CHALMERS

Limitations of Sustainability Implementation amongst Project Managers

Case study in an Icelandic energy company

Master of Science Thesis in the Master's Programme International Project Management

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CHALMERS UNIVERSITY OF TECHNOLOGY
Göteborg, Sweden 2014
Master's Thesis 2014:111

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ABSTRACT

Sustainability was defined in the Brundtland report as a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987, p.41). Because the definition has been hard to use in practice researchers have come up with many competing definitions (Toman, 2013; Holliday, Schmidheiny, & Watts, 2002). A case study was done in an Icelandic energy company where sustainability has recently been implemented into the company's core strategy. Semi structured interviews were conducted with eight project managers in order to investigates how sustainability is used and perceived amongst them. As well as the company's documents were reviewed to better understand how well the company's sustainability strategy has been implemented. The results were quite interesting and mirrored the theory regarding implementation of sustainability into organisations and projects. The company is performing well in some aspects of the implementations process but improvements can be done in many areas.

Key words: Project management, sustainable development, implementations of sustainability, corporate social responsibility.

Contents

Preface

This thesis is a part of the master program International Project Management at Chalmers University of Technology in Gothenburg, Sweden. The motivation for writing this thesis was the author's great interest in sustainability and its progress within project management. After studying relevant literature it was clear that many aspects could be researched into details. In January 2014 the thesis process began and in June 2014 a final copy of the thesis was handed in.

A case study was conducted in Landsvirkjun, an Icelandic energy company, which aims at becoming a leader in sustainable use of renewable energy sources. Looking at sustainability in a company that has very sustainable yields was extremely interesting and gave this research an unique angle. The collaboration with Landsvirkjun was very successful and I would like to thank those who took part for their contribution and valuable time invested in this thesis.

Finally I would like to thank Martine Buser for her support and contribution to this thesis. She supervised the thesis process from initial steps to the very end and it was clear from the beginning that this work would not have been the same with out her valuable comments and directions.

Göteborg, June 2014

Elka Halldórsdóttir

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1   Introduction

Iceland is the second largest producer of electricity from renewable sources in Europe and the largest when calculated per capita. Due to its hydropower and geothermal activity it has a great advantages over other countries. It is the only country in Western Europe that still has large resources of competitively priced hydroelectric power and geothermal energy remaining to be harnessed (Iceland Trade Directory, 2014). The energy generated is from 99% renewable hydroelectric and geothermal sources as well as wind turbines are the newest addition (Landsvirkjun, 2012). This makes Iceland very unique and sustainable. It is therefore very interesting to look into Icelandic's main energy provider Landsvirkjun, and see how well newly implemented sustainability strategy is recognized in a project based organisation where the yields are 99% sustainable. A qualitative case study investigated project managers' perception of sustainability in the company. Data collection involved reviewing of official company documents as well interviewing eight project managers in Project Planning and Constructions division of the company. The results were analysed and match to current literature in order to get a deeper meaning and understanding.

Sustainable development has been defined by The World Commission on Environment and Development as a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987, p.41). Economic, environmental and social aspects are the three dimensions of sustainability that have been defined (Dyllick & Hockerts, 2002). It is important to foster all three dimensions in order to achieve long term sustainability and be aware that each aspects has its attributes that requires specific approaches (Weber, 2008; Dyllick and Hockerts, 2002). These three dimensions have also been called; the three pillars of sustainable development (Labuschagne & Brent, 2005), and the Triple bottom line, by Elkington (2004).

However this definition is vague when it comes to how to implement sustainability into organisations and projects. Sustainability goals deal with long term economical, social and environmental effects of an undertaking (Talbot & Venkataraman, 2011). Projects on the other hand are defined as temporary organisations with a definite

beginning and an end, that have clear goals and objectives (Maylor, 2010). This contradiction makes the implementation of sustainability into project based organisations very challenging. Therefore it is also very interesting to find out if the sustainability concept has been used as a marketing boost and only recognised by the top management or if its implementation has acted as a real change affecting all departments, people and processes.

1.1   Aim, objectives and research question

The aim of this thesis is to study how project managers in a project based Icelandic energy company, Landsvirkjun, perceive and use the sustainability concept. Reflect on how the concept relates to their role in the company as well as to investigate how successful the implementation of the sustainability strategy is amongst them. The research question is: Are barriers to sustainability implementation in project based organisations identified in the literature?

The objectives of this study are to;

• Identify how the literature describes limitations to sustainability implementation in project based organisations.
• Identify the company's sustainability strategy.
• Identify how the project managers perceive the sustainability concept in relation to the company's strategy.

1.2   Limitations

The limitations of this study is first of all time limitation, the researcher has only limited amount of time to conduct the case study. The process of gathering and analysing the data, fitting it with the literature and constantly re-evaluating the purpose will take time. The researcher should be prepared for delays and difficulties along the way that might delay the process. Another limitation to this study is that the company studied is situated in Iceland, therefore the researcher does not have perfect access to the company due to being situated in Sweden. The Icelandic company has just recently implemented sustainability into their corporate strategy, and maybe not enough experience has been accumulated.

The selection of participants was limited to project managers and they were from different hierarchy of the organisation. Some were supervising other project managers and others not. The researcher chose to focus only on project managers in this research and therefore the director of social responsibility was not interviewed. That person most likely took part in formulating the company's strategy and is therefore probably very involved in it. Interviewing that person would give a bias view of the sustainability strategy.

1.3   Thesis structure overview

The structure of this dissertation will be as follows:

Section 2 covers the theoretical framework, where a short review of project based organisations is presented with sustainability as a red thread. Following comes a review of the sustainability concept and challenges related to its implementation.

Section 3 contains the methodology for this dissertation. The research strategy, design and method are presented as well as data collection and analysis is explained. At last the limitations and ethical concerns are listed.

Section 4 contains a description of the case company and empirical findings from the interviews and documents.

Section 5 analyses the empirical findings in relation to theory. A theoretical tool is used to analyse the findings and the section is structured according to the tool.

Section 6 gives conclusions from the analyses and provides recommendations and suggestions for further research.

2 Theoretical Framework

This section covers the theoretical framework, where a short review of project based organisations is presented with sustainability as a red thread. Following comes a review of the sustainability concept and challenges related to its implementation.

2.1 Project based organisations

Project based organisation refers to a variety of organisational forms that have the goal of performing project tasks by creating temporary systems (Lundin & Söderholm, 1995). Project organisation can either be structured as functional organisation or matrix organisation. The latter has in many cases greater autonomy, which results in a greater opportunity to execute the project in a way that is best suited to the project's goals. In project organisations the autonomy usually shifts from the individuals to the project team. That is generally seen as a positive thing because the project team makes a joint effort to solve unexpected problems as they come along (Hovmark & Nordqvist, 1996). A tension can be found between the organisation and the project group because they view the requirements to autonomy differently. The organisation wants the project activities to be within organisational command and control but in order for the project team's success it needs to have decentralized team and a relatively autonomous project manager (Sydow, Lindkvist, & DeFillippi, 2004). The integration between projects and the organisation may go through a steering group, which is responsible for coordination between the organisation and the project (Hovmark & Nordqvist, 1996). The optimal steering group should reflect the diversity of the society e.g. having people from different professional, cultural, and ethnic background. The more diverse the group is the more effective the steering group will be (Valentine & Spangenberg, 2000).

2.1.1 Governance in project organisations

The purpose of governance structure is the alignment of the objectives at different management levels of the organisation (Müller, 2009). Corporate strategy has the main role of determining these objectives. By setting out a planned development of the company, a framework of reference is created which the company's leaders can orientate themselves to (Grünig & Morschett, 2012). The corporate strategy is about

making long-term plans by considering risks and opportunities faced by the organization. A vision statement should refer to the long term objectives of the company as well as to shape and guide the future business practices by looking towards the unknown to define the future. It is important that the vision is understood and shared by all stakeholders of the organisation (Özdem, 2011) as well as to provide the employees with a purpose and a source of meaning in their work (Mirvis, Googins, & Kinnicutt, 2010). A vision can help the management to focus on the strategically relevant issues of the business. But when expressing the company vision there is also a risk of reducing it into a simple slogan that is only used for imaged boosting and public relations (Mirvis, Googins, & Kinnicutt, 2010). The company values communicate the principles the company emphasizes on. There has been some criticism on values and vision statements that they are too vague and too broad to actually deliver any benefits (Johnson, Whittington, & Scholes, 2011).

Decision making has been encountered in the literature as at the core of the organisation (Lundin & Söderholm, 1995) and often highly affected by economical perceptions (Steger, Ionescu-Somers, & Salzmann, 2007). Individuals and organisations face difficult decisions daily and the level of difficulty increases constantly with higher demand on environmental, social and economical aspects. Incorporating sustainability into decision making methods is therefore an important step in the implementations of sustainability into organisations and project teams (Network for Business Sustainability, 2012). As well as it becomes a link in the process of changing from only being reactive to becoming proactive towards more sustainable ways of operating (Tingström, Swanström, & Karlsson, 2006).

Good decision makers generally have a flexible approach to rule following as well as having the ability to change the problem constraints instead of selecting an alternative from a number of poor options. This is more in line with sustainable decision making since existing alternatives might not be sustainable (Hersh, 1999) and it helps companies to address emerging issues (Lyon , 2004). Decision making tools, such as the stage gate model, are of good help to reduce environmental burdens (Tingström, Swanström, & Karlsson, 2006).

2.1.2 Change in project organisations

In order to implement change, such as sustainability strategy, successfully in projects it is vital to control the change process (Association for Project Management, 2012). Project organisations can act as a barrier to change and innovation in organisations due to their short-term task performance that contradicts to the organisational long-term learning processes (Bresnen, Goussevskaia, & Swan, 2004). But the characteristics of projects can also be used as a positive factor in organisational change processes. Because of their temporary existence they do not pose the same threat as if a permanent new department of division would be created (Sydow, Lindkvist, & DeFillippi, 2004). In order to implement changes in projects there are three pillars that have to be in place, these three pillars are (Maylor, 2010):

- *Strategy deployment* that includes; drivers for the change, coherence and prioritisation
- *Managed knowledge* that includes; organisational learning, explicit structure for sources of change ideas and systematic evaluation of new ideas pre-implementation
- *Implementation* methodology and the measurement of impact of change.

In the implementations process the strength and influences of the company's employees who can make the real changes happen are often neglected (Verhulst & Boks, 2012). Often there is tension in project based organisations between the projects demands of immediate task and performance and the opportunities for learning and sharing practices between projects (Sydow, Lindkvist, & DeFillippi, 2004). The decentralization of projects in organisations and within projects makes it less likely that knowledge flows form one project to the next. This decentralization hinders change in organisations, such as implementation of new strategy (Bresnen, Goussevskaia, & Swan, 2004). Therefore it becomes a challenge to synchronize project management and reporting practises between projects and across the organisation (Brown & Eisenhardt, 1997).

2.2 The sustainability concept

Sustainability has developed quickly over the past years but there is still the problem of how to implement sustainability into practice and overcome the barriers that face

organisations and project teams (Talbot & Venkataraman, 2011; Kloepffer, 2008; Epstein & Roy, 2001). Mirvis, Googins, & Kinnicutt (2010) and Searcy (2009) gave reasons for these problems and they implied that sustainability has not been defined clearly enough amongst companies, a common understanding needs to be established of the term. Even committed companies have difficulties in defining the concept on common grounds (Millar, Hind, & Magala, 2012). Another reason is that is not clearly defined who is responsible and how to handle environmental, social and governance issues. Those companies that are taking sustainability seriously have a sustainability agenda that links environmental, social and governmental responsibilities together often under variety of names such as corporate social responsibility, social responsibility and corporate citizenship (Mirvis, Googins, & Kinnicutt, 2010). There have been some critics in the literature regarding the use of the sustainability concept and other related names to describe the concept (Mirvis, Googins, & Kinnicutt, 2010; Van Marrewijk, 2003). Some say it is only used to boost the company image and improve public relations instead of using it as a fundamental change in the company. In those cases the implementation of the concept is not sufficient amongst all employees (Mirvis, Googins, & Kinnicutt, 2010). The concept has been for many hard to grasp and it means many things to different people. Therefore academics are constantly redefining the concept resulting in many competing definitions (Toman, 2013; Holliday, Schmidheiny, & Watts, 2002). The concept is filled with ambiguity, imprecision and at times contradictions (Toman, 2013; Godemann & Michelsen, 2011). Which only leaves business executives with more questions than answers when trying to implement it (Van Marrewijk, 2003). The general public has also had difficulties understanding the concept and often they interpret it as static, meaning always having to live in the same house, drive the same car and so on (Holliday, Schmidheiny, & Watts, 2002). Finneran (2013) says that the problem with sustainabiltiy lies in the meaning of the word, it does not indicate progress, innovation or creation of something better. In general corporate sustainability and corporate social responsibility refer to company activities inclusive of social and environmental concerns in business operations and engagement with stakeholders (Van Marrewijk, 2003).

2.3   The implementation of sustainability

The implementation of sustainability depends a lot upon corporate culture and structure. It is about enhancing the company's success, values and resilience for the long term (Holliday, Schmidheiny, & Watts, 2002). Organisational culture is a result of complex group learning process and it has been defined as *a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems* (Schein, 2006, p.17). The culture can only develop when the communication and interaction between individuals evolves (Brown, 2005). Sustainable development discussions are integrated into patterns of cultural perceptions and actions, where cultural differences have critical impact due to variations in views of environmental phenomena (Godemann & Michelsen, 2011). The company values can be used as a cultural tool to implement sustainability (Morsing & Oswald, 2009). Brown (2005) explains how individuals need to be internally committed in order to act in accordance to sustainability principles. The stronger the culture is the more effective the organisation is (Schein, 2006). Organisational culture is very important and in fact many studies have showed that failure in change processes can be traced to neglecting of organisational culture (Cameron & Quinn, 2011). Lyon (2004) explains the importance of understanding how company's culture can affect sustainability performance. To maintain corporate sustainability management as simply 'the right thing to do' some companies rely on corporate culture and well-founded business logic (Steger, Ionescu-Somers, & Salzmann, 2007).

For successful implementation it is important that all employees are aware of sustainability values the company has chosen and that they are ready to dedicate these values to themselves. For this to happen the best way is to make sure that the employees are fully trained and considered as stakeholders (Esquer-Peralta, Velazquez, & Munguia, 2008). Researchers have come to the conclusion that individual values are the driving force for personal responsibility and therefore it is important that organisational values become part of employees' personal values

(Mirvis, Googins, & Kinnicutt, 2010). Also organisations have to reflect on the way they do business and how decisions are made to succeed (Lyon , 2004).

Organisations have to undertake a true transformation in order to create their own path towards inclusive forms of sustainability (Edwards, 2009). Change of norms and values related to the environment and socioeconomic wellbeing is vital to successful transformation (Doppelt, 2010; Beer & Nohria, 2000). Unfortunately this transformation is often very difficult for organisations and therefore less likely undertaken (Edwards, 2009). It is important to collectively gather knowledge through interaction and communication in order to promote knowledge diffusion and change a particular practice (Newell *et.al.,* 2003; Orlikowski, 1996).

2.4   Limitations of sustainability implementation

Organisations often face barriers when implementing sustainability into their strategy and projects. Doppelt (2003) has identified seven types of these limitations that organisations often fail to overcome and he calls them blunders. He suggests solutions to them and points out that by becoming aware of these blunders reduces the risk of them taking place (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). The blunders are following:

- Patriarchal thinking
- The silo approach to environmental and socio-economic issues
- No clear vision of sustainability
- Confusion over cause and effect
- Lack of information
- Insufficient mechanisms for learning
- Failure to institutionalize sustainability

2.4.1   Patriarchal thinking

Organisations often adopt a patriarchal thinking where employees only do what management orders. Therefore the employees abandon personal responsibility and

create a false sense of security in the organisation. The most important step to avoid this blunder is to disturb the organisational control mechanism in order to point it towards a new way of managing. Employees have to be open to new ways of thinking and taking actions and therefore the false sense of security needs to be undermined (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). Project groups in project organisations have a certain degree of autonomy and that is usually higher than individuals have in non-project based organisations (Forsyth & Danisiewicz, 1985). High autonomy of project teams minimizes the likelihood of patriarchal thinking to take place (Doppelt, 2003) and it requires a steering group made up of department managers and project managers to integrate the project group into the organisation (Hovmark & Nordqvist, 1996).

2.4.2   The silo approach to environmental and socio-economic issues

Executives often see sustainability as a special program that is not intergraded into the organisation's or project's processes (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). Although Badiru (2010) explains how project sustainability indicates that sustainability exists in all aspects of the project. Doppelt (2003) calls the imperfection of project sustainability the silo approach to environmental and socio-economic issues. He suggests that project teams in the organisation should be mixed up in order to bring fresh perspective and new ideas to the table, this requires involvement of people from every function of the organisation and key stakeholders.

2.4.3   No clear vision of sustainability

No clear vision of sustainability is Doppelt's (2003) third blunder and often it reflects in organisations having a negative vision that focuses on what not to do. That does not go hand in hand with sustainability and depresses human motivation. The alternation of organisational goals towards sustainability is Doppelt's (2003) advice and he recommends backcasting in order to do so. Backcasting is a tool used in strategic planning for sustainability. The main ideology behind it is to generate a desirable future and from there look to the present and find ways to move to the desired future by using strategy, pathways and planning (Vergragt & Quist, 2011). The ideas produced with backcasting are often perceived as a political standpoint and therefore they loose their value (Dreborg, 1996). It is also vital in the vision creation process

that many employees are involved in the process, that way it is more likely that they will understand and incorporate it better (Verhulst & Boks, 2012; Lewis *et.al.*, 2006).

2.4.4   Confusion over cause and effect

The fourth blunder is confusion over cause and effect where the main focus is usually on the symptoms of sustainability challenges instead of designing out root causes. Organisations spend a lot of money on mitigations of emissions and discharges when they should be focusing on the causes of these results (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). Hart & Milstein (1999) point out that addressing pollution to minimize resources use and to improve community and stakeholder relations are just superficial actions that do not conduct to a sustainable organisation. In order for organisations to focus on the cause not the effect Doppelt (2003) suggest that new operational and governance strategies be implemented.

2.4.5   Lack of information

Organisations often fail to communicate effectively the purpose and strategy of their sustainability efforts and Doppelt (2003) describes it as lack of information. This is often seen in project based organisations where the project divisions make it difficult to have unified strategy and for knowledge to be diffused across projects (Newell *et.al.*, 2003). Trainings, sign posting and scattered events are unsatisfactory to describe the commitment the organisations have made to sustainability (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). In the change management literature the emphasis is on giving important stakeholders as much information as possible early in the project process. It is also important to constantly repeat the change messages in a clear and consistent way (Verhulst and Boks, 2012; Lewis *et.al.,* 2006). Human behaviour, social values and attitudes towards the world and environment are facilitated by communication and humans construct their reality on the basis of perceptions and experiences (Godemann & Michelsen, 2011). Therefore transparency and honesty in communications is the key to avoid the fifth blunder (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). By constantly communicating the messages across to employees with structured dialogue the members feel more involved in the process (Lewis *et.al.,* 2006). Eventually sustainability will become the languages of the organisation (Doppelt, Overcoming

the Seven Sustainability Blunders, 2003). Languages are a vital part of communications and it constructs reality and social actions as well as allowing humans to find orientation and coordinate action. The meaning of our world is expressed with the relationship between words and the boundaries of our languages points to the boundaries of our world. It is therefore important to learn to express sustainability with words (Siebert, 2011). Sustainability communication is the human process of dealing with future development of society towards sustainability. It provides a framework for understanding a wide variety of social systems and actors such as the interactions amongst individuals, between individuals and institutions, between and within institutions, in the media and politics as well as on different levels; regional, national and international. When changes in individual attitudes and behaviour are connected to sustainability communication the modifications in lifestyle take on a special meaning, however only emphasising the importance of the concept is not enough to trigger change in a population. Communication about sustainability is about communicating knowledge (Godemann & Michelsen, 2011).

2.4.6 Insufficient mechanisms for learning

Organisational learning and the motivation for employees to test new ideas are important to overcome barriers to change. Doppelt (2003) calls failure in these areas insufficient mechanisms for learning. Organisation must alter their feedback and learning mechanisms so that employees and stakeholders are motivated to develop their skills, knowledge and understanding. According to Lewis *et.al.* (2006) the management literature recommends adapting a two-way communication route with the employees and highlights the importance of being a good listener in order to provide productive feedback. Communications along with educational procedures make individuals able to actively participate in shaping a sustainable society by endorsing individual engagement, encourage political education and strengthening civil society (Godemann & Michelsen, 2011). Training and education is one of main ways to overcome barriers to implementation of sustainability (Esquer-Peralta, Velazquez, & Munguia, 2008). Sustainability communication is managed with methods and tool to influence the process. One method is empowerment of strategies, which is about helping people recognise non-sustainable actions and apply knowledge about sustainability in order to rectify them. The ultimate goal is to involve people in

shaping the conditions of their own life. Education processes for sustainability have the mission of sharpen individual awareness in both private and personal life. In order for them to be able to take action against non-sustainable doings, evolve their problem-solving skills and make suitable changes in their behaviour. (Godemann & Michelsen, 2011). The critics on educating for sustainability point out that the education lacks grounding in educational theory and that it is rather politically driven (Bormann, 2011).

2.4.7   Failure to institutionalize sustainability

The last blunder Doppelt (2003) talks about is the failure to institutionalize sustainability. Few organisations have successfully implemented sustainability-based thinking into everyday processes, policies and culture. One of main difficulties with the implementation of sustainability is the problem of how humans think, human values and perceptions might not be in line with sustainability values (Millar, Hind, & Magala, 2012; Marshall, Coleman, & Reason, 2011; Brown, 2005). Doppelt (2003) recommends that parameters be adjusted by aligning systems and structures with sustainability. This is a continuous process and the organisation needs to incorporate new ways of thinking and acting in how it does business (Doppelt, Overcoming the Seven Sustainability Blunders, 2003). Focusing on involvement and empowerment is important to get the employees engaged and enthusiastic in the implementation process. Which in turn will make them participate actively and enables new sustainable culture to prosper inside the company (Verhulst & Boks, 2012). To implement sustainability change it has to be rooted in personal value systems because the initial sources of sustainability barriers can be traced to personal cognitive frameworks (Millar, Hind, & Magala, 2012). In order for companies to live up to their values as being a sustainable organisation they have to train their future leaders. Not only do they have to deal with complex economic, social and environmental problems but also practice leadership that makes a difference for the business and the world. Those companies that are ahead in this process have an internal steering committee of executives in order to bring different departments together. On top of that they have board of directors that have overview over their sustainability performance. Publishing of reports to show their progress in the area is also a factor in the process (Mirvis, Googins, & Kinnicutt, 2010).

2.4.8 Summary of limitations of sustainability implementation

Doppelt's seven sustainability blunders describe the barriers organisations and project teams face when implementing sustainability. Keeping those blunders in mind reduces the risk of them taking place. To be able to recognize the benefits of implementing sustainability into projects and organisations it is vital to translate the sustainability strategy into measurable goals (Edwards, 2009; Epstein and Roy, 2001). But it can be hard for organisations to link project performance to higher-level goals and therefore the project's contribution to sustainable development is not always clear (Boswell, Wallace, & Boswell, 2005). Gilbert Silvius states that the impact of sustainability is not yet recognized in project management because of the way projects are managed, measured and reported does not fit with the sustainability concept. Therefore there is a growing need to practically implement the concept in the management of projects (Maltzman & Shirley, 2012, cited Gilbert Silvius).

3 Methodology

This section contains the methodology for this dissertation. The research strategy, design and method are presented as well as data collection and analysis is explained. At last the limitations and ethical concerns are listed.

Methodology is according to the Oxford dictionaries 'a system of methods used in a particular area of study or activity' (Oxford University Press, 2014). In this dissertation a system of methods will be used in order to understand and explain the research process and answer the research question posed. A case study was done in an Icelandic energy company called Landsvirkjun. The reason for choosing this company was that it is a project based company that has recently implemented sustainability into their corporate strategy.

3.1 Research strategy

Research strategy is according to Bryman (2008) a term that refers to the orientation of conducting a social research and the distinction between the concepts qualitative research and quantitative research. Qualitative research method is a research strategy that focuses more on words than quantification in the collection and analysis of the data (Bryman, 2008). Qualitative research method was undertaken in this dissertation. According to Bryman (2008) qualitative research strategy has three main characteristics that differ from quantitative research strategy, which mainly focuses on numbers when data is gathered and analysed.

- Inductive theory is when observations and findings from analysed data are used to generate theory, deductive approach on the other hand is when theory is explored and hypothesis conducted from the theory, data is then collected in order to confirm or reject hypothesis.
- Interpretivism is an epistemological term that indicates that a strategy is required in order to respect the differences between people and the objects of the natural sciences, unlike positivism that is also an epistemological term that supports the application of the methods of natural sciences to the study of social reality and beyond.
- Ontological considerations deal with the questions whether social entities have reality external to social actors or if they are social constructions build up from

the perceptions and actions of social actors. Ontological considerations can be divided in to two positions; objectivism, which indicates that social phenomena are seen as external facts that are beyond our reach and influence. And constructionism, which claims that social factors affect social phenomena and their meanings (Bryman, 2008).

In this qualitative research a deductive approach was used. A thorough literature review was conducted before gathering the data allowing the theory to guide the research. This research was based on the epistemological term interpretivism where the researcher interpreted the results in the best way possible given the circumstances being a student. Finally the ontological consideration constructionism was held up as it claims that social phenomena and their meanings can be affected by social factors. The researcher tried to see things through the eyes of the respondents studied. Bryman and Bell (2011) explain that the matter of the social science differ from the matter of the natural science.

Defining a research question is probably one of the most important steps in a research study and the researcher should allow sufficient time early in the research process for this task (Yin, 2009), in later stages of the research process the research question might be re-evaluated and the specifications for it tightened (Bryman, 2008). A research question was posed in early stages of the dissertation process and along the way it was reconsidered due to new findings and evolvement of the project. The research question guided the research in many ways for example in the literature search, what data was needed to collect and analysis of the data. The research question also hinders the researcher to go into unnecessary directions in the research process (Bryman, 2008).

3.1.1   Research design

A research design provides a framework for the collection and analysis of data (Bryman, 2008). There are five main research designs available according to Bryman (2008) and they are; experimental design, cross-sectional design, longitudinal design,

comparative design and case study design. In this dissertation a case study design was chosen and therefore further details of other designs will not be provided.

A case study research design is the detailed and intensive analysis of a single case where it is attempted to understand a real life phenomenon in depth, it can also be done on several cases for comparative purposes. The term case is often associated with organisation or community and arises out of the desire to understand complex social phenomena (Yin, 2009; Bryman, 2008). Case studies can either be qualitative or quantitative (Bryman, 2008). Case studies have been criticized for lack of rigidness and therefore allowed the researcher to be careless; not followed the systematic procedures, been open to more than one interpretation of evidence or biased towards the direction of the conclusions. They have also been criticized for lack of basis for scientific generalization and for taking to long (Yin, 2009). The rational for doing a case study in this dissertation is because the goal was to capture everyday circumstances thought processes of ordinary employees of the company. That falls under one of Yin's (2009) rational for doing a case study and he calls it the representative or the typical case. Figure 1 illustrates the case study design process and how it is divided into three main areas of defining and designing the case study; preparing, collecting and analysing the data were the opportunity to go back to the initial theory is available and modifications can be done to match the theory properly to the findings; and finally the final analysing of the data and conclusions of the findings.
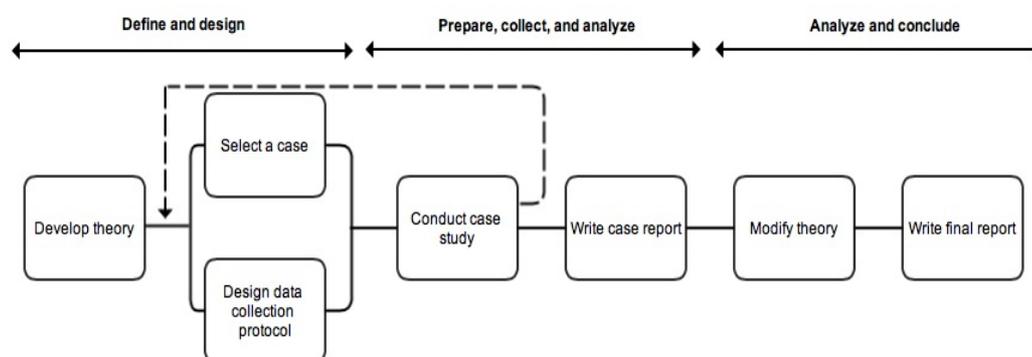

Figure 1 Case study design adapted from Yin (2009).

According to Bryman (2008) many qualitative researchers choose to employ the terms validity and reliability in a similar fashion as is done in quantitative researches. External reliability means the degree to which the study can be replicated and this is a very difficult area to meet because qualitative studies take place in social settings, which are very hard to replicate. Internal reliability is when more than one observer of the research team agrees on what they see or hear. Internal validity is whether the match between researchers findings and theoretical ideas developed is strong. External validity on the other hand refers to the degree to which the finding can be generalized across social settings (Bryman, 2008).

Semi-structured focused interviews were conducted and the author was the only one conducting the interviews with one interviewee at a time, making the internal reliability very high. Bryman (2008) explains how additional interviewer will most likely not add any value to the context of the interview. The external validity is quite low because of the low number of interviews conducted. The research design undertaken in this dissertation was a case study design and the researcher was fully aware and made an effort to avoid the limitations following the case study design .

A section of the population chosen for the case study is called a sample (Bryman, 2008), and in this research a small sample of employees in Landsvirkjun was chosen to participate. The sample was chosen with a purposive sampling meaning that the participants were chosen in a strategic way in order to fit the research question posed.

3.2   Research method

A technique for collecting data for the dissertation is called a research method (Bryman, 2008). The drive for this study was to find out how project managers perceive and use the sustainability concept. The relevant literature was studied and questions for semi structured interviews were made. After conducting and analysing the interviews the results were fitted to the literature and conclusions made.

The rational for using only semi-structured interviews was because the researcher wanted to know how much the participants knew about sustainability in the company and how they worked with the concept. It would have been hard to ask those

questions in a survey style. Another reason for excluding surveys was that the researcher had only limited time to conduct the research and evaluated the process of making both surveys and taking interviews too time consuming.

3.2.1 Data collection

Data was collected from an Icelandic energy company that has incorporated sustainability into its corporate strategy. The company is the main provider of energy in the Icelandic market. Data was collected by interviewing eight employees of the company and by reviewing official documents from the company. These are two of six main sources of evidence most commonly used in a case study research. A rather informal direct observation was also done while taking the interviews (Yin, 2009). The office environment was observed and special attention was given to how the sustainability strategy was communicated in art in the office building, such as with posters and paintings.

3.2.1.1 Interviews

Interviews are an essential form of case study information and it is optimal that they act as a guided conversation instead of structured queries (Yin, 2009). According to Bryman (2008) a semi-structured interview is a type of interview style where the interviewer has a series of questions that are in the form of an interview schedule but the interviewer has the authority to change the sequence of the questions and add questions to the schedule. The respondent has the liberty of expressing their thoughts and ideas on the subject (Bryman, 2008). Focused interviews are when a participant is interviewed for a short period of time, approximately an hour, and the interview is open ended and fluent as well as it follows a certain set of prepared questions (Yin, 2009). It is important when conducting interviews for a case study to satisfy the needs of prepared line of inquire and at the same time put forward friendly and nonthreatening questions. To avoid defensiveness on the behalf of the participant it is best to ask "how" questions instead of "why" questions, because the "how" questions are often the preferred way of addressing a "why" question. It is also vital for the case study results that the interviewer phrases the questions carefully and avoids using leading questions (Yin, 2009).

Semi-structured interviews were used in this case study so that the respondents could express their ideas and thoughts. The interviewer could also add relevant questions in the interview if the opportunity came along. Eight interviews were conducted in a face-to-face manner in the company's headquarters, either in participant's office or in a booked meeting room. Not all of the meeting rooms looked the same, some were a part of an open space and not completely closed off resulting in lack of perfect privacy to conduct the interview. In a few interviews the interview had to be paused because of external distraction. The interviews ranged from half an hour up to two hours but most of them took about 45 minutes. All of the respondents were engineers and each one was given a code to protect his/her identity. The code consists of the letter R that stands for respondent and a number from 1 to 8, which was distributed randomly to the respondents. Interviewees R4 and R5 are female and rest male. The respondents' age varies but R1, R4, R5, R6 and R7 have worked for less than 10 years in Landsvirkjun but the rest has worked for more than 10 years.

3.2.1.2 Documents

The researcher handled public documents from the company studied. All documents can be found on the company's website. These are for example annual reports, environmental annual reports and sustainability report. The website is also a source that was used to get a deeper understanding of the company. Information like vision, mission and strategic action can be found on the website. For conducting a successful case study the researcher kept in mind that the documents provided by the company were written for a specific purpose and specific audience, other than the researcher of this case study. By doing so the researcher was less likely to be mislead by the documentary evidence and likelier to critically interpret the content of these evidences (Yin, 2009).

3.2.2 Data analysis

Analysing a case study is not an easy task and the process is the least developed aspect of doing a case study. It is a common problem that researchers collect data but have no notion of how to analyse it. There are not so many fixed formulas on how to analyse case studies and therefore it depends a lot up on the researcher's own style of rigorous empirical thinking how the data are analysed. (Yin, 2009). There are four

general strategies to choose from when conducting a case study and in this research a strategy called *relying on theoretical propositions* was used as a guideline. It is based on the method that original objectives and design of the case study were generated from theoretical propositions that led to research questions, review of the literature, and new hypotheses or propositions. Other strategies include for example setting up a descriptive framework where data are collected without an initial set of research questions or propositions, this strategy can be used if *relying on theoretical propositions* strategy is not an option (Yin, 2009). Using both qualitative and quantitative data is also a strategy that can be used but is recommended for advanced researchers and finally examining rival explanations which combines all of the three strategies above (Yin, 2009). A case study without a research strategy would proceed with difficulties and therefore it is recommended by Yin (2009) to have a general analytic strategy. The anonymity of the case for this dissertation will be restricted to the participants' names and identity, the rest of the case information will be open. This goes hand in hand with Yin's (2009) explanation of two levels of anonymity issues, the case itself and then the individual person within the case.

3.3   Limitations to methodology

Limitations to this study are of various kinds, first of all, the sample chosen was very small and participants chosen by a purposive sampling meaning that a homogeneous group of people took part in the case study. This might mean that not a realistic view of the organisation is reflected in the results. On the other hand that was not the purpose of this study.

Secondly, the interviews were conducted in Icelandic, the limitation is that some word that describe theoretical concepts do not have the same obvious meaning in Icelandic and English, Due to Icelandic's tradition of making up new words for every English word used e.g. sustainable is *sjálfbær* in Icelandic and it is made up of two words *sjálf* which means self and *bær* which means to bear. Therefore the meaning of sustainable in Icelandic becomes 'something or someone that can bear itself, without external forces or interruption to external environment'. It made the interviews a bit confusing at times and sometimes the researcher had to use the English word in order for the interviewee to clearly understand the question posed. The researcher has to keep in

mind that external distraction could have influenced the respondents shape at the interview day, causing the respondent to not have a clear head.

Other limitations is that the researcher is not experienced in conducting a case study and according to Yin (2009) to conduct a high-quality case study the investigator needs to be well trained and experienced in running a case study. Knowing this the researcher tried to adapt attributes that high quality investigators possess; these are according to Yin (2009).

- *Asking good questions* where the mission is to engage in a rich conversation about evidence and activities included as well as constantly evaluate the events and facts that appear.
- *Being a good listener* meaning receiving information through multiple ways as well as being unbiased when processing large amount of new information.
- *Exercising adaptiveness and flexibility* meaning that the researcher has to be ready to adapt plans to unexpected events that might occur
- *Having a firm grasp of the issue being studied* meaning that the researcher needs to be able to interpret the information and know immediately if some sources of information contradict one another and if additional evidence is needed.
- *Avoids bias* of any kind.

3.4   Ethical considerations

Ethical dilemmas that might affect this study can involve one or more of four stakeholders; the research itself, the researcher, the university/universities or the participants. The researcher did everything in her power to avoid ethical dilemmas. A time plan was produced beforehand and discussed with the supervisors both in Chalmers and Northumbria, as well as the progress of the dissertation was reviewed regularly with the supervisors. Four ethical principles were carefully reviewed before undertaken this research and made sure that none of them were crossed. The principles concern whether there is harm done to participants, whether there is lack of informed consent, whether there is an invasion of privacy and whether deception is involved (Bryman, 2008). The aim was to undertake this research professionally and

with integrity as well as the focus was on being unbiased towards the subject and the participants. All documentation was considered to be confidential and handled according to that, all data recorded was stored in a password-protected device and it was destroyed as soon as the research was completed. The participants chosen were neither children nor vulnerable adults. All of them willingly gave their written consent for participating in the study and to be auto recorded.

The researcher kept in mind that ethical issues could arise at all stages of the research process and that it was important to be aware of the ethical dilemmas facing a researcher when case study research is undertaken (Bryman, 2008).

4   Case study and empirical results

This section contains a description of the case company and empirical findings from the interviews and documents.

4.1   Landsvirkjun

Iceland is the second largest producer of electricity from renewable sources in Europe and the largest when calculated per capita. Landsvirkjun is an energy company owned by the Icelandic state. It is Icelandic's biggest energy provider possessing 75% of all energy used in Iceland and one of the 10 largest producers of renewable energy in Europe. Landsvirkjun's aim is to be a leader in the sustainable use of renewable energy sources and the company values are *progressiveness, reliability and prudence*.

The name of the company, Landsvirkjun, means in English 'Country harnessing' and it refers to the company's activities of building and maintaining power plants. The company runs 13 hydropower stations, 2 geothermal stations and 2 wind turbines, with a total number of 247 employees.

Landsvirkjun has five divisions (see figure 2) and one subsidiary company that works across all divisions. This case study was conducted in the Project Planning and Constructions division of the company and some interviewees were also a part of the subsidiary company, Landsvirkjun Power.
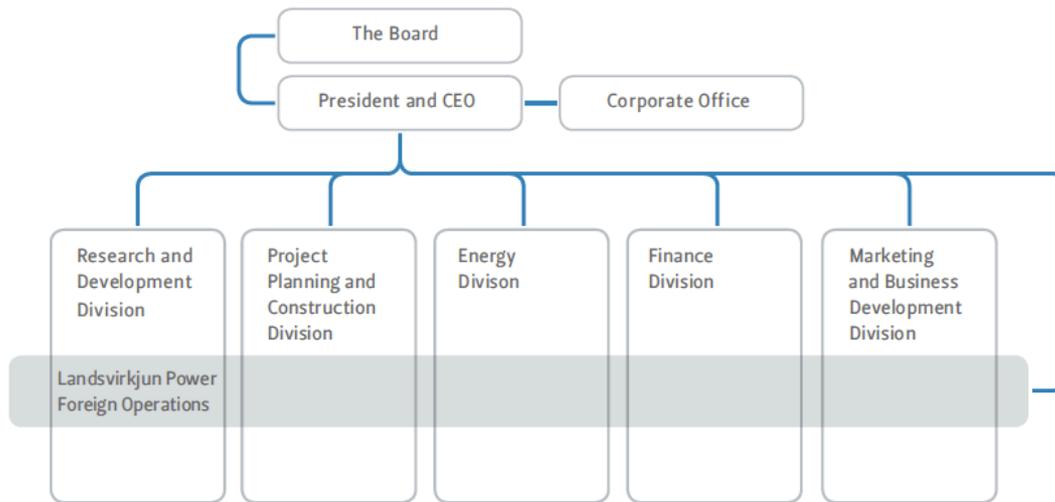
Figure 2 Landsvirkjun's structure (Landsvirkjun, 2012).

"Landsvirkjun's role is to maximize the potential yield and value of the natural resources we have been entrusted with, in a sustainable, responsible and efficient manner" (Landsvirkjun, 2012, p.18).

Landsvirkjun's mission (above) since 2010 shows very clearly that sustainability is included in the company's core strategy. In 2009 Landsvirkjun published a report on social responsibility. In November two years later Landsvirkjun's Executive Board approved a sustainability strategy called Landsvirkjun's social responsibility, which was inspired by the company's core strategy. Landsvirkjun's sustainability strategy is summarized on their website and is listed below and on figure 3.

"Landsvirkjun's social responsibility is to create value, to respect and protect natural resources and the environment and to share our expertise in order to effectively contribute to society" (Landsvirkjun, 2012 p.50).

Figure 3 Landsvirkjun's social responsibility (Landsvirkjun, 2012)

"We want our company to make value for all our stakeholders" (Landsvirkjun, 2014).

The social responsibility strategy was let by a steering committee with representatives from all divisions of Landsvirkjun. It was extensively communicated within the company before being officially approved by the Executive Board. The ISO 26000 (Social Responsibility) was use as a guideline in the development of the strategy and six focus groups established; corporate governance, the value chain, environment, society, health and safety, and knowledge dissemination. A director of social responsibility was appointed to implement the strategy in late 2012 and implementation of the strategy was a priority project within the company in 2013 (Landsvirkjun, 2014). The following goals were set for Landsvirkjun in relation to the sustainability strategy and published on the company's website (Landsvirkjun, 2014).

➢ *"We practice responsible corporate governance and follow the company's code of conduct in our work."*

> ➤ *"We work with clients and suppliers that show responsible corporate governance."*

> ➤ *"We emphasize on sustainable utilization of natural resources, working according to recognized international practices and minimizing environmental impacts caused by the company."*

> ➤ *"We focus on good collaboration with the society by promoting transparent work practices and interactive information flow, as well as we want the society to benefit from Landsvirkjun's operations."*

> ➤ *"We work according to responsible health, security and human resources strategy, which is to ensure wellbeing, security and equality of employees."*

> ➤ *"We create value for the industry and society by sharing knowledge and supporting innovation."*

Landsvirkjun has more specific goals in some areas such as gender equality and carbon emission. Where the purpose is to equaling gender percentage in the company as well as to make sure that all have the same opportunities regardless of gender. The carbon neutral goal is to promote ecological ways of operating the business and it reaches out to personal employee ambitions. Below are the detailed goals (Landsvirkjun, 2014).

"Landsvirkjun ensures equality between men and women. Each employee is evaluated according to its own merits. It is Landsvirkjun's goal to increase the percentage of female managers from 17% to 20% in 2014."

"Landsvirkjun has for years represented actions to minimize pollution in the company's business. Landsvirkjun's strategy is to reduce the influences transportations have on the environment and the atmosphere in three ways:

- *Reduce the usage of fossil fuels on the company's vehicles.*
- *Use mitigations to make up for inevitable emission.*
- *Promote employees ecological transportation ways."*

On Landsvirkjun's website there are many slogans referring to the company's strategy as well as they are communicated on posters and art in the company's head quarters. Often these slogans emphasize on the company's relationship with society and the environment. Which may indicate that the strategy is only used for external marketing purposes instead of an internal change in processes that affects all departments and people. Few of the slogans are demonstrated below and on figure 4 (Landsvirkjun, 2014).

"Landsvirkjun's social responsibility is to create profit, treat resources and the environment well and promote the dissemination of the company's knowledge and positive influence to society."

"Landsvirkjun places great importance on sustainability and utilizing energy resources with careful consideration for any potential impact on the economy, society and the environment."

"Create a joint value for the industry and the society by sharing knowledge and encouraging innovation and development of renewable energy sources."

"Knowledge is a prerequisite for progress."

"In collaboration with society."

"Energy production in harmony with the environment and society."
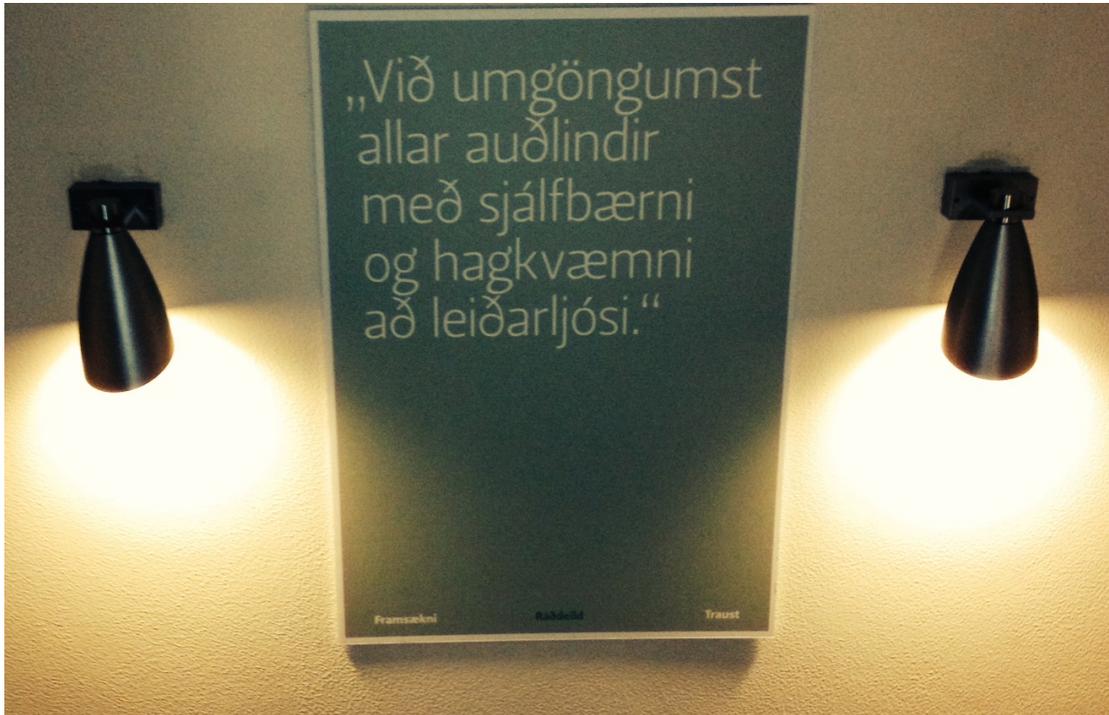
Figure 4 Poster in Icelandic in Landsvirkjun, the English translation is "We treat all resources with sustainability and feasibility as a guiding light."

4.2 Interview findings

In the following section findings from the interviews and documents will be presented. The interviews were conducted in Landsvirkjun's head quarters in Reykjavík, Iceland. The exact place varied between interviews; sometimes it was at the respondents' office or in a pre booked meeting room either on the respondents' floor or on the ground floor by the reception.

4.2.1 Project based organisation

Landsvirkjun is a project based organisation and many of the project managers interviewed for this research were working on the same project although they have different roles and responsibilities, very few have employees working under them.

The project managers were based in Landsvirkjun's head quarters in Reykjavík but the projects took place in the country site. Requiring some of the project managers to

travel to site regularly. All the project managers are engineers but have various experiences within the company, some have worked in Landsvirkjun for years but others have just recently started. They all belong to the Project Planning and Constructions division of the company or are involved in the projects but are part of a subsidiary company of Landsvirkjun, Landsvirkjun Power.

The same CEO is over both the Project Planning and Constructions division and the subsidiary company but the respondents did not feel any difference although some had been transferred to Landsvirkjun Power, like one responded said; *"I don't feel any difference between working for Landsvirkjun or Landsvirkjun Power especially because my role is still in Landsvirkjun's project"* R2.

The employees feel very much that they are a part of a project group and the company becomes a bit distant to them, this was mirrored clearly in the interviews;

> *"I have mostly been in big projects and the projects need to be able to live their own life and have a well defined beginning and an end. In order to ensure the progress of the project you need to maintain the quality, be on time and budget. The project needs to be driven project oriented and often they don't fit into company structures"..."It is often with projects that they live their own life and not in harmony with the company" R7.*

The culture in the company is very much dialogue and meeting oriented as respondents described: *"We have a very strong meeting and dialogue culture, therefore it is rich in our culture to try to take consensus decisions"* R1 and R2 says *"sometimes you take the decisions by yourself and sometimes the decision is based on advises from consultants and work colleagues."*

Decisions are usually made at the meetings and that relates to their strong meeting and dialogue culture. One person has to be responsible for the decision each time and it depends on how big the decisions are who that person is, but voting is not a method used in Landsvirkjun to take decisions. R6 said *"Decisions are made after discussing*

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the topic for a while – voting is never an option" and R7 said *"We try to take consensus decisions and we try to have the discussion democratic but the decision autocratic, there is always someone who has to take responsibility for the decision."*

Other respondents had similar stories to tell:

"Decisions are not taken democratically, more professionally where each person takes decisions in their own power" R3.

"We try to take all decisions collectively and it helps a lot being in an open space, we just have to remember to document the decisions we take on the run" R7.

"Bigger decisions go to the steering group which is over the project...it composites of highly experienced individuals from the company and managers, this group has extensive knowledge and managerial influences to take decisions" R6.

Decision authority was very clear amongst the project managers and they always knew where to go if they did not have the authority to take a certain decision; *"I take my proposal to my boss and together we present it to the board, which takes the decision...therefore my authority to take decisions is very clear"* R3.

"When the decision is in your power you take it after best consciousness...if you don't have the power to take the decision you just go to the person who has the power and get the decision from there" R2.

Some respondents described how Landsvirkjun is trying to change their decisions making methods from the meeting culture orientated to more systematic decision making methods such as the stage gate model like respondents R4 said; *"The company is looking at stage-gate method"* and R8 said; *"We have been developing a decision-*

making method and we try not to use the BOGSAT method (Bunch Of Old Guys Sitting Around a Table) although it is a method usually practiced.”

4.2.2   Vision, mission and ambiguity of the sustainability concept

When the sustainability concept was brought up in the interviews only few respondents gave a clear and confident description of the concept like it is expressed in the company's strategy. R1 described it as follows:

“It is Landsvirkjun's role, and we say that our role is to maximize the culmination of the resources that we are trusted for with sustainability as a guiding light. We interpret it as we don't want to ruin the natural resources for coming generations, in order for it to be used sustainably”.

And it seemed like many felt it was rooted in their processes and culture:

“Our code of conduct talks about prudence, reliability and progressiveness” …*“We are looking at all three factors [social, environmental and economical] because it is common sense not because of sustainability” R4.*

“We think unconsciously according to these [sustainability] values”…"We shall show prudence..." R2.

But majority of the respondents got defensive about it and started excusing themselves because they were not confident talking about the concept. Usually the excuse was that they did not have time to prepare themselves beforehand or that they had already read up on the concept and therefore they new the “right” definition. Although almost all claimed that they did not know the meaning of sustainability and had not prepared themselves for the interview. Still most could describe sustainability like it is defined in the Brundtland's report.

"I know nothing about sustainability...but I understand the concept. We are not overusing the resource, we are just using it and nothing more than that. We are not diminishing any chances for future generations." R2.

"Landsvirkjun is working a lot with the concept but I should have prepared myself and goggled it...I know the sustainability concept pretty well from my work here, the three pillars and the Brundtland's report that was made for the United nations. I once took part in the implementation of something that had to do with sustainability...in my mind sustainability is all about returning the nature in same condition to next generation but at the same time use the resources. We don't really have sustainability as a guiding light in my project other than we work for the company and hydropower is a sustainable phenomena" R3.

"I think the concept is a bit fuzzy in my mind. I though sustainability was something that can bear itself but then I started reading up on the concept and one of the definitions is that we deliver the country to future generations so they can do almost what ever they like and is good for the country" R4.

*"I don't remember the definition I have to admit but I think it is defined here [in the company]"*R6.

"I looked it up before you came…It is the big picture that we are looking at and it is important to include all three aspects [environmental, social and economical aspects] although the focus on each of them is not the same" R8.

Many pointed out that sustainability was not within their area of work and suggested that the researcher should talk to more relevant person such as the director of social responsibility.

"...it's not my role to have the overview, we have a sustainability department [in the company]" R3.

"The person who takes care of these things [sustainability] here is like an environmental manager, we put this straight in his/hers hands and we get input for our documentations"…"Environmental manager knows what the demands are, we first and foremost just follow the procedures set by relevant person" R6.

Some respondents did not recognize that the sustainability concept was used in the company or they thought it was a very confusing term:

"There is some discussion about sustainability in the company but I don't think we have specific goals or vision"…"Like I said it [sustainability] is more in the subconscious and common sense, it has somehow been integrated into the work processes" R4.

"Maybe I'm not understanding the concept"…"I would say that the sustainability concept is not used a lot here in Iceland...it is in general not part of the discussion, not even inside the company"…"We build power plants with corporate social responsibility in mind but otherwise we do not work with sustainability for goals"R5.

"Sustainability is to be sustainable, me in my world can take care of myself and nobody really notices…but corporate social responsibility is when I can enter into a new environment and people will notice me because I cause disturbance but with responsibility so it becomes positive influences on the nature and society. That is of course not sustainability it is corporate social responsibility therefore there is a fundamental differences on these two" R5.

"We could probably talk more about sustainability, it is indeed an interesting fuzzy concept, each person has their own view of it"..."it would be good for the company if there were a common understanding of the concept, maybe there is and I've just missed it" R7.

4.2.2.1 Implementation of sustainability

Most participants mention that it is the rational thing to do to implement sustainability as well as Landsvirkjun is owned by the Icelandic state and it is its duty to work in a sustainable manner. That was reflected in an employee survey conducted by Landsvirkjun, which stated that 91% of Landsvirkjun's employees think it is important to have corporate social responsibility strategy (Landsvirkjun, 2014). Many also mention personal ambition and they described how proud they were working for a company that has a sustainability strategy like Landsvirkjun does.

"First of all we have defined it [sustainability] as part of our role/requirements, in order to use these resources it has to be done in a sustainable way" R1.

"It personally means a lot to me to be working in projects that do not pollute" R3.

When Landsvirkjun's strategy such as the goals of becoming a carbon neutral company and equalling the gender percentage were discussed most answered that it was not in their area of work and they knew nothing about it. They could in most cases describe what the company was doing, but they usually talked like it was distant to them and their role in the company.

"It's part of the company's strategy, you can probably google it or ask the human resources department about it [what actions Landsvirkjun is taking to equalling the gender percentage]" R3.

"There are two female engineers in this division out of 11 persons, the gender percentage is not good. I don't take part in changing the percentage, I don't even try!" R4.

"... what we do exactly to reduce the CO_2 I know nothing about" R2.

"I'm not exactly much in this field, it's not mine but we have electric cars, we try to reduce our own electric usage and we have Hekluskógar [forestry]" R3.

"Maybe you want to talk to somebody else about that"..."We encourage people to take public transportations or bike to work and we have electric cars for employees to use" R5.

"It is not in my area"…"I don't know [what Landsvirkjun is doing to fulfil the carbon neutral goal]" R6.

"I can't tell you what the company is doing only what my project is doing" R7.

On Landsvirkjun's website the carbon neutral goal is very clear as well as equalling the gender percentage goal. A few respondents illustrated the company's actions with confidence and talked about it as it was part of their role in the company.

"We are measuring our carbon footprint and we try systematically to reduce it"…"We have all sorts of mitigation actions" R1.

"We have electric cars available" R3.

"It's part of our strategy and we want to be known for operations like this [Carbon neutral goal]" R8.

"We need measurements to measure [CO_2 emission] and we are working on it...We have virtual communication equipment and that is one part of reducing CO_2 emissions...We try to reduce waste that goes to landfill, all waste is sorted" R4.

Open communication and interactive information flow was something that the participants were confident to talk about. They described communications methods they used internally as well as to external stakeholders and all of them emphasized the importance of open communications. It is also one of Landsvirkjun's goal to increase open and honest communications.

"We emphasize on having good communications with stakeholders and especially those who are against our operations, to discuss their point of view" R4.

"We try to publish all of our reports and other things we do on our webpage and our library...we also emphasize on having open communication with stakeholders" R5.

This reflects on Landsvirkjun's goal of increasing the accessibility to research reports for the public. In 2013 a big step was taken for this goal and Landsvirkjun's reports were connected to the electronic search machine gegnir.is (Landsvirkjun, 2014).

"Here the information flow is very good; regular meetings, newsletters published and intranet used where notifications about latest activities is posted. There is also a whole department that makes sure that information flows" R3.

"There are no secrets here" R2.

"Our CEO is often on the news" R6.

Although the employees were in general very informed about the importance of open and transparent communication some felt the need to state that it was not part of their responsibilities in the company.

"...Other people know this better"..."In general we don't necessarily talk about sustainability although it is a department here..."R3.

When the subject was training and education about sustainability the respondents did not recall that there was something like that organized in the company, but most of them pointed out that the employees were encouraged to attend meetings, conferences and courses on various topics held by the company. In Landsvirkjun's strategy there is a focus on sharing knowledge and encouraging innovation to create value both for society and the industry. Even though the employees did not get a specific education about sustainability there is a great emphasis put on education in Landsvirkjun and it shows in the company's statistics for 2013. Landsvirkjun invested 11000 hours in education and training for its employees. These 11000 hours equals 275 working weeks, which is roughly one week per employee (Landsvirkjun, 2014).

"I don't think people get any formal training in it...but there is a lot of discussion about sustainability in the house"..."We are a part of FESTU (Icelandic Center for Corporate Social Responsibility) and everyone is encouraged to attend those meetings"..."When the corporate social responsibility strategy was implemented then employees were divided into teams that worked on specific task related to the strategy" R1.

> *"No I can't say that I have noticed that [there is any training on sustainability provided], maybe you have to go and get it yourself, at least people are not pushed into it"* R2.

> *"No we don't get any training but we have specialists in this area and they get training"* R3.

> *"There are certain requirements put on employees and it is just my responsibility to fulfil these requirements...I must know what I'm doing otherwise I'm not qualified for the job"* R7.

> *"Training...we could do better"* R8.

The subject of personal sustainability and what the company is doing to support it was not very clear to most of the participants. Most mentioned that there were electrical cars available and that employees were encouraged to participate in 'lífshlaupið' (competition between workplaces on how much the employees exercise) and other competitions.

> *"There are a lot of things going on here to deepen the sustainability thinking amongst employees and make them more aware of it"* R1.

> *"Every employee has an educational plan for each year where goals are set for Landsvirkjun, employee's department and personal progress. This is then evaluated yearly"* R8.

The final question in each interview was about what the respondents thought were the biggest challenges related to sustainability. The answers were quite unanimous and were all somehow related to communication in one-way or another. Landsvirkjun's slogans relate to the communication challenge the company is facing.

"Having good and a lot of communication with stakeholders...getting a joint understanding and consensus about sustainability...You can stretch the concept as you please and that is the challenge [to get a common understanding]...Sustainability is all about balancing the different interests of stakeholders...We want to be honest and transparent in what we are doing" R1.

"The biggest challenge is to get the nation to realize that the profit we make goes into the system and make them see the good in what we do...The challenge is to get a better an wider acceptance of what we are doing [from the public]" R2.

"The big challenge is not to let the profit perspective take over the environmental perspective" R3.

"The biggest challenge is to make sure that everyone is speaking the same language when it comes to sustainability" R7.

"To realize where sustainability comes into the picture...or doesn't it affect every part of the picture?!" R8.

5 Discussion and analysis

This section analyses the empirical findings in relation to theory. A theoretical tool is used to analyse the findings and the section is structured according to the tool.

Landsvirkjun approved a sustainability strategy in late 2012 based on their core strategy and appointed a director of social responsibility to implement it in the company in 2013, as it was a priority project (Landsvirkjun, 2014). The interviews with Landsvirkjun's project managers were analysed and Dopplet's (2003) tool of seven sustainability blunders applied.

Many references from the interviews fitted with the tool but after reflecting on the tool it was clear that a modification could be done to improve it. Therefore the ambiguity of the sustainability concept was added as an extra blunder to the tool.

Resulting in a more realistic view of the failures organisations face when implementing sustainability into projects and organisational culture.

5.1 Patriarchal thinking

Patriarchal thinking was one of Doppelt's (2003) blunder that was weakly reflected in the interviews because the employees seemed to have personal responsibilities and not much false sense of security. Only one person spoke in a way that could be interpreted as patriarchal thinking and described the environmental manager as person who knows what the demands are and the project teams only follow the procedures set by that person. This first blunder is not known to be a problem in project based organisations due to high autonomy of project teams (Sydow, Lindkvist, & DeFillippi, 2004).

It seemed that the project managers had great autonomy from the organisation and that reflects in Forsyth & Danisiewicz (1985) theory about professions, where they say that the formation of profession is the creation of an occupational group that has specialized knowledge and has autonomy from its organisations and clients. Often a steering group is formed to coordinate between projects and the company (Hovmark & Nordqvist, 1996). It was mentioned in the interviews that steering groups are over the projects and they are made up of experienced individuals from the company with

extensive knowledge and managerial influences. The project managers interviewed seemed to know their authority to decision making and they make decisions after best consciousness. It is clear to them that if they do not have the power for a certain decision they know where they can go in order to get the decision.

This great autonomy the project managers have can be a sign that there is not much patriarchal thinking in the organisation. Employees seemed to take personal and collective responsibilities. They even described how each person is responsible for the decisions in his/her power and they thought this responsibility was very clear. There was an on going theme in the interviews about the democratic discussion in the company and at meetings. When it came to the decision itself they made an effort to take consensus decisions but in the end someone has to be responsible for it and therefore they spoke, as the final decisions were autocratic.

5.2 The silo approach to environmental and socio-economic issues

The silo approach to environmental and socio-economic issues was often encountered in the interviews. The participants often began an answer by stating that it was not part of their field or there were other people more qualified to answer the relevant question. This goes hand in hand with Doppelt's (2003) second blunder about employees not feeling like they are responsible for the company's strategy. The respondents often knew the actions the company was taking in certain areas such as becoming carbon neutral and equalling the gender percentage. But they strongly felt that it was not their responsibility to act on it although it was intergraded in some of their processes. In general they pointed out that it was someone else's role in the company and they also expressed lack of interest in taking part of making the company's goals become reality.

> "It's part of the company's strategy, you can probably google it or ask the human resources department about it [what actions Landsvirkjun is taking to equalling the gender percentage]" R3.

The project managers often talked like they were not part of the company, more like they were a subunit attached to the company.

> *"I can't tell you what the company is doing only what my project is doing"..."It is often with projects that they live their own life and are not in harmony with the company" R7.*

This can be interpreted as the project team is a subculture in the company. According to Guzman *et.al*. (2004) the nature of subculture is often based on their occupational role and it arises amongst groups of individuals with similar ideologies and forms of expressing those ideologies. Professionals in an organisation can form a professional subculture due to their adoption of values and norms, shared practices, experiences and relationships with other professionals (Schein, 2006; Bloor & Dawson, 1994). The formation of a profession is the creation of an occupational group that has specialized knowledge and has autonomy from its organisations and clients (Forsyth & Danisiewicz, 1985). In construction projects the involvement of interactions between professionals are often quite complicated (Bresnen *et.al.,* 2004). This fits with Landsvirkjun's division of Project Planning and Construction where all employees interviewed were engineers. Harris and Crane (2002) talk about how subcultures often hindrance the diffusion of sustainability-oriented culture. It was evident that most respondents described their role as distant from the company and that the company's strategy was not relevant to them. Not much connection was between the project managers' role and company's strategy. Causing the success of the sustainability implementation into projects to be questioned.

Project based organisations often struggle to diffuse knowledge across the organisation (Lewis *et.al.,* 2006) and one explanation for that is the high autonomy the project managers have. Decentralization of project teams is also mentioned in the literature as a cause for this difficulties and that partly applied to Landsvirkjun. The teams are situated in Reykjavík but the projects take place in the countrysite, therefore some of the team members have to travel weekly to the site and work from there. It can be argued that project managers in this particular department in Landsvirkjun

form their own subculture and therefore they talk about themselves and their projects as disconnected from the company. But fortunately some spoke like they were part of the organisation and had responsibilities towards its strategy.

5.3   No clear vision of sustainability

Landsvirkjun's strategy regarding sustainability was clear to few of the respondents and they emphasized on the importance of good communication with stakeholders and how that was the most important factor concerning sustainability.

Doppelt's (2003) third blunder is no clear vision of sustainability and it reflects in organisations having a negative vision that focuses on what not to do. Although the participants did not express a negative vision it can be encountered that they did not have a clear view of the company's vision. Some even said that the company was not working with the concept or there was no sustainability strategy in the company. The ambiguity of the sustainability concept probably plays a big role in the unclear vision of the company's strategy.

> *"There is some discussion about sustainability in the company but I don't think we have specific goals or vision" R4.*

5.3.1   Ambiguity of the sustainability concept

According to Mirvis *et.al.* (2010) and Searcy (2009) one of the main problems is the ambiguity of the sustainability concept and lack of common definition within each company. Another problem related to the ambiguity of the concept is that companies are using many terms to express sustainability and that makes common understanding harder to get (Mirvis *et.al.*, 2010; Van Marrewijk, 2003). This was strongly reflected in the interviews and the respondents were very insecure about answering questions that were phrased with the sustainability term. The respondents either said they knew nothing about sustainability, did not remember the definition or the concept was too confusing. This shows that employees felt unease when talking about the concept and that explains why they gave excuses before attempting to describe it. The need for

preparation was quite common with the respondents and often they expressed their lack of preparation for the interview. It repeatedly came up when the sustainability concept was first discussed. Some respondent differentiated between corporate social responsibility and sustainability. One respondent specially indicated that there was a fundamental difference between the two and that Landsvirkjun was clearly not working with sustainability only corporate social responsibility.

"I know nothing about sustainability...but I understand the concept" R2.

"Landsvirkjun is working a lot with the concept but I should have prepared myself and goggled it..." R3.

Dopplet's tool does not give a perfect view of the failures organisations face when implementing sustainability into their corporate culture and projects. According to Millar *et.al.* (2012) even committed companies have difficulties in defining the concept on common grounds. Therefore it is important for companies to emphasize on having a clear and commonly understood definition of the term in order to successfully implemented it into their organisations. Thus Dopplet's tool could be modified in a way that would differentiate between unclear sustainability vision and ambiguity of the sustainability concept. Clarification of the sustainability concept would deepen the understanding of the limitations organisations face when implementing sustainability. Languages barriers could also play a role in the confusion of the concept. Due to risk of languages barriers the researcher used the English word sustainability and the Icelandic translation *'sjálfbærni'* synchronously in the interviews to enable the respondents to have a clearer meaning of the concept. According to Siebert (2011) it is important to learn to express sustainability with words because the boundaries of our languages points to the boundaries of our world. The word 'sjálfbærni' [e. sustainability] is a neologism in the Icelandic language (Jónsson, 2001) and that can be a partial explanation for the ambiguity of the sustainability concept in this case study. Fortunately a few participants explained the concept without showing signs of ambiguity like R1 did.

"It is Landsvirkjun's role, and we say that our role is to maximize the culmination of the resources that we are trusted for with sustainability as a guiding light. We interpret it as we don't want to ruin the natural resources for coming generations, in order for it to be used sustainably".

5.4 Confusion over cause and effect

Doppelt's (2003) fourth blunder, confusion over cause and effect, was not mirrored strongly in the interviews and in fact most respondents showed understanding of cause and effect.

"We need measurements to measure [CO_2 emission] and we are working on it...We have virtual communication equipment and that is one part of reducing CO_2 emissions...We try to reduce waste that goes to landfill, all waste is sorted" R4.

Trace of confusion was reflected in the interviews when talking about Landsvirkjun's goal of becoming a carbon neutral company. The respondents talked about the mitigation actions the company is taking, like those actions would reduce the carbon emission the company produces and not just a way to make up for the emission and therefore reduce the company's carbon footprint.

But most project managers talked about the mitigations actions as a compromise for the company's pollution and they saw it as the company's effort to try to make up for the environmental effects it was causing. Things like forestry, cultivating land and recycling were often mentioned in the interviews.

5.5 Lack of information

The employees often talked about the importance of having open and transparent communications with stakeholders. The interviews reflected the great weight the company puts on good and transparent communication with stakeholders. The respondents made a lot of effort in ensuring that all stakeholders were involved or at

least had the chance to get the information they wanted on each project. Almost everyone said in some way like R2 said;

"There are no secrets here."

Many also mentioned previous projects where communication with stakeholders did not go so well and the people against their actions used propaganda to get their points across. The project managers profoundly want to avoid those kinds of scenarios. Therefore they put a great emphasize on honest and open communications for the wellbeing of their projects and the company image. On the other hand it seems the project managers were not completely involved in all aspects of the company's strategy and it can be concluded that the company is not communicating effectively the purpose and strategy of their sustainability efforts, R6 said:

"I don't know [what Landsvirkjun is doing to fulfil the carbon neutral goal]."

Doppelt (2003) describes it as lack of information and it is often seen in project based organisations. Project divisions make it difficult to have unified strategy and for knowledge to be diffused across projects (Newell *et.al.*, 2003). Lewis *et.al.* (2003) emphasize on the importance of constantly communicating the messages across to employees with structured dialogue in order to make the members feel more involved in the implementation process. Landsvirkjun is using arts and their website to communicate their strategy to employees as well as it was mentioned in some interviews that everyone were encouraged to attend meetings and conferences.

"We are a part of FESTU (Icelandic Center for Corporate Social Responsibility) and everyone is encouraged to attend those meetings" R1.

5.6 Insufficient mechanisms for learning

None of the project managers felt they got some training in sustainable thinking or issues related to sustainability. But they all mentioned the weekly and monthly in-house meetings about various topics where sustainability could be one of the themes.

"I don't think people get any formal training in it [sustainability]" R1.

"No we don't get any training but we have specialists in this area [sustainability] and they get training" R3.

Insufficient mechanisms for learning is Doppelt's (2003) explanation to incompetent organisational learning and employees motivation to overcome barriers to change. He suggest that the organisation must alter their feedback and learning mechanisms so that employees and stakeholders are motivated to develop their skills, knowledge and understanding. Project managers do not get a formal training in thinking about sustainability although it is suggest it to be the best way to implement sustainability successfully (Esquer-Peralta, Velazquez, & Munguia, 2008; Cordano, Ellis, & Scherer, 2003). The company is on the other hand doing some things to promote sustainability, such as changing decision making processes to fit better with sustainable thinking (Tingström, Swanström, & Karlsson, 2006).

"The company is looking at stage-gate method" R4.

"We have been developing a decision-making method and we try not to use the BOGSAT method (Bunch Of Old Guys Sitting Around a Table) although it is a method usually practiced" R8.

According to Hersh (1999) good decisions makers are flexible and have the ability to change the problem constrains instead of selecting an alternative from a number of poor options. This is also in line with sustainable decision making cause it allows

decision makers to explore options that could be more suitable for the project and likelier be more sustainable. This relates to the employees ability to learn and if they have the autonomy from the organisation to approach decision making in that way.

"I take my proposal to my boss and together we present it to the board, which takes the decision...therefore my authority to take decisions is very clear" R3.

The participants highlighted how the meeting culture in the company affects how decisions are taken. They also mentioned how the working space has influences in this matter and the people who were sitting at an open space found that there were fewer meetings and better communications. Decisions are often taken on the run or by the coffee machine.

"Decisions are made after discussing the topic for a while – voting is never an option" R6.

5.7   Failure to institutionalize sustainability

"We think unconsciously according to these [sustainability] values" R2.

This sentence was very descriptive for project managers attitude in the interviews, they talked like sustainability was part of their daily routine although they did not recognize it to be sustainability, often they would rather recognize it as common sense than sustainability;

"We are looking at all three factors [social, environmental and economical] because it is common sense not because of sustainability" R4.

Therefore it can be concluded that sustainability is in a way rooted in the project managers' daily routine although they do not recognize it as sustainability.

"I think managers are aware of it [sustainability goals] but the general employee is not thinking about it a lot, I think" R3.

Doppelt's (2003) fifth blunder is the failure to institutionalize sustainability and it is about the successful implementation of sustainability-based thinking into everyday processes, policies and culture. One of main difficulties with the implementation of sustainability is the problem of how humans think, human values and perceptions might not be in line with sustainability values (Millar *et.al.,* 2012; Marshall *et.al.*, 2011; Brown, 2005). Doppelt (2003) recommends that parameters be adjusted by aligning systems and structures with sustainability. This is a continuous process and the organisation needs to incorporate new ways of thinking and acting in how it does business. It can be concluded that sustainability thinking is in a way part of the company culture. The employees generally talked about how proud they were working for a company like Landsvirkjun that is environmentally friendly and emphasizes on sustainability. Their high personal ambition in this area was often discussed as well. Brown (2005) says that individuals have to be internally committed in order to follow sustainability principles. Therefore it can be assumed that employees with high personal ambition regarding sustainability are likelier to act on the company's strategy regarding sustainability.

According to Morsing & Oswald (2009) the company's values can be used as cultural tool to implement sustainability. Landsvirkjun really emphasizes on their values and the employees seemed to know the values by heart. The true transformation towards sustainability is when values and norms are altered, leading to choices that are superior to previous decisions when it comes to environmental, social and economic outcomes (Beer & Nohria, 2000). But there is always the risk of simplifying the values into slogans which are only used for imaged boosting and public relations (Mirvis, Googins, & Kinnicutt, 2010).

"We shall show prudence..." R2.

"Our code of conduct talks about prudence, reliability and progressiveness"
R4.

Landsvirkjun could on the other hand do more to motivate their employees when it comes to personal sustainability because according to Schein (2006) the stronger the culture the more effective it is. Therefore it can be assumed that if the personal sustainability is stronger amongst the employees it will reflect stronger in the organisation. The project managers mentioned that Landsvirkjun encourages them to participate in a national workplace workout competitions called *'Lífshlaupið'* and *'Hjólað í vinnuna.'* All employees have an educational plan to set personal goals and goals related to the organisation, this is then evaluated yearly. It seems like the participants were quite satisfied with the actions Landsvirkjun is taking to promote personal sustainability but there is always further to reach.

"There are a lot of things going on here to deepen the sustainability thinking amongst employees and make them more aware of it" R1.

5.8   Summary of discussions

Doppelt's blunders are summarized in table 1 below, with one additional factor regarding the ambiguity of the sustainability concept. Quotes from the interviews were categorized as negative meaning that they matched the blunder or positive meaning that they did not show sign of the blunder. The progress of sustainability implementation was estimated for each blunder. It was evident that Landsvirkjun's employees showed signs of all the factors despite the company's advantages of having a very sustainable production or 99% renewable yields.

Table 1 Sustainability blunders adapted from Doppelt (2003). Progress: ✓✓✓ = good,

✓✓ = acceptable, ✓ = not good

Negative	Positive	
Patriarchal thinking		**✓✓**
"Environmental manager knows what the demands are, we first and foremost just follow the procedures set by relevant person" R6.	"Decisions are not taken democratically, more professionally where each person takes decisions in their own power" R3. "Bigger decisions go to the steering group which is over the project…it composites of highly experienced individuals from the company and managers, this group has extensive knowledge and managerial influences to take decisions" R6.	
The silo approach to environmental and socio-economic issues		**✓**
"It's part of the company's strategy, you can probably google it or ask the human resources department about it [what actions Landsvirkjun is taking to equalling the gender percentage]" R3. "Maybe you want to talk to somebody else about that" R5. "I can't tell you what the company is doing only what my project is doing" R7.	"We need measurements to measure [CO_2 emission] and we are working on it" R4.	

No clear vision of sustainability	✓
"We build power plants with corporate social responsibility in mind but otherwise we do not work with sustainability for goals". R5. "There is some discussion about sustainability in the company but I don't think we have specific goals or vision" R4.	"We have defined our strategy and one part of it is communication with stakeholders and that is the biggest part regarding sustainability" R1. "It's part of our strategy…" R8.

Ambiguity of the sustainability concept	✓
"I don't remember the definition I have to admit but I think it is defined here [in the company]" R6. " I looked it up before you came…It is the big picture that we are looking at and it is important to include all three aspects [environmental, social and economical aspects] although the focus on each of them is not the same" R8.	"It is Landsvirkjun's role, and we say that our role is to maximize the culmination of the resources that we are trusted for with sustainability as a guiding light. We interpret it as we don't want to ruin the natural resources for coming generations, in order for it to be used sustainably" R1.

Confusion over cause and effect	✓✓✓
"We have all sorts of mitigation actions" R1.	"We are measuring our carbon footprint and we try systematically to reduce it" R1. "We have electric cars available" R3.

Lack of information	✓✓

"I don't know [what Landsvirkjun is doing to fulfil the carbon neutral goal]" R6. "Maybe you have to go an get it [the training/information] yourself" R2.	"We are a part of FESTU (Icelandic Center for Corporate Social Responsibility) and everyone is encouraged to attend those meetings" R1.

Insufficient mechanisms for learning	✓

"I don't think people get any formal training in it [sustainability]" R1. "No we don't get any training but we have specialists in this area [sustainability] and they get training" R3.	"The company is looking at stage-gate method" R4. "We have been developing a decision-making method and we try not to use the BOGSAT method (Bunch Of Old Guys Sitting Around a Table) although it is a method usually practiced" R8.

Failure to institutionalize sustainability	✓✓✓

"I think managers are aware of it [sustainability goals] but the general employee is not thinking about it a lot, I think" R3.	"We are looking at all three factors [social, environmental and economical] because it is common sense not because of sustainability" R4. "We think unconsciously according to these [sustainability] values" R2.

6   Conclusion

This section gives conclusions from the analyses and provides recommendations and suggestions for further research.

Sustainability is a widely accepted concept but the difficulties related to it are that it seems to be hard to grasp amongst individuals and organisations, which has resulted in many competing definitions. There are also some limitations to the implementation of it into projects and organisations. This qualitative case study investigated project managers' perception of sustainability in a project based Icelandic energy company, Landsvirkjun. Data collection involved reviewing of official company documents as well as the conduction of interviews with eight project managers in Project Planning and Constructions division of the company. The results were analysed and match to current literature in order to get a deeper meaning and understanding.

The literature revealed that barriers to sustainability implementation in project based organisations have been identified and the results from this case study mirrored these barriers. Dopplet's (2003) tool of seven sustainability blunders was used to categorize the limitations. Not all the sustainability blunders reflected strongly in the interviews. Some of the blunders the company is not struggling with. Others such as the silo approach to environmental and socio-economic issues, no clear vision of sustainability, ambiguity of the sustainability concept and insufficient mechanisms for learning were all blunders that Landsvirkjun showed signs of.

Reflecting on the literature in relation to this case study the ambiguity of the sustainability concept was added to Dopplet's tool of sustainability blunders. The researcher evaluated the need to differentiate between no clear vision of sustainability and ambiguity of the concept highly important. Therefore a clearer picture of the limitations organisations and projects face when implementing sustainability would be explored. Landsvirkjun has a clear sustainability strategy and their yields are 99% sustainable, making the company the second largest producer of electricity from renewable sources in Europe. The decoupling of the company's sustainability strategy and realizations was very evident in the interviews and the project managers did not

recall that the company was working with the sustainability concept. Causes could be the high autonomy project managers in the project based organisation have and lack of clear definition of the sustainability concept within the company. The company's great usage of slogans from the strategy indicates that the strategy is mostly used as a marketing boost rather than a real change affecting all departments, people and processes.

Further research in this area is needed and it would be very interesting to do similar case studies on other companies. It would be intriguing to do a comparison between Icelandic companies and companies in English speaking countries. In order to see if languages barriers play an important role when it comes to the ambiguity of the sustainability concept. The researcher might have emphasised too much on the concept of sustainability, maybe it would have been better to separate the concept from what is actually going on in the company. It seems like the company and its employees are working and thinking in a sustainable way but they are not recognising it as sustainability.

Recommendation for Landsvirkjun based on this case study is to define what sustainability means to the company. Communicate the definition and connect it the organisational projects. That way project managers would feel more responsible for the company's sustainability strategy.

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APPENDIX A

Interview guide

Personal information

1. Can you tell me about your background?

    a. Education, experience and when you graduated.

2. How long have you worked at Landsvirkjun and what is your role in the company, how long have you been working in your position?

    a. What is your job title?

Sustainability in Landsvirkjun

(Landsvirkjun's values: progressiveness, prudence and reliability)

3. Is sustainability concept that you use and work with?

    a. What does it mean to you?

4. Do you differentiate between environmental- ecological and social sustainability?

    a. Are all aspects important and why?

5. For how long has the company been working with the sustainability concept?

6. What are the main reasons for implementing sustainability? (drivers: personal, external, company).

7. How are the sustainability goals interpret in daily practice?

8. Landsvirkjun aim is to be carbon neutral company, can you tell me what the company is doing to fulfill this goal?

9. On your website there is an emphases on interactive information flow.

    a. Can you tell me about it?

    b. What does it mean to you?

10. There is also discussion on the website about the importance of transparency in the company.

    a. Can you tell me about it?

    b. What does it mean to you?

11. Can you tell me about Landsvirkjun's Code of Conduct?

    a. Has something changed after the implementation?

12. Open communication with stakeholders, what does that mean to you?

    a. Are stakeholders interested in the sustainability goals?

13. One of your goals is to increase the percentage of female mangers from 17% to 20%, what actions are you taking?

Projects

14. How many subordinates do you have?

    a. How many people are normally in your project team?

15. How do you choose your project team?

16. How many projects are you currently working on?

    b. Can you tell me about your projects, what are they about?

17. What do you do as a project manager to fulfil the company's sustainability goals?

18. Can you describe the decision making processes, big and small decisions.

19. How is sustainability expressed in the company? (newsletters, memos, intranet…).

20. What is the company doing to promote individual sustainability?

21. What is the company doing to promote sustainability within the Icelandic society?

22. Are the sustainability efforts measured in any way?

23. Are sustainability efforts rewarded in any way?

24. Do you think employees are in general aware of sustainability?

25. What do you think are the biggest challenges regarding sustainability in the company?