needs. The closing process is affected upon transfer to the permanent organization and upon acceptance of the organizational change that the project has created.
3. Local and global orientation Organizations are often affected by international stakeholders, resulting in a global affection of the social, economic and environmental parameters.	Global aspects can entail that responsibility is taken for fair working conditions throughout the supply chain if the company has suppliers and manufacturers abroad. Local aspects may entail that the company takes into account the interests of stakeholders regarding the effects of the project, the project process and almost all project management processes in the initiation, planning and execution phase. The

	project phases monitoring, control and closure are less affected by this.
4. Consuming income, not natural capital Renewable resources should not be extracted at a higher rate than they are regenerated in order not to deplete them. In order for nature to take care of our waste, we do not exceed its capacity to take care of it. Companies must use revenue and not natural capital to pay costs. To be a sustainable company, both economic and ecological and social capital must be handled well.	Principle 4 means that resources and materials are utilized so that the capitals are not compromised. This, for example, ensures that all project members is in a healthy state and not exposed to high pressure. This means that resources must be utilized in a sustainable way, as un-sustainable ways may result in loss of capital. This fourth principle serves as a guide of how to use materials and resources in projects. This involves choosing eco-friendly materials. This principle affects the scope of the project in the initiation phase, the planning stage and the implementation stage. The principle has less impact on the remaining phases.
5. Transparency and accountability The company should be transparent and take responsibility for the consequences of its policies, decisions and actions to enable stakeholders to assess the business. The company should proactively engage its stakeholders	This is not a new principle in the content or process of the project. It is about being transparent to the public and stakeholders affected by the project. The principle influences all project management processes through how it will be done and what is being done in communicating with and engaging with stakeholders.
6. Personal values and ethics Change is the key to sustainability, which is a normative concept that reflects values and ethical circumstances. In order to change our implementation, we must first change our view of how we implement things.	This principle affects all project management processes and is more about how work is done rather than what is done

Deland (2009) argues that the principles should be considered as early as possible in order to influence the overall sustainability of the project. Silvius et al. (2012) agree with Deland (2009), stating that the greatest opportunity to influence the sustainability principles is within the initiation, planning and execution phase. Table 2 illustrates the different principles and their impacts during the various process groups, a darker colour indicates a greater impact (Silvius et al., 2012).

Table 2. The sustainability principles impact in process groups, adapted from Silvius et al. (2012. p.52)



The six sustainability principles in this chapter are powerful means, but are not very practical for using in projects which is why Silvius et al. (2012) provide a checklist based on GRI criteria and indicators. Several sustainability checklists have been published by Silvius and Tharp (2013). They have obtained a practical approach, concretizing some of the abstract concepts of sustainability through listing potential considerations and interventions. The checklist should according to the authors be regarded as a tool for integrating the sustainability principles into projects and project management practices.

2.2.2 The role of the project manager

The possibility and outermost responsibility of deciding and affecting the level of sustainability integrated in projects lies with the role of the project manager along with the project customer (Silvius et al., 2012). According to Tharp (2011) this includes a responsibility of deciding which aspects of sustainability that are relevant for the specific case. These roles should therefore be utilized to raise the level of sustainability, both in projects and within organizations (Silvius et al. 2012). Regardless of project and customer, if the project has an internal or external focus, Deland (2009) claims that project managers possess the necessary skills to incorporate sustainability in projects. Furthermore, the author states that the cross-functional and interrelated role of the project manager is a critical success factor. Each project manager is responsible for raising sustainability issues and potential sustainability solutions to customers and must therefore adopt a holistic perspective of projects, integrate external and internal factors, and maintain the sustainability focus during the whole project life cycle. Deland (2009) further states that its a personal responsibility to urge sustainability decisions and actions, whether the customers explicitly asks for sustainability integration in projects or not. Moreover, project managers should raise questions concerning sustainability regardless if there is a firm support from the

organization as well as establishing a sustainability program to educate teams within the field (Deland, 2009).

The awareness amongst actors suggests that the project manager role is in need of adoption in order to correspond the increasing demand of working with sustainability (Hwang and Jian Ng, 2012). This means that sustainability needs to be integrated in the project managers' area of expertise which includes knowledge areas such as communication management, stakeholder management, cost management and planning. Hwang and Jian Ng (2012) present some key features enabling mitigation of challenges arising which are linked to soft skills such as analytical ability, problem solving, cooperation, decision making and delegation.

Silvius et al. (2012) argue that in order to integrate sustainability into projects and project management methods, project managers need a basic understanding of the versatile and difficult-to-understand sustainability concept. Furthermore Tharp (2011) adds that project managers need to obtain a long-term and holistic perspective of the project, and that the project manager is utterly responsible for project result, including results concerning sustainability aspects. Deland (2009) stresses that project managers are accountable in terms of educating project team members in sustainability and sustainability design. Deland (2009) also lists several benefits for project managers, deriving from integrating sustainability into project management practices:

- Adds value to the job as well as continued employment
- Develops skills within leadership, analysis and negotiation
- Increases the possibility to connect with others
- Enables new ways of thinking, thus increasing innovation
- Fulfils the need of contributing to a sustainable society
- Improves the project managers' marketability

2.2.3 Integrating sustainability in project management process groups

47 project management processes identified in PMBOK are furthered categorized in ten knowledge areas: Integration Management, Scope Management, Time Management, Cost Management, Quality Management, Human Resources Management, Communications Management, Risk Management, Procurement Management, and Stakeholder Management. These are aimed to support the process groups with inputs and outputs of each process in addition to providing project managers with related tools and techniques (PMI, 2017). The nature of project management is described by PMI (2017) as an iterative process between five categories, known as process groups:

- Initiation
- Planning
- Execution

- ➢ Monitor and Control
- ➢ Closing

These process groups should not be regarded as project lifecycle phases as their integration and interaction in the project vary dependent on its characteristics. Some processes will occur repeatedly, others overlap and all process groups can occur in one single project phase (PMI, 2017). A common way to describe the interaction between the process groups is illustrated in Figure 1.

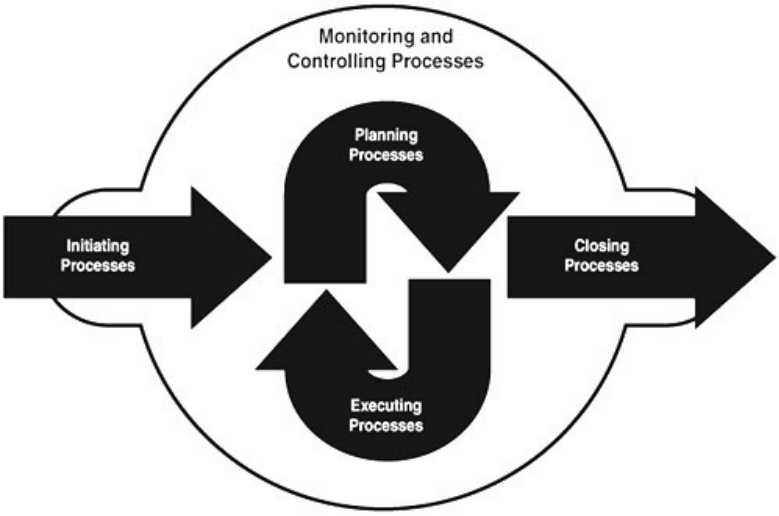


Figure 1. Project process groups adapted from PMI (2013, p. 50)

In chapter 2.2.1, several sustainability principles have been suggested to act as guidance for integrating sustainability in project management with varying impact on the different process groups. Furthermore, this study has summarized valuable insights that describe important sustainable activities that should be considered in each process group presented below.

Initiation

Project managers should initiate dialogues concerning sustainability, including environmental, societal and economic aspects and propose, when possible, solutions beneficial for a global perspective of sustainability and not only locally for the project (Deland, 2009). This includes questioning decisions such as materials and logistics solutions. The author further claims that improved sustainability should be established as a prerequisite for the end-product and not only as a separate condition. Asserting that even though the project manager is not always involved in the phase of developing the project requirements and constraints it is essential to raise sustainability questions and dialogues. This is agreed upon Tharp (2011) who highlights that the initiation of a dialogue concerning sustainability with each client is essential in the process as the customer has the power of deciding the project direction. Hence, Deland (2009) finds it central to prioritize those aspects relevant to the size and complexity of the specific project, as it may not be possible to integrate all aspects of sustainability. Deland (2009) further explains that the goal should be to integrate sustainability to the extent that unsustainable exceptions are minimized.

Tharp (2011) further argues that sustainability commitments needs to be iteratively considered in the communication, stakeholder and risk management process throughout the whole project lifecycle. Silvius et al. (2012) add that in the early stages of projects the manager needs to balance the sustainability constraints besides the traditional constraints.

Planning

In planning processes, attention should be addressed and directed towards sustainability. The project planning has to include sustainability baseline measurements, tracking and reporting as these activities are some of the most expensive and challenging aspects of sustainability. However, creativity as well as incorporating it in design and planning phases minimizes these challenges (Deland, 2009). Tharp (2011) argues that defining results, conditions, targets as well as success factors connected to sustainability can be achieved through integrating sustainability principles in project plans. Silvius et al. (2012) and Tharp (2011) describe the importance of integrating sustainability in almost every planning process as sustainability options and solutions affect cost-estimations, budgeting, communication as well as risk analysis. As the project plan and its initially stated demands is what formally authorizes a project, it is increasingly important to incorporate sustainability principles as these levels. According to Deland (2009) the backcasting can be useful during the planning phase, a tool promoted by the organization The Natural Step (TNS). In backcasting, project managers define the desired level of sustainability in the end-product and uses backcasting as a way to create a more detailed planning of the way of achieving it.

Deland (2009) mentions that the project manager is responsible for educating and informing project members about sustainability and what is expected of them in the project so that everyone is aware of what should be achieved and how. Project managers are also responsible for integrating sustainability conditions and principles in procurement and purchase processes. This includes choosing contractors, sub-contractors and suppliers that can deliver according to the sustainability requirements in the project. When the project group commits and engage in sustainability related questions and issues, project managers perceives that it leads to a higher overall performance according to Deland (2009).

Execution

Embracing and retaining a systematic approach throughout the execution process is according to Deland (2009) a key feature for the project development group to successfully integrate those requirements and conditions that have been established concerning sustainability. The most essential activity is to spread information and raise awareness of the sustainability concept amongst project members, subcontractors and stakeholders. The project manager constantly needs to observe and inform people involved in the project and use their authority to steer them in the right direction to minimize the use of material, reduce waste and save energy.

Tharp (2011) and PMI (2013) highlight that the execution process can be challenging as opinions and what aspects that are prioritized may vary amongst stakeholders and project members. Supplier and subcontractor selection remains a critical activity within this process (Deland, 2009). Tharp (2011) further describes the vital role of the project manager in this process as the manager are familiar with day-to-day activities and execution, thus enabling a more thorough analyse and perception of issues and situations concerning the social aspect of sustainability. Project culture, norms and traditions may render a project differently which is essential to understand. Challenges will also arise from coordinating all stakeholders towards common goals (Schen et al., 2007).

Monitor and Control

Deland (2009) asserts that embracing a holistic approach of sustainability aspects and integrating them early as conditions in the project lifecycle will help during this phase. As challenges and issues arise during the project, it may be tempting to change, avoid or decrease the established sustainability commitments, especially those interfering with the traditional constraints.

Closing

Regardless of how much effort that have been focused on sustainability commitments, the closure process is where the results become definite and visible. Both the project and contract closure is essential activities (Deland, 2009). Concretizing the results is important in order to increase the understanding and awareness of what actions have been taken and what they have resulted in. Deland (2009) clarifies this with an example showing cost savings due to closed-loop processes and LEED-certifications.

Moreover, communicating and reporting both quantitative and qualitative results from progress and benefits deriving from the project and the learning connected to sustainability integration is an important and beneficial activity. Continued maintenance and requirements for the operation phase should be handed over in the contract closure phase to ensure that the property is used properly (Deland, 2009).

The previous section summarized valuable insights that describe important sustainable activities in each process group. However, the degree of implementation also depends on the project specific context and embeddedness addressed in the following chapter.

2.3 Project interconnectedness

While most organizations are permanent structures, projects are to its nature limited processes and temporary endeavours, often viewed by several scholars as unique and solid units separated from their organizational environment and independent from history and future (Sydow, Lindkvist and DeFillippi, 2004; Engwall, 2003; Project Management Institute, 2013). In recent literature however, a context driven theory are emerging where studies claim that projects are embedded in more permanent

organizational contexts which affect them throughout their lifecycle (Sydow et al., 2004; Blomquist and Packendorff, 1996) and where a project's history and anticipated future need to be considered (Engwall, 2003; Maaninen-Olsson and Müllern, 2009). Projects are regarded to be both affected by and affect the context it is executed in (Engwall, 2003). Engwall (2003) also calls into question the notion of projects as unique phenomenon and assert that while some procedures are used for the first time and specifically tailored for a project, others are recurring and even standard routines derived from the organizational context. Several project assignments are of a repetitive nature and therefore of little deviation of previous or even preceding projects (Engwall, 2003).

Understanding the embeddedness of projects in a wider context is important since actors may refer to the surrounding systems for rules and practices. Actors may even refer to practices as typical or even compulsory which may lead to managerial difficulties if challenged (Sydow et al., 2004). No project is executed in an organizational vacuum and the challenge is to take the context into consideration (Engwall, 2003). While project success often has been determined by a generated sets of success factors, findings suggests that the success of a project is highly dependent on the context it is executed in. One projects approach to success may therefore not be fully applicable in a different context under different circumstances (Engwall, 2003). Even if project success is deemed highly individual, past experiences and knowledge may produce predictability in both behaviour and outcomes of the project thus making it essential to share within parallel as well as future projects (Engwall, 2003; Maaninen-Olsson and Müllern, 2009). In order to transfer knowledge from the project and its context, some knowledge transfer needs to be applied in order to foster inter-project learning (Sydow et al., 2004). If not implemented, projects may face knowledge-related issues such as the need to reinvent solutions that already exist what Sydow et al. (2004) refer to as the "knowledge silo" within projects.

2.4 Theoretical framework

The presented theoretical topics can be summarized in a theoretical framework which will help the researchers to analyse the empirical findings, thus fulfilling the aim and research questions. Each theoretical topic can be connected to a research question in order to explain how the theory has been used in the study. Chapter 2.1, 'Organisational sustainability' is connected to research question 1, 2 and 3. It provides the research with an understanding of the underlying issues and opportunities related to sustainability work as well as the ambiguity of the sustainability concept in existing literature. Chapter 2.2, 'Project Management Methodologies' addresses valuable insights of how sustainability can be integrated in project management practices and explains the role and responsibilities of the project manager, hence it is mainly connected to research question 4. Chapter 2.3, 'Project interconnectedness' support and facilitate all four research questions and provide the thesis with insights and relevance of the project context and interconnectedness. The theoretical framework is illustrated in Figure 2.

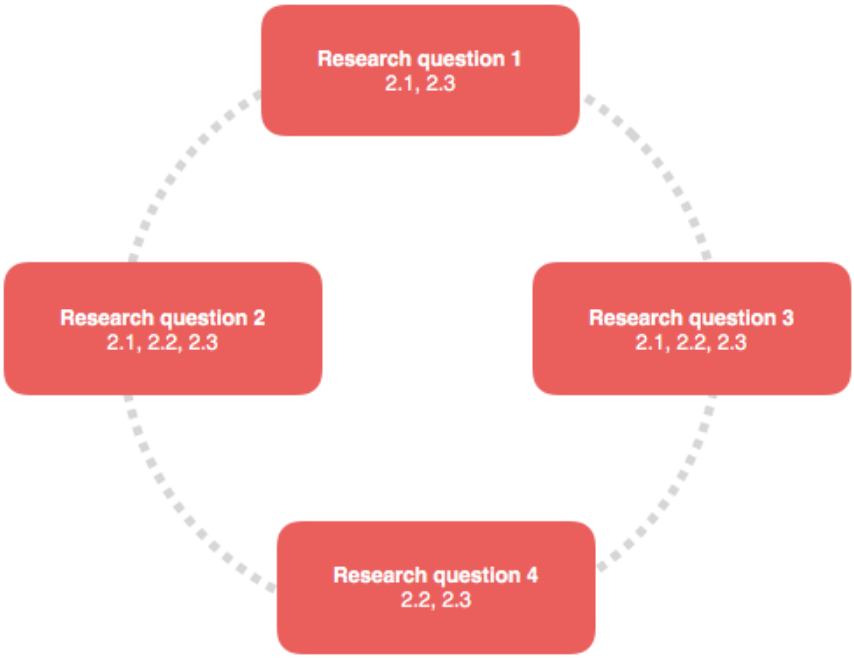


Figure 2. Illustration of the theoretical framework and the linkage to research questions

3 Research methodology

This chapter aims to describe how the thesis have been conducted in terms of the research methodology and includes descriptions of the research design, research process and data collection. Additionally, the quality of the study and ethical considerations are discussed.

3.1 Research design

This thesis has embraced an elaborated form of abductive reasoning called 'systematic combing'. Dubois and Gadde (2002) describe 'systematic combining' as *"a non-linear, path dependent process of combining theory and reality"* (p. 555). The elaborated abductive approach is an interactive process where empirical findings are matched with theoretical insights and vice-versa. Thus, enabling a deeper understanding of a broad spectrum of aspects related to the phenomenon being studied and not only what was initially requested (Dubois and Gadde, 2002). Going back and forth between theory and data allows questions to evolve and emerge during the course of the research (Bryman and Bell, 2013; Alvesson and Sandberg, 2011; Dubois and Gadde, 2002). The systematic combining is illustrated in Figure 3.

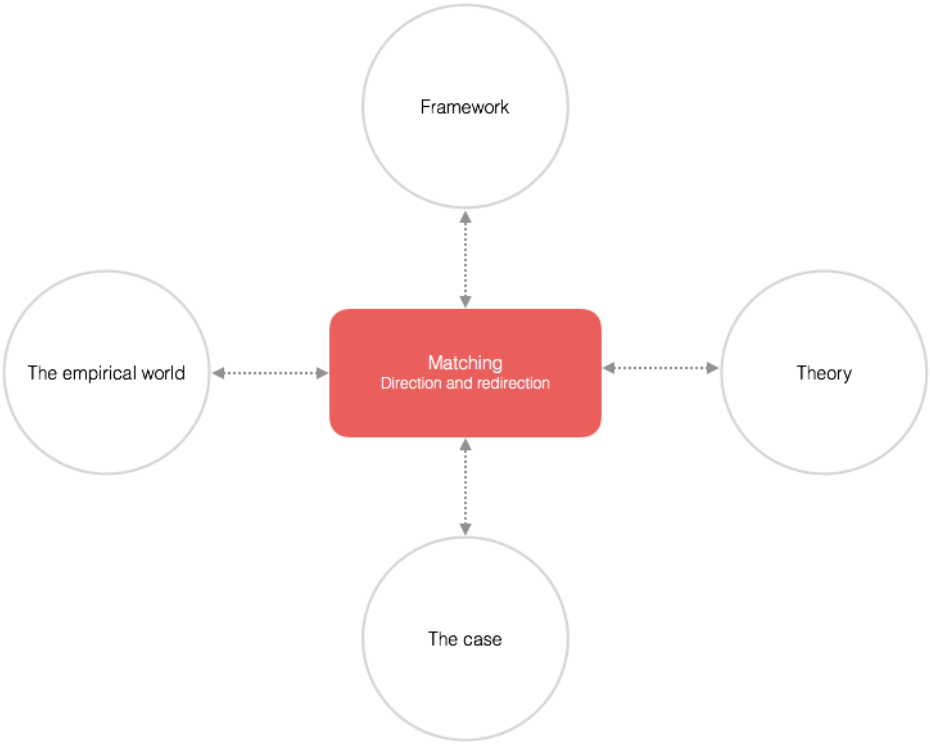


Figure 3. Illustration of the systematic approach, adapted from Dubois and Gadde (2002)

With regards to the benefits mentioned, systematic combining was considered as an appropriate methodology in this study. The initial research questions were modified and altered as more knowledge and understanding of the organization and its way to conduct business were gained. As the topic and the underlying context were difficult to grasp in an early stage of the process, it was important to let the case evolve over time. Moreover, the approach enabled a deeper understanding of the context

surrounding the studied case and the openness in its design constantly gave room for new perspectives, ultimately enhancing the results of the study.

Embracing a qualitative research approach could be seen as a prerequisite in this study as the aim was to investigate how Sweco Management could integrate sustainability in their projects. To achieve this, the researchers had to investigate how alignment and work processes related to sustainability were perceived and implemented amongst project managers. Furthermore, insights and perceptions of Sweco Management's sustainability work were also required from customers. According to Bryman and Bell (2015) qualitative research is preferable in studies of explorative character as it enables non-numeric data collection, including subjective data such as thoughts, emotions and personal experiences. This approach was required in order to fully understand the dynamics related to the issues initially described by Sweco Management.

Additionally, this study was conducted with a case study design (Bryman and Bell, 2015: Easterby-Smith et al., 2015; Dyer and Wilkins, 1991) considered as an efficient approach, enabling extensive and detailed data collection. In this study, Sweco Management has been conducted as a single case study. Single case studies are applicable in this type of research where there is a need to highlight integrations and interactions between processes and actors. By illustrating this, studies can exemplify how the interplay affects and reflects the social reality of the specific case (Easterby-Smith et al., 2015). Dyer and Wilkins (1991) agree and further argue that single case studies are especially applicable where the goal is to describe and analyse a deep social behaviour in a specific context, thus giving valuable understandings of the underlying variables related to the research. Furthermore, the authors highlight that multiple case studies do not necessarily facilitate more significant or better theory, which is argued by authors such as Eisenhardt (1989) and Yin (2012). Eisenhardt (1991) and Yin (2012) further claim that one of the main drawbacks with single case studies is their lack of generalizability and inability to be replicated in other situations. However, as the context of each case study differ and several intervariables exists, several authors (Dubois and Gadde, 2014; Dyer and Wilkins, 1991) advocates deep-probing analysis with the argument that the essence lies within a greater understanding of the complex context surrounding each case.

3.2 Research process

The subject of this study was originally proposed by the researchers, but was furthered developed in collaboration with Sweco Management to match their observed real-life problems and needs related to sustainability. In the beginning of December 2017, a preliminary topic of the report was registered at Chalmers University and a planning report was handed in during January. A general literature study was carried out in the beginning of 2018 in correlation with the planning report, resulting in a overall idea of the topic of interest. The topic was further developed and

discussed together with supervisors at Chalmers University and Sweco Management, resulting in aim and research questions. The initial idea was to compare projects from each region and see if the sustainability work differentiated, but as the influential level of the project manager and the type of project varied greatly the researchers realised that it would not be possible to achieve within the timeframe. This resulted in that the aim and research questions were modified throughout the study along with the increased understanding of the company and its way to conduct business.

In parallel with formulating the interview guides during February, efforts were focused on gathering knowledge about the company and its daily operations. To obtain a general idea of how sustainability was integrated at the corporation and whether there existed any supportive functions that could or should be used in sustainability work, the internal management system Sweco@Work was investigated. As each region of the organization was part of the study, the researchers sent out a request to acquire appropriate interviewees from each region manager and their customers. It was a challenging process to find project managers and customers from each region. Whereas some did not want to participate, others wondered if they were the right person to interview, indicating an insecurity amongst project managers and customers concerning the sustainability area. The empirical data collection was carried out and transcribed during Mars and April in parallel with further literature studies. The theory and empirical findings were then analysed and discussed from which conclusions could be drawn. Lastly, the study recommends how methods can be designed and used at the asserted organization. Figure 4 is a simplified illustration of the research process.

Figure 4. Simplified illustration of the research process

3.3 Data Collection

This study is, as stated, based on a qualitative character with a single case study design. Data collection is therefore anchored in this decision and includes both primary and secondary data collection. The empirical findings were mainly obtained through semi-structured interviews and participating observations (primary data), together with an investigation of existing methods. This data was systematically

combined with the theory throughout the process. Secondary data collection includes a comprehensive literature study resulting in a theoretical framework with the aim of supporting the analysis of the empirical findings. Obtaining secondary data is a time-consuming activity, thus contributing with valuable input and already known knowledge of the field of interest (Easterby-Smith, Thorpe and Jackson, 2015).

3.3.1 Literature review

A literature research refers to the process of summarizing, analyzing and critically evaluating existing literature with the purpose of synthesizing it in a way that opens up for new perspectives. This does not only justify the interest of conducting the research, but also intends to create an understanding of what is already acknowledged within the field by providing readers with pertinent concepts and terms (Easterby-Smith et al., 2015). In order to create a balanced view of the research topic, the literature review should include a wide range of information and appropriate information sources (Bryman and Bell, 2013). The literature review is conducted before and parallel to the case study and aim to systematically support the case findings with conceptualized meaning (Dubois and Gadde, 2014). All literature collection was carefully accomplished through the search functions Summon, Google scholar, Chalmers library website and Chalmers Library. The information and data collection was primary obtained by scientific papers, student literature, journals, reports and relevant dissertations, resulting in a versatile and comprehensive theory framework.

3.3.2 Interviews

In order to obtain valuable non-numeric data, interview studies have been an important method. In this study, semi-structured interviews have been used with the aim of charting the sustainability work of the organization being studied. In semi-structured interviews, a series of questions are established in advance and if the interviewees do not spontaneously come across the desired topic, or if new relevant topics appear, attendant questions can be questioned to utilize the interview (Bryman and Bell, 2015). The questions are mainly of explorative nature and more open than in structured interviews (Easterby-Smith et al., 2015). Semi-structured interviews are common in research where theory is not predetermined, allowing the empirical world to contribute to valuable insights (Bryman and Bell, 2013). In order to achieve a good balance between structure and openness, semi-structured interviews are used as they give the interviewers a greater opportunity to observe the entire context related to the question with regards to articulated tone, body language and facial expression rather than simply obtaining a definite answer. This ultimately gives a more comprehensive insight of the investigated phenomenon and thus, the interviewer can express, without being guided by the interviewer, how the social reality is perceived in relation to the studied subject (Easterby-Smith et al., 2015). The drawback of interviews is that it is a time-consuming activity and it can be challenging to remain objective when analysing and performing interviews (Bryman and Bell, 2013). The performed interviews were

transcribed, meaning that the spoken words were translated into written answers (Bryman and Bell, 2013). The interviews were recorded with the permission from the interviewee, allowing the researcher to remain objective and focused on the interview situation instead of taking notes (Bryman and Bell, 2013). Transcription of the interviews functions as a early first analysis of the results, which could be beneficial even though it is a time consuming activity (Easterby-Smith et al., 2015).

Eighteen interviews contributed to this study, from which semi-structured interviews were conducted with twelve project managers and six customers, all spread out on the national regions. The interviewees of this study were not randomly sampled as each regional manager selected project managers appropriated for the study. However, the researchers had three criteria regarding the selection to mitigate a biased selection from the company. This were that each region provided the study with two project managers, one that worked in a project with a sustainability focus and one without sustainability focus. This sampling method is called purposive sampling and was found suitable for the study as the researchers found it important to include people that is working actively with sustainability and people who does not. One of the disadvantages with this sampling method is that it is hard to remain unbiased and that the reliability of the study can be lowered (Robinson, 2013). As the study includes project managers who do not explicitly or actively work with sustainability, these disadvantages could be considered mitigated not yet avoided.

All interviews were conducted in Swedish as this was the interviewees' native language, thus avoiding insecurity and confusion amongst project managers. A majority of the interviews were carried out through Skype for Business. This was not considered to have a negative impact as it is a common established work method at the organization, which the project managers are used to incorporate in their daily operation. The interview guide for the project managers can be found in Appendix A and the interview guide for customers in Appendix B. An overview of the interviewees is presented in Table 3.

Table 3. Overview of the interviewees

Title	Date of interview	Time of interview [min]
Project Manager A	2018-03-06	38:35
Project Manager B	2018-03-06	37:07
Project Manager C	2018-03-09	53:45
Project Manager D	2018-03-09	37:07
Project Manager E	2018-03-15	31:34
Project Manager F & Project Manager L	2018-03-18	49:47
Project Manager G	2018-03-16	57:00
Project Manager H	2018-03-19	35:55
Project Manager I	2018-03-20	41:53
Project Manager J	2018-03-23	43:46
Project Manager K	2018-03-27	38:12
Customer A	2018-04-03	18:04
Customer D	2018-04-23	13:09
Customer E	2018-03-19	25:02
Customer G	2018-03-28	18:53
Customer H	2018-04-11	17:17
Customer J	2018-04-10	18:19

3.3.3 Participant observation

During the course of the study, the researchers have been located at the company's office landscape in Gothenburg, thus gaining valuable insight into how employees interact and work on a daily basis. Additionally, the researchers participated in and observed meetings with explicit focus on sustainability, held by sustainability coordinators from each region. In order to study and grasp what is happening with individuals, groups or organizations, one who performs a research can participate in its daily operation and by listening, observing, and asking questions to receive an insight in the way business are conducted (Easterby-Smith et al., 2015). Casual conversations with colleagues where there is no explicit focus on a certain topic is considered to provide a more balanced view of a phenomenon, hence, considered to be a good complement to interview studies to understand what is truly taking place in an organization (Easterby-Smith et al., 2015). Establishing a structured system of how to gather the observed information might be beneficial as it eases the process of validating the output. Criticism similar to those of qualitative studies, is the heavily reliance of the observers' subjectivity and how this person interpret and perceives situations. However, Bell and Waters (2015) argue that the explicitly best method of understanding the context influencing an organization, its groups and individuals, is to be a part of as well as being accepted in its social structure. With regards to these aspect, the researchers, with support of the supervisor, decided that it was beneficial if the researchers were physically located at Sweco Management's office in Gothenburg during the study.

3.4 Quality of study

To ensure quality in qualitative research, trustworthiness and authenticity need to be assessed and evaluated (Bryman, 2011). According to Bryman (2011) authenticity covers general questions concerning science policy. In order to ensure the authenticity of this study, the case, methods and results have been described and managed in the most transparent, honest and fair way possible.

Trustworthiness are comprised of four different criteria, each have an equivalent in quantitative research (Bryman, 2011).

- Credibility (in preference to internal validity)
- Transferability (in preference to external validity and generalisability)
- Dependability (in preference to reliability)
- Confirmability (in preference to objectivity)

Credibility reflects on how congruent the results are with reality (Bryman, 2011; Shenton, 2004). Several measures can be made to promote confidence that the phenomena have been accurately recorded (Shenton, 2004). The adoption of research method and data collection method have been successfully utilized in comparable

studies and therefore deemed appropriate to answer the line of questioning in this study. An early familiarity with the organisation was made through investigation of appropriate documents and internal systems before the first data collection session took place. Moreover, each interviewee was given the opportunity to refuse participation when approached in order to ensure honesty when contributing data. The anonymity of the interviewees was emphasised along with the statement that there were no right or wrong answers to the questions. This meant that the interviewees could be honest and frank without fearing consequences from the organization. However, purposive sampling was used as the organization provided the study with appropriate interviewees. Thus, the organization's own bias cannot be neglected.

Through the prolonged engagement and participation in the daily activity of the organization, a high degree of agreement between concepts and observations can be ensured, thus contributing to the credibility of the study. Triangulation was incorporated in the study through the use of different data collection methods besides interviews with customers from various organizations. Debriefing sessions were conducted with the supervisor and others with the same role within the corporate group. Such sessions helped draw attention to alternative approaches along with providing the opportunity to test ideas and findings. Lastly, an examination of previous research findings were made in order to relate this study's findings to existing knowledge.

Transferability refers to the extent in which the findings can be generalized to other contexts and situations (Bryman, 2011; Shenton, 2004). Bryman (2011) mentions that it is important to provide a sufficiently "thick description" in order for the reader to determine the extent of which the findings are transferable to another situation. However, Shenton (2004) mentions that some authors note that information deemed as unimportant, and therefore unaddressed, may be critical for the reader. In order to provide sufficiently "thick description" the number of organizations taking part in the study are given along with the data collection method, number and length of data collection sessions as well as the time period the study was carried out. However, the degree of which the findings can be applied to other situations has not been focused upon as the study was not meant to be generalized in other contexts than at Sweco Management. However, the findings of the study may be applied within other organizations within the Sweco Group as they use the same internal methods and may have similar problems with integrating sustainability in projects.

In order to address dependability, Bryman (2011) asserts that all phases of the research process should be reported in detail. This enables auditing to assess the quality of the procedures chosen and how they have been applied (Bryman, 2011). The dependability of the study can therefore be deemed high as the phases of the research process are thoroughly explained. Moreover, feedback has been received from both the study's supervisors and other student's familiar with master thesis writing through a peer-review.

Efforts to remain objective permeated throughout the study in order to ensure confirmability. The study was conducted with prior knowledge of the subject, however, with no prior knowledge of the company's context and work methods. Therefore, when more knowledge was gained of the subject, the systematic combining approach enabled an interactive process where empirical findings were matched with theoretical insights and vice-versa. The theoretical framework has therefore not affected the creation of the analysis and conclusions, instead it has been shaped to understand the empirical findings. Moreover, triangulation is emphasised by (Shenton, 2004) in order to promote confirmability and reduce investigator bias which this study has implemented in order to remain objective.

3.5 Ethical conduct

Several measures have been taken to ensure that this thesis has been conducted in an ethically correct manner. All interviewees were informed that their participation in the study were voluntary and anonymous. A description of the study and the interview questions were sent to the participants prior to the interview to ensure that the interviewees were aware of the subject and the process. Each participant was asked of the permission to record the interview and was informed that their answers could be cited in the report. No classified information has been used in this study as a protection of the confidentiality. The use of material obtained from the intranet has been approved by the company.

4 Empirical findings

This chapter presents the empirical findings from the conducted case study. It starts with presenting the results from investigating the management system Sweco@Work and continues with the perception of the sustainability concept, the value of sustainability and the expectations on project managers. Lastly it presents the current procedures of integrating sustainability in projects, the perspectives of Sweco Management's customers and the benefits and challenges related to sustainability work.

4.1 Sweco@Work

Sweco Sweden is responsible for all routine texts and common tools that describe what employees at the different business units should do in the projects and assignments, i.e. routines such as assignment plans containing possible risk and environmental assessments. In turn, Sweco Management is responsible for the guidelines and any company requirements that describe how project managers can or should work. Furthermore, Sweco@Work has supportive features that may be helpful to employees. Several documents were found on the intranet, but the following were identified as particularly interesting from a sustainability perspective:

Routine

- Environmental management in the assignment plan

Supporting document / guidance

- Sustainability Book 2010
- Environmental laws

However, most documents that exist concerning sustainability have a strong emphasis on environmental aspects, which could complicate the search for such documents. Environmental management presented guidance on environmental and sustainability issues along with questions that could be relevant to project managers when planning projects. This further referred to supporting guide documents such as environmental laws and the Sustainability Book, which has not been revised or updated since 2010. The Sustainability Book is described as a guiding document for integrating sustainability in projects. A previous survey conducted by the company in 2011 showed that employees demanded more communication, knowledge retrieval and concrete tools relevant to sustainability work. It was also found that the Sustainability Book was supposed to be updated and revised, but this does not seem to have been carried out. In addition, a checklist should have been prepared for sustainability in projects and an integration of sustainability into the templates used in the company. The environmental management in the assignment plan reucurre in the process groups Initiation and Planning and are mainly built on four main questions:

1. What are the conditions?
2. Are there any significant environmental/sustainability aspects?
3. Can environmental goals be defined?
4. How should the environmental management be implemented?

Other tools that are used and promoted by the corporation is the use of the Sustainable Development Goals (SDG).

4.2 Perceptions of the sustainability concept

Even though the perception of sustainability varies amongst project managers, there is a unanimous agreement of the importance of sustainability. Project manager F argues that working sustainably and with sustainability should be unquestionable as it is about *"saving the world for the sake of our lives and the ones of the future generations".* Additionally, claiming that enough proof has been provided by science and research regarding the importance of sustainability and that everyone has to contribute to this global issue. The long-term perspective of creating an enhanced world for future generations as well as integrating the three aspects of ecological, economic and social parameters, are common denominators when the project managers define the concept of sustainability. Project manager D states that working with sustainability includes *"more than just ecological issues. Ecological, economic as well as social aspects of the society should be taken into account."*

"Everything from energy-saving to people being treated with dignity, everyone must have the same conditions and we must protect the environment. In summary, thinking about the future, that's how I think." - Project manager A

"It's about reducing footprints, creating a better world or at least not a worse one, for our future generations." - Project manager B

Building and contributing to societies where future generations can use different values and functions in a better way than today and with less impact on the future are described as meaningful parameters. Project manager A emphasis a holistic view of sustainability, claiming that all three aspects should be taken into account to avoid that one or more parameters are compromised. On the other hand, project manager F states that *"looking at the term sustainability from the gigantic holistic perspective also makes it hard to substantialize and elucidate it in your projects"*. Furthermore, the manager highlights that the concept needs to be adopted and customized into each project as the uniqueness of each project needs to be considered. This is agreed upon by two project managers, B and C, whom highlight the importance of continuously finding new perspectives and angles of the sustainability concept. The ambiguity of the sustainability concept is identified as one of its main challenges explained by project manager E *"Finding a common place for sustainability is difficult, because people are used to different things and people's references are different"*. This refers to the differentiated view of sustainability, where the term is perceived as a subjective matter by the project managers. However, the majority of the managers agree that

there is a necessity for a greater understanding of the concept so that it can be more easily understood, elucidated and consciously used in projects. Project manager B, C and E consider sustainability as a natural part of their daily work, something that is included in every situation where it is possible. Others find it hard to concretize how they incorporate it into their different roles and daily work. As stated by project manager G *"it's too gigantic to think about every aspect in every situation, it ends up in you thinking about nothing, you don't know where to start."*

This was also identified by project manager F describing that people frequently ask questions such as *"where do I begin? How do I incorporate it? And how can I use it more concretely in my projects?"*

In order to increase awareness and clarify the sustainability concept several suggestions of internal methods were identified. Education, including workshops, seminars and e-learning were presented by the project managers as meaningful tools. The project managers described that internal workshops are used in several regions and that the SDG's have a central role in discussions. Seminars concerning sustainability with charismatic, engaging people and mentorship program are further explained as meaningful tools by the project managers. Organizational culture was not explicitly discussed as a subject during interviews, but was mentioned by project manager B and L. The project managers highlight the importance of having an organizational culture that embrace and enable knowledge sharing. This is agreed upon project manager K, who think that recommendations and suggestions concerning sustainability should be shared and visualized within the organization.

During coffee breaks and in the office landscape, employees tend to focus on ecological issues when discussions concerning sustainability were initiated. When the researchers present the subject of the study a majority of the people became uncomfortable when discussing the subject, mentioning it as an ambiguous concept they have a hard time to relate to. Some mention that they focus explicitly on ecological aspects, while others find a great interest in the social parameters. The confusion of the subject is obvious, as there was a continuously need for an elaborated explanation when the researchers mention that the subject is related to sustainability in projects. These findings reveal that there is an insecurity and confusion of its ambiguity.

4.3 The value of sustainability

All project managers acknowledge the potential of working with sustainability. However, it is pointed out that time, consistency and patience is needed as the value-enhancing effect involves a long-term perspective. There has according to project manager A always existed a value with working with sustainability issues, but the focus has changed over time along with the evolvement of the concept. Project manager L identified a commercial value of incorporating sustainability with the motivation that it drives innovation, moves business processes forward, solves issues

with more efficient processes and reduces waste. Thus, generating more profit and an added value for both customers and consultant organizations. In line with this, project manager I thinks that *"sustainability creates a fairly big weight in a company if you work with it in a substantial way, visualizing it concretely into something manageable."* Furthermore, project manager L argues that the upcoming generation are more aware and informed within the field of sustainability and want to work with these issues. Therefore, it is necessary for companies to provide this opportunity in order to remain an attractive employer. Sustainability responsibility is according to project manager F and D an obvious factor when being a major actor on the market.

"We must include sustainability in all projects and convince our customers in the importance of doing so. Otherwise, I feel that we don't take our responsibility. Being a large actor in the market includes taking responsibility and acting accordingly." - Project manager F

Or as expressed by project manager E *"if you gonna talk the talk, you have to walk the walk."* This is agreed by project manager D, adding that the perception is that this responsibility is not yet fulfilled by the company.

Other identified values mentioned by project manager A, B, C and H is for companies to meet current obligations and future market demands. This is especially addressed as a significant value for public actors whom generally are more pressured to meet specific requirements provided by the government. The value for Sweco Management in this process is described as the ability to cope and facilitate customer requirements. Another empirical finding described as an essential value by a majority of the project managers is sustainability as a requirement to maintain market positions. Project manager B argues that the sustainability concept could be used as a competitive advantage a few years ago, but has now shifted into an inevitable factor. This is agreed by other respondents, for example, project manager K who claims that:

"It is not a question whether or not to work with sustainability, it is more or less taken for granted. Sometimes it's even requested in the procurement process."

Project manager A symbolizes the process with what happened with the concept of quality. Referring to a time when there was no requirement to work with quality, but today having a quality assurance system does not give value itself, it is basically a prerequisite to acquire business. An external image as a sustainable company was furtherly identified as an essential value. According to project manager E companies profile themselves as sustainable, but fail in its attempt to execute and accomplish their projects accordingly. Project manager H states with an example, claiming that customers occasionally install solar panels on rooftops of their properties, not because it is economically or ecological reasonable, but because it generates an image of sustainability awareness. Although all respondents find it valuable to work with

sustainability, it is often mentioned that the specific value strongly depends on the customer and type of project.

4.4 Expectations on project managers

The concept of sustainability involves a lot of possibilities and freedom according to project manager L who asserts that Sweco Management does not know to handle it, what to do with it or how to maximize it. This makes it difficult to sell sustainability to customers for project managers according to project manager G. As of today, project managers incorporate sustainability into projects if time is given according to project manager C. In addition, sustainability is not always regarded as an individual task by project manager C but rather as delivering a whole package to the customer based on knowledge and expertise from the whole corporate group. This is further emphasised by project manager G stating that Sweco need to start taking advantage of the resources available within the organization and start teaching each other about sustainability through knowledge management. Moreover, project manager A, E and F state that it is clear that Sweco Management has an ambition to become more sustainable through activities and actions which have intensified during the last couple of years. Project manager A asserts that it is clear that Sweco Management want to emphasise the importance of the sustainability concept. Project manager F states that the intensified focus has led to sustainability coordinators in each region, business plans and clear goals related to the concept which is perceived as a step in the right direction. Nevertheless, they agree with the majority, that it has to be concretized further; what should be done and how. Moreover, none of the respondents acknowledge any clear directives or expectations of how they as project managers should work with sustainability.

Each project is regarded as unique according to project manager B, C, E and F where the ambition level and extent of sustainability work differs. However, it is also mentioned by project manager E that sustainability is *"a natural part of my work but I don't really know what Sweco says about it."* Project manager F on the other hand feels like it is hard to know how to incorporate sustainability into projects, how to sell it and how to persuade customers to work with it. While all of the respondents are aware of the importance of sustainability, there is a clear lack of directives on how to work with sustainability in their roles as project managers. The concept of sustainability is however discussed internally where it is said to be everyone's responsibility to incorporate into projects. This is a problem according to project manager B who mention that, according to routines, it is optional to incorporate and that failure to do so does not lead to any consequence. Additionally, if project managers carry the responsibility for sustainability then more directions are needed from top management of how to conduct sustainability work and how to report sustainability in a thoughtful manner back to the organization according to project manager B.

The opportunity to raise sustainability questions to customers differs throughout the respondent's projects. Some of the project managers work actively with promoting sustainability, such as project manager B, C, E and F. Project manager B and C both assert that it is important to understand the project's context, its customer and other stakeholders. Gathering possible requirements is explained as an essential activity in order to create value for customers but can also be used as leverage when trying to persuade customers to integrate sustainability in projects. Project manager B provided an example *"we must talk about this since EU has decided this."* Project manager B and C have worked with workshops, suggested different approaches and also involved other employees with expertise in the project in order to influence customers. Project manager F has been involved in the creation of a quality program based on sustainability requirements from the customer where a more continuous follow-up and after-check were added. Moreover, project manager B and J have also sold sustainability solutions through close collaboration with other employees within the corporate group.

The project managers unanimously agree that it is the customer who determine how much they are able to influence with regards to sustainability. Some of the project managers feel like they are not able to raise sustainability questions due to several reasons. The size of the customer was addressed as an influential factor as customers usually have an own sustainability agenda with clear goals and directives. In those cases, project manager G, D and E found it hard to influence the level of sustainability as goals and indicators have already been developed by people with expertise within the area. As asserted by Project manager D *"you don't want to risk coming across as stupid or ignorant"*. When the respondents were asked what has been the customer's expectations on Sweco Management regarding sustainability in their projects, the consensus among them is to follow the requirements and targets set by the customers. It is mentioned that it is appreciated if the project managers come up with improvements and ideas, however the customers expect the project managers to run the project in accordance to their values and prerequisites. Moreover, all project managers state that they try to exceed the customer's expectations. When asked how, the majority had trouble concretize what it is they do.

4.5 Procedures of integrating sustainability in projects

None of the respondents could verify an existence of any relevant established method, routine or tool within the organization, supporting them in sustainability work. The vague responses confirmed that even if methods are provided or established, this information are not reached by the employees. Generic guidelines and methods of working was a recurring topic where project manager C, D, E, I, F, L have a positive attitude towards having a common methodology, project manager B oppose it with the motivation that it prevents innovation, and the rest of the managers remains neutral. Project manager E state that *"it is good if there are norm and guidelines, then every project manager can adapt it to the relevance of the project"*. Moreover,

Project manager I said that *"when starting up a project it can feel rather empty, it would be good to have something to fall back on"*. The rest of the managers remained neutral in their opinion regarding generic methods and guidelines.

When the managers attempt to describe how they incorporate sustainability in their projects, the answers were vague and intangible. With many years of experience within the public sector, project manager A describe the way of working as *"I always try to act as I would have wanted a consultant to act if I was the customer"*. Few can describe how they actually work with sustainability, and only a minority of the respondents demonstrate with concrete examples. The project managers said that the approaches differentiate as they are strongly dependent on the type of customer, project and role in the project. Nevertheless, some tools could be identified as useful as they were used by project manager B, C, E, F and L to enhance sustainability work in projects. Two of these were recognized as workshops and discussions together with customers. The main objective with workshops and discussions were described as establishing a common understanding of sustainability, to define targets and find sustainability angles appropriate to the specific project. Project manager C explains that discussions are held continuously throughout the project to enhance the transparency and maintain it in the right direction concerning sustainability.

In the role as a consultant, obtaining demands and obligations along with facilitating conscious and unconscious customer needs are described as unavoidable tasks. At this stage, project manager C integrates sustainability as a natural part of the job. Another possibility is to include these amongst other parameters in a separate sustainability program, which is advocated by project manager C, E and F, who already practice this in projects. Project manager F claims that such programs can be designed in a similar way as communication plans, stating that:

"As we do with risks and other parameters today, we should be able to do with sustainability. In such cases where it's not applicable, we can make exceptions."

This is similarly addressed by project manager F and L who symbolized sustainability plans with risk plans which are integrated in current project plans. Similar arguments are provided when project manager I, K, F, L recommend using sustainability checklists as a routine in an early phase when developing project plans. Sustainability is today perceived as optional by a majority of the project managers, therefore project manager K believes that checklists could be a good way to force managers to reflect upon the subject. Hence, project manager F states that it requires monitor and control to assure that what has been established is also achieved. On the contrary, project manager E contemplates checklists as vague, highlighting that there will be people with a negative attitude towards it and therefore argues that education within the subject would give a higher value amongst employees.

The customer and their methods of working have a strong influence on sustainability. It is considered to affect the level of sustainability work in projects, and is mentioned in the majority of interviews as one of the major challenges of working with

sustainability. Sometimes the customer has standardized methods of working with sustainability thus making it hard to influence according to project manager D. However, project manager C argues that in cases where there is a possibility to incorporate own methods, there are not sufficiently enough supporting methods provided by Sweco Management.

All respondents state that they are aware of the SDG's, but the majority is not actively incorporating them as a tool in projects. However, some project managers state that they have used SDG's as a tool. Project manager C and E declared them as a tool to facilitate discussions and visualize sustainability to customers and colleagues. Despite being in line with how project manager B work with sustainability, the manager describes the SDG's as a *"low-hanging fruit"* on a national level, a metaphor used when a problem is easy to solve, or a target easy to achieve. Furthermore, the project manager criticizes their measurability, especially the goals connected to ecological and social parameters. The measurability of the goals are questioned by other managers, and identified as one of their main drawbacks. Other managers, such as project manager H questions the relevance of SDG's in projects as some of the goals are perceived as enormous and ambiguous.

"How would my project contribute to global starvation or poverty?" - Project manager H.

Three of the managers have the ambition and desire to actively practice the SDG's, but claim that they have not yet had the opportunity. Project manager D are convinced that the majority of the executed projects are in line with the SDG's but that there are no supporting routines or methods helping managers in observing the connection. Sustainability is not a natural discussion subject in the office area, and the general perception amongst employees is that they find it challenging to incorporate sustainability in projects.

4.6 Sweco Management's customers

There is a unanimous agreement regarding the importance of the concept amongst the customers. Customer G claims that sustainability is *"more or less mandatory. Cannot say that you have not considered it, it is not acceptable. Especially if you are a public client".* Customer H agrees and describe that they have high demands on sustainability through goals and visions which permeate their work. As a public client, customer H explain that they do not want to squander taxpayer money meaning that they need to have a long-term perspective which incorporate all aspects of the concept. The majority mention that they strive to conduct their business in the most sustainable way possible. Customer A explains that they have an overall sustainability plan which form the basis for smaller, more specific plans throughout the organization where sustainability is one of the most prioritized targets. It is also mentioned that in each one of these, the concept is clearly formulated and defined. Similarly, customer D explains that they define and work with sustainability through the use of categories where each category involves different sustainability aspects. Each project conducted

within the organization have an individual sustainability plan where they define categories that are focused upon. Customer G states that their organization is certified, thus they have clear targets and goals regarding sustainability. Moreover, it is also explained that there is an internal will within the organization to work with sustainability.

Common denominators when the customers describe the sustainability concept were the social, economic and ecological aspects. Customer E and J explain that it is important to evaluate each aspect and try to incorporate them all which is agreed upon by customer H who explain that *"when in a project, sustainability must be broken down into these disciplines"*. Customer G agrees but also mention that cost of implementation is incorporated in the evaluation. Whereas the cost often acts as a final decision tool whether sustainability should be implemented or not, sometimes it is the other way around when more cost-effective solutions are sought after which may have positive effects upon sustainability. A majority of the customers also felt that the concept is ambiguous and open for interpretation. Both customer A and H mention that the sustainability is a vast, open and broad concept. Customer E is of the firm belief that goals, targets and definitions of the concept are perceived differently within various levels of organizations. Customer G also mention that different contractors have different perceptions and definitions.

The customers acknowledge several values of working with sustainability. Building confidence towards their customers as well as the public is an important value according to customer D which can result in improved competitive advantage. The company has an ambition to be a leader within their field of business, thus requiring long-term perspectives and value creation in all of their processes. Giving back to the community and future generations are described as essential since being a large actor in the market comes with responsibilities. The primary value according to customer A is to ensure that the people living within the municipality are facing a future that is sustainable and resilient where the ecological footprint is held at a minimum. Moreover, since sustainability have seen a growing recognition it poses an opportunity to build an attractive municipality for future generations, thus acting as a competitive advantage according to customer A. This vision is shared by customer J who explain that there are several values in sustainability where the social aspect is emphasised. Due to the specific project the customer is involved in, social sustainability is prioritized where inclusion and involvement amongst the public is sought after.

The value is furthermore described as creating opportunities for development according to customer H and G. However, most often the driving force needs to come from elsewhere since investing in innovation is associated with risks. Fulfilling the public's expected value can be such a driving force according to both customer H and G. According to customer H, it is the concept itself that creates the most value. At the same time, customer H's organization is a public actor which has no interest in adding value to the properties since they have no commercial business. Customer H therefore

works towards regional and national goals and mostly see a value in lowering energy consumption and making a property more efficient. Customer H also mention the cost of implementing sustainability as a barrier which is addressed by customer E *"economic profits are key to getting people interested. Reduced waste and resource efficiency are easy to visualize and concretize, therefore I think the energy saving has been easy to sell."* Working with social sustainability is considered harder by customer E since there exists an insecurity and uncertainty regarding how to work with it and implement it.

Several customers see a value in working with the SDG's. Customer A's overall sustainability plan, which form the basis for smaller more specific plans throughout the organization, are built upon the SDG's. They are not used in project specific questions but explained to act as guidelines. Similarly, Customer D's categories through which they define and work with sustainability are also built upon the SDG's. Customer G work with a certification in their projects where the goals and targets contribute to the SDG's. However, an ambition to work more directly towards the SDG's is furthered expressed. Customer E's sustainability plan for a large project is built upon definitions and targets before the SDG's were implemented globally. However, similarly to customer G, an ambition exists to work more clearly towards the goals.

The expectation on Sweco Management regarding sustainability varies amongst the customers. Since Sweco Management is a large actor on the market, customer D asserts that the same perceived responsibility applies to Sweco Management and that an overall expectation exists that sustainability questions are addressed within their tasks. This is agreed upon by customer E who mention that Sweco Management play an important role when it comes to implementing and discussing sustainability since they are project managers.

The SDG's were for example brought up from the project manager in customer E's project. Meanwhile, customer H mentions that addressing sustainability is in line with the growing recognition of the concept. No specific expectations or requirements are however linked to Sweco Management, except requirements addressed in the procurement. A similar view is shared by customer G who explain that Sweco Management work with their tasks specified in the procurement and project certification requirements and conduct their own follow ups. It is not perceived that Sweco Management does anything beyond that. Customer A draws a parallel between perceived expectations and a consultant's role in a project. There are no expectations on the project manager from Sweco Management regarding sustainability in customer A's project since other consultants have that responsibility and role. Furthermore, the project manager was not chosen due to sustainability but based on competence where clear goals and targets need to be fulfilled. Customer A value if ideas of more sustainable solutions are brought up but it is also mentioned that the project manager is expected to stay within the given guidelines and framework. However, customer A also state that *"do not just listen, you have to interpret the customer; what is it that the*

customer really requests? Even though I formulate myself like this, it may be that I really need something else." Having a comprehensive picture of sustainably in both a long and short-term perspective is however explained as important as it creates an added value. On the contrary, customer J have expectations on Sweco Management regarding sustainability and state that *"the expectation is that it is performed, rather than how it is performed".* Additionally, the project managers are expected to come with improvements and ideas as well as discuss and cooperate with other consultants in order to come up with more sustainable solutions. Lastly, customer D mentions that the client need to be clear and concrete about what is expected from the project manager in regard to sustainability. Nowadays, it is expected that everyone has a long-term perspective in every task.

4.7 Benefits and challenges of sustainability work

As a majority of the project managers acknowledge the challenge of differentiating perceptions and definitions of sustainability, both within the company but also towards the customer. Project manager E explains that every individual has their own social and economic heritage creating different perceptions and opinions of what is sustainable. This was further discussed by project manager G, stating that some customer has a view of sustainability as lowered energy consumption or different certifications while others have a wider view incorporating more aspects. Project manager C explains that customers may have *"different opinions of the anticipated results as well as the amount of work required for the actions"* and state that everyone approach sustainability differently. Project managers find it hard to know how to integrate aspects of sustainability due to the ambiguity of the concept.

Both project manager A and C explain that the prerequisites of the project may create a challenge if they are short-sighted and not focused on the long-term perspective. Even if the long-term perspective is a common denominator when defining the concept, convincing the customer about the long-term value of sustainability is challenging according to project manager L. Additionally, project manager L perceives that there is an economic barrier as the value-enhancing effect is not always noticeable in a short-term perspective. Moreover, some of the project managers state that it can be challenging to convince customers of the value with sustainability as it can be difficult or impossible to measure its value in monetary terms, e.g. social parameters. Project manager E explains that a socially sustainable area can become attractive, increasing its market value when people want to live there. However, the economic barrier is a challenge addressed by a majority of the project managers. Project manager F states that even some of the biggest customers do not always want to work with sustainability despite having a clear external policy due to the cost of implementation. According to project manager H top management tend to establish ambitious goals in the beginning of projects. Further on, when the costs of implementation become evident, the goals and requirements are reduced. Project manager J states that the customers have a tendency to focus on costs, time and function similar to project manager G's view that projects are under time pressure

where implementing sustainability is correlated to increased work and costs. However, project manager D claims that cost does not have to be a barrier as the customer does not necessarily have to fulfil all goals concerning sustainability, but identify and focus on those suitable for the project and its budget. Project manager C mentions a gap between private and public actors where the two face varying difficulties in return of their initial investments. According to the project manager it takes longer time for a public actor to achieve a break-even point in their investment.

The personal responsibility for implementing sustainability is a challenge due to the lack of directives from top management. The result is that sustainability work becomes highly individual according to project manager B, C and L. Project manager L elaborates and state:

"There are employees who work a lot with it and then there is the rest. There will always be people who think they are not properly informed. But if half the employees would work with it, then we would have come a long way. It is a big company, one has to understand that not everyone will do it."

To address the issue, project manager B and L believe that an organizational culture is needed within Sweco Management that foster discussion and enables knowledge sharing. Furthermore, recommendations and suggestions on how to address sustainability need to be shared and visualized according to project manager K. If a culture could get employees to address the issues related to sustainability, then more would feel comfortable working with it, thus making it less individual according to project manager B. As previously mentioned, project manager C perceives sustainability as delivering a whole package to the customer based on know-how from the whole corporate group. Project manager C elaborates and states that as a consultant, the task is to solve a problem or assist arising questions. Therefore, implementing and taking advantage of resources and skills available elsewhere is essential. A challenge is when project managers believe that they have to present a solution to the problem, thus making too big deal of it all. Rather than coming up with a finished idea, it is about the overall perspective and raising the question according to project manager C.

In chapter 4.4 the absence of methods and directives guiding project managers in working with sustainability is described as one of the main challenges. Additionally, the chapter addresses the difficulties connected to customers, that each customer has their own methods in projects which the project managers as consultants are obligated to follow. Several project managers mention that establishing routines and methods would support them in sustainability work.

The possibilities of working with sustainability in projects is closely related to the perceived value of sustainability discussed in chapter 4.2. Possibilities involve promoting both the customer and Sweco Management as attractive employers, create competitiveness, maintain and advance in market positions as well as being better prepared for future demands and obligations. Project manager B states that

sustainability is a vast field where Sweco Management has the possibility to affect projects with better and more efficient ideas and solutions. A majority of the respondents' state that the possibility to influence the level of sustainability in projects is higher in the start-up phase.

Some of the project managers claim that working with the SDG's enhance the possibility to influence customers to work with sustainability as it concretizes and creates clarity of the sustainability concept. When obstacles or disagreements are encountered, the SDG's can be used and referred to in order to create a common ground for sustainability. Project manager G also see a possibility to discuss sustainability more frequently with customers if they would refer to the SDG's since they are globally applicable, thus reflecting the significance of the concept. Furthermore, it is mentioned by project manager B that Sweco Management is a high performing actor in several business areas but that the company can become humbler and inspired by others in order to develop and advance in the field of sustainability. It was observed that the project managers found it easier to analyse challenges that can derive from integrating sustainability in project rather than the possibilities.

5 Analysis

This chapter compare, analyse and reflect on the empirical findings with the support of applying the theoretical framework. First, organizational sustainability is analysed, then the values and benefits followed by limitations and challenges connected to sustainability work. Lastly, the design and utilization of new methods of sustainability work along with the role of the project managers are analysed

5.1 Organizational sustainability

A sustainable organization is explained as striving to generate benefit for its stakeholders (Savitz and Weber, 2014) where identifying important sustainability issues for stakeholders can foster loyalty and trust (Epstein et al., 2014). In the light of this, Sweco Management can be defined as a sustainable organization since it strives to create value for their stakeholders through sustainability. The organization further acknowledge their social responsibility and the potential competitive advantage the concept may foster. However, both Sweco Management and their customers suggest that being a large actor in the market comes with societal and moral obligations which include a responsibility towards managing sustainability as mentioned by Epstein et al. (2014). Whether or not this responsibility is fulfilled is not evident in the study as a sustainable organization is defined and perceived differently.

Deland (2009) mentions that project managers have a responsibility to recommend sustainable solutions in projects, even if the customer does not request it. This seem to have been acknowledged by Sweco Management as only half of the customers expect sustainability to be addressed in addition to possible requirements, laws and regulations. The rest do not have any specific expectations or demands concerning sustainability besides those already addressed in procurement. Therefore, it seems like customers more often have sustainability requirements on specific contracting services rather than the project managers. This is acknowledged by project manager A and customer A where ideas and improvements are appreciated; however, the customer expects the project manager to follow the directives given. Even if there is an added value that Sweco Management's employees have a comprehensive understanding of sustainability, other consultants have a specific sustainability role in projects which are procured separately. This describes why the overall consensus is to follow requirements and targets set by the customers and explains why some project managers feel uncomfortable recommending sustainable solutions in projects. However, customer A states *"do not just listen, you have to interpret the customer; what is it that the customer really requests? Even though I formulate myself like this, it may be that I really need something else."* Hence, that could be the reason for why Sweco Management strives to recommend sustainable solutions in all of their projects.

The absence of a clear, fixed and enduring meaning of the sustainability concept has resulted in several alternative definitions from scholars and practitioners (Kates et al., 2005; Alänge and Lundqvist, 2014) which explains why the concept is perceived as ambiguous by a majority of the project managers and customers. With businesses increasingly being seen as social actors, more companies are implementing sustainability. The project managers as well as the customers may therefore be perceived as individual practitioners with alternative interpretations and definitions of sustainability. This is acknowledged by customer E mentioning that it is difficult to find a common place for sustainability since everyone have different references. At the same time, Kates et al. (2005) assert that being elusive without a clear definition allows the concept to be adapted to different contexts and situations where it remains an open and evolving idea. However, several project managers find it hard to concretize how they should incorporate sustainability in their different roles and daily work as expressed by project manager F *"where do I begin? How do I incorporate it? And how can I use it more concretely in my projects?"* While concretizing the concept is described as essential by a majority of the project managers in order to account for the uniqueness of projects, it became apparent that an established point of departure to address the concept from is needed. Sustainability is perceived as a subjective matter shaped by references and experience which explain why it is hard to find a common and established ground to work from. According to United Nations (2017) and Colbert and Kurucz (2007), sustainability is usually understood through the triple bottom line approach which are common denominators when the concept is defined by both project managers and customers. Even the sustainability principles by Silivus et al. (2012) and Gareis et al. (2012) mention the long-term perspective of creating an enhanced world for future generations as well as integrating transparency and accountability. Even if the basis for a shared mind-set and definition could be argued to exist, the concept is still perceived as hard to implement and work within projects thus illustrating its ambiguity and complexity.

5.2 Benefits and values of sustainability work

Businesses can be improved in numerous ways and several benefits can derive from sustainability integration (Epstein et al., 2014; Savitz and Weber, 2014; Silvius et al., 2012) which was acknowledged by all project managers and customers. Several benefits and values are linked to areas such as increased process efficiency, increased revenue, meeting social and moral obligations, maintaining market positions as well as improved community relations and reputation.

Savitz and Weber (2014), Silivus et al. (2012), Tharp (2011) as well as Porter and Kramer (2006) assert that competitiveness can be increased through implementing sustainability which is agreed upon some of the project managers and customers whereas others perceive sustainability as an inevitable factor for acquiring business. Both Gareis et al. (2013) and Silvius et al. (2012) mention that the concept has seen a growing recognition and importance over the last decades. This is agreed upon by project manager A who asserts that the values and benefits has changed due to the

evolvement of the concept. This explain why the project managers and customers have different opinions regarding the competitive advantage. Moreover, the acknowledged values are only connected to an organizational perspective. Deland (2009) mentions several benefits specifically for project managers derived from integrating sustainability into project management practices. However, the association between values and project managers are not made by Sweco Management. Instead, some values are identified as more relevant for specific customers. Public actors whom generally are more pressured to meet requirements from the government may receive a higher value from meeting current obligations and future market demands through sustainability. Furthermore, both project managers and customers acknowledge the potential of sustainability to run and grow a business (Savitz and Weber, 2014) but few mention the ability to protect a business by being proactive, limiting regulatory intervention and reducing risks for operations. This illustrates the complexity of the concept, making it hard to identify all the potential values. The growing recognition and importance of the concept has evolved the last decade, which may have changed some of the perceived values within the market, thus outdating some of the author's theories.

5.3 Limitations and challenges of sustainability work

The different perspectives regarding limitations related to implementing sustainability into practice (Mirvis et al., 2010; Epstein et al., 2014; Talbot and Venkataraman, 2011; Millar et al., 2012) explain the perceived challenges of working with sustainability. The ambiguity has been addressed as a major challenge which is agreed upon by Mirvis et al. (2010) stating that companies often have different views and perspectives of sustainability which is highly applicable at Sweco Management. Moreover, an absence of alignment between organizations and employees that are responsible for sustainability may act as a barrier to implementation (Mirvis et al., 2010), explaining the challenge regarding roles of sustainability. The personal responsibility for implementing sustainability is a challenge due to the lack of directives from top management, ultimately leading to confusion and uncertainty. Project manager B mentions that it is optional to incorporate sustainability into projects according to existing routines. On the other hand, project manager K mentions that sustainability is more or less taken for granted and sometimes even requested by the customer in the procurement process. Neither all customers nor project managers agree upon this due to different views regarding responsibilities and expectations which further creates uncertainty. In order to create a consensus regarding roles of responsibilities, clarification of what is expected is needed from top management. This is also in agreement with Epstein et al. (2014) who mention that the question is not whether to incorporate sustainability, it is rather focused on how to do it.

Pressure on project delivery often incorporate profitability (Epstein et al., 2014) explaining why sustainability is often set aside for short-term profits. Even if there is a consensus regarding the importance of sustainability, the economic barrier is

addressed by a majority of the project managers and customers as surpassing sustainability priorities. The reason could be that the value-enhancing effect is related to a long-term perspective. This is agreed upon by Dobson et al. (2013), Epstein et al. (2014) and Silvius et al. (2012), stating that as the cost of implementation is related to an increased initial capital cost. The value-enhancing effect and benefits may also be hard to quantify (Epstein et al., 2014) explaining why some of the project managers find it challenging to convince customers of the value with sustainability. Several project managers emphasis a holistic view of sustainability to avoid that one or more parameters are compromised. However, focus is often on environmental and economic aspects in projects whereas the social aspects value is perceived as harder to measure and quantify. The aspects of the triple bottom line approach are interconnected meaning that advancement in one area cannot be on the expense of another (United Nations, 2017). This highlights the need for the concept to be further concretized in order to help the project managers and customers to work with all sustainability aspects in projects.

5.4 Design and utilize new methods of sustainability work

The field of integrating sustainability into project management is an evolving and explorative area (Silvius et al., 2012), implying that there is not yet a clear understanding of how this is effectively enabled in practice. The absence of supportive functions for sustainability at Sweco Management became apparent during the study as only a minority of the interviewees declared that they were working actively with it.

Amongst those not actively engaged in sustainability work there is however a desire of doing so. As only one out of ten project managers oppose generic and common methods while half of them request it, supportive functions should be considered. Previous studies have shown that sustainability aspects are best utilized if integrated in already established project management methodologies (Gareis et al., 2013; Kivilä et al., 2017), advocating that these are embodied in Sweco@Work rather than as a separate system.

While the top management and a majority of the customers assume that project managers work with sustainability, this is generally perceived as optional amongst project managers. Furthermore, few project managers can concretize the concept or how they work with sustainability in projects. Methods supporting the project managers in how to concretize sustainability in their projects would also be beneficial, as this was identified as a major challenge. One of the new methods could be designed as a checklist, described by Silvius et al. (2012) as a meaningful tool to integrate sustainability principles in projects. To further mitigate the challenge of concretizing sustainability, project manager F, I, K and L suggest that a general routine is designed at Sweco@Work, similarly to the existing risk assessment. Integrating new methods as a natural part of the daily operation, as advocated by Gareis et al. (2012) and Kivilä et al. (2017) could enhance their utilization. Avoiding knowledge silos and enabling knowledge sharing processes are presented as vital processes by Sydow et al. (2004)

and should be considered when designing and establishing new methods. Moreover, there is always a risk that methods become too rigid or overloaded with information, ultimately affecting their usefulness (Cicmil and Hodgson, 2006). As mentioned by Deland (2009) and Tharp (2011), it requires that the project managers use their soft skills for them to be utilized, requiring an understanding of the project and organizational context (Engwall, 2003). As mentioned by project manager L, it is essential to understand that not all people will use the new methods or find them helpful, but the methods could get more people involved in the process of integrating sustainability, thus resulting in a raised standard amongst project managers. The supporting methods could also help people in developing sustainability plans, which were advocated by those project manager (C, E and F) that state that they actively work with sustainability.

The process groups described by PMI (2017) is similarly outlined in Sweco@Work, implying that it would be beneficial to integrate the new sustainability methods with regards to these processes. This would probably mitigate the possibility of resistance as well as ease the perception of change. Important to note however, is that the process groups are iteratively processes and some processes which are perceived as early processes do not have to be early in relation to the project life cycle (PMI, 2017). Deland (2009), Silvius et al. (2012), Tharp (2011) and Schen et al. (2007) contribute with valuable insight of which procedures that should be considered in each process group. e.g. that the planning process have a central role in obtaining customer needs, requirements and expectations. These insights could be considered when designing new methods at Sweco Management. For example, Deland (2009) argues that project managers should initiate dialogues and discussions concerning sustainability during the initiation phase of new tasks. This was also identified by both Sweco Management and their customers. Amongst those project managers actively working with sustainability, this was considered as one of the most valuable activities to strengthen sustainability work. Furthermore, the project managers unanimously agreed that integrating sustainability early on in project processes gives greater potential for positive results and higher impact.

Moreover, the SDG's were described as a meaningful tool to concretize sustainability in projects and both project managers and Sweco Management has a desire to use them more frequently in projects. There are more benefits of using the SDG's, where creating a common understanding for sustainability both internally and externally is acknowledged, as well as a tool for creating value for customers. During observations, it was noticed that several project managers at the office wondered when a project could be defined as sustainable, e.g. if it is sustainable even though only a few sustainable activities and aspects could be considered in a project. This is a hard question to answer as the study presented an ambiguous view of the concept, but a good way to start is to evaluate relevant aspects along with the SDG's and consider the sustainability principles presented by Silvius et al. (2012) in Forsling (2015) as several authors agree with their value in projects (Deland, 2009; Gareis et al., 2012).

Since integration of sustainability affects almost every area of project management practices, its incorporation may involve changes in common project management standards such as project constraints (Silvius et al. 2012), project scope (Tharp, 2011) as well as the role and responsibility of the project manager (Deland, 2009). Additionally, it demands a holistic view of projects including sustainability as a constraint beyond the traditional ones, which is the best way to minimize or mitigate trade-offs of sustainability aspects according to Silvius et al. (2012). When designing routines and methods it is important that these do not become too rigorous or rigid as Cobb (2015) illustrates that institutionalized routines, method and norms can restrain innovation, which was also identified by project manager B. This can increase the possibility of resistance and in its turn, reduce the motivation and commitment amongst project managers (Cobb, 2015). However, integrating sustainability can enable a more innovative process as the added constraints of balancing the triple bottom line force project teams to "think outside the box" (Silvius et al., 2012).

Additionally, the project managers' approach towards sustainability differentiated depending on the project, customer and role in the project. This could however, more or less be regarded as an excuse as theoretical findings state that all projects have resembling deliverables and activities (Kerzner, 2014; PMI, 2017; Engwall, 2003), implying that generic methods and routines can be advantageous regardless of the uniqueness of projects and customers. However, Engwall (2003) and Manninen-Olsson and Müllern (2009) state that activities that have worked successfully in some projects might not be applicable in others. These contradictory views explain why some of the project managers always try to find new perspectives of sustainability with regards to the project context, further illustrating the complexity of project management practices. This does again, illustrate the essence of the role of the project manager, as they are considered to have the necessary knowledge and skills to mitigate this challenge (Deland, 2009).

In some cases, project managers are expected to use customer's methods of working, which was considered to affect their sustainability work. Project Manager C believes that using customer's methods of working is a natural part of the consultancy role. However, it may be difficult in cases where such expectations do not exist and the project manager can decide which sustainability methods to use as such supportive functions are absent at Sweco Management. Previous research does not address this dilemma, and it is difficult to define what causes this and how such barriers can be bridged. However, this should not be regarded as something revolutionary, as working with and representing customers is a part of a consultant's daily task.

5.4.1 The role of the project manager

Deland (2009) asserts that project managers carry the outermost responsibility to raise sustainability questions and recommend sustainable solutions to customers. Whether or not this is the case at Sweco Management could not be verified nor dismissed by the study as there are contradictory opinions about this. Customer expectations on Sweco Management vary, most expect long-term thinking and a mind-set that

includes sustainability. However, few customers clarify this expectation and it is important to understand that as a hired consultant, the role of the project manager may vary depending on the project. This complicates the ability to influence the level of sustainability, as the consultant does what it is hired to do, nothing more, nothing less, which is tacitly known by a majority of the project managers and customers. This imply that if sustainability is not explicitly mentioned in the procurement process, it is rather about selling it as an additional service than something that is done regardless as it is considered as a demanding task. However, Sweco Management's ambition to create new methods that can support project managers in raising sustainability questions and solutions indicate that there is an interest of getting more project managers involved in this process. Thus, requiring clear directives of what is expected of them in terms of sustainability.

Silvius et al. (2012) argue that all project managers should have a basic understanding of the sustainability concept. The lack of an understanding amongst project managers have led to a feeling of discomfort and an inability to raise sustainability issues and solutions to customers. Therefore, it could be wise to clarify for project managers that there is no demand of specific skills within the field of sustainability, as this competence exists elsewhere within the corporate group. On the other hand, it should be the project manager's responsibility, possibly with support from the sustainability coordinator, to deviate which parts of methods, checklists and routines that are relevant to use in each project, and what sustainability aspects that are reasonable to take into account (Tharp, 2011). This is essential since the project manager's knowledge and skills related to project management, as well as their role as "the spider of the network" have been identified as critical success factors for integrating sustainability aspects into projects (Deland, 2009; Hwang and Jian Ng, 2012). Furthermore, not all routines, checklists or methods will be directly applicable or achievable in each project at Sweco Management. This illustrates that just because there is a generic method, routine or similar, project managers should not adhere to them too much, as some parts will not be relevant in its context (Saladis and Kerzner, 2009). It is important that this is clarified for project managers, since its evidential that most project managers have difficulties of knowing where to start or how to concretize sustainability aspects in their projects.

The presented challenges connected to the project manager highlights the importance of supportive internal methods that help project managers understand and handle the sustainability concept. Internal workshops, seminars and sustainability weeks were some of the initiatives that could be identified in different regions within the organization. Furthermore, e-learning and sustainability education has previously been offered, which was appreciated amongst the employees. Such educations have recently been improved and reworked, and will soon be offered again according to the sustainability coordinators. The hopes are that these should decrease and mitigate the challenges arising due to the ambiguity of the concept and enable knowledge sharing amongst project managers.

6 Conclusions

The aim of this thesis is to investigate how Sweco Management could integrate sustainability in projects. As the interest and demand for sustainability within the construction industry is emerging, this thesis contributes with an understanding of how sustainability can be integrated into project management practices. The study addresses the ambiguity of the sustainability concept, the related opportunities, values, challenges and limitations. It further recommends appropriate actions related to integrating sustainability in projects and how new methods can be developed, designed and utilized within Sweco Management.

Perceptions and definitions of the sustainability concept

There is a unanimous agreement regarding the importance of sustainability within Sweco Management, however, the project managers have their own interpretations and definitions of the concept. Common denominators derive from both the triple bottom line as well as the Brundtland definition, nonetheless the study shows that personal perspectives and references are highly influential. As a result, several alternative definitions exist and the concept is therefore perceived as ambiguous and hard to concretize. Whereas a clear definition would create clarity for some, others would still perceive the concept as ambiguous. However, the way forward is through a shared mind-set in order to create a common and established ground to address the concept from. The study has identified the SDG's as a meaningful tool to concretize the concept and both project managers and customers aspire to use them to a greater extent. In conclusion, it would be up to each and one of the project managers to adapt the concept to different contexts and situations, thus requiring more education and knowledge.

Values and benefits related to sustainability work

The study shows that the growing recognition and importance of the concept has led to businesses being more aware of their responsibility regarding sustainability. Thus, the most significant value for Sweco Management and their customers is being able to meet expectations derived from being a large actor on the market. This foster an external image as a sustainable company which in turn help them remain attractive employers as well as improving community relations and reputation. Moreover, there is a demand from customers on Sweco Management to facilitate their expectations and requests related to sustainability. If the project managers would possess the necessary skills and knowledge to meet these demands, a significant value would be created for Sweco Management. These existing demands also indicate a need for the project managers to become more proactive and address sustainability as this would enhance the value for the customers. Furthermore, the identified values and benefits in the study are only linked to organizational perspectives but fail to address the benefits explicitly for project managers. Emphasizing these benefits would result in more motivation to actively engage in sustainability work. In conclusion, the study has not

been able to show that integrating sustainability will result in increased business opportunities, but the integration is important for Sweco Management in order to maintain their market position and meet future market demands.

Limitations and challenges related to sustainability work

The most significant challenge for Sweco Management and their customers is the perceived ambiguity due to the differentiating perceptions and definitions of the concept. Adopting a holistic view of sustainability is therefore difficult, resulting in emphasised focus on economic and environmental aspects because of their ability to be visualized and concretized. However, the study also shows that the cost of implementation acts as a barrier which is able to surpass sustainability priorities, thus creating a challenge for the project managers when trying to convince their customers of the values. Moreover, the lack of vertical alignment within Sweco Management results in insufficient directives and guidelines regarding sustainability work. This creates uncertainty regarding the roles of responsibilities and what is expected from the project managers. Furthermore, the strong association between the project manager role and problem solving reinforce this problem as the complexity of incorporating sustainability in projects requires a changed mind-set. Sustainability must be related to every performed task of the project manager. A challenge is created when project managers believe that they have to present a solution to a problem, which sometimes cause a neglect of sustainability work. Hence, there is a need for Sweco Management to emphasise that more knowledge and skill exists within the corporate group that can support project managers in mitigating this challenge. In conclusion, the study shows that one of the biggest challenges lies within increasing the understanding and concretizing the sustainability concept. Therefore, the most significant action for Sweco Management is to ensure that every project manager acquire a basic understanding of the sustainability concept as it is a personal mind-set that must be included in every task. Vertical integration and supporting functions in order to successfully embed the concept are called for by several project managers and must therefore be prioritized within Sweco Management.

Integrating sustainability in projects

The way forward for Sweco Management is to create supportive functions for integrating sustainability in project management practises, therefore several recommendations of how these should be designed are suggested in chapter 7 ‘Recommendations’. However, as the study shows that sustainability is related to every performed task within the project manager profession, there are no single method that will solve the complexity of integrating sustainability in projects. The skills, knowledge and mind-set of the project manager are the most significant aspects to consider, thus emphasising that the methods are designed and utilized to serve this purpose. Sweco Management needs to continually update, revise and create new methods linked to strengthening the skills of concretizing sustainability and extend the knowledge and competence within the sustainability field amongst project managers. A new routine needs to be created that clarifies directives from top

management so that the project managers knows what is expected from them. The ultimate goal of the methods is to help project managers evaluate sustainability aspects in projects and actively engage them in sustainability work. This will eventually result in sustainability questions, issues and solutions being raised in further extend to customers as requested by Sweco Management. In turn, this will lead to a more systematic sustainability approach and added value for the customers. Since sustainability is an evolving concept it requires that methods and documents are updated frequently. To conclude, it is important to promote a corporate environment where sustainability is widely discussed and emphasised, ultimately normalizing the sustainability work for project managers.

6.1 Suggestions for further research

The research of sustainable project management could benefit from further research. As comparable studies are lacking, one suggestion would be to conduct similar investigations as this study to contribute to an expanded theoretical knowledge of how sustainability can be integrated in projects. Another interesting research topic be to examine how sustainability can implemented with a practical approach of a project-based case study. This would narrow down the topic and allow a deep-probing research that could generate concrete visualization of integrating sustainability in projects by testing theory in practice.

7 Recommendations

This study contributes with general recommendations of how methods related to sustainability work can be designed and utilized within Sweco Management. It is of the researchers' firm belief that there are employees with greater insight in the organization who are more eligible to decide in detail how these methods should be designed, realized and utilized to fit within the organizational context. Therefore, the basis for these methods are presented. Furthermore, the researchers suggest that Sweco Management clarifies who will be responsible for the methods and their implementation.

The SDG's as a central role

The main suggestion for Sweco Management is to use the SDG's as an outline when working with sustainability and creating new methods as the SDG's are globally recognized, utilized by customers and perceived as a meaningful tool by project managers. A uniform outline creates a clear way of working, consequently mitigating some of the challenges and limitations as well as increase the benefits and values associated with integrating sustainability in projects.

E-learning

Web-based education is a great tool for reaching out to all project managers at Sweco Management. It will not ensure that everyone acquire a basic understanding of the sustainability concept, but serves as a first step to increase the knowledge and awareness of the topic. It should be concretely designed, treat relevant areas and not be too long or demanding in order to get the best possible effect. The e-learning should be mandatory to increase the alignment between top management and project managers. This will mitigate the challenges related to roles of responsibilities, lack of directives and the differentiating perceptions of sustainability.

Seminars and event weeks with explicit focus on sustainability

Motivating and engaging project managers in sustainability work is important. Seminars and event weeks focusing on sustainability is a great way to inspire employees and should be used to communicate the values that derive from sustainability, both in terms of the company but also personal values stemming from the role as a project manager. They will also be essential in stressing sustainability and its importance within the urban development industry. It will also emphasis the commitment from top management towards sustainability.

Workshops

Internal workshops are currently used in some of the company regions and perceived as meaningful methods to enhance skills and knowledge of sustainability. The workshops should serve two purposes. Firstly, it should highlight the sustainability coordinators' role and their ability to support project managers in sustainability work.

Secondly, it should provide practical opportunities for the project managers to concretize sustainability aspects in real-life projects. The ambition of the workshop is to challenge the project managers to expand their view of sustainability by showing that sustainability can be addressed and approached differently depending on the project context. The study shows that initiating dialogues and discussions with customers is the most important activity in sustainability work, hence, a further recommendation is to extend the use of external workshops with customers. The workshop should be initiated in early processes of projects in order to establish common grounds and targets related to sustainability. Workshops should be conducted iteratively throughout the lifecycle to ensure that the sustainability work is a continues process.

Routine at Sweco@Work

A simple and mandatory routine reduces the barriers and contradictions regarding what is expected by the project managers in terms of sustainability. The routine will be conveyed as a clear directive from the top management, illustrating that project managers are responsible for raising sustainability questions and that they are expected to actively engage sustainability aspects in projects. A simple routine at Sweco@Work will be perceived as a minor change compared to if it was treated separately. As project types and customers vary greatly, it is important that the routine is designed to be as generally applicable as possible. A generic routine in Sweco@Work result in that sustainability work is reported in the same way, in turn providing valuable examples that demonstrate how sustainability has been implemented in different projects. These examples are valuable in the knowledge sharing process at Sweco Management. Additionally, it can be used as a way to show internally and externally that Sweco Management are taking their responsibility as a large actor. As each customer takes the executive decision whether to incorporate sustainability or not, this will be the way for Sweco Management to show that they are actively working with capturing sustainability aspects in projects regardless of what the customer decides to do. This will ultimately strengthen some of the values that derive from incorporating sustainability in projects. The suggestion is to rename the routine that today is named ‘Environmental management’ in the assignment planning at Sweco@Work to ‘Sustainability management’. It will be similarly designed as the existing four questions, but sustainability specific and recur in the process groups: initiation and planning. The questions will be formulated as follow:

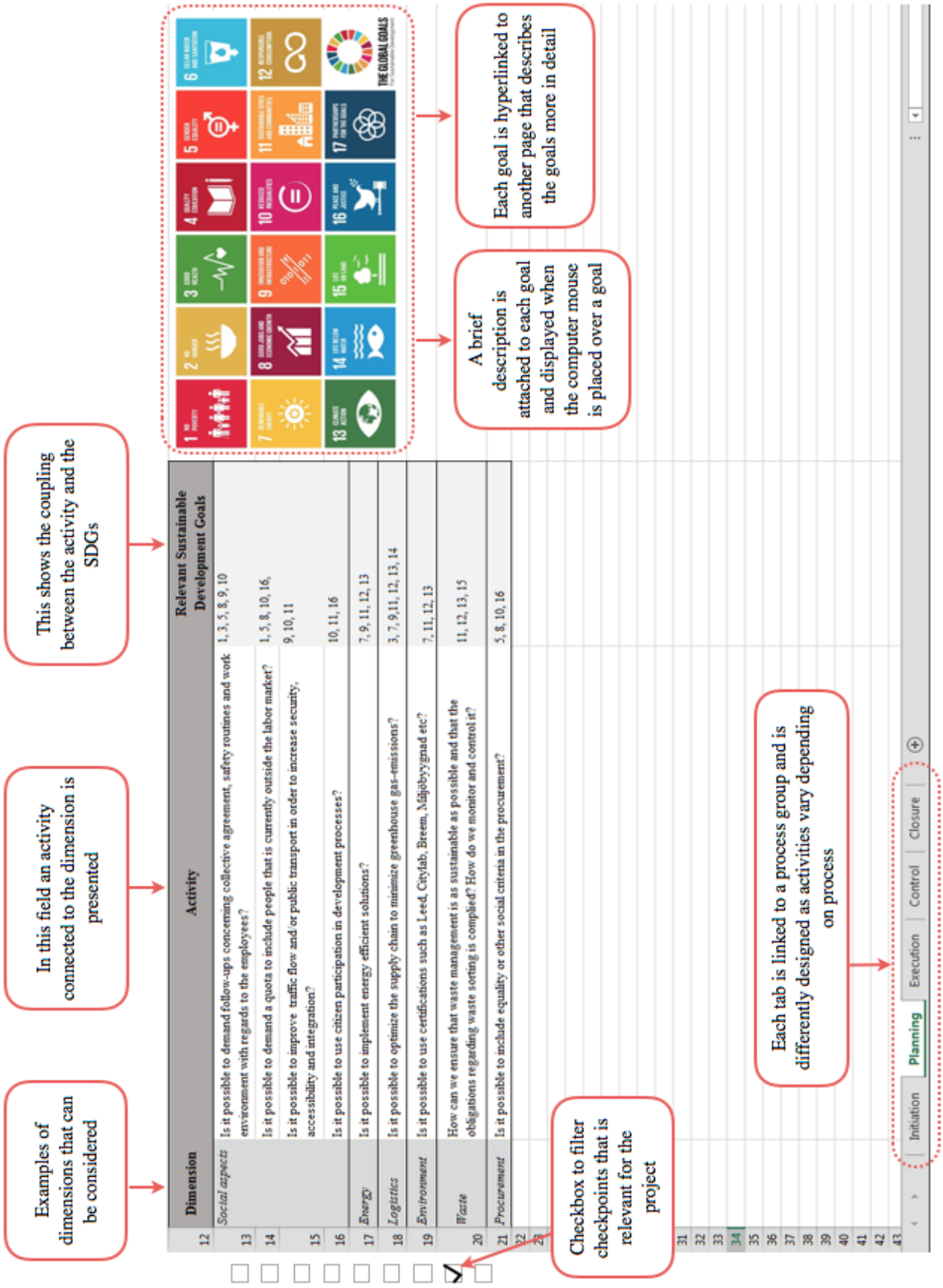
1. *What are the conditions regarding sustainability?*
2. *Which significant sustainability aspects should be considered?*
3. *How can sustainability goals be defined?*
4. *How should sustainability management be implemented?*
5. *Which SDG’s are relevant to emphasis?*

When these questions are established and accounted for, they will serve as the basis for the other process groups to ensure that they are executed and accomplished throughout the project lifecycle.

Supporting documents: Guideline and Checklists

To facilitate sustainability work, the sustainability book needs to be replaced by a new guideline that is simplified, shorter and more concretized together with supporting checklists for every market area. The checklists should provide examples of activities that contribute to more sustainable projects with the purpose to broaden the project managers view of how sustainable activities can be considered in projects. The checklists should be designed to follow the logic of the process groups: initiation, planning, execution, control and closure where each activity within the groups are linked to one or several SDG's. Example of how such a checklist can be designed is illustrated in Figure 5. The guideline should then concretize how the identified SDG's can be implemented and reached with the help of tools such as classification systems and life cycle assessments. Compared to the existing sustainability book, the new guideline should be built on the SDG's where tools and methods are linked to how they contribute to each goal. The checklists and guideline can be used to help project managers fill in the 'Sustainability management' routine in Sweco@Work and support them in workshops with customers in order to establish common grounds and targets related to sustainability. Important to note is that even if the checklists and guideline are not always applicable, does not mean that sustainability aspects can be neglected. The checklists serve as supporting documents, providing examples of sustainability activities to consider in projects. Neither the checklists nor the guideline are able to act as comprehensive frameworks of how to realize it in practice, however, they provide the project managers with useful insights and examples. The supporting documents should be updated frequently and treated as iterative documents. The guideline and checklists should also be re-launched and emphasised within the company. Sweco Management further needs to address and clarify who is responsible for these documents.

Figure 5 Example of the design of the checklists



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Appendix A - Intervjufrågor Projektledare

Generella frågor

1. **Hur skulle du beskriva hållbarhet, vad betyder det för dig?**
   A. Ser du ett värde i att jobba med hållbarhet i projekt?
   B. I ditt arbete med hållbarhet, hur skulle du beskriva att det förhåller sig till FNs globala mål? Samstämmer det? Vilka mål? Varierar dem? Ser du ett värde i att jobba med dem?

2. Vilka möjligheter och utmaningar är kopplade till att jobba med hållbarhet i projekt? Kund? Olika uppfattningar? Andra aktörer? Prioriterat internt/externt? Tydliga mål? Hur uppnås det?

3. Förmedlar Sweco Management en tydligt bild av vad hållbarhet betyder?

   A. Är det tydligt vad hållbarhet innebär i din roll som projektledare?

4. Hur skulle du beskriva ditt tillvägagångssätt för att arbeta med hållbarhet i projekt?

   A. Ser tillvägagångssättet olika ut i olika projektskeden?
   B. När upplever du att du kan påverka som mest? och hur?
   C. Är rutiner/lärdomar/arbetssätt möjligt att ta med sig och använda i kommande projekt? Varför/varför inte? Är det kopplat till personer? Hur får du med dig detta?

5. Finns det supporterande verktyg/rutiner/arbetssätt för hur man förväntas jobba med hållbarhet?

   A. Vad kan förbättras? Är det något som saknas?
   B. Inom Sweco@work?
   C. Är du bekant med Sustainability book?

6. Vad finns det för värde för kunden att arbeta med hållbarhet i projekt?

7. I hur många fall av 10 försöker du påverka kunden att arbeta mer med hållbarhet?

   A. Vad beror det på? Vad får dig att föreslå det till kund? Ge exempel
   B. Om inte varje gång, vad behövs för att du ska föreslå det till kund?
   C. Är du bekväm att lyfta frågan till kund om att jobba med FN's globala mål?

8. Har du tillämpat FNs globala mål i något av dina projekt?

   A. Skulle du kunna beskriva hur du har gått tillväga?
   B. Hur skapar det värde för kund?
   C. Hur skapar det värde för Sweco Management?

Projektspecifika frågor

9. Har du haft möjlighet att lyfta hållbarhetsfrågor till kunden?

A. Vad har varit kundens förväntningar på Sweco Management gällande hållbarhet i projektet?
B. Hur har du bemött dessa förväntningar? Har du gjort något för att överträffa dem?

10. Vad har kunden för värde av att jobba med hållbarhet i projektet?

A. Hur har du skapat detta värdet för kund?
B. Har något värden haft mindre fokus eller medvetet bortsetts ifrån senare i projektet? Vad är isåfall orsaken till detta?

11. Hur har du gått tillväga för att jobba aktivt med hållbarhet i projektet?

A. Vad har du gjort annorlunda gentemot andra projekt?

12. Har projektet ett hållbarhetsfokus?

A. Om ja, vilka faktorer har bidragit till att detta projektet har fått ett hållbarhetsfokus?
B. Om nej, vilka faktorer har bidragit till att detta projektet inte har fått ett hållbarhetsfokus?

Appendix B – Intervjufrågor kund

Generella frågor

1. Hur definierar ert företag hållbarhet? Vad innebär det för er?

2. Vad finns det för värde att jobba med hållbarhet i projekt?

A. I ert arbete med hållbarhet, hur skulle ni beskriva att det förhåller sig till FNs globala mål? Samstämmer det? Vilka mål och varierar dem? Ser ni ett värde/intresse i att jobba med dem?

Projektspecifika frågor

3. Beskriv projektet: Vad projektet innebär, omfattning, vilka som är inblandade, budget, tidsaspekt och liknande. Ingår hållbarhet som en del? Hur? Varför? På vems initiativ?

A. På vilket sätt skiljer sig hållbarhetsarbetet i detta projekt från andra projekt? Varför?

4. Vad finns det för värde att jobba med hållbarhet i projektet?

A. Hur planerar Sweco Management att bidra till dessa värden i projektet?

5. Vad finns det för förväntningar på Sweco Management gällande hållbarhet?

A. Hur har Sweco Management bemött dessa förväntningar?
B. Har Sweco Management gjort något utöver vad som förväntats?
C. Vad var er ambitionsnivå gällande hållbarhet i början av projektet? Förändrades detta över tid? Varför?

6. Har Sweco Management fått er att jobba mer med hållbarhet i projektet?

A. Har Sweco Management lyft frågan om hållbarhet?
B. Har det bidragit till ett mervärde för er som kund?

7. Har projektet ett hållbarhetsfokus?

A. Om ja, vilka faktorer har bidragit till att detta projektet har fått ett hållbarhetsfokus?
B. Om nej, vilka faktorer har bidragit till att detta projektet inte har fått ett hållbarhetsfokus?