Who cares?

Developing a Framework for Social Sustainability in Infrastructure for the Swedish AEC Industry

Master’s Thesis in Design and Construction Project Management

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CHALMERS UNIVERSITY OF TECHNOLOGY

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Abstract

Although sustainable development is increasingly prioritized and mandated, the social dimension often remains largely neglected in favour of environmental and economic sustainability. This thesis aims to develop a better understanding of social sustainability in the Swedish AEC industry and identify the knowledge gap between corporate strategy and practice. The paper provides practitioners a framework to enhance their decision-making process to consider social sustainability in infrastructure development. Following an extensive literature review to explore the current state of social sustainability development, discrepancies between the corporate narrative and current practice are identified and discussed. The results are gathered by studying publicly available reports and guidelines of the contractor, and through semi-structured interviews with project managers and operations managers. As a result, relevant criteria to develop social sustainability in infrastructure projects considering the perspective of the contractor are presented, and the cohesion of strategy and practice are evaluated. Finally, a framework is presented to guide managers at both the project and organizational levels in incorporating social sustainability in a holistic manner, thereby improving decision-making towards sustainable development, and enhancing project outcomes. As such, this thesis aims to support the United Nations Sustainable Development Goals and provide researchers and educators with a comprehensive study of social sustainability in the AEC field.

Key words: *AEC industry, social sustainability, sustainable development, corporate social responsibility.*

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We would also like to thank Veidekke for making this study possible, and especially express our gratitude to Peter Svenningsson, our external supervisor, and Pernilla Boman, for assisting in arranging interviews and making resources available. We would also like to thank the employees at Veidekke who have made themselves available through interviews, and the invaluable insights they have provided by openly sharing their experiences and knowledge on the topic.

We hope that this thesis may be useful to practitioners wishing to apply and develop the resulting framework, and hope that this research can contribute to drive forward the development of social sustainability in the Swedish AEC industry.

Lovisa Bjugård Fagerlund and Sean Elliot Wisse

Gothenburg, May 2024

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List of Abbreviations

AEC	Architecture, Engineering and Construction
BAS-P	Construction Work-Environment Coordinator – Planning
BAS-U	Construction Work-Environment Coordinator – Execution
CSR	Corporate Social Responsibility
ESG	Environmental, Social and Governance
ESRS	European Sustainability Reporting Standards
EU	European Union
HIA	Health Impact Assessment
HSE	Health, Safety and Environment
NGO	Non-governmental Organization
OSA	Organizational, Social and Work Environment
PM	Project Manager
SDGs	Sustainable Development Goals
SF	Support Function
SIA	Social Impact Assessment
UN	United Nations

1
Introduction

In 1972, striving to reconcile economic growth with environmental priorities, the world took a pivotal step at the United Nations (UN) Conference on the Human Environment in Stockholm, from which the idea of ecologically sustainable development emerged (Caldwell, 1984). Establishing this concept, the Brundtland Commission Report famously captured this by defining *"Sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (Brundtland, 1987). Today, this vision has evolved into a global governance strategy developed by the UN, offering a framework of 17 non-legally binding Sustainable Development Goals (SDGs) to guide public and private efforts (Biermann et al., 2017). Universally, sustainability is classified into the pillars of environmental, economic and social, which together form a connected entity where the economy and human existence are dependent on society and the environment they operate in (Giddings et al., 2002; Purvis et al., 2018).

For the Architecture, Engineering, and Construction (AEC) industry, embracing a holistic approach towards sustainable development is particularly important. As the built environment continuously develops to meet the growing needs and demands of communities and society at large, it is imperative that the AEC industry embraces a holistic approach to sustainability, integrating environmental, economic, and social dimensions into their projects (Wackernagel & Rees, 1996; Sev, 2009). Environmental, Social, and Governance (ESG) standards have transformed businesses, including those in the AEC industry, towards integrating sustainability into their operations (Alhaddi, 2015). Despite depending on each other to encourage a simultaneous approach, the environmental and economic dimensions are prioritised, whereas the social dimension draws less attention or is missed entirely (Boström, 2012; Alsayegh et al., 2020).

This oversight is significant, as true sustainability cannot exist without addressing social issues, and businesses carry responsibility for their employees, customers, and communities (UN Global Compact, 2024). The UN Global Compact therefore calls companies to protect human rights and recognise their impact, encouraging businesses to make strategic social investments and promote public policies that support social sustainability. Although the primary duty to protect these rights lays in the government, policies and procedures need to be in place to ensure businesses do their part (Vanclay, 2020). The development of such policies in the European Union (EU) now mandate large companies to report on their social, environmental and human rights impacts, and risks for third parties through their activities, thereby influencing their decision-making processes (Kinderman, 2019; Krasodomska et al., 2023; EU 2023/2772, 2023). Addressing this, companies carry out a large variety of Corporate Social Responsibility (CSR) initiatives intended to communicate their activities towards providing positive environmental and social impacts (Barnett et al., 2020). However, the disconnect between theoretical concerns and practical incorporation results in technical fixes failing to examine the fundamental interrelationship between economy, society, and the environment, leading to social initiatives often falling short in contributing to sustainable development (Giddings et al., 2002; Boström, 2012).

The AEC industry, with its significant influence on our built environment, must lead the charge in bridging this gap. By prioritizing social sustainability alongside environmental and economic goals, the AEC industry can achieve true sustainable development. Therefore, this paper aims to develop a clearer understanding of the current integration of social sustainability practices in the Swedish AEC industry.

This will be done by exploring the state of theoretical discourse on the subject of social sustainability, and the knowledge gap that exists in translating this into practice. By fulfilling this purpose, the paper provides suggestions for how practitioners can develop their decision-making processes to enhance socially sustainable infrastructure development. By extension, this could facilitate an acceleration of the efforts towards the UN-SDGs in Sweden. Therefore, the main research question this paper aims to answer is:

How can project managers incorporate social sustainability measures to improve decision-making and project outcomes?

This thesis will accomplish this by studying Veidekke, a major contractor operating in Sweden. Based on a literature review to establish common parameters for social sustainability in the context of the AEC industry, the corporate narrative on the topic will be compared to the findings from interviews conducted with practitioners at Veidekke. In support of the research question, this thesis will explore the alignment between company vision and strategy with current practice to identify areas for improvement and development of social sustainability. As a result, this paper will suggest relevant criteria for contractors to develop social sustainability in infrastructure projects, as well as provide a framework for practitioners on a project and organisational level on the topic. Through the framework, key social sustainability measures are identified that contribute towards a holistic approach to sustainable practice. Furthermore, the extensive literature review and results may serve as a cohesive overview for researchers and educators within the AEC industry on social sustainable development.

2
Literature Review

2.1 Theory and Frame of Reference

Social sustainability needs to be defined and addressed in a holistic manner including the other dimensions of sustainable development (Murphy, 2012). Murphy (2012) suggests that social sustainability may represent through the pillars of *equity*, distributing welfare goods and life chances; *awareness for sustainability*, identifying and encouraging alternative, sustainable consumption patterns; *participation*, including as many social groups into the decision-making process as possible; and *social cohesion*, touching upon aspects of integration, solidarity and tolerance in communities and society.

To provide a more holistic perspective on social sustainability in the AEC industry, Valdes-Vasquez and Klotz (2013), working together with experts from academia, industry, and government, developed a framework of social sustainability considerations. Doing this, they identified and mapped six clusters (A-F) to enhance practitioners' awareness and guide them on how to incorporate a more holistic approach for social sustainable practice, urging managers acting as central figures in the execution of projects to consider and integrate all categories of the framework:

- *Stakeholder Engagement* (Cluster A) is designed to identify and encourage interaction, integration and collaboration among the owner, designer and public early in the project. This requires a planned intervention to further ensure ongoing participation and communication of the stakeholders to remain aligned with their expectations.
- *User considerations* (Cluster B) focuses on productivity, safety, health, and security for the final users, and the need for a verifiably reliable project design. Furthermore, considerations need to extend towards the community during the construction phase, limiting disruptions and corruption through organized monitoring and intervention. Various demographic, gender and diversity related issues need addressing to ensure inclusion of the surrounding communities.
- *Team formation* (Cluster C) stresses the importance of reflecting the diverse nature of a community in the professionals engaged in designing the project. Sustainability should be a focal area for the businesses involved in the process, ensuring a common understanding towards the intended outcome. Engaging local firms and cross-disciplinary expertise is emphasized, as well as an integrated design-construction process.
- *Management considerations* (Cluster D) consist of processes linked to health and safety, productivity for all intended users, temporary and final. This can be applied through the use of safety prevention techniques practiced by designers and the workforce. Establishing management plans can help facilitate these measures.
- *Impact assessments* (Cluster E) can be used as a tool to understand the various challenges related to the project, in regard to social life cycle, health, cultural and ethnic identity, and accessibility. They can generally be divided into the two main areas of Social Impact Assessment (SIA) and Health Impact Assessment (HIA). These consider physical aspects, resources and population changes resulting in socio-economic impact.
- *Place context* (Cluster F) emphasises the specificity of the location and encourages intentional decisions in the design process as a response. These are to instil pride in ownership, encourage human interaction and minimize social liabilities which is to be monitored continuously.

This study builds on the theoretical framework by Valdes-Vasquez and Klotz (2013) and complements their work through additional findings from research by contextualizing infrastructure development in Sweden. Therefore, to better guide the decision-making process of project managers and apply to the context of this study, clusters have been reorganized and consolidated where deemed necessary (see Figure 2-1). In the figure, grey lines show the movement of topics within the same cluster and red lines indicate grouping into another. Topics identified outside the scope and practice of contractors in infrastructure are not connected to the new framework, thus being excluded.

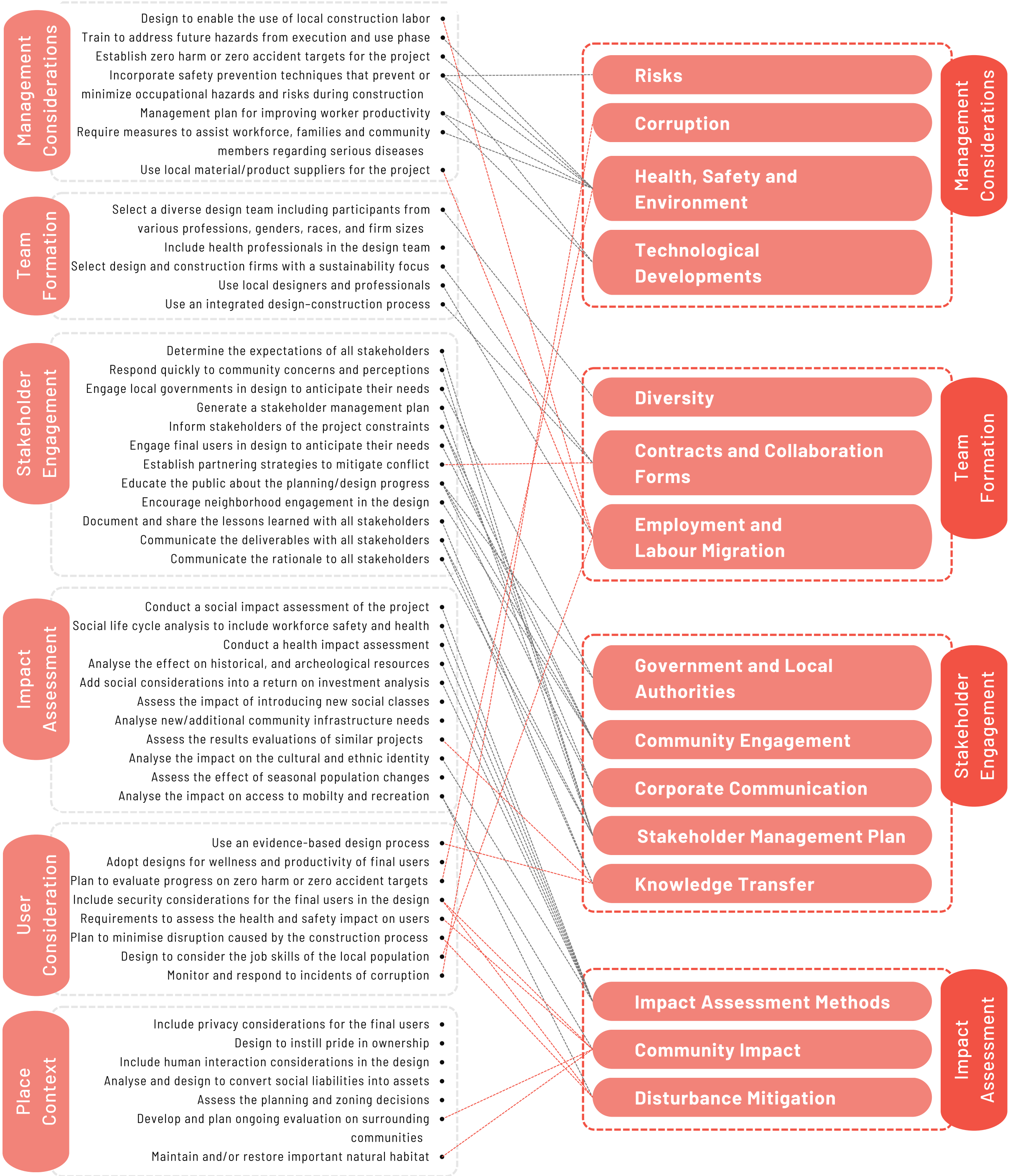

Figure 2-1: Reorganization of the Framework, adapted from Valdes-Vasquez and Klotz (2013).

2.2 Management Considerations

To address social sustainability principles, managers who act as central figures in the execution of projects need to focus on both the temporary and final users during the construction and operation phases (Valdes-Vasquez & Klotz, 2013). Realizing their wider responsibility towards the various affected stakeholders requires attention towards minimizing or eliminating risks and occupational hazards.

2.2.1 Risks

Risk in social sustainability refers to the potential for one or more parties to be subjected to negative social conditions (Pelletier et al., 2016) and is a constitutive concept of sustainability where human societies work towards mitigating conditions of uncertainties (Jabareen, 2015; Eizenberg & Jabareen, 2017). This concept addresses the major challenges in society that generate new levels of social polarization, rising urban poverty levels, urban conflict and violence, terrorism, natural disasters, and climate change.

Limiting the identified actors' and stakeholders' exposure to uncertain negative outcomes, risk assessment is key in identifying potential risk agents (Ortwin & Walker, 2008). There are different approaches in structuring risk depending on the source and organizational culture, yet the commonly agreed upon core components are *identification and, if possible, estimation of hazard; an assessment of exposure and/or vulnerability; and estimation of risk* (Ortwin & Walker, 2008). To address individuals and the wider public on these issues, family and community members of the workforce could be educated, trained, counselled, and made aware of risk-prevention programs concerning related risks (Valdes-Vasquez & Klotz, 2013).

2.2.2 Corruption

According to the Corruption Perception Index 2023 Sweden displays low levels corruption in the public sector (Transparency International, 2023). Historically instances of corruption have often been linked to the AEC industry and between 2011 and 2013 it was found that almost one third of all alleged bribes in Sweden had occurred therein (Hols Salén & Korsell, 2013). As a response, in 2015 an agreement was reached between the major actors within construction in Sweden to work towards mitigating instances of corruption (The Swedish Anti-Corruption Institute, 2016). The agreement is designed to help guide practitioners to understand which actions classify as bribery and corruption. Valdes-Vasquez and Klotz (2013) proposes the establishment of systems during the planning and design phase to monitor and respond to incidents of corruption in order to adhere to the sustainability principle of transparency.

In their study of the Norwegian AEC industry, Lohne et al. (2019) found that many involved in the early and execution phases stand to benefit from corrupt activity, while seldom facing any severe punishment. The negative effect of such practice is suffered by others who need to compete in an unfair environment, putting them at a disadvantage. Sub-contractors can be exposed to poorer health, safety, and work environment (HSE) conditions and reduced work opportunities, facility managers may experience increased workload due to reclamations and maintenance challenges, and the end user suffers from a poorer quality and lower standard. Ultimately, illegal and corrupt activities impact society negatively as it relates to increased pollution outputs, social challenges, reduced quality of the built environment, and increased possibilities for the collapse of built structures.

2.2.3 Health, Safety, and Environment

In the Swedish context an individual is assigned the role of Construction Work-Environment Coordinator – Planning (BAS-P) during the design and planning phase. This role carries the responsibility to consider HSE during the construction and maintenance phase (Arbetsmiljöverket, 2023). During the construction phase this responsibility is assigned to the Construction Work-Environment Coordinator – Execution (BAS-U), where the main concern is to conduct a safe work site. These requirements are mandated in the Work Environment Act 3 Ch. 6 §., and is further supported through additional paragraphs (SFS 1977:1160).

Valdes-Vasquez and Klotz (2013) state that management should establish a *Zero Accident* target which states that all accidents are preventable. The related concept of *Vision Zero* adapts a holistic approach, assuming that all work-related incidents and disease are preventable in regard to health, safety, and wellbeing of all employees (Zwetsloot et al., 2017). The understanding of *Vision Zero* is not to achieve one-time goals but seen as a comprehensive, continues process to improve the health, safety, and wellbeing of employees. Furthermore, working in the process of *Vision Zero* requires commitment from all parties involved and the fostering of innovative leadership where collective and individual learning is stimulated. Finally, the process needs to be agile and adapted if necessary to fit specific projects.

Research shows that incidents occurring during the construction phase are a result of organisational, cultural, and human factors (Zwetsloot et al., 2017; Duryan et al., 2020). Managers therefore need to establish a blame-free and positive safety culture in order to conduct a safe worksite (Hanvold et al., 2019; Duryan et al., 2020). Duryan et al. (2020) found it vital to promote a culture which enables allocation of responsibility and accountability as this incites employees to speak up when risks are identified and stop work altogether if deemed necessary. However, the AEC industry’s intricate organisational structures, characterised by multiple levels of sub-contracting, pose significant challenges in cultivating and maintaining a positive safety culture. Whitin this context, they found that site managers are critical figures in creating cohesion and need to embody the company’s safety culture to manifest this on-site. Furthermore, a notable discrepancy was observed in the levels of engagement with HSE activities between office personnel and on-site workers, where office employees demonstrated a higher level of involvement compared to their colleagues on-site. This divide is further intensified by language barriers on-site, where at times subcontractors are recruited from abroad. As such the language barrier can severely compromise on-site safety standards, as instructions may be misinterpreted or lost in translation.

Valdes-Vasquez and Klotz (2013) prompts that the progress of the set *Zero Accident* target needs to be evaluated. This is in line with Zwetsloot et al. (2017) that urge *Vision Zero* and other such commitments need to be viewed as missions to be considered in the long-term perspective and that there needs to be a continues commitment to improving work conditions.

2.2.4 Technological Developments

As part of this ongoing mission to improve all matters of work life, managers need to consider new advancements made in building processes and technology (Valdes-Vasquez & Klotz, 2013). Integration of information technologies has seen an increase in popularity and implementation in the procurement process (Ruparathna & Hewage, 2015). Recent technical advances, encompassed in Industry 4.0 indicate promising implications for social sustainability aspects, such as improving work-life balance, reduction of dirty, dangerous, and demanding work, better integration, inclusion, and more effective education of personnel (Stock et al., 2018). In the pursuit of implementing these tools it should not go un-noted that there are also negative indications for social sustainability aspects, these could be seen in terms of technology simplifying or substituting work, transparency issues leading to a lack of privacy.

2.3 Team Formation

In order to maintain high performance when faced with the growing complexity and volatility of global markets, organizations are forced to become more resilient (Duchek et al., 2019). Multi-disciplinary project environments require socially competent team leaders that can build teams on socio-political dimensions such as passion, shared values, and innovation, thus enabling success (Koutsikouri et al., 2008). Therefore, the alignment across inter-disciplinary teams towards shared values is necessary and sustainable project management in the AEC industry relies on the formulation of project management indicators which correspond to all dimensions of the TBL to provide a sustainability focus within projects (Stanitsas et al., 2021).

2.3.1 Diversity

Diversity can refer to race, ethnicity, gender, sexual orientation, socioeconomic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies (Patrick & Kumar, 2012). Diversity allows for better understanding and reflection on crises and enhance problem-solving leading to higher adaptation capabilities (Duchek et al., 2019). Therefore, in the planning and design phases of construction the selection of a diverse design team with knowledge on sustainability and the context can significantly enhance its outcomes (Valdes-Vasquez & Klotz, 2013). Diversity in this context can come from a multiplicity of dimensions ranging from professions and firm sizes to gender and race. Diversity does not automatically yield positive results, as social categorisation may cause intergroup conflict (van Knippenberg & Shippers, 2007). On the other hand, positive effects of diversity can be seen in the decision-making process through the ability to deal with non-routine tasks through a group that holds a broader range of knowledge, skills, and abilities. Ultimately, success or failure of diversity is linked to the organizational conditions that benefit or hinder their potential.

2.3.2 Contracts and Collaboration Forms

Developments in the construction industry point towards environmental and social goals receiving growing attention in procurement (Ruparathna & Hewage, 2015). Montalbán-Domingo et al. (2019) found that increased contract size positively contributes towards raised awareness for social sustainability in the procurement phase. Although traditional delivery methods using the lowest price as main criteria are still prevalent, increased project size correlates positively to the use of integrated delivery methods. Integrated delivery methods enable value-adding propositions by aligning all involved project teams’ goals through agreements and sharing of risk and reward (Kent & Becerik-Gerber, 2010). These can also be achieved through early contractor involvement relying on the inputs and expertise from contractors early in the planning process to enable coherent project delivery (Song et al., 2009). Execution of integrated design and delivery solutions have yet to prove widespread adoption and are in need of further development in the aspects of collaborative processes, workforce skills, integrated information and knowledge management (Owen et al., 2010).

2.3.3 Employment and Labour Migration

Procurement in the Swedish AEC industry is shifting towards recognizing social value (Troje & Kadefors, 2018). The practice of social procurement, where individuals who are stigmatised in the labour market are hired based on social criteria in the contract, enables contractors to access new pools of local employees, permitting them to raise their production capacity and profits, and granting them a competitive edge. Simultaneously, the increase in local employment decreases municipal spending on welfare costs while increasing tax income. Valdes-Vasquez and Klotz (2013) further recognize the utilization of local material and product suppliers as a measure of social sustainability.

This contrasts the practice of temporary work migration. Since Eastern European countries have joined the European Union there has been a rise of temporary work migration (Caro et al., 2015). Although originally meant to promote short-term, task-specific assignments, employers use this to circumvent labour regulations, therefore practicing social dumping. The use of temporary staffing agencies and complex subcontracting practices contribute to the exploitation of migrant workers and to circumvent the system of regulatory checks and controls such as laws, workers' union representation and social legislation which are in place (Bernaciak, 2015; Bengtsson, 2016).

Migrant workers are often accommodated separate from their host society with the social and spatial segregation hindering integration (Caro et al., 2015). Furthermore, employers tend to segregate workers not only from their host society but based on nationality. Social conflicts can arise due to the close proximity of workers, limited contact with the surroundings, and separation from their families. Despite the economic benefits these types of employment bring to the workers, the well-being of migrant workers raises social and political issues. Undercutting social standards may produce a negative impact on company, sectorial and societal level, challenge social cohesion and may result in market failure (Bernaciak, 2015). To address these, control measures and re-regulation need to take place on a supranational level to promote economic regionalization and discourage cost-based rivalry.

2.4 Stakeholder Engagement

Construction projects involve managing expectations from various stakeholders which might not align with one another (Olander, 2007). Stakeholders are any group or individual who can affect or are affected by the achievement of an organization's purpose (Freeman, 1984). In construction projects different kinds of stakeholders are considered according to their power, legitimacy and urgency attributed towards decision making (Mitchell et al., 1997; Phillips, 2003) and their involvement in different stages such as pre-design, design, bidding and construction (Bal et al., 2013). In evaluating construction and social sustainability, both internal and external stakeholders can be identified (Eskerod et al., 2015). The former mainly consists of contractual project participants including, among others, clients, project owners, designers and contractors whilst the latter comprises of, among others, local and national authorities of government, social and political organizations, local communities and the general public (Rickson et al., 1990; Chan & Oppong, 2017). Owed to the time constraints put on by the temporary nature of projects and their temporary organizations, managing various stakeholders with conflicting interests whilst procuring win-win situations is challenging (Eskerod et al., 2015). Many projects have long-term, irreversible implications creating tension in stakeholder management and engagement.

2.4.1 Government and Local Authorities

The government acts as a major stakeholder in the development of the built environment, by providing technical and legal approvals (Chan & Oppong, 2017). When acting as client they play a central role in community engagement as they have a unique relationship with the public and other organisations (Rickson et al., 1990). Governments and local authorities emphasize the need for functionality towards diverse social groups, adaptability of the development in regard to the ever-changing needs of society, and a harmonious incorporation with the local natural setting. Also, issues such as traffic management and safety measures need to be addressed and considered. Local administrative boards serve for handling appeals, and through them raised concerns of negative impacts can be communicated and acted upon (Olander, 2007). This formal power extends to the economic and environmental dimension which have wider social implications, stimulating local economic activities and enforcing waste management policies that directly impact the health of the local community (Chan & Oppong, 2017). Another local authority in the construction industry in Sweden comes in the form of unions, signifying the strong emphasis and organization of labour movements (Baccaro & Howell, 2011; Bengtsson, 2013). highlights the collective bargaining power present, and although decentralization and individualization have been ongoing since the 1990s, unions remain highly influential in maintaining wage levels and work standards, and avoiding social dumping.

2.4.2 Community Engagement

Communities affected by construction projects need to be engaged and considered in the decision-making process and allowed to influence the design of a project and creating the potential for collaborative learning (Vanclay et al., 2015). Vanclay et al. (2015) suggests the process should allow for substantial reflection, permitting participants time to consider alternatives and enable them to come to a more resolute conclusion. This approach to stakeholder management promotes decisions made with greater legitimacy, however it incurs higher costs in the short term and is more time consuming, which can result in lack of participation. However, as different actors get involved during various phases of the project, initiating a meaningful dialogue with affected communities when commitments are unclear is seldomly done (Rowan & Streather, 2012).

Rowan and Streather (2012) present three terms in which communities' engagement often result in: *Embedded Mitigation* involves addressing the issue and integrating solutions into the project during the design phase; *Additional Mitigation* aims to diminish the impact of adverse effects that cannot be eliminated through design; and *Enhancement Measures* exceed mere mitigation by amplifying the project's benefits for stakeholders. Further, they found that gaining a substantial understanding of the impacted communities could benefit both them and the developers, and engaging the communities to create meaningful benefit increases project acceptance. It is however problematic for project developers to focus on project acceptance as it can be perceived as an effort of buying public approval (Rowan & Streather, 2012; Nirino et al., 2021) and when seen as a manipulative exercise can cause disengagement (Yu & Leung, 2018). Improper engagement can cause opposition and hinder the project (Davis, 2016), and improper management of the participants can lead to respondent burden and fatigue, which occurs when participants feel that their contribution will not amount to anything (Vanclay et al., 2015).

Initiatives designed to benefit the communities need to address long-term issues to further avoid superficial outcomes and avoid short-term compensation only appeasing one interest group within the communities (Rowan & Streather, 2012). Regrettably, much of the research points towards the immense difficulty of successful community engagement, and efforts made were insufficient in resolving the needs of the public and concerns addressed by the participants (McCann, 2001; Boonstra & Boelens, 2011; Eizenberg & Jabareen, 2017).

2.4.3 Corporate Communication

Although the wider responsibility for social and environmental issues is perceived to lay within governments and Non-governmental Organizations (NGOs), businesses practice and communicate

Corporate Social Responsibility (CSR) to attain social acceptance (Kramer & Porter, 2011). Businesses invest in social improvements, such as creating decent jobs, goods, and services, making strategic social investments to promote public policies that support social sustainability, or partnering with other businesses to make a greater positive impact to their environment, workforce, and local communities (Chan et al., 2014; UN Global Compact, 2024). Following the UN Global Compact, companies budget for initiatives and investments, which can be either symbolic, producing a temporary positive image to stakeholders, or substantive, inspiring real strategic action, and while costing more in the short-term yielding better results in the long run (Vanclay, 2020; Nirino et al., 2021). However, within the AEC industry it has been found that social issues are often disregarded during cost estimations and that contractors bidding for a tender seldomly incorporate these costs (Gilchrist & Allouche, 2005; Apeldoorn, 2013).

Even though the impacts of the AEC industry have significant implications on the economy and society, CSR non-financial disclosure reporting is only carried out in 72% of construction firms (KPMG, 2020), placing them only 12th out of the 15 major industries assessed. In a study by Daszyńska-Żygadło et al. (2022) evaluating construction industry companies with headquarters in Europe it was found that significantly less reporting is carried out on circularity, waste, incidents, corruption and safety while communication about social issues related to well-being, accidents, illnesses and various stressors concerning work in the AEC industry is completely omitted.

Both theory and research show evidence that the practice of CSR has become necessary for organizations to positively affect consumers' attitudes towards them, and therefore organizations view CSR as a key to success (Lichtenstein et al., 2004). In practice, although based on good intentions, measurements tend to prioritize the benefits for the company while often neglecting the effects on stakeholders and society (Blowfield, 2007; Wood, 2010). Additionally, literature on the subject offers next to no evidence on any impact the initiatives imply for the social issue intended to benefit (Barnett et al., 2020). The evolving debate over CSR has led to a shift beyond concepts of sustainability entailing the dimensions of Environmental, Social and Governance (ESG). The ESG principle (see Figure 2-2) was formally proposed in 2004 and has since been contributing towards a system to measure the future financial performance and social influence of firms (Li et al., 2021). It regards practices and risks to all nonfinancial dimensions which can impact a firm's business case, including corporate governance, labour and employment standards, human resource management and environmental practices (Harper Ho, 2016). As a result of ongoing harmonization, the CSR-Directive 2022/2464 (2022), which comes in effect for reports of 2024, demands large and listed companies to report more extensively on their environmental and social impacts. Additionally, the European Sustainability Reporting Standards (ESRS), in accordance with the ESG framework, provides a standardized classification of impacts dimensions for annual financial statements and reports (EU 2023/2772, 2023).

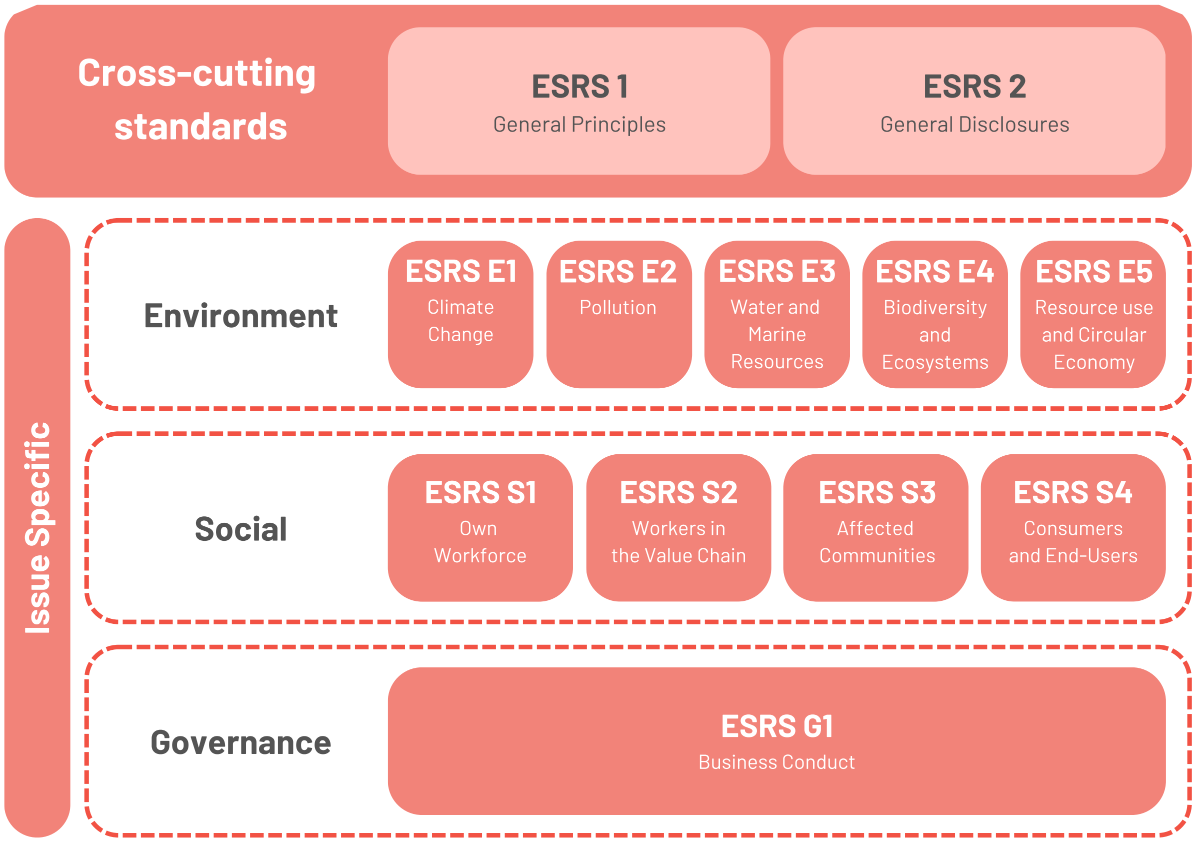

Figure 2-2: European Sustainability Reporting Standards.

2.4.4 Stakeholder Management Plan

Identifying stakeholders involved or affected by a construction project enables the generation of a stakeholder management plan which is important for promoting interaction, integration, and collaboration among stakeholders. Valdes-Vasquez and Klotz (2013) highlight that this plan should include constraints for the project, budget, schedule, location, size, design, and construction standards and strategies put in place to address interpersonal conflicts among stakeholders. Deliverables and intended project outcomes need to be communicated clearly as well as the underlying rationale to support the decision-making process. Furthermore, addressing community concerns and perceptions is crucial for maintaining good relationships and ensuring community support throughout the project's lifecycle.

2.4.5 Knowledge Transfer

Formulating a plan for continuous assessment of the project's effects on surrounding communities throughout both the construction and maintenance phase provides designers with insight into effective practices and identifies areas for improvement in subsequent designs (Valdes-Vasquez & Klotz, 2013). Lessons learned should be documented and shared with all stakeholders to ensure knowledge gained from the project is transferred. However, it has been found that designers and contractors rarely participate in post-occupancy evaluation and as a result forfeit the opportunity to learn from mistakes and identify future potentials (Roberts et al., 2019). The temporary project nature in the AEC industry requires commitment to facilitate knowledge transfer between projects and on an organisational level, and between client and contractor (Duryan et al., 2020). However, Roberts et al. (2019) found that there is ambiguity surrounding which party is responsible for conducting such evaluations.

2.5 Impact Assessment

The first incorporation of impact assessment into legislature was through the USA's National Environmental Planning Act in 1969, which served as an enforcing mechanism to keep federal agencies accountable to the public due to the rise in scientific and popular concern about contemporary environmental changes (Morgan, 2012; Mottee, 2022). The intended goal of impact assessment is to promote ecological, socio-cultural and economical sustainability and an equitable environment (Vanclay, 2003), and in many countries environmental assessments have become legislated (Mottee, 2022). These have come to include considerations of social issues, yet Social Impact Assessment (SIA) is neither consistently mandated nor applied in infrastructure development, and often only limited to an Environmental Impact Assessment (EIA) 'add-on', greatly limiting its potential (Vanclay, 2020; Pope et al., 2013).

2.5.1 Impact Assessment Methods

Impact assessments methods can serve to identify the needs and social issues pertaining to affected communities and the final users, including physical considerations and resources (Valdes-Vasquez & Klotz, 2013). One such is SIA, which is comprised of processes to analyse, monitor, and manage both negative and positive social consequences which may be the intended or unintended result of a planned intervention through policies, programs, plans or projects (Vanclay, 2003). Due to the ambiguity that exists in defining social sustainability (Stender & Walter, 2019) professionals conducting SIA depend on the collection and interpretation of data which may be subject to bias of its informing theory (Rickson et al., 1990). Collected data is vulnerable to political misuse and corruption, and there is a need to both ensure that knowledge produced is valid and generalized, and that this knowledge serves public needs and is independent of narrow political interests, which may be averse to the intended design (Rickson et al., 1990; Vanclay et al., 2015). This has to be considered independently of whether social science data or "hard" science data was collected, and addressing both scientific and political knowledge results in challenges for effective development of policies and decision-making.

Another assessment method that has been gaining increasing interest is the practice of Life Cycle Assessment (Buyle et al., 2013). The practice of Social Life Cycle Assessment is further meant to identify hotspots and guide the decision-making process towards the most beneficial social impacts of products, services, systems, or technologies (Jørgensen, 2013). However, there is no singular, widely accepted method, which is further complicated through differing opinions on the method, scope, and complexity of measuring social impacts (Jørgensen et al., 2008; Petti et al., 2016).

Activities related to projects may pose health risks as they can expose communities to communicable diseases, equipment accidents and exposure to hazardous materials (IFC, 2009). Health Impact Assessment (HIA) serves to guide the decision-making process to prioritize preventative and control strategies when evaluating project related health outcomes. Through HIA, important environmental and social factors may be identified, and it therefore extends beyond the health sector into the AEC industry. HIA is to further include considerations towards the health and safety effects of materials and products on workers and can be supported by lessons learned from previous similar projects (Valdes-Vasquez & Klotz, 2013).

Lastly, considerations towards the cultural, historical, and archaeological resources of a site need to be made, as well as efforts to maintain the natural habitat (Valdes-Vasquez & Klotz, 2013). Construction may be the cause for many damages in archaeological sites including '*physical disturbance, deformation, compression, fragmentation or decay of materials, fading of features, inaccessibility and* *fragmentation of ownership'* (Huisman, 2012). Globalisation and diversification of communities has led to cultures and landscapes changing with collective identity and cultural memory suffering from deliberate and careless destruction or for economic development and benefit (Apaydin, 2020). Despite that, Apaydin (2020) acknowledges that these processes can contribute towards transforming and building the heritage and memory of a given site, for which reason each region and place must be contextualised.

2.5.2 Community Impact

When regarding the social impact of AEC interventions on communities it is important to highlight that social response to a project occurs immediately as soon as speculation and rumours appear and not only when the project is under way or completed (Vanclay, 2012). It is therefore vital to involve those affected through participation and community engagement (Vanclay, 2003). Social opposition towards infrastructure development is often driven by concerns over negative impacts on the nearby community as they can disrupt the current landscape when planned in close proximity to living environments, and lead to decreased property values (Cohen et al., 2014). On the other hand, outlining economic development and compensations to individuals and the community of the planned intervention can increase support.

Residents needs to be considered both in the planning process and the final follow-up maintenance requirements to evaluate the impact on public accessibility and mobility (Valdes-Vasquez & Klotz, 2013; Xu et al., 2021). To incorporate these social considerations into a guided decision-making process, concerns regarding health, productivity and quality of life measures should be incorporated into a return-on-investment analysis (Valdes-Vasquez & Klotz, 2013).

2.5.3 Disturbance Mitigation

Valdes-Vasquez and Klotz (2013) find that active considerations for minimizing the disturbance caused by and affiliated to the construction phase need to be made. Sites operating without effective mitigation management can result in negative impacts on the surrounding community (Spillane et al., 2013; Valdes-Vasquez & Klotz, 2013). Nosie pollution has negative effects on health, causing headaches and sleeping issues, and planning the layout of the construction site can mitigate this issue for both the surrounding community and on-site workers (Ning et al., 2019). Dust particles generated from a construction site can cause discoloration of roads and buildings and at worst be harmful, necessitating active planning towards mitigation by watering down, debris netting, or alternative construction techniques (Spillane et al., 2013). In addition, traffic disturbances require active planning and communication towards the effects and duration of the issue and enaction has been found to have a positive impact.

3
Methodology

To fulfil the aim and to answer the research question, the methodology of the thesis is comprised of a literature review and an interview study. With the main purpose of the thesis being to investigate relevant criteria for social sustainability development in relation to its current practice in the Swedish AEC industry, a qualitative research approach has been conducted. In this chapter the research approach and data collection process will be described, as well as ethical considerations towards the thesis.

3.1 Research Approach

In order to answer the research question of this thesis, an abductive research approach was selected, allowing for interplay between theory and empirical observations (Dubois & Gadde, 2002). An abductive research method sets out to generate new concepts and develop theoretical models. Dubois and Gadde (2002) emphasize the development of existing theory, putting the refinement of an existing theory at the forefront. In this thesis, the theory which is applied and refined is of the theoretical framework provided by Valdes-Vasquez and Klotz (2013). In line with Dubois and Gadde (2002), empirical findings and the development of existing literature on the subject have led to the gradual development and final proposal of the refined theory.

Nevertheless, as this is an empirical thesis which builds on a case study, the main observations were done through qualitative semi-structured interviews and complemented by the study of documents and promotional material of the corporate narrative and strategy of Veidekke. The collected data was reflected upon to identify and generate categories according to the data until saturated (Bryman & Burgees, 2002). From that, wider objectives could be identified, enabling further theoretical reflection to refine the categories and establish links between the topics while developing their generality.

3.2 Literature Review

In order to form a foundation according to which qualitative data could be collected, the initial step in the creation of the thesis comprised of a literature study to explore the issues and current state of social sustainability in the AEC industry. In developing the literature, the snowballing method was used to further examine information linked to the identified topics. This was used as a complementary approach to extend the systematic approach investigating previous studies and keyword searches. Following an abductive research approach, the literature was reviewed multiple times and complemented through an iterative approach, according to Dubois and Gadde's (2002) method. Through this, the data gathered from the interviews could be evaluated and further explored. Most of the literature was found utilizing the Google Scholar database, and initial keywords for the literature study included *AEC industry, social sustainability, sustainable development,* and *corporate social responsibility*. The selection of relevant literature was based on number of citations and publication date, and focused on including subject-related literature. The literature was compiled based on the framework by Valdes-Vasquez and Klotz (2013), where the list of topics within their framework served as the basis to identify relevant areas in the development of this thesis.

3.3 Empirical Data

The case study builds on qualitative interviews and written material forming the corporate narrative by which Veidekke represents themselves publicly. Therefore, publicly available information and published reports from their website were gathered and studied, with the address of social issues being used as selection criteria. Whilst the displayed results are not representative of their entire operations, the case study intents to convey the primary focus and positioning of the company in regard to their social efforts. The division into and subsequent study of *Corporate Narrative*, focusing on quotes and topics highlighted by the company on their website, *Governing Documents*, showing the documents which guide the decision-making process within the company, and the *Annual and Sustainability Report*, marking the corporate communication to the public and pointing out their areas of social concerns, fulfils that purpose.

Following the most common approach of qualitative data collection, interviews were conducted to provide primary data (Bell et al., 2018). For qualitative studies, structured or semi-structured interviews can be utilized, for the purpose of this thesis the latter was chosen. Doing so, the interviews address common topics identified from the preceding literature study while allowing the interviewers and respondents flexibility to follow up on topics of particular interest or significance. Outlining the scope of this thesis, the interviews were gathered through convenient sampling within the infrastructure division of Veidekke in Sweden. The 11 semi-structured interviews were made up of six Project Managers (PM) and five operations managers in a Supporting Function (SF). Access to the interviewees was secured through the industrial supervisor of this thesis, and they were selected following the method of convenient sampling, but also for being familiar with social sustainability work at Veidekke.

The interviews were held both online and in person during March and April 2024. On average, the interviews took approximately 50-70 minutes, and both authors were present during the interviews. The interviews were conducted in Swedish and English, with most respondents opting for a hybrid form which would be mainly in English and supplemented with Swedish vocabulary and expressions when necessary. All interviews were audio recorded to allow for review at a later stage, and transcripts were generated using Microsoft Word. Additionally, notes were taken during the interviews and short summaries and reflections were performed after each interview to extract and discuss the core findings in relation to the literature and research questions.

At the beginning of all interviews the clear intention to focus on social sustainability was stated, emphasizing their personal perception, understanding, and practice, and asking the interviewees to refrain from general corporate statements which might contradict their own experiences. The interview questions were adapted for the various respondents to consider their area of expertise and job descriptions, and were complemented by common questions on the general perception and awareness of the topic in their personal experience. Generally, the questions were organized to cover the main topics presented in the framework by Valdes-Vasquez and Klotz (2013), and formulated as to allow the interviewees to reflect based on their personal experiences. The questions were intentionally open and vague, avoiding to influence the interviewees towards specific subjects, and instead allowing them to focus on their personal perceptions and experiences with the topic. At times when a respondent would deviate too from the subject of social sustainability, or when asked on a definition of the relevant topics of social sustainability, a general definition based on the outline by the UN Global Compact (2024) on the practice of social sustainability was given, stating: *"Social sustainability is about identifying and managing business impacts, both positive and negative, on people. The quality of a company's relationships and engagement with its stakeholders is critical. Directly or indirectly, companies affect what happens to employees, workers in the value chain, customers and local communities."*

The method of thematic analysis was applied to identify, analyse, and report patterns within data, to sort the findings from the interviews within the framework (Braun & Clarke, 2006). The transcripts and notes from the interviews were studied and codified in relation to the identified topics within the framework. As a result of ongoing development and comparison with the literature, subcategories were formed within the framework to provide further clarity to the results. The repeated search and review of themes within the results lead to splitting, merging, and discarding of themes, ultimately resulting in the final framework which forms the contribution of this thesis.

3.4 Ethical Considerations

In order to allow the participants to speak freely and include critical perspectives, the interviewees were assured that they would remain anonymous. To achieve this the respondents are addressed either as Project Manager or Support Function, corresponding to, but not divulging, their job title. All respondents were asked and agreed to be addressed with the identified title. This was done to allow for later discussion on any findings that would indicate patterns in the practice and perception of project managers and support function. Despite that, the interviewees were asked on their company role and their tenure at the organization to validate their responses, although the information only served for internal reflection. With the purpose of retaining the anonymity of the respondents, the interview questions will not be provided, as they would allow the respondents to be retraced due to the specificity of some questions in relation to their job description and area of expertise. As a result, the findings are believed to present a complete and balanced view in answering the research question and providing critical examination on strategy versus practice. Furthermore, all interviewees agreed to being recording during the interviews. Following the request for further study and publication, a request to keep the recordings and make them available to the supervisor of this thesis has been made. After approval, the interview recordings were made available, and personal information will be continuously omitted in any further publication. As such, all data was handled in accordance with the GDPR.

The use of Generative Artificial Intelligence was included in the development of this thesis, most prominently in the refinement of the interview questions. ChatGPT was used to simplify the language of the formulated interview questions, with the consideration that the interviewees are non-native English speakers. Additionally, ChatGPT was utilized to assist in sorting and organizing bullet point summaries created from the interviews, where all personal information and information relating to the company or country were deliberately excluded. Any responses given by ChatGPT were tested against the results on bias awareness. ChatGPT was applied to assist and provide inspiration in reformulating texts written in this thesis to create cohesive language. Notably, all generations made by ChatGPT were critically addressed and never used as direct citations.

3.5 Trustworthiness and Rigour

The decision to utilize an abductive approach supports the intention of the thesis as it emphasizes an ongoing interaction of literature and empirical data. While the initial literature review served to gain an overview and understanding of the topic, the framework developed by Valdes-Vasquez and Klotz (2013) provided a foundation for the development of the interview questions. Building on the input from experts, researchers, and practitioners, the framework provides a broad understanding of social sustainability in the context of the AEC industry. This is further complemented through the inclusion of research from academic journals and books over different times, as well as policy documents and report findings to form the literature review of this research. The application of the snowball sampling method helped identify key references which may not have surfaced during initial searches. Through the combination of data triangulation and snowball sampling method, a comprehensive understanding of the topic is provided, while reducing the bias by utilizing a diverse range of sources. The depth of analysis and cross-verification of information enhances the rigour of this thesis and allows for critical analysis.

Based on the initial literature review, the interview questions were formed based on a comprehensive understanding of the topic and were subsequently tailored to the scope and context of this study. Despite the questions being formulated to prompt observable results within the framework, the general nature in which they were formulated supported and provided reliable information towards the research question. Additionally, the decision of having the interviewees remain anonymous allowed for more critical answers and reflection, providing depth and trustworthiness to the results.

The presence of both authors during all interviews limits any bias that may have resulted from the interpretation of the findings. All formulations regarding the findings were carried out by both authors, with the transcriptions and audio recordings allowing for reviews. Although one of the authors has restricted proficiency in Swedish, this method is perceived to remove any limitations in the data collection from the interviews. As the information gathered from the interviews progressively aligned with another, the sample size was concluded to signify a saturation of interviews. Although details might have differed between different respondents, the main findings and patterns were indicative to verify the results as reliable. Through the described iterations of study and re-evaluation of results and themes, the application of thematic analysis is concluded to have been carried out accurately and rigorously.

The information gathered from the case study presents the corporate narrative communicated by Veidekke, and while including information that is subject to their bias and corporate communication strategies, this serves the purpose of the thesis as it forms the basis for comparison and discussion. Although the connection with Veidekke and the formulation of this thesis was initiated through the mentorship program provided by CMB (Centrum för Management i Byggsektorn), the topic and research design were developed independently, and no conflict of interest resulting from employment exists. Therefore, the study is believed to be carried out rigorously and without any perceived conflict of interest.

4
Case Study

This chapter provides general insights which were extracted from Veidekke's publicly available information to paint their corporate narrative. Providing an overview of their corporate narrative and pointing out their attention directed towards social issues will serve as foundation for discussing their alignment of strategy versus practice. Information and communication of their history, core values, and current efforts directed towards their social impact are taken from their website, directives, and the Annual and Sustainability Report 2023. Additionally, issues of governance were included in the study of the corporate narrative where they relate to issues regarding social sustainability as identified in the framework and interviews.

4.1 Corporate Narrative

Corporate narratives and branding serve to position companies in their respective field. Corporate communication helps shape the public perception, and as such grant insight into the history, values and strategies that define their operations.

"It all started with a 'No, thank you.'"

\- *Our History, Veidekke.se*

Although Veidekke's history is thoroughly described on their website, the narrative is most often boiled down to 'the airfield that was never built' in 1940, when Veidekke refused to do construction during German occupation and instead decided to shut down operations in occupied Norway. To this day Veidekke emphasizes how this serves as symbol of their values taking precedence over profitability, and doing the right thing over what is easy.

"Veidekke does not build roads, bridges, and buildings. We build teams that build roads, bridges, and buildings."

\- *Marketing Material, Veidekke*

On their website and on social media, Veidekke positions themselves as *the contractor that puts people first*, emphasizing how their employees are the greatest assets. In their values Veidekke present cooperation and value generation for its users as their core philosophy. They describe the Veidekke House model as basis for employees to navigate daily tasks, govern management activities and form the basis of their code of conduct. It is described through four foundational elements, which Veidekke sets as:

- *Professional*, describing how they act in an ethically correct manner, in compliance with laws and regulations, and always seeking to act to the best of their abilities.
- *Reliable*, adhering to societal norms and acting transparent, honest, and reliable, ensuring their and their partners' integrity and confidentiality.
- *Enthusiastic*, demonstrating their commitment to their work and creating valuable and profitable solutions.
- *Groundbreaking*, fostering innovation, daring to be ambitious and acting as an industry leader.

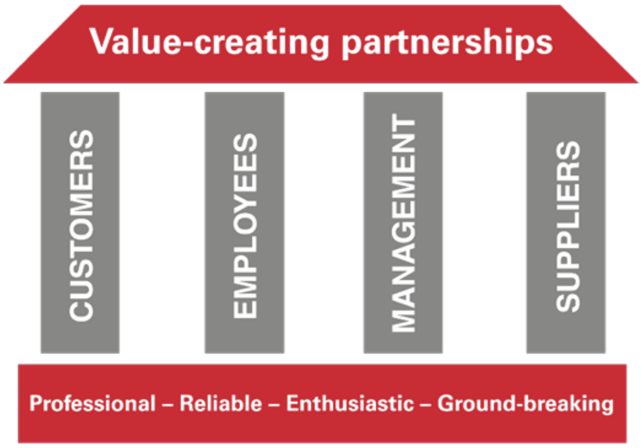

Figure 4-1: Visualisation of the Core Values and Pillars of Stakeholders – 'Veidekke House'.

In their short-term strategy, Veidekke states their continued orientation on people, emphasizing how they aim to achieve economic objectives and goals by investing into people. In this presentation their focus lies on fostering a culture which strives towards realizing everyone's full potential and emphasizes that all should come home from work safely. Involvement and trust are stated as the bedrock of the company's culture. They further state their passion towards their client and prioritizing to executing projects in a value-adding manner. In their mid- to long-term strategy, Veidekke aims for climate neutrality by 2045 stating their intentions to seize the change in society as an opportunity in which they can solve challenges through innovation, involving culture and engineering expertise.

4.2 Governing Documents

On their website governing documents are made available to the public, showcasing their efforts and commitments on topics covering all areas of ESG. Veidekke's published foreword to their code of conduct emphasizes their commitment towards building society, taking ethical challenges seriously, and acting in compliance with laws and regulations. It addresses the issues and dilemmas in the AEC industry, pointing out the careful approach necessary to identify corruption and safety rules breaches. It carries on emphasizing the individual responsibility, stating in the guidelines to still allow for substantial local flexibility. The statement calls for open communication and creating an environment in which issues can be addressed and discussed.

The code of conduct continues by outlining the company's obligations, followed by individual obligations of its employees and managers which have been covered. In their ethical guidelines Veidekke addresses how actions taken within the company must be able to withstand public scrutiny and emphasize the importance of reporting concerns without fear of reprisals. They link this towards their efforts of sustainable development, aligning these with the UN SDGs and their commitment to the principles of the UN Global Compact.

> *"For Veidekke, this means operating in such a manner that current decisions safeguard financial, environmental and social conditions for the foreseeable future."*
>
> \- *Code of Conduct, Veidekke.se*

It continues to describe the topics of HSE where Veidekke describes work to be carried out to prevent illness, personal injury, and accidents. Furthermore, it outlines their zero tolerance stance on discrimination, harassment, bullying, and threats as well as substance abuse, while promoting equality, diversity, and inclusion. Additionally, Veidekke's code of conduct addresses corruption, inside information, fraud and theft, and conflicts of interest. Any participation is strictly forbidden, and observation of suspicious activity must be reported. Moreover, it is stated that these guidelines extend to suppliers and partners engaging with Veidekke.

In its final chapter it addresses human rights and issues of employment-related crime, such as undeclared work, child and forced labour and social dumping. They state their support for the ILO Declaration on Fundamental Principles and Rights at Work which extends to freedom of association, collective bargaining rights and a stance against discrimination. It describes their commitment towards environmentally friendly practices and precautionary approach towards environmental challenges.

Additionally, individual policy documents are made available as short summary outlining attitudes and actions towards various topics within the ESG framework. Continuously, employees are encouraged and expected to report any violations on their set code of conduct and within the outlined policies.

4.3 Annual and Sustainability Report

The Annual and Sustainability Report 2023 mirrors many of the topics already covered in their publication of governing documents. They acknowledge that the requirements of the EU's CSR-Directive will provide the basis for future reporting. Group management and the board of directors carried out an analysis, supplemented by feedback gathered from a wide range of stakeholders to identify the focal topics regarding Veidekke's future operations. As a result, Veidekke states that future reports will cover the areas of Climate change (E1), Biodiversity and ecosystems (E4), Resource use and circular economy (E5), Own workforce (S1), Workers in the value chain (S2), and Business conduct (G1) from within the ESG framework.

Within the Annual and Sustainability Report 2023 the chapter focusing on social impact covers the areas of work-related injuries, workers' rights, and diversity and equality. HSE therein is referred to as occupational health and safety. Within the scope of this study issues of corruption and financial crime, which are placed in the chapter governance impact, are included.

Concerning work related injuries, in their report Veidekke recognizes that issues pertaining to HSE documentation and results are imperative in the tendering process, when positive can lead to contracts won or otherwise result in pre-disqualification. Additionally, failure to follow up on incidents can negatively impact the company's reputation. Veidekke understands that this risk extends towards their hired sub-contractors operating on their sites. As a result, within the report the three strategic priorities concerning HSE are outlined as follows:

- *Learn from HSE non-conformances* stands to initiate processes and tools designed to develop learning on an organisational level to prevent future events of similar injuries and incidents.
- *Risk management* is carried out to guarantee minimal risk at all carried out activities through the development of better processes, use of new tools and clearer requirement, thus eliminating risk before work starts.
- *Safety culture* emphasizing the shared responsibility though raising awareness on human error and commitment to each other's safety and well-being.

The goals are tracked through the measurement in ‘lost time injury’, showing the frequency of workplace accidents resulting in injury. The goals of zero serious injuries and 20% annual reduction in injuries are currently not met, with two reported injuries for the previous year, and only achieving a reduction of 10,1%. As an effort to provide continuous experience-sharing and improvement Veidekke states their development of a digital platform which will see gradual implementation in 2025 while phasing out manual risk assessment tools. In this, they communicate that whilst unwanted incidents are subject to reporting they do not carry any negative consequences for the reporting person. Employees benefit from preventative health services including regular check-ups as well as crisis support, and other services pertaining both physical and psychological well-being.

Regarding workers’ rights, the report states the obligations of sub-contractors and suppliers to rectify deficiencies, breaches of law and failure to comply with Veidekke’s ethical standards, with inability or unwillingness resulting in exclusion. Internal audits are described to unveil if Veidekke’s requirements for sub-contractors are met, otherwise providing help to improve their processes or alternatively exclude them from future projects. In 2023 Veidekke audited approximately 480 subcontractors and suppliers, out of which 15–20% failed to be approved.

On the topic of diversity and equality Veidekke presents automated processes to ensure employees are interviewed before, during, and after parental leave and are that their bonuses are not cut during this period. Veidekke states that discriminatory job titles are replaced with more inclusive ones, project sites are required to be equipped with separate changing facilities, and workwear designed for women was introduced. The report states that conflicts on issues of discrimination should be handled by the most immediate level of management or through training.

In their efforts to bolster recruitment, Veidekke displays an ongoing collaboration with the public school system to offer vocational school education and apprenticeships, and through its internal training focuses on the development of future leaders. Measures to attract women are presented to have yielded insufficient, with internal goals neither currently met nor indicating possible short-term success. Therefore, Veidekke acknowledges the need to develop structures that result in the retention of female employees as they identify diversity key in their future progress. Further, the report highlights the necessity of focussing efforts on internal recruitment given the precarious market conditions. Veidekke notes that to achieve these goals both long-term efforts within individual companies and collaborative initiatives are necessary.

Addressing issues of governance, corruption, and financial crime, Veidekke commits to integrating sustainability parameter into tender metrics to reduce law breaches and mitigate the particular risk when price serves as the decisive criterion. According to the report, in 2023 no compliance breaches entailing corruption or breaches of competition rules were found. Furthermore, a whistleblowing mechanism for employees and others enables reporting of censorable conditions ensuring transparency and accountability within the organization.

5
Interview Findings

To grant insight into their practice, this chapter presents the results and findings gathered from the interviews conducted within the infrastructure division of Veidekke in Sweden. The interviews have resulted in valuable insights on the current awareness and practice of social sustainability in Sweden, producing general topics and common patterns. Generally, it was noted that sustainability is being increasingly integrated into business practice, although environmental considerations are heavily prioritized over social ones. Despite a growing awareness for social aspects, the term and topic of *Social Sustainability* are not established in the practice of the respondents. Furthermore, the topic of social sustainability is often discussed within the context of other sustainability dimensions, being linked but not recognized as a subject on its own.

Following, the findings of the interviews are categorized according to their relevance to the four main chapters outlined by the framework, being: *Management Considerations, Team Formation, Stakeholder Engagement,* and *Impact Assessment*. Additionally, the findings are complemented by a chapter sharing general insights on the respondents' perception of the *Corporate Vision* on social sustainability at Veidekke.

5.1 Management Considerations

On the topic of management considerations several respondents identify issues towards mitigating risks. The need to calculate for HSE risks is identified during the interviews, indicating a proactive approach towards recognising and minimizing potential dangers. Location specificity is highlighted to create unique challenges and therefore requires risk assessments to identify and minimize hazards, both to the workforce and the general public.

On a strategic level, it is pointed out that rigorous background checks are carried out on sub-contractors and suppliers, particularly concerning tax and economic compliance. The list for pre-qualifications includes requirements to be union compliant and to have health insurance for all employees. SF2 outlined the analytical approach through a central vetting system which tracks annual reports, credit checks and code of conduct compliance of sub-contractors and suppliers. Although positive towards this internal system, SF2 finds these added layers of bureaucracy to pose issues for otherwise qualified sole traders and small businesses which in practice would not pose risks to the project.

"Lots of them are basically alone in their company. And they're not in the business of construction because they like paperwork. […] so they do the absolute minimum of all administration they have to do."

- SF2

To ensure quality, effectiveness and that everyone is fairly compensated the interviewees point out the focus of keeping the workforce inhouse and restricting sub-contracting to two levels, making it easier to communicate and mitigate risks. More complex sub-contracting structures are identified to increase the potential for termination during the project execution, causing delays and problems for site management. Although it is perceived that infrastructure projects usually display less complicated sub-contracting structures, SF5 notes that instances occur in which unregistered sub-contractors operate on-site. Furthermore, SF2 points out how each part of the chain aiming to maximise their profits subjects the practice towards more corruption.

> *"So I think this actually cuts out a lot of issues, a lot of the competitive stuff in the business. Because each [level of sub-contracting] has to make a profit […]. So, by shortening the supply chain, it makes it a lot easier to get the correct amount of money to the people doing the work."*
>
> *- SF2*

The interviewees highlight that there has been a substantial change in the sector in regard to ethics and corruption over the last two decades. Despite that, they recognize growing market opportunism and an increase in unsustainable bidding practices, yet Veidekke wants to remain uncompromising on their HSE standards and wages. As a majority of infrastructure projects are publicly funded, SF3 finds they have an ethical duty since they answer to the public. SF1 adds that there is a mandatory training on ethics and ethical dilemmas as just and lawful practise is part of Veidekke's core values and code of conduct. To mitigate issues, the interviewees explain the ongoing efforts to evaluate sub-contractors and suppliers, excluding those that do not abide to the law and disengaging from red-listed countries. Another part of the process includes evaluating bids that come in too low and investigating if the assignment was understood or if there is cause for suspicion of unserious practice.

Regarding HSE many subjects were discussed. PM6 brought up the dedicated role of BAS-P and BAS-U and their responsibility to plan ahead and review consequences, emphasising the importance of clear and open communication between the two phases. They continued by contextualising the urgent need for these considerations as infrastructure projects deal with heavy and dangerous work, and a high number of accidents. Several interviewees discussed how Veidekke's involvement strategy encourages input and open dialogue from all team members, and they perceive this to enforce a positive safety culture. However, ultimately the responsibility of making a decision falls on the manager.

> *"Every individual must have an opportunity to influence what is being built. […] It's not a democracy, however it's the obligation for the manager to actually find out what everyone thinks so they can make the best decision about which way to go. And give people the feeling 'I can influence this'."*
>
> *- SF3*

SF5 argued that most incidents and accidents occur when deviations from the original plan requires improvisation and compels managers to ease time pressure. The interviewees state that currently the intention is not conveyed well enough, resulting in policies intended to reduce the occurrence of stress and accidents being perceived as restrictions. Requirements and contracts are not read as frequently by worksite employees as they are in the offices. Safety protocols are scrutinized by the interviewees for the fact that insufficient systems are in place to track if directives and policies were read or understood. Instead, most responsibility is placed on site management to conduct site introductions. With the aim of maintaining the same level of high safety standards, regulations on safety gear and clothes have been generalized and appeal towards safety instructions are made as an emotional argument, being: *"Make sure everyone can go home at the end of the day!"*. Despite that, the interviewees name language barriers as a cause for misunderstanding and infringing on safety. It is stated that subcontractors need to have a site manager with sufficient English skills, yet communication with both parties not having

English as their native tongue limits communication. PM5 states that there is an attempt to have all relevant safety instructions available in different languages, however, PM6 finds that differing cultural norms and hierarchical structures can prevent open communication.

"[Workers] from Eastern Europe have another culture then in Sweden. If [Swedish workers] don't understand something, [they] ask questions. But in my experience, [workers from Eastern Europe] say yes [even when they do not understand]."

- PM6

In order to formalize their commitment towards promoting social awareness within the company, Veidekke organizes training and education to promote social issues, summarized in Organizational, Social and Work Environment (OSA) training. The interviewees underline that awareness for OSA must extend beyond Veidekke's workforce to include sub-contractors and suppliers and point out how this training is made mandatory to include sub-contractors. It is expressed that the heightened awareness resulting from OSA education has helped bring issues to the surface and encouraged workers to report observations on-site.

The interviewed parties stressed the importance of enforcing a culture of open communication and a blame-free environment. This they stated are accomplished by easing pressure, promoting psychological well-being, establishing good relationships, and enabling employees to speak up about issues they have encountered. However, at the same time the interviewees acknowledge challenges in communication due to the physical distance between the office and remote production sites. Likewise, it was mentioned, employee interviews for personal feedback are only conducted once a year, thus failing to address workload issues or mood changes. The interviewees mention the recent introduction of ongoing, anonymous employee surveys to continuously monitor and alert management to work environment issues. Lastly, start-up meetings and regular meetings were identified as important tools to create a positive work environment and address potential HSE risks with the interviewees mentioning an ongoing pilot project to create a more streamlined teambuilding to create a safe space and open communication culture within project teams.

Most of the interviewees brought up the cultural change within the AEC industry over the last 30 years. Issues of sexism are perceived to have decreased substantially and both the company culture and wider society have zero tolerance on these issues. PM3 extends the zero tolerance culture to alcohol and drug abuse, claiming there are less incidences today and help being actively provided by Veidekke. The interviewees realize the ongoing demographic contributing to social issues being communicated more openly within the work environment, as they state that the younger generation are more in touch with their feelings and advocate for equality.

"The managers on our production sites are between 25 and 65. And I think there are some differences in mindset [in understanding the importance of soft values]. [...] Younger managers already have it in them from school, society, and media. So I think it will be easier to talk about these kinds of things."

- SF5

The majority of the interviewees emphasized how their success is determined by a strong company culture which emphasizes the importance of promoting a culture that fosters good health and equal society and most importantly focuses on people. SF3 emphasized that Veidekke's history, with *'the* *airfield we never built'* at its core, and their education, and training all have a clear focus on people and is deeply ingrained within the core values.

> *"Veidekke as a company is at its core raw capitalism, the whole idea of a company is to make profit. But then the good news is that Veidekke […] is well aware that you generate money through people and therefore people are so important at Veidekke. Therefore, there has always been a great awareness of building teams and putting the people at its centre."*
>
> *- SF3*

The importance of workload management and work-life balance was brought up by many interviewees as an important issue when regarding their well-being with some describing the workload as being too high. Although being addressed within OSA, the interviewees point out that a resolution to the issue is yet to be found. However, PM6 positively points out that since the pandemic personal situations are being considered more and distance work has been made available. On the other hand, PM4 criticised the practicality of it with most work being location-specific.

In regard to technological development, SF4 acknowledged that software development generally has been slow. BIM and similar tools are identified to greatly increase the accuracy of estimations, drastically simplify the work, and ease the workload. However, they elaborated that it is only utilised scarcely due to low demand from clients. On the other hand, technological development has been identified to cause stress, increase pressure, and result in more total workhours, especially among younger workers. PM3 found that continuous notifications from BIM viewer tools cause site management to be constantly engaged with the project, even outside workhours.

> *"We're trying to work 40 hours in the week. […][Notifications] come in during the night, in the morning, and the weekends as well."*
>
> *- PM3*

Lastly, SF4 recognized that technological development towards environmental sustainability positively impacts social sustainability on-site as well. They mentioned an example of the implementation of electrical vehicles and excavators providing the workforce with more efficient and ergonomically correct tools while resulting in less polluted and less noisy worksites.

5.2 Team Formation

The interviewees identify the ability to be a team player as pertinent in creating functioning teams, with optimal teams described as diverse and complementary. Furthermore, lacking people skills was stated to be undesirable, with adeptness to current cultural norms pointed out to being highly preferable after fulfilling relevant qualifications. To best utilise everyone's unique characteristics and roles, the interviewees emphasised the importance of identifying team members' strength and weaknesses, yet they are critical that they are not involved in selecting their teams. However, SF3 made clear that certain diversity is productive while some kinds are destructive. In building diverse teams, PM5 emphasised the importance of creating equal chances for everyone to contribute with their knowledge and experience.

“If you have a group of 45-year-old white Swedish men who think more or less the same, you won’t achieve the best end-result. It might be a nice and easy road to [get to the project conclusion]. It might take more time when we differ from each other, but it results in something better if we dare and talk about it.”

- PM5

Despite observing a positive trend, interviewees commonly state that there is a lack of women in the AEC industry, especially among craftsmen. The interviewees name positive on-site culture and enhanced project outcomes as examples of benefits from teams with gender diversity.

“[…] people are understanding that the sites where people are most happy and work the best are the sites where we have [gender] diversity, that’s where it works best. […] we are seeing that we need to focus on this so that we become better.”

- SF1

To achieve more gender diversity, the interviewees brought up the necessity to ensure that the work environment is welcoming for women and that job descriptions do not discriminate. Led by the younger generation and accelerated by societal pressure, a positive shift is described within the company culture and in its zero tolerance stance on sexism. Nonetheless, the interviewees acknowledge the AEC industry’s bad reputation owed to the harsh jargon, and the pressure women face to prove themselves, especially towards older men.

“It's easier to be a man in this business, like it is everywhere.”

- PM3

Similarly, the interviewees describe the zero tolerance for racism at Veidekke, identifying it as the second biggest code of conduct issue after sexism. They expand by explaining that issues related to sexism and racism often stem from individuals employed by subcontractors, however, they highlight that any occurrence on their worksite causes these issues needing to be addressed. This is done by project managers who directly confront the individuals by issuing warnings in severe cases, when ethical lines are being crossed or the infringement is too severe, individuals are made aware of their misalignment with Veidekke’s value system and presented with the option to quit. The importance of aligning on the company’s core values is emphasized through SF5’s argument of addressing this when hiring new personnel.

Team building was identified as a key consideration due to the project-based nature of the industry. The interviewees recognised the need to conduct team building exercises and focus activities on establishing a desired work environment. As stated by the interviewees, overcoming initial differences, and covering code of conduct, mutual respect such as technical and HSE aspects results in team building becoming a time heavy investment. Project managers state they would appreciate more guidance for that process, stating they feel left alone and burdened by the workload. On this subject, SF3 brought up a pilot project which addresses those issues and is designed to streamline team building. The interviewees point out that due to the project-based nature, moving on to the next project, teams constantly need to re-form when they work best. Currently, only craftsmen are divided into smaller teams or pairs which transfer beyond projects as their work is identified as being highly reliant and dependant on each other’s input.

The contract type influences team building considerations, with the interviewees pointing out the benefits of partnering contracts. They describe that these projects foster more open dialogue and communication with clients, aligning them and removing many negative discussions. Although this requires that all involved parties need to share a common mindset for respect, and desire for mutual goals, this contract type is stated to be preferable. Some interviewees highlight that partnering agreements prompt all stakeholders to take time to conclude projects, focus on lessons learned, knowledge transfer and feedback. The interviewees state that clients then are considered as team members and therefore included in team building activities. However, previous negative experiences with a client, according to SF4, may cause certain projects not to be bid on. Likewise, project size is stated to play a determining factor in regard to social sustainability considerations. The respondents found that smaller projects struggle to include considerations for social issues as the same amount of paperwork is distributed among a smaller team whereas larger projects allow for people actively dedicated to social aspects.

In the AEC industry, and in infrastructure development in particular, projects are often situated in remote locations. The interviewees point out the ever-changing work location is considered common practice and recognize that this requires a certain adeptness towards constant temporary relocation. Most interviewees acknowledge that this contributes to the difficulties of recruiting workers as it poses a great challenge for those with families and renders it impossible for single parents, with this issue being identified as becoming increasingly more significant over the last two decades. Despite that, the interviewees describe ongoing initiatives to offer quality-of-life improvements to workers such as upgraded sleeping quarters, which however are often rejected for increased allowances. Furthermore, efforts to mitigate the negative implications include making it possible to leave early for the weekend or putting more considerations to workers with families.

“We make an effort to find jobs in close proximity to home and family for those with small children.”

- PM5

The interviewees describe how remote locations create unique challenges, such as requiring their own infrastructure and facilities to be put in place to accommodate its workforce. As a result, the respondents find that these sites often create their own little community, leaving the project manager in charge to create opportunities to socialise outside of work hours. Successful management relies on various factors, with the respondents naming the distance to the nearest community and the workforce as most deciding. Differences between generations influence social aspects, with interviewees finding that the younger generation was keener to engage in leisure activities together and outside of the worksite, while the older generation are happy playing cards and having a beer in the caravans. Furthermore, SF2 noted that the differing managerial style of companies with foreign workforce resulted in the workforce isolates themselves to a larger extent.

Foreign workforce and labour migration was identified as a cause for concern in some regards, elaborating that issues arise when foreign workers are not adapted to the Swedish culture. Additionally, locally registered sub-contractors whose entire workforce is from abroad raises red flags. It was stated that it is difficult to identify which companies are operating in this manner as well as whether workers were compensated correctly and according to Swedish law. Although historically cheaper, SF4 notes that at present there is no noticeable price difference to local workforce. Issues, as mentioned by the interviewees, are regarded, and flagged by the internal review group, such as a case where the suspicion arose that work permits were being sold to central Asian workers or where third-country workers were operating on-site without valid work visas. However, SF2 further elaborates that at times issues stemming from foreign employers are unintentional and is a consequence of a lack of knowledge of the Swedish context.

> *"We found out that the workers didn't get their performance bonus […] We realize that for a lot of companies, especially foreign companies, this wage model is new and lots of these contractors aren't in the business to [do] the paperwork. So at least some of these mistakes are made in good faith because [when] they sign the [contract] in Sweden, they don't really pay attention or understand it all."*
>
> \- *SF2*

The use of local suppliers and sub-contractors is being described as advantageous concerning the challenges of remote and ever-changing work locations, with access to local knowledge has had a positive impact on project delivery. Nonetheless, SF2 clarifies that local companies are usually only engaged when this does not result in a compromise on quality or expertise, and if it presents itself as a financially viable option. In turn though, the interviewees describe how utilising and engaging with local stores, suppliers, and sub-contractors has created acceptance by the local community.

> *"We're trying to use the local community, because we think that they should also have a piece of the pie."*
>
> \- *SF5*

PM1 highlights that the use of local workforce and trainees is important to small communities as this creates new job opportunities and employment within the community. However, SF1 points out that the project-based nature results in the temporary employment not being made permanent or forces the local workforce to take on long commutes or relocate.

5.3 Stakeholder Engagement

In relation to stakeholder engagement, various considerations are being made in relation to government and local authorities, including clients, as they are often representatives of the local government in infrastructure development projects. It was commonly understood that client requirements are increasingly including aspects of social sustainability, although environmental aspects still dominate. SF4 acknowledges that added costs for pursuing a social agenda are not accounted for, and therefore, issues beyond the tender are not considered. This is supported by SF2, who remarked that environmental considerations easily justify higher project costs as they are more tangible. Within the tender the most mentioned requirement concerning social sustainability was employment of trainees, local workforce, and individuals outside the job market. However, a majority state their criticism to the third group as they doubt it translates to any permanent employment and, worse yet, causes safety issues on-site.

> *"[Clients] put into the contracts that we should be able to receive […] long time unemployed [...]. The problem is that the construction business is quite dangerous, we have a lot of accidents and people die. Personally, I don't think we should take this kind of responsibility."*
>
> \- *SF5*

Furthermore, the trade union is identified as a powerful authority acting within the Swedish AEC industry. It is addressed that a close cooperation with the trade union is pursued, where this translates to the careful consideration of any sub-contractor and suppliers working with and for Veidekke, and addresses their compliance with health insurance, collective bargaining agreements and union membership.

The findings present community engagement as the responsibility of the client and that they as contractor are excluded from engaging with the local community before the project kicks off as such no funds are allocated towards these efforts. PM4 points out that clients often have a specialized function within their organization to handle community concerns, and that all communication before project inception is later shared with the contractor.

Corporate communication is key in shaping public perception, SF5 points out the company's obligations on environmental, social, and economic goals towards its shareholders are addressed, and that the current awareness and commitment have been seeing rapid growth in the past decade. Public communication is described to be driven through marketing and social media, where conscious efforts are made to address social sustainability issues. However, some are critical that the message of Veidekke as union friendly, and their social efforts as unique selling point are not conveyed well enough. Nonetheless, SF3 highlights their active efforts to contribute with publications in the AEC industry to influence the public debate to create social awareness. Additionally, the opportunistic market conditions and bidding practices are pinpointed as the focus of public debate, hindering wider development of social sustainability practices. Given the conditions, the respondents emphasize that this is not allowed to cause compromise on their standards, whilst acknowledging internal areas for improvement. Moreover, PM5 concedes that despite this they still need to remain competitive.

> *"After all, we have to compete with other companies that do not prioritize sustainability. And as [much] as we want to [prioritize] social sustainability, we still have to compete on the lowest price."*
>
> *- PM5*

Many discuss that the larger actors have a responsibility to utilize their vast resources and set the tone for the industry, while acknowledging that everyone is accountable to do their part. Several interviewees present ongoing projects that are focussing on greater societal benefits, such as supporting sports and education initiatives in Africa and engagement with schools in marginalized areas.

It was identified that both internal and external stakeholders need to be managed through careful consideration and planning. The findings suggest that external stakeholder management is conducted through visual communication, such as billboards and pamphlets, and through planned and casual interactions with the local community. It is suggested that these efforts manage to create public acceptance. Although, it is critiqued that an insufficient amount of time and budget is allocated to actively engage with the community creating a reactive instead of proactive approach. However, where projects are situated in remote locations it is found that the community is disturbed less resulting in fewer considerations needed. On the other hand, when special situations arise it is important to part take in a dialogue with concerned community members and have a plan to address them accordingly. Conflicting arguments are presented, where some find that the public often take the chance to engage and communicate with site management, while others find that this is very seldomly done.

Balancing the requests and obligations towards internal stakeholders require careful planning and consideration, as pointed out by the interviewees. Internally, it is highlighted that communication between the office and site needs to be structured as to lighten the burden within the project. Several respondents note that many issues recognised on a project level remain isolated and considered a matter to be addressed only within that project, creating stress and additional workload whilst noting a lack of support from upper management. There is a perception that interpersonal dynamics can cause disconnect between the design, planning and execution phase, as well as between the office and production team, suggesting that a focus on communication could proactively encourage collaboration and result in better distribution of the workload.

Knowledge transfer provides an opportunity to capture knowledge and enhance future decision-making. The findings indicate that knowledge transfer is not given enough attention, where team turnover during the project leads to new focus and loss of project knowledge highlighting the need to affectively gather and codify collective knowledge. It is critiqued that not enough time is allocated to follow up and reviewing projects and emphasised that this responsibility should not rest on project management but be initiated by higher management.

Within knowledge transfer it is indicated that technical knowledge is prioritized due to its financial benefit. Some interviewees place equal weight on both social and technical knowledge transfer while others states that social aspects spark more interest. However, certain aspects are identified to be measurable, whilst others are hard to quantify or translated into directives. The respondents point out that distribution beyond the project level needs improvement and that the general database currently is hard to navigate. PM1 recognizes that knowledge transfer is practiced more casually through ongoing discussions among team members to recognize successful practices and discuss areas for improvement. Employee involvement is stated as key in utilizing knowledge to the unique challenges of each project, with calls for more collaboration and involvement of the production team in the design phase regarding details and execution. The interviewees highlight that workplace safety has seen much improvement through the deliberate practice of knowledge transfer, however, it is criticised that the focus lays too much on negatives and fails to adequately account for positive lessons learned.

5.4 Impact Assessment

Impact assessments can provide useful, methodical approaches in evaluating the effects of decisions on stakeholders and the environment. The results of the interviews point out that, despite the organized approach and established norms mentioned in the other chapters, structured impact assessment methods are neither regularly required nor constantly practiced. The interviewees note that information discussing impact assessments, whilst distributed, is not thoroughly applied to provide guidance. Instead, as stated in the interviews, meetings and discussions prompt on-site decisions, and methods towards decision-making and prioritization rely on experience and intuitive judgement, evaluating and weighing the impact of various factors within the project.

> *"[It's a] feeling in your gut. It is a good guideline. If you've got a good gut feeling on it, then you can do it. But of course, we have guidelines, lots of guidelines, and some read them, some do not."*
>
> \- *PM3*

Corporate level recruitment goals are clearly defined, particularly regarding gender diversity, but as mentioned in the interviews, these goals are not consistently tracked or followed up upon. Additionally, SF1 presents a current lack of a cohesive plan and approach towards company-wide goals, where instead each region operates on their own.

In terms of community impact, the respondents state that evaluation methods in the design phase tend to focus on technical instead of social impacts. They continue that considerations during construction often focus on minimizing the impact on the environment and nature where calculations are carried out to track emissions. Although infrastructure projects are less disruptive, the interviewees have experienced *"not in my backyard"* responses, making it necessary to deal with local concerns and perceptions. The occurrence of special instances, such as archaeological findings, is stated to fall into the responsibility of the client. Whilst these may alter the project timeline and create project overlap, the direct impacts of the occurrence do not require further consideration from the contractor.

Conducting disturbance mitigation, the interviewees identify that the client holds the primary obligation to inform the community about ongoing disturbances, while the contractor informs about specific events. Issues regarding noise and pollution need to be communicated with the community regarding the ongoing project where the findings state that ongoing communication puts people at ease and reduces negative effects of the disturbance.

> *"We are taking their concerns seriously. […] there is a landowner that has a sensitive horse. So before blasting [we notify the landowner so they] can look after their horse. And it's very appreciated. [It's] small things that make people more positive [towards our project]."*
>
> *- PM2*

The interviews state that when conflict with the community arise, communication should clearly focus on conveying the necessity of the actions. Furthermore, the importance of being agile to accommodate the community is emphasised, such as flexibility to adapt activities to mitigate pollution. Examples included rescheduling blasting or rock-crushing to less windy days, watering down dust or relocating activities off-site. Lastly, they add communities' everyday life should be considered, and plans need to include considerations for the impact on traffic, cyclists, and pedestrians around the worksite.

5.5 Corporate Vision and Strategy

Prompted to reflect on their perception of the alignment of the corporate vision and strategy with their daily practice, the majority of the respondents state this to be clear and apparent regarding social sustainability. Some respondents linked this to Veidekke's vision of prioritizing people and emphasized how the well-being of employees serves as fundamental pillar towards organizational success and achieving economic goals. SF3 further tied it to the history of the organization, prioritizing their values over economic success, which they still see at the core of the organization.

However, some interviewees do not perceive the corporate vision on social sustainability to be clear, instead describing it as fragmented. This fragmentation and lack of clarity is said to be the result of various aspects of social sustainability being spread throughout their business practice, therefore making it hard to be pinpointed, unlike environmental sustainability which is described as straightforward to measure and forming a cohesive unit. The interviewees further describe that whilst the intention seems clear, the fragmented and overwhelming amount of communication surrounding social sustainability does not drive forward a clear narrative for them. It is also criticised that the vision and strategy does not translate down to the individual level, and although the existing open-door policy fosters open communication, arising issues are pushed aside or not considered beyond the project level. Despite that, it was pointed out that while the corporate vision and strategy on social sustainability is not yet fully established and realized, lots of attention is currently drawn to the subject, driving progress.

The ‘*Veidekke-House*’ (see Figure 4-1) was acknowledged as a helpful tool in structuring and communicating the values and core foundation to provide support, with the culture of open communication and aiding in enabling direct support from immediate superiors. Ongoing education within the organization are identified by the interviewees as efforts towards strengthening awareness and show dedicated commitment towards development. Despite that, some respondents point out a lack of written directives and guidelines to support towards cohesive social sustainability measures, acknowledging the difficulty of putting these down on paper.

> *“We do not have clear written procedures for everything. But here [at Veidekke] it's about seeking contact, taking responsibility for things yourself, and making sure they happen. It is both our strength and our weakness.”*
>
> *- SF3*

The respondents state Veidekke’s responsibility for social sustainability to extend beyond its employees and direct stakeholders, acknowledging a bigger responsibility towards society. However, the interviewees emphasize that within the attempt to integrate a holistic approach on sustainability, the large investment of time and money needs to be acknowledged, both in their organization but also across the industry.

> *“And I feel that [we are] pretty realistic about how the world works. We're trying to be patient and take baby steps instead of just [going all out]. And of course this is connected to having to remain competitive.”*
>
> *- SF2*

The interview findings show that the practice of social sustainability is fragmented and that issues are often addressed in isolation. The focus of practitioners lays mainly on internal considerations, where topics regarding HSE, diversity, and interpersonal conflict are highlighted most. While a greater responsibility towards external stakeholders and society is acknowledged, limited interaction and agency with and towards various stakeholders inhibits further inclusion of value-adding propositions. Despite that, a shift towards assuming greater responsibility for social issues is seen to be gaining traction, with internal education and higher standards being developed. The presence of a clear corporate vision on social sustainability remains contended, with the lack of a clear narrative and cohesive strategy presenting the greatest hinderances.

6
Discussion

This chapter sets out to discuss the findings on the theoretical discourse of social sustainability in relation to the results from the case study and the interview findings. The discussion will be structured according to the adapted framework and be complemented by general insights to the alignment of strategy and practice on social sustainability at Veidekke and address any current discrepancy in their implementation. Due to the interrelation of topics and the scope of infrastructure development, changes to the framework by Valdes-Vasquez and Klotz (2013) will be discussed additionally to point out the specific issues prominent to the practice of contractors in the Swedish context.

Generally, the interviews support the findings of Kinderman (2019), pointing out that the discussion on sustainability is gaining traction with a growing awareness for sustainable practice showing in reporting structures and various levels of management. Regarding social sustainability, the interviews confirm and uphold the findings of Boström (2012) that the focus remains on the environmental dimension. The results indicate that the interrelation of the of the three pillars of sustainability, as stated by Giddings et al. (2002), are becoming clearer to practitioners. However, the interviews also show that the topic of social sustainability is not discussed on its own, confirming the need for dedicated considerations and actions to incorporate social issues into the decision-making process. The interrelationship, although important, may serve as a limiting factor where social sustainability is not being addressed as a primary concern, but only a result of discussions surrounding economic and environmental sustainability. Therefore, it requires the identification of a clear framework related to the specific practice of social sustainability as a clear guideline that can be communicated and followed, as this thesis sets out to do.

6.1 Management Considerations

Risk management is identified in the corporate narrative, interviews, and literature as a pertinent tool to limit exposure to uncertain negative outcomes (Ortwin & Walker, 2008; Jabareen, 2015; Eizenberg & Jabareen, 2017). Although the interviews identify Veidekke' responsibility towards society, the corporate narrative chooses to exclude ESRS-S3 (affected communities), also making no mention of the social initiatives they are engaged in. Steering the narrative away from this dimension begs to question if Veidekke assumes wider responsibility towards society laying with governments and NGOs (Kramer & Porter, 2011) or if they choose to omit their efforts to avoid scrutiny. To tackle social sustainability more comprehensively, the social impact chapter of their annual reports should include affected communities and wider initiatives.

According to the findings, a focal area within their risk management relates to governance and financial crime, where public backlash may be created through engagement with unserious competition. While the current requirements serve to dissuade social dumping, the bureaucratic hurdles can disqualify otherwise qualified small enterprises. Adhering to these requirements can impose on their work-life balance by forcing small enterprises to dedicate evenings and weekends to paperwork. Whilst the current system serves well to address these risks, including amendments to allow for a more agile approach towards small enterprises would increase job opportunities for small, often local businesses.

Identifying sub-contracting as a major source of risk, Veidekke's approach to restrict sub-contracting to two levels addresses multiple hazards stemming from this complex structure. Recognized both by the interviewees and literature, increasingly complex sub-contracting structures complicate communication and create safety risks (Duryan et al., 2020). The restricted sub-contracting practice therefore positively affects the control Veidekke can exert over their value chain, assuring that everybody is compensated fairly and less terminations are required, in turn limiting potential lawsuits, in line with Bernaciak (2015) and Bengtsson (2016). Recognizing these risks affects both managerial decisions and contributes to the understanding of team formation practices, placing emphasis on the importance of communication to facilitate proper risk management.

Continuing with identifying worksite and workforce safety as a priority of Veidekke's risk assessment, the identification, estimation, and elimination of risk should be carried out before work commences to limit exposure. Identifying on-site management as key figures in communicating worksite safety culture, the discrepancy identified in interviews and literature (Duryan et al., 2020) between office and on-site personnel in engagement with HSE activities emphasizes that on-site management needs to be given more agency to engage and commit to such activities. Integral part of management considerations should therefore be directed towards navigating the difficulty of establishing and enforcing a company culture among a wide variety of detached project teams and acknowledge the discrepancy between office and worksite.

The positive cultural change in both society and the AEC industry towards higher awareness and commitment towards physical and mental health is seen in the initiatives taken by Veidekke through the enrolment of OSA training throughout the entire organisation. While OSA presents a positive effort to address safety and wellbeing, it continues to address issues therein in isolation whereas *Vision Zero* would allow to incorporate a holistic approach. Findings indicate that many attributes of *Vision Zero*, such as open communication, safety culture, blame-free environment (Hanvold et al., 2019; Duryan et al., 2020), involvement strategy, and commitment to continuous improvement (Zwetsloot et al., 2017) are already in place, but fail to be addressed together. Working towards *Vision Zero*, issues surrounding work, such as stress, workload, and wellbeing may not be isolated to annual employee interviews and training sessions, but be embraced in a company culture that fosters a positive and supportive work environment.

The corporate narrative emphasizes their orientation around people and expressing their responsibility towards their own workforce (ESRS-S1) and workers in the value chain (ESRS-S2). At the same time, the interview findings indicate a common understanding that language barriers inhibit open communication among workers. So, although emphasizing the importance of the welfare of the workforce, and despite having the relevant safety instructions made accessible through translation, projects fail to sufficiently consider the different cultural norms that inhibit open communication. Research indicates that better integration, inclusion, and more effective education of personnel can be achieved through the integration of technological developments (Stock et al., 2018) and should be explored. Further, the interviews confirm the promising implications of technological developments for social sustainability, with software development shortening processes. On the other hand, constant digital notifications result in project managers never fully disconnecting from work, negatively contributing to mental health. Indication from the findings imply that management is failing to address these issues holistically, with the responsibility currently being ascribed to the project level. Management therefore must identify and consider the risks and rewards of new technology proactively, especially regarding mental health. In line with Zwetsloot et al. (2017), technological developments should be considered in their alignment with *Vision Zero* so the improvements they provide do not come at the cost of the well-being of its users.

6.2 Team Formation

Identified by the respondents as a major consideration in developing a socially sustainable work environment, effective team building requires socially competent leaders, commitment to promote diversity, and the ability to align team members towards common goals, an understanding supported by literature (Koutsikouri et al., 2008; Stanitsas et al., 2021). However, common practice points to the fact that project managers are given too little agency in the team formation process and that team members are assigned solely based on competencies. Project managers are excluded from the team selection process, yet they are still required to identify strengths and weaknesses within their assigned team, prolonging the team building process. This presents a disconnect between the strong emphasis of the corporate narrative on people and teams whilst limiting the ability of project managers to effectively act within that process. Whilst acknowledging the complexity of temporary project organizations within the wider organization, allowing project managers to influence the selection process would more quickly align the team towards a common understanding and enhanced decision-making capabilities, elevating Veidekke's involvement strategy. Simultaneously, the issues are being recognized and initiatives are being piloted attempting to mitigate these issues by providing a more streamlined process to align team members.

The interviews commonly emphasized promoting diversity, especially pointing out gender diversity, as this is perceived to allow for better understanding and reflection to enhance decision-making processes, further supported by literature (Valdes-Vasquez & Klotz, 2013; Duchek et al., 2019). At the same time, diversity can bring challenges and destructive results due to non-adaptation or lack of communication (van Knippenberg & Shippers, 2007). Where diversity is found to bring about destructive outcomes by infringing on core values or causing insurmountable differences, instead of resolving the conflict, the option to terminate employment is presented. While this serves to uphold the core values and culture of Veidekke, this practice should be closely monitored and issues where this applies need to be clearly outlined not to serve as an easy way to avoid conflict, inhibit open communication, or force conformity.

Further identified as limiting team formation practices and diversity are the aspects of remoteness and work environment. Issues of remoteness make it increasingly difficult to attract people and include considerations to their personal lives, and the work environment is generally perceived as unattractive to women. A proactive approach to the ongoing shift in society and raising awareness for the perceived benefits within the company then allow to accelerate progress towards attracting women to the industry. Issues of remoteness, due to the location-specificity of infrastructure development, will continue to present themselves, but efforts to locate people closer to home and allowing for more flexibility to accommodate their personal lives should be integral considerations to improve the work environment.

Considering team formation on an organisational level, partnering and integrated project-delivery methods contribute towards creating mutual understanding between client and contractor. The findings support literature in the argument that contractor involvement in earlier stages of the planning process enables coherent project delivery and allows for value-adding propositions (Song et al., 2009; Kent & Becerik-Gerber, 2010). Furthermore, they agree that increasing project size positively allows for more social considerations (Montalbán-Domingo et al., 2019). Despite that, individual negative experiences prevent future involvement and tendering to avoid future conflicts. Overall, closer collaboration enables contractors to influence project delivery and could result in raised awareness and higher demand for social sustainability.

A pertinent issue in team formation relates to labour migration, with the rise of temporary work migration addressed by the respondents and identified by Caro et al. (2015). The interviewees point out cases in which locally registered sub-contractors have their entire workforce from abroad, creating suspicion of social dumping. Although an internal review group is installed, related issues cannot be completely ruled out. Adding to that, cultural differences and language barriers are seen as a cause of conflict due to a lack of communication, in line with Caro et al. (2015) and Duryan et al. (2020). Failure to address these issues can lead to labour exploitation, social tensions and undermine labour standards which can result in HSE threats. Integration needs to go beyond translating necessary safety information and responsibility should extend beyond concerns to health and safety by aiming for higher integration of OSA.

Likewise, as noted by the respondents, initiatives of social procurement enabling people outside the job market to be employed, pose HSE risks and issues to the projects. Contrary to Troje and Kadefors (2018) access to new pools of employment do not provide contractors with notable benefits, mainly due to the assigned workers often do not meet the requirements to operate on-site and the contractor not being involved in the selection process. As such, including social procurement only raises project costs and does not translate to any notable benefits within the project. Despite that, access to local suppliers and sub-contractors is seen positively as local knowledge helps accelerate processes. Likewise, the interviewees noted that creating jobs locally is important for the community and helps create acceptance. However, the project-based nature makes it hard to translate these initiatives into permanent employment. Therefore, to avoid the misuse of data to represent narrow political interests as stated by Rickson et al. (1990), the practice of social procurement, which focuses too narrowly on employment numbers while failing to address underlying issues or provide wider, long-lasting benefits, needs to be addressed.

6.3 Stakeholder Engagement

Requirements set by clients, often represented through government and local authorities, can serve to drive forward social sustainability, thus identifying them as important stakeholders. Although social considerations are increasingly part of client requirements, they are often limited to social procurement and employment initiatives, with the environmental agenda dominating most debates for sustainability. This is in line with findings by Gilchrist and Allouche (2005) and Apeldoorn (2013) which state that social issues in the AEC industry are often disregarded. To achieve higher awareness and adoption, the issue of finding a commonly agreed-upon method to measure social impacts, as stated by Jørgensen (2013), needs to be addressed. Therefore, efforts into making social costs and benefits quantifiable and tangible need to be pursued to achieve levels of awareness and commitment as currently displayed towards environmental sustainability. Although social commitments currently burden the financial performance of projects, the wider benefit is attributed to the company, as positive public perception increases demand and draws in investment. Therefore, allocating the cost of social commitments beyond the projects and analysing the cost-benefit against the organisational performance could help make social commitments more desirable.

In their engagement with the community as stakeholder, the respondents state that contractors are limited and instead responsibility lays with the client. This is supported by literature, which states the unique relationship between client and the public (Rickson et al., 1990) and the difficulty of contractor involvement due to the ambiguity in early design phases (Rowan & Streather, 2012). Whilst limiting contractors' community engagement in early design phases should be continuously pursued to prevent unfair competitive advantages to larger companies, the knowledge and expertise in creating beneficial solutions in collaboration with and for the community should be explored. In line with Rowan and Streather (2012) forms of *Embedded* and *Additional Mitigation* as well as *Enhancement Measures* should be pursued by gaining substantial understanding of the needs of the impacted communities. To create a proactive approach to administrative boards which otherwise react through appeals (Olander, 2007), combined efforts based on contractor expertise could form an independent association to carry out impartial analysis of project impacts on affected communities aiming for mitigation and enhancement. Knowledge gathered should be made available to all parties and can serve to refine the project requirements. Associated project benefits can then be considered and budgeted for in the tender, marking a step towards making social costs quantifiable. Further, utilising technology could help facilitate participation measures, as highlighted by Vanclay et al. (2015) it needs to be ensured that these do not lead to burden or fatigue on the affected community.

Corporate communication is integral in steering public perception and creating social acceptance (Kramer & Porter, 2011). The interviewees identify close cooperation with the trade union and active efforts to contribute publications are key, yet the respondents state communication on social efforts to be lacking. They agree with literature, that strategic social investments should be pursued (UN Global Compact, 2024) to drive forward the public debate to create social awareness. Whilst drawing more attention towards social issues may cause more scrutiny and criticism, encouraging public backlash on malpractice and social infringements would decrease the number of opportunistic actors and hold the sector accountable to a higher standard. This may result in a snowballing effect in which the lowest price might not be the main criteria in evaluating tenders and social considerations could see increasing integration and prioritisation.

Both the corporate narrative and the respondents describe that social sustainability considerations are mainly focused on the own workforce (ESRS-S1) and workers in the value chain (ESRS-S2), despite the interviewees mentioning active social initiatives for sports and education in Africa. The exclusion of affected communities (ESRS-S3) and consumers and end-users (ESRS-S4) in the annual reports displays a disconnect between the business practice and responsibility for wider society, confirming literature stating that companies prioritize their benefits while often neglecting wider society (Blowfield, 2007; Wood, 2010). Parallel to inviting public debate for social practice, including ESRS-S3 and ESRS-S4 into their reports would align with their core value to act groundbreakingly and act as an industry leader.

While being important for engagement, interaction, and collaboration among all stakeholders (Valdes-Vasquez & Klotz, 2013), internal stakeholder management was emphasised more by the interviewees, who highlighted the importance of internal communication. While external communication is allowed to be reactive, internal communication is prompted to require more structure to distribute information and workload between the office and site. The noted perception of isolation within the projects points out that the current structure insufficiently connects the various organisational levels and project teams to build cohesion. As noted by Duryan et al. (2020), knowledge transfer in a project-based industry requires commitment while the unclear assignment of responsibility could be leading to respondent fatigue. Although applied to community engagement by Vanclay et al. (2015), the low priority and attention dedicated to carry out knowledge transfer may cause disengagement. On the other hand, the acknowledgment of greatly improved worksite safety, as a result of deliberate knowledge transfer practice, proves the case for more resources and time to be invested to learn from mistakes and identify future potentials (Roberts et al., 2019). Considering the intangibility ascribed to social sustainability and knowledge, efforts should be directed towards codifying information, and action should be initiated from higher management. Claiming responsibility to recognize successful practice instead of focussing purely on negatives could result in higher levels of collective learning and internal collaboration.

6.4 Impact Assessment

While methodical assessment methods are legislated and commonly practiced to address environmental concerns, the interviews point out that identification and reaction to social issues relies on experience on intuition. Although intended to promote a better environment (Vanclay, 2003), information and directives are not consistently read, with the respondents most strongly criticising the volume of guidelines to cause hinderance. As such, short summaries to provide basic guidelines should be formed for commonly identified issues to provide better guidance and ease pressure for site management and workers in their decision-making. The focus therein should be directed towards outlining non-routine, project-specific tasks and clearly point out responsibilities for site-management, higher management suppliers, and sub-contractors. Nonetheless, summaries can reference to their related paragraphs in the contracts and guidelines providing quick navigation towards necessary details. The implementation of methodical HIAs can provide a more proactive approach in assisting to recognize common HSE concerns and refine knowledge transfer, providing development on an organizational level.

Impact assessment in the design phase is stated by the interviewees to focus on technical rather than social issues. Due to the limited community engagement granted to the contractor, social issues become a secondary concern, yet it has to be considered that social responses are triggered even before the project is under way (Vanclay, 2012). Therefore, impact assessments carried out in early project phases should include considerations of the social impact on the end user and affected community. Communication on social issues should address negative concerns due to the close proximity and its resulting opposition, which is pointed out by the interviewees and Cohen et al. (2014). However, outlining specific measures to mitigate the most common disturbances of pollution and mobility impact, while pointing out the benefit of the development to the community, can help improve public perception (Valdes-Vasquez & Klotz, 2013; Cohen et al., 2014; Xu et al., 2021). Communication of the disturbances should include conveying the reasons behind the actions and allow for feedback to adapt action to meet specific community needs. As a result, the stakeholder management plan should follow a methodical approach to address and mitigate the impact. Due to the rural location and remoteness of many infrastructure projects, impact assessments regarding the affected community do not need to be constantly mandated but should only be required when projects have close proximity to communities.

6.5 Vision and Strategy

Although the practice of social sustainability is often embedded in operational aspects of Veidekke, identified social issues remain on the project level. Instead of being guided by higher management and explored within its wider context, the isolation within the project level shows that the fundamental interrelationship between economy, society, and the environment, as pointed out by Gidding et al. (2002) is not considered in the formulation of social sustainability goals. Instead, technical fixes are employed to mitigate issues without seeming to align with higher organizational goals. Subsequently, the potential for organizational development towards sustainable practice, incorporating the definition of *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”* (Brundtland, 1987) is not fully realized. This is in line with the findings of this study, as the interviewees at Veidekke state their satisfaction on the efforts made towards the practice of social sustainability, despite some perceiving the greater vision and supporting strategy to be unclear.

Parallel to the current development of upward harmonization of ESRS, demanding businesses to invest into, adapt, and develop their reporting structures, similar efforts should be directed towards formulating guidelines for practitioners. Instead of reporting current efforts in relation to various goals set out within the organization, a holistic approach towards addressing social issues can assist in creating wider strategic alignment, building on the pillars of *equity, awareness for sustainability, participation* and *social cohesion* (Murphy, 2012) across all areas of operation. Establishing clear, internal policies and guidelines can further allow for social issues to be tracked, patterns therein identified, and learning objectives be developed and achieved. As a result, project- and operations managers, and in extension all employees, may feel supported and encouraged to contribute towards the development of social sustainability, project performance, and ultimately organizational success.

Placing emphasis on individual freedom and responsibility to operate, over having clear written procedures for everything, is seen as both a strength and a weakness. While this approach allows for much flexibility and provides agency for the individual, the lack of clear guidance leads to responsibility ambiguity across the various levels of the organization. Social issues remain isolated on project level, and benefits resulting from social initiatives only reflect as costs on the project level despite their wider benefit for the organization. By contrast, the formulation of visual guidelines, such as currently done through the *Veidekke-House* (see Figure 4-1), can help express values and clear intent. Likewise, the formulation of a comprehensive framework to address social sustainability, leaning on strategies such as *Vision Zero* and involvement strategy, can help clear ambiguity concerning surrounding topics while still encouraging engagement and individual responsibility towards social issues. However, it needs to be recognized that the subject is broad, including many intricate details which currently result in overwhelming communication. Instead, focusing on social sustainability comprehensively through education, backed up with written guidelines, can result in easier organizational adaptation in practice, as has been realized with the transition for environmental considerations. Therefore, the identification and definition of a concise, comprehensive framework towards social sustainability may drive forward a clear narrative and support the intention of Veidekke to "*operate in such a manner that current decisions safeguard financial, environmental and social conditions for the foreseeable future"* (Code of Conduct, Veidekke).

Additionally, formulating a strategy and vision should include considerations towards affected communities (ESRS-S3) as well as consumers and end-users (ESRS-S4), which currently is practiced as made evident by the interviewees, but not actively pursued on a strategic level. As a major contractor, assuming wider responsibility for social issues to include external stakeholders can help develop the Swedish AEC industry towards acknowledging the importance of holistic sustainable development and adapting practice to meet these goals. Despite recognizing the high investment of time and energy such a transition might entail, initiatives need to be driven by the industry's biggest actors who have the agency to establish standards.

6.6 Social Sustainability Framework

Based on the findings, development and implementation of guidelines are necessary to incorporate the holistic practice of social sustainability within infrastructure in the Swedish AEC industry. The proposed framework, adapted from Valdes-Vasquez and Klotz (2013), aims to provide the basis for formulating a communicable strategy that considers the specificity of the studied context while identifying issues and addressing these holistically. The social sustainability framework (see Figure 2-1) simplifies the previous framework by integrating the relevant aspects of *User Considerations* and *Place Context* into the remaining four clusters, being: *Management Considerations, Team Formation, Stakeholder Engagement,* and *Impact Assessment*. While the first two clusters are primarily directed towards internal efforts and operations, the other two clusters prioritize external aspects of engagement, assessment, and communication, while still including their corresponding internal considerations.

Consolidation of the framework (see Figure 2-1) sees *design to use local construction labour, use local suppliers for project, consider job skills of local population* and *establish partnering strategies to mitigate conflict* being moved to *Team Formation*, as the aspects of labour and employment, and contracts and collaboration forms mark a significant aspect of that cluster. Summarizing all aspects of HSE within one cluster, *plan to evaluate progress on zero harm and zero accidents* as well as *corruption* have been moved to *Management Considerations*, as these should be commonly pursued through *Vision Zero*. Identifying *evidence-based design processes* and *assessing the results evaluations of similar projects* as subjects within knowledge transfer, the nature of promoting interaction of various parties resulted in the formulation of the topic within *Stakeholder Engagement*. Lastly, *security considerations for final users, health and safety impact of users, minimise disruption, develop ongoing evaluation on surrounding communities*, and *maintain and/or restore natural habitat* have been summarized within *Impact Assessment*, as these all signify impacts made on the community and affected parties requiring methodical investigation proposed therein.

Further changes to the original framework (see Figure 2-1) includes the removal of *training designers in HSE*, as the established practice in Sweden with dedicated BAS-P and BAS-U does not demand further consideration and *include health professionals in the design team*, as no relevant literature within the context of infrastructure development could be identified, and health aspects remain addressed within HSE in M*anagement Considerations*. Furthermore, *assessing the impact of introducing new social classes, seasonal population changes*, and *new infrastructure needs* are excluded as these are beyond the scope of this study focusing on the contractor perspective, who remains uninvolved in these concerns. Likewise, owed to the scope and context of this study, *the wellness, productivity, pride in ownership,* and *privacy of final users*, as well as *human interaction in design, convert social liabilities into assets,* and *planning and zoning decisions* are removed. It is important to point out that their exclusion does not diminish their importance in the holistic development of social sustainability, but that they do not serve the current state of development and realm of influence of contractors in the Swedish AEC industry.

As a result of this study, the proposed framework thematically points out and describes the main topics for project managers to incorporate social sustainability measures to improve decision-making and project outcomes in the four clusters, being *Management Considerations* (see Figure 6-1), *Team Formation* (see Figure 6-2), *Stakeholder Engagement* (see Figure 6-3), and *Impact Assessment* (see Figure 6-4):

Management Considerations

Establish and evaluate **Vision Zero** across all levels of the organisation

Risks

- Incorporate safety prevention techniques and carry out internal risk assessment on HSE
- Extend risk evaluation to external stakeholders (e.g. affected parties, project partners, etc.)
- Establish or maintain clear requirements for project partners (e.g. sub-contractors, suppliers, etc.)
- Maintain an agile approach towards small enterprises unable to meet bureaucratic requirements

Corruption

- Monitor and respond to incidents of corruption
- Restrict the levels of sub-contracting to limit incidents of corruption by maintaining overview and control

Health, Safety and Environment

- Use Vision Zero to align and track all project efforts on HSE
- Create a blame-free environment to promote a strong safety culutre
- Promote training and education efforts within the entire organisation, including project partners

Technological Developments

- Evaluate and promote the use of technology to increase productivity and decrease workload
- Evaluate and react to the effects of technology on psychological well-being and work-life balance

Figure 6-1: Social Sustainability Framework: Management Considerations

Team Formation

Incorporate **Involvement Strategy** across all project partners

Diversity

- Create diverse project teams and carry out team building activities
- Promote social competence in leaders to manage diverse project teams
- Promote communication, react to incidents and resolve conflicts

Contracts and Collaboration Forms

- Use collaborative contract forms to promote communication and common goals
- Establish partnering strategies to influence project delivery and mitigate conflict

Employment and Labour Migration

- Consider employee's personal circumstances regarding the remoteness of project locations
- Promote the use of local knowledge and project partners (e.g. suppliers, sub-contractors, etc.)
- Advocate to be included in the recruitment process resulting social procurement
- Acknowledge and bridge cultural differences and communication barriers

Figure 6-2: Social Sustainability Framework: Team Formation

Stakeholder Engagement

Extend **Involvement Strategy** to consider all stakeholders

Government and Local Authorities

- Encourage efforts in making social costs quantifiable and being considered in tenders
- Actively seek collaboration with unions to drive progress

Community Engagement

- Actively seek out or create associations to encourage and assist community engagement efforts
- Aim for Embedded Mitigation, Additional Mitigation and Enhancement Measures

Corporate Communication

- Report on all dimensions of ESRS-S (S1-S4) to encourage public debate for social sustainability
- Prioritse long-term social investments over short-term gains

Stakeholder Management Plan

- Determine the expectations of all stakeholders
- Communicate the rationale and deliverables to all stakeholders
- React quickly to concerns and perceptions of all stakeholder

Knowledge Transfer

- Consistently document, discuss, reflect and share on the lessons learned with all stakeholders
- Hihghlight positive experiences in discussion and documentation
- Encourage both technical and social knowledge transfer

Figure 6-3: Social Sustainability Framework: Stakeholder Engagement

Impact Assessment

Carry out **Methodical Assessment Methods** to evaluate project impacts

Impact Assessment Methods

- Establish the practice of Impact Assessment to produce guidelines that encourage consistent decision-making
- Employ HIA to provide a proactive approach to recognise common HSE concerns

Community Impact

- Restore and maintain natural habitats
- Develop and plan ongoing evaluation on the surrounding communities
- Allow for feedback to adapt action to meet specific community needs

Disturbance Mitigation

- Plan to minimise disruption caused by the construction process
- Plan and design to facilitate mobility surrounding the construction site
- Outline specific measures to mitigate construction disturbances

Figure 6-4: Social Sustainability Framework: Impact Assessment

7
Conclusion

The contributions made by this thesis are meant to enhance the understanding of social sustainability in the AEC industry and serve in guiding practitioners and policy makers. The refined framework developed in this thesis serves as a practical tool in identifying and addressing social issues and contribute towards a more comprehensive understanding of the topic.

Generally, there is a need to address social sustainability from a broader perspective. Many initiatives that were identified are focussing on the internal development of the topic and focussed on internal education. Responsibility is, both in the corporate strategy and practice, assumed for the own workforce (ESRS-S1) and workers in the value chain (ESRS-S2), while external responsibility for affected communities (ESRS-S3) and consumers and end-users (ESRS-S4) is disregarded. A heightened awareness for the multiplicity of related issues therefore would guide decision-makers to consider broader implications rather than isolating topics within.

Comparing the framework by Valdes-Vasquez and Klotz (2013) to the identified topics concerning the operations of Veidekke in the Swedish AEC industry highlights the irrelevance of certain topics due to the scope of this study whilst others needed to be included or modified. This emphasizes the need to develop and adapt measures towards the specific context, however, also recognizing that these frameworks point out blind spots in organizations and business practice. Although upward harmonization of sustainability reporting standards within the EU presents a good effort towards standardization, claiming responsibility and considerations of the context are essential.

As a result, the relevant criteria to develop social sustainability for contractors in infrastructure projects can be organized around the four main topics stated in the framework, being *Management Considerations, Team Formation, Stakeholder Engagement,* and *Impact Assessment*.

- *Management considerations* focuses on HSE, and is recommended to be done through a *Vision Zero* approach to act as the overarching policy to align all considerations and actions towards a greater strategic goal. Additionally, this approach fosters organizational learning.
- *Team Formation* covers the collaborative aspects within the organization and project. Aligning the organization internally and including all project partners towards an involvement strategy will assist in establishing high standards. The use of collaborative contract forms promotes communication and allows social issues to be addressed.
- *Stakeholder Engagement* serves to recognize all stakeholders and find collaborative solutions to address the needs and concerns of all involved and affected parties. Conscious practice is essential in driving public awareness and pushing for greater responsibility and accountability, where dedicated knowledge transfer consideration provides the basis for continuous improvement.
- *Impact Assessment* emphasises the need to utilize a methodical approach in identifying and reacting to social issues. Concise documents and guidelines should be created to allow for easier understanding and better communication, in turn establishing more informed decision-making on all organizational levels.

For contractors to justify the added costs of social sustainability to the client, there must be an increased awareness of the benefits and their necessity, similar to how environmental costs have been made quantifiable. Therefore, efforts should be made to quantify social costs, and social initiatives should go beyond current practices, which are often superficial and fail to produce long-term benefits. To heighten awareness and drive recognition for social issues, companies need to consider where they allocate the costs of social sustainability efforts, as the benefits are currently realized at the company level while burdening the project budget. Therefore, the issue of project-based cost allocation needs to be reconsidered in relation to costs associated with social sustainability.

Several measures can be identified to drive the development and application of social sustainability, resulting in improved decision-making and project outcomes. The cultural shift, both within the sector and in society at large, demand sustainable practice. While environmental and economic sustainability are still prioritized, the investment into people, which constitutes social sustainability, facilitates sustainable development goals. Focusing on the topics identified within the framework to address the health, safety, and well-being of the internal workforce, project partners, and affected communities can assist to identify liabilities and improve subsequent project design and execution. Therefore, issues should not be addressed in isolation but be recognized as part of a holistic strategy towards achieving sustainable practice.

The implications of this study highlight that social issues are recognized by practitioners with the lack of common guidelines and commitments limiting action towards mere mitigation. Addressing this, it needs to be recognised that the complexity and scope of social sustainability render it impossible for any singular action to comprehensively tackle or solve all matters. Instead, company- and industry-wide efforts should be made to address social issues ranging over recruitment and employment, HSE, and internal and external stakeholder engagement, with clear cohesive action towards strategic goals. These efforts need to be formulated into clear, concise directives to facilitate adaptation into practice and continuously developed. While retaining an agile approach towards emerging issues, a steady, realistic approach towards developing awareness and action on social sustainability can help gradually transform business practices to better address the needs of the workforce, stakeholders, and society at large.

7.1 Limitations and Future Research

This research makes it apparent that the practice of social sustainability is currently not fully realized, and that further action needs to be taken. Following the call for future research by Valdes-Vasquez and Klotz (2013), this thesis develops metrics for social sustainability based on their framework in a specific context. Likewise, this thesis serves to establish teaching approaches and promote training efforts for organizations and practitioners to raise their awareness on social sustainability. However, owed to the scope and time constraints of this thesis, this research is narrowed down to the specific case of one contractor in the Swedish AEC industry. Therefore, general applicability for the wider sector requires further evaluation and adaptation.

Moreover, as the source for qualitative data was gathered from project and operations managers within one company, the view of sub-contractors, suppliers, craftsmen, client organizations, and the public remain excluded. Due to the complex organizational structure of construction project development, the drivers and hinderances of these various stakeholders need to be acknowledged and further explored. Furthermore, due to limitations in available literature and the specific context of Sweden and infrastructure, some aspects of the research by Valdes-Vasquez and Klotz (2013), such as the inclusion of health professionals or the promotion of pride in ownership, were not included.

Therefore, this thesis offers some promising opportunities for future research. Further studies may aim to develop the topic of social sustainability in the AEC industry, assisting researchers and educators raise awareness among students. As future architects, engineers, and project managers these students will play a crucial role in the development of sustainable construction projects. To create a general framework within a country-specific context, future research could extend to compare the major contractors and actors within a local AEC industry to evaluate common denominators and provide general relevant criteria. This could aid in the development of ESRS sector standards and guide businesses and organizations towards a more holistic approach to sustainability. Additionally, future research can address the development of social procurement to effectively integrate social sustainability practices into project development or explore methods to communicate and execute holistic social sustainability strategies across all levels of an organization.

As social sustainability is one of the pillars this broader concept, future studies may evaluate the potential for cross-integration between environmental and economic efforts towards sustainability. This may serve to raise awareness and provide a holistic understanding of sustainable development to practitioners, policymakers, researchers, and educators in the AEC industry, driving "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (Brundtland, 1987).

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