



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

How Corporation Manage Sustainability

Henrik Pettersson and Iman Ali

Graduate School

Master of Science in Accounting
Master Degree Project No. 2011:43
Supervisor: Petter Rönborg

Acknowledgements

First of all, we would like express our gratitude towards the interviewees and the companies they are representing for participating in this study. The issues covered in this paper are complex, and while it would be impossible to give a full account of each company's specific settings, we hope that our study has still given a fair and honest picture of the actual reality. We would also like to thank our supervisor, Petter Rönnborg. We could not have done without his support and encouragement during the writing process. Moreover, we would like to thank those who have acted as opponents on this paper and provided us with valuable advice. Finally, we would like to give a special thanks to our friends and families, who have been supporting us through it all.

Gothenburg, June 25th, 2011

Henrik Pettersson

Iman Ali

Abstract

Master thesis project in management accounting – Graduate School at University of Gothenburg
School of business, economics and law

Title: How corporations manage sustainability

Authors: Iman Ali and Henrik Pettersson

Purpose: The purpose of this study is to describe current practice in the use of management control systems to manage sustainability in companies that publicly convey a dedication to sustainability.

Design/methodology/approach: The study is structured around Otley and Ferreira's (2009) conceptualization of a management control systems. Attention is focused to the aspects of the control systems relating to sustainability. The study is of a descriptive nature and findings are primarily drawn from interviews conducted at the participating companies.

Findings: The companies studied have all set up relevant control capabilities to control for sustainability. This includes assigning responsibility for coordinating and managing the sustainability perspective to departments responsible for sustainability or individual aspects of it, as well as developing capabilities to plan and measure performance related to sustainability. The coherence by which these controls have been implemented, based on broader themes drawn from Otley and Ferreira's (2009) model, differ somewhat. Some of these themes are more poorly reflected in the companies' control systems for sustainability than others.

Originality/value: This study contributes to a very limited prior literature on management control systems and sustainability.

Keywords: Sustainability, Sustainable businesses, Management control systems.

Table of contents

| | |
|--|-----|
| Acknowledgements | II |
| Abstract | III |
| Table of contents..... | IV |
| 1 - Introduction..... | 1 |
| 1.1 Background..... | 1 |
| 1.2 Purpose of study..... | 2 |
| 1.3 Research question | 3 |
| 1.4 Execution of study | 3 |
| 1.5 Contributions of study..... | 3 |
| 1.6 The structure of this paper..... | 5 |
| 2 – Methodology | 6 |
| 2.1 Relation to Otley and Ferreira’s model..... | 6 |
| 2.2 Descriptive case study | 7 |
| 2.3 Data selection | 7 |
| 2.4 Data collection..... | 9 |
| 2.5 Representativeness of sample | 10 |
| 2.6 Data interpretation and analysis | 10 |
| 2.7 Discussion about choices relating to the literature..... | 11 |
| 2.8 Definition of sustainability | 11 |
| 2.9 Definition of a management control system..... | 11 |
| 3 – Theoretical framework..... | 13 |
| 3.1 Management control system themes | 13 |
| 3.1.1 Definition of sustainability | 13 |
| 3.1.2 Vision & mission and Key success factors | 14 |
| 3.1.3 Vision & mission and key success factors/sustainability..... | 14 |
| 3.1.4 Organizational structure..... | 16 |
| 3.1.5 Organizational structure/sustainability..... | 16 |
| 3.1.6 Strategies and plans | 16 |
| 3.1.7 Strategies and plans/sustainability | 17 |
| 3.1.8 Performance measures | 17 |
| 3.1.9 Performance measures/sustainability | 18 |
| 3.1.10 Target setting, Performance evaluation and reward systems | 18 |
| 3.1.11 Target setting, Performance evaluation and reward systems/ sustainability | 19 |

| | |
|---|----|
| 3.2 Findings and observations from prior research | 20 |
| 3.2.1 Integration of sustainability in conventional management control systems..... | 20 |
| 3.2.2 Organizational location of responsibility..... | 21 |
| 3.2.3 Difficulties managing the social dimension of sustainability | 21 |
| 4 - Empirical Findings..... | 23 |
| 4.1 Sustainability definition..... | 23 |
| 4.2 Vision and Mission..... | 23 |
| 4.3 Key success factors | 24 |
| 4.4 Organizational structure..... | 24 |
| 4.5 Strategies and plans | 26 |
| 4.6 Strategies and plans – enabling factors..... | 28 |
| 4.7 Performance measures | 30 |
| 4.8 Target setting..... | 31 |
| 4.9 Performance evaluation | 32 |
| 4.10 Reward systems..... | 32 |
| 5 – Discussion | 35 |
| 5.1 Definition of sustainability | 35 |
| 5.2 Vision and mission..... | 35 |
| 5.3 Key performance indicators | 36 |
| 5.4 Organizational structure..... | 36 |
| 5.5 Strategies and plans | 37 |
| 5.6 Key performance measures..... | 37 |
| 5.7 Target setting..... | 39 |
| 5.8 Performance evaluation | 39 |
| 5.9 Reward systems..... | 40 |
| 5.10 Coherence of control system for sustainability..... | 40 |
| 6 – Concluding remarks and suggestions for further research | 42 |
| 6.1 Concluding remarks..... | 42 |
| 6.2 Limitations of study | 43 |
| 6.3 Suggestions for further research..... | 43 |
| 7 - Frame of references | 44 |
| 7 – Appendix 1 – Interview guide | 47 |

1 - Introduction

1.1 Background

The concept of sustainability and related sub-concepts are widespread and popular. (Bebbington, 2001) Businesses of today increasingly perceive sustainability as something important and something that calls for consideration (CIMA 2010). The concept of sustainable development and related concepts lacks broadly accepted definitions (Bell and Morse 2008), however, and this often causes difficulties when the concepts are to be applied in reality (Smith and Sharicz, 2011). There are different views on what sustainability would mean in practice and some views are conflicting with others (Bell and Morse, 2008). It has been argued that the vagueness of the concept might have created a flexibility to make interpretations and that this have added to the popularity of the concept (Bell and Morse, 2008). One influential definition, however, is that provided by WECD in 1987 (Bansal, 2005). Here, sustainable development is defined as *“...development that meets the needs of current generations without compromising the ability of future generations to meet their needs and aspirations.”* (WECD 1988) Stemming from this definition, a common notion of sustainable development has emerged, that it should include aspects relating to social, environmental and economic considerations (Bebbington, 2007). It is now fairly accepted that the sustainability concept demands a consideration of these three dimensions (Bebbington 2007, Bansal 2005).

Laszlo (2008) argues that companies are capable and well suited to cater for increasing demands for sustainability. Steger et al. (2009) argue that it can and does make financial sense for businesses to engage in proactive sustainability projects. Bartolomeo et al. (2000) argue, based on their study of several large European companies, that there are still opportunities for increased commitment to environmental performance in management accounting practices, both from a business perspective and from a perspective based on environmental considerations.

However, a corporate approach to sustainability is not entirely unproblematic and without limitations. Laszlo (2008), for instance, argues that while companies can do much, they are neither capable nor obligated to deal with the issues surrounding sustainability on their own. While some argue that there is a business case in relations to sustainability, research has found that companies pursuing sustainability are rather unwilling to let this translate into new net-costs (Bartolomeo et al. 2000; Steger et al. 2007). This attitude was also reflected in a recent survey, where the majority of companies working with sustainability issues estimated that their pursuit for sustainability would be neutral or positive in financial terms (KPMG 2008). Moreover, Adams and Frost (2008) found that the companies they studied justified their sustainability-related practices with business logics rather than moral

considerations. Sometimes, the scope of integration of a sustainability perspective can be somewhat less extensive than what is conveyed externally. Bartolomeo et al. (2000) found that the sustainability efforts in some companies were limited to isolated projects. On top of this, practitioners seem to find it hard to relate sustainability to dimensions relevant for their organization (Steger et al. 2009) and prioritize among relevant issues relating to sustainability when working with this perspective (KPMG 2008).

Sustainability exercised in businesses is not uncontested or unquestioned. In comparison with the proponents of the business case for sustainability, critics often draw from another view on research, the so called critical perspective (Burrit and Schaltegger, 2010). Critics of the business perspective towards sustainability argue that what is commonly understood as the business case is not compatible with the purpose of and intentions of sustainability. (Gray, 2006) Viewing sustainability as something definitive, tradeoffs to other variables and dimensions, such as costs, are unlikely to be accepted (Bell and Morse 2008). Milne et al. (2009), representing some of the critics, argues that if an organization's pursuit of sustainability solutions is limited to situations which are at least financially neutral (also referred to as a win-win situation) it is not really engaging in sustainability at all. Gray (2002; 2006) moreover argues that companies, drawing from the prevailing business logic, are unable to engage in real sustainability anyway. Hahn et al. (2010) argue that, while the win-win approach is the most commonly applied view in mainstream research, its applicability in reality is the exception rather than the norm. They argue further, that applying that view will lead to missed long-term business opportunities.

Proponents of sustainability in a business perspective emphasize the importance of integrating the sustainability perspective in values and operations of the entire organization (Epstein, 2008; Dalton and Quinn, 2009). This view is also backed by empirical findings, which suggest that companies working with sustainability tend to integrate this perspective in the organization's core operations (KPMG 2008). Proponents of sustainability in a business setting moreover argue that the successful integration of the sustainability perspective involves an integration of sustainability in the organization's strategies and plans (Bonn and Fisher, 2011), performance measures and measurement system (Searcy 2009), and every function of the organization (Dalton and Quinn 2009). It is interesting that something as hard to define and operationalize as sustainability have become so popular in companies today. How do the companies go about to internalize this perspective in their organizations?

1.2 Purpose of study

One purpose of this study is to show how companies have chosen to manage sustainability internally within their organizations in order to live up to outspoken ambitions to improve the sustainability of

their operations. The primary purpose is to describe practices on a general and systemic level, in order to provide an account of how companies have chosen to address the management of sustainability within their companies. Here, the aim is to create an impression of what systematic control for sustainability might look like in practice. An additional intention is to uncover whether this outspoken ambition of sustainability is reflected in a coherent use of a management control system for sustainability to manage sustainability performance. This study will provide a snap-shot of practices currently used in Swedish companies. With this approach, and due to the selection of 5 different companies, no detailed account of the individual systems will be given. It should be emphasized here, that the purpose of this study is to provide a description of current practices and not to identify and/or to promote a best practice of any kind.

1.3 Research question

The research question of this paper is:

-How is sustainability reflected in the internal controls of companies pursuing sustainability?

The companies' internal controls for sustainability will be identified using an adapted version of Otley and Ferreira's (2009) model for studying management control systems. Whether sustainability is reflected in the controls or not will be assessed by the coherence by which the controls for sustainability within these companies are designed and used.

1.4 Execution of study

In order to answer the research question, Otley and Ferreira's (2009) framework was used as a template to conceptualize a management control system. The purpose of the model is to assess a company's management controls system by thematically studying different aspects of such a system. A modified version of the framework was developed in order to better highlight sustainability-control relationships. The modified model constitutes the foundation for the evaluation of how the sustainability perspective was reflected in the companies' internal controls. For a closer discussion about the adapted model and its use in this study, please refer to section 2 of this study.

1.5 Contributions of study

The literature on management control systems is somewhat fragmented, and different strings of research have concentrated on different aspects of the control systems, potentially leading to a lack of holism in the understanding of management control systems (Berry et al. 2009).

Berry et al. (2009) call for more field-based empirical research to study how control systems operate in practice, and argue that findings could contribute to a more integrated understanding of management control systems. Informed by the definitions of an extended management control system provided by Otley (1999) and Otley and Ferreira (2009), we try to describe the management control practices with regards to sustainability in five companies. According to Stringer (2007), there is limited empirical research on management control systems based on the systematic description of management control systems called for in Otley (1999) and Ferreira and Otley (2009).

In their recent review of emerging themes in the field of management controls, Berry et al. (2009) found that there was little to be found on management control and sustainability. There are indeed some prior case studies describing control systems with regards to sustainability (See for instance Riccaboni and Leone 2010; Morsing and Oswald 2009; Durden 2007). The studies that have been conducted so far rarely have a systemic view of the control practices adopted to work with sustainability internally. Instead, they often only consider parts of the sustainability concept such as Norris and O'Dwyer (2004) and Durden (2007), who have focused on management control systems and control for social sustainability. Or, alternatively, they focus on individual aspects of the control system, such as development and use of key performance indicators (Adams and Frost, 2008) Few of these studies have covered more than one single company (see Bartolomeo et al. (2000) or Adams and Frost (2008) for exceptions) No studies using this comprehensive and structured approach to studying management control systems in practice in relation to sustainability could be found at all.

This study contributes to the scientific literature by providing examples of what control for sustainability can look like in practice. Apart from this, we also hope to contribute to the literature on management control systems in general by applying a more comprehensive and systematic approach to the study of sustainability controls.

1.6 The structure of this paper

The remainder of this paper will be structured as follows:

- Chapter 2:** The method used and related choices that have been made are presented. This includes a presentation and adaptation of the model used and around which the succeeding sections have been structured.
- Chapter 3:** Describes earlier literature and findings related to management control and sustainability.
- Chapter 4:** Findings made are presented and these are structured around the main features of the model used.
- Chapter 5:** Here, findings made are set against prior findings and literature in order to assess the coherence of the control systems for sustainability in the studied companies.
- Chapter 6:** This final part summarizes the study and presents the conclusion made. It also provides a discussion about the study's limitations and provides suggestions for further research.

2 – Methodology

In this section, the chosen method for this study, including selection and collection of data will be presented. It will also introduce Otley and Ferreira's (2009) model as well as describe this study's relation to the model and what adaptations have been made. Finally, this study's definitions of sustainability and management control systems will be reviewed.

2.1 Relation to Otley and Ferreira's model

Otley and Ferreira's (2009) model is originally created to get an impression of what the extended management control system of an organization looks like. It is structured around a number of themes relating to a management control system with corresponding questions. This study's purpose is to assess the internal controls with regards to sustainability. The model provided a suitable starting point for structuring an analysis of the extended management control system. The data relevant for this study related to the aspects of the companies' management control systems with regards to sustainability. In order to capture this aspect of the management control systems, Otley and Ferreira's (2009) model was adapted to better reflect this. Based on this model, with considerations taken to highlight control for sustainability, this study's interview-guide was developed. The purpose of the interview guide was to get an impression of how/whether the sustainability was reflected in the different elements of the control system outlined in the model. For the data collection process, focus was kept on the 8 first questions/themes of Otley and Ferreira's (2009) model, which they say represent the core characteristics of a performance management system. The remaining questions were also considered in the data collection, but no emphasis was put on them. These 8 questions/themes were complemented with an additional "theme" about companies' definition of sustainability. For more details on the interview guide, please refer to Appendix 1.

The ambition has been to maintain this thematic structure throughout the paper. Some minor exceptions have been made for practicality reasons, however, such as for instance very limited prior research on a particular area. This thematic structure is complemented with an additional point in the discussion part of this paper. Here, the final part of Otley and Ferreira's (2009) model, strength and coherence, is added. The purpose of this addition is to review the findings made from the different elements of the companies' management control system with regards to sustainability. Based on this, a discussion is held on the coherent use of these controls and whether sustainability is reflected in the totality of the system.

2.2 Descriptive case study

The lack of prior research in the area, on which to base informed and qualified predictions made it hard to rely on quantitative methods. A case study approach was found to be most viable given the circumstances. The purpose of a descriptive case study is to describe (management) accounting practices currently used (Scapens, 1990). This study will be a descriptive case study and the aim is to outline current practices of control with regards to sustainability within the examined companies. When conducting case study based research there is a need to set a unit of analysis. The unit of analysis is that phenomenon or element which is being examined. Data should be collected for the purpose of explaining this phenomenon further (Hussey and Hussey, 1997). In this study, the unit of analysis is management control systems with regards to the sustainability dimension identified in our sample. As such the selected companies' management control systems for sustainability constitutes our unit of analysis.

2.3 Data selection

Data for this study was primarily collected through interviews and follow up questions. Additional inputs have been provided by studying annual reports, and complementing documentation provided by the companies interviewed.

In order to find suitable research objects, relevance of companies headquartered in the region was assessed and evaluated. The target was to find large mature companies with an outspoken drive towards sustainability. The decision to go for large and mature companies is based on four assumptions. First, the larger and more complex a company is, the greater the need for coordinating its activities using structured approaches to internal controls becomes. Secondly and somewhat simplified, a company's size, *ceteris paribus*, affects the impact its operations have on the external environment. Thirdly, larger companies attract more public attention and are more eager to avoid bad-will related to sustainability related failures. Finally, the larger the company gets, the more likely it becomes that it can dedicate more resources in absolute terms to work with sustainability. This would make it easier to identify the individuals responsible for internal management of the sustainability perspective with sufficient understanding of the process.

The selection process of the companies examined started with the setting-up of a data-base. The use of an online data-base (www.largestcompanies.com) enabled the filtering of all companies operating in the Swedish province Västergötland. Results were sorted in descending order based on total turnover. A cut-off value was set at a turnover of 500 million €. This resulted in a list consisting of some 30+ companies from which the subsequent selection was based.

The selected companies' official homepages were then analyzed to assess whether a sustainability perspective was promoted or not. As a first step, the word sustainability, or sub-components of the sustainability concept (primarily social and environmental responsibility and -management) were looked for as key contents in the respective homepages. Following this initial screening, a more thorough one was conducted. In this, the objective was to assess which companies seemed to work sustainability and/or its relevant sub-components in a more extensive way, rather than just presenting isolated success stories or a few isolated metrics. Moreover, when the term sustainability was found during this second screening process, we looked for indications that both the social and the environmental dimensions would still be considered. The ambition was to filter out companies which might have adopted one dimension but ignored another. The final step of the screening process took place when the companies were contacted and when suitable interviewees were being tracked down. This served to confirm whether or not organizations were actually managing sustainability issues internally.

After the screening process, seven qualified companies were identified, five of which agreed to participate in this study. Of these five companies, four are headquartered in Gothenburg, Västra Götaland. The final company was actually headquartered in Stockholm but had its largest business unit in Gothenburg. This was also one of the five companies in the final sample. Although this site did not fulfill the requirement of being headquartered in Västra Götaland, the people interviewed at this site had an intimate understanding of the internal controls with regards to corporate sustainability. The five selected companies' primary operations rested in various industries. These were: Metal products; Power generation; Paper; Machinery and equipment; Health care. Of the seven companies identified after the screening process, six agreed to participate and one did not. Although it was never explicitly said that this particular company had no interest in participating, the person with whom we talked would not commit to a certain time for an interview. One cited reason for this was that the pressure from accommodating other students' projects and limited time to spare for such projects. The sixth company was positive towards participating, but the only available times that were offered were incompatible with the timeframes of this project.

The framework adopted for the interviews is very comprehensive and requires a fundamental understanding of the controls used within the entity and their underlying reasons. When approaching the companies, employees with insight in and experience of the process of controlling for the sustainability dimensions were the ones primarily sought. Moreover, interviews with the people responsible for this process were strived for. The minimum requirement was that the interviewees at least were involved in managing the sustainability process internally to some extent. Interviews with

people only involved in external communication of corporate sustainability were avoided. Depending on how the company had chosen to approach the sustainability perspective from an organizational stand-point, the numbers of interviews necessary to get a satisfactory image of the companies' practices varied between 1 and 2. All interviewees agreed to participate in follow up questions if needed.

In this study, all respondents and companies studied will be kept anonymous. Instead, companies studied will be referred to as an assigned letter, ranging from A to E. Quotations will be referred to as a reference to the interviewee's function within the given company followed by a reference to the relevant company. The studied companies' primary businesses rested in different industries:

| Company code | Primary industry |
|---------------------|-------------------------|
| Company A | Metal products |
| Company B | Power generation |
| Company C | Paper products |
| Company D | Machinery and equipment |
| Company E | Health care |

Table 1: Studied companies and corresponding industries

The intention with this study is not to identify individual companies' practices in detail. The primary intention with the anonymity is that large and established companies' names might draw attention away from this study's unit of analysis, i.e. the management control systems with regards to the sustainability dimension.

2.4 Data collection

Interviews held were personal interviews in the respective interviewees' offices. Interviews conducted were semi-structured and in their nature. This means that the interviews were prepared beforehand but the exact questions were not (Ryen, 2004). The lack of prior research within sustainability and management accounting interactions made it difficult to rely on a completely structured approach. The lack of predictability of answers called for a need for extra flexibility in the data collection. One advantage of the semi-structured format over the structured is that it allows for follow up-questions and clarifications whereas the structured approach does not (Ryen, 2004). Follow up questions and clarifications were used where necessary.

Subject to the consent of the interviewees, all interviews were audio- recorded and later transcribed, thereby minimizing the risk for misinterpretations. Complementary notes were also taken down. All

interviews were conducted with both of us present. One of us was responsible for administering the actual interview and the other one for recording and/or taking down notes from the conversations. These roles were always determined before going to the specific company.

To ensure the consistency and quality of data collection, a framework for the collection was prepared. This was primarily based on Otley and Ferreira's (2009) framework. This framework has been developed for systematic data collection and analysis of companies' management control systems. Focus was adjusted, so that sustainability related issues in the control systems would be highlighted in the interview guide. The adapted framework was also complemented with more general questions primarily relating to the company's view on sustainability. The interview guide used can be found in Appendix 1.

The number of interviews conducted at each company ranged between 1 and 2. The reason for this was that the way the companies had chosen to structure their control for sustainability within the organizations differed. In some companies, two interviews had to be conducted in order to cover the relevant areas. The length of the interviews varied between one and two hours.

2.5 Representativeness of sample

This study's findings are contingent on the sampling criteria used. The purpose of the screening process has been to identify large Swedish companies which publicly convey a dedication for sustainability. The five companies which were selected operate in five different industries. This study describes patterns in the systematic management of controls for sustainability in these five companies on an aggregated level. The findings made here give an impression of what the control situation with regards to sustainability might look like in large, primarily Swedish, companies with similar commitment towards sustainability. While not statistically generalizable due to the qualitative and descriptive nature of this study, the study provides an account of the features of contemporary management control systems for sustainability and their corresponding use.

2.6 Data interpretation and analysis

The material collected from the interviews was treated as accounts of the actual systems within these companies. The people interviewed have all been involved in managing internal aspects of their respective companies' sustainability initiatives. As such they were all well informed about at least parts of the systems. We therefore assume that the data collected in the interviews reflect the actual systems and not the interviewees' interpretations of them.

Based on the interview guide a check-list was created, reflecting the areas of interest for the study. During the transcription process, this list was used to tick off the areas that had been covered in the interview. More importantly, it helped drawing attention to potential gaps in the collected information. Based on the outcome of this, individual follow up questions were created for each of the companies.

2.7 Discussion about choices relating to the literature

The relevant literature on management controls and sustainability in general was found to be quite limited. The theoretical framework in this study attempts to provide a background overview of the prior research findings and literature on the different themes relating to management control systems drawn from Otley and Ferreira's (2009) model. Much of the prior empirical research relating to management control and sustainability is based on qualitative field- and case studies, covering individual or few companies. While most are rather context specific, they do provide an interesting starting point for comparisons and analogies with the findings that were made in this study. The descriptive account in this study will be compared and contrasted with these earlier findings.

2.8 Definition of sustainability

In this study, there will be no exact definition to the sustainability concept provided. This is to avoid the risk for unnecessary bias in the screening process, seeing there might be many different ways to interpret sustainability in practice. However, a consideration of at least the social and environmental dimensions was set out as a minimum qualifying requirement in our screening process. Apart from this minimum requirement, the intention was to let the companies have an opportunity define this concept themselves. One intention with the screening process was to single out companies who were publicly conveying an ambition to seriously address sustainability related issues to external stakeholders. This, it was argued, allowed for a looser definition of this key-concept.

2.9 Definition of a management control system

Otley and Ferreira's (2009) model is an extension of a previous model made by Otley (1999). The purpose of this original model was to be used as a tool to analyze organizations' management control systems. (Otley, 1999) In the newer model, the scope was extended to analyze an extended management control systems, something which Otley and Ferreira (2009) refer to as a performance management system. The definition of this performance management system is similar to what is commonly understood as a management control system and covers, according to the authors, those elements which are typically included in one.

Otley and Ferreira's (2009) definition of this extended management control system is: *"...the evolving formal and informal mechanisms, processes, systems, and networks used by organizations for conveying the key objectives and goals elicited by management, for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding and broadly managing performance, and for supporting and facilitating organizational learning and change"* (p264).

This is also the definition of a management control system and set of internal controls from which this study will depart and around which findings will be structured.

3 – Theoretical framework

This section is divided in two parts. The first is thematically structured around our adaptation of Otley and Ferreira's (2009) model, with an addition covering the definition of sustainability. Every theme is introduced with some general features and these are then complemented with relevant literature findings relating to sustainability and that feature. Some themes have been merged in this section and this reflects the scarcity of relevant findings relating to these themes from a sustainability perspective. The second part of this section presents findings from isolated cases, based on case and field study research, which have studied aspects of sustainability together with aspects of management control systems. These cases are presented separately to enable the respective studies' findings to be more highlighted. Dissecting the findings and distributing them in part one would have disrupted the coherence of this data.

3.1 Management control system themes

Here, prior research and literature on themes covered in the model adapted from Otley and Ferreira (2009) are outlined and related to relevant literature on sustainability.

3.1.1 Definition of sustainability

As with the term sustainable development, there is no clear definition of how sustainability should be translated into a corporate context and what corporate sustainability would mean (Searcy 2009). The common conception is, however, that it addresses economic, social and environmental performance (Bebbington, 2007). Hannon and Gallagher (2011) studied practicing managers' views and understanding of the sustainability concept. Based on their findings, they argue that it is important to have a definition from which to initiate the implementation of sustainability. Departing from the definition, the work on how to operationalize sustainability and making plans to incorporate the concept in the organization can continue. Searcy (2009) argues that a corporation needs to define sustainability and consider what sustainability means in that company's setting if it is to seriously engage in setting up a performance measurement system to monitor sustainability performance. Hannon and Gallagher (2011) further observed that, in practice, managers' understanding of the sustainability concept can vary greatly- both in terms of how sustainability should be defined and how it should be translated into their businesses. The actual definition might have to be kept wide and deep to enable implementation across all functions of an organization (Hannon and Gallagher, 2011).

Hannon and Gallagher (2011) also found in their study, that the sustainability definitions given tended to be centered mostly or completely on the environmental dimension. The concept's social dimensions had a much less central role in the actual interpretations. This relates somewhat to Riccaboni and Leone's (2010) findings. They argue, based on their findings from one studied company that it can be hard in practice to deal with and operationalize the social dimension of the sustainability concept in particular when working with sustainability.

Empirical studies covering sustainability seldom mentions the economic variable explicitly. Instead, focus usually lies with the environmental and the social dimensions. One exception is Adams and Frost's (2008) case study about Key Performance Indicators (KPIs) and sustainability. Here, they observe that the KPIs relating to sustainability are focused on the social and environmental dimension and cases where work with the development of relevant KPIs is lagging on the social and economic dimensions.

3.1.2 Vision & mission and Key success factors

The underlying logic of this part of Otley and Ferreira's framework (2009) is to find out how organizational values are identified and communicated in order to impact organizational behavior. Otley and Ferreira (2009) acknowledge that some companies might not be working with formal corporate vision and mission statements. This however, is potentially interesting for the analysis of the control system and could be necessary to understand the logic of the remaining system.

Otley and Ferreira define key success factors as *"...those activities, attributes, competencies, and capabilities that are seen as critical pre-requisites for the success of an organization in its industry at a certain point of time"* (p 269). They argue that Key success factors offer a more tangible operationalization of the vision and mission statements and that these are coupled with a more limited time frame and allow regular reporting.

3.1.3 Vision & mission and key success factors/sustainability

Dalton and Quinn (2009) argue that, when working with sustainability, social and environmental aspects need to be reflected in the organization's vision statement and its values. As was outlined previously in the paragraph about definitions of sustainability, there can be considerable difficulties to conceptualize sustainability and this is thought to be a prerequisite in order to translate it to a relevant context (Hannon and Gallagher, 2011; Searcy, 2009). One problem in particular with the sustainability concept from a corporation's perspective can be to determine how sustainability issues relate to that

corporation's operations (Steger et al. 2009). Thus, it seems making sense of the sustainability concept and operationalize it can be a difficult thing indeed.

3.1.4 Organizational structure

Otley and Ferreira (2009) argue that an organization's structure is an important aspect the control system. It affects the control system and restricts options for the design and use of it. Identified key success factors, for instance, might impose requirements for adjusting the organizational structure to be more accommodating. According to Chenhall (2003), common research variables used when studying organizational structure involve formalization, centralization and configuration. Chenhall (2003) further argues, based on an aggregation of findings from contingency based research, that the organizational configuration is likely to have an impact on the propensity to adapt certain management control systems.

3.1.5 Organizational structure/sustainability

Dalton and Quinn (2009) argue that, for a company to fully be able to capitalize on a sustainability-profile, it needs to incorporate sustainability fully throughout the organizations and integrate it in all of its functions. In general, there was little to be found on organizational structure and sustainability. Some aspects of this relationship, although often very context specific, have been covered by case studies when describing other issues. For a closer overview of some of the case study findings relating to sustainability and management control, see section 3.2.

3.1.6 Strategies and plans

In a review of the literature on management control systems and strategy, Langenfield-Smith (1997) concludes that there are many different definitions of strategy and many relate to different organizational levels. Otley and Ferreira (2009) define it as *"...the direction the organization chooses to pursue over the long term as the means of achieving organizational objectives"* (p 270). The purpose of this element in Otley's and Ferreira's (2009) framework is to get an understanding of what actions have been identified as important in order to develop the organization in a desirable way. They say that this is about finding the *"relationship between means and ends"* (p270).

De Waal and Counet (2009) examined what experts perceived as the biggest failure risks of performance management systems. They found evidence for the importance of commitment to a given performance measurement system in order for it to be successful. This related to all levels of the organization, but particularly to the management support. Another, somewhat related important reason for failure included the use of the system facing a low priority.

3.1.7 Strategies and plans/sustainability

Once sustainability has been defined in the company's context, and relevant areas have been identified, Epstein (2008) argues that a strategy should be developed which takes the organization's values and goals into consideration. However, in developing their model for consistent sustainability-strategy implementation, Baumgartner and Ebner (2010) argue that companies in practice often seem to lack a strategy when working with sustainability. The notion that this might sometimes be the case is also shared by Epstein (2008). Based on survey findings from large companies, Gates and Germain (2010) argue that companies are unlikely to align their strategies with sustainability. They moreover found that measures relating to sustainability were poorly reflected in these companies' balanced scorecards. Bonn and Fisher (2011) argue that, in order to work with sustainability in a proactive manner, the sustainability perspectives need to be reflected and well integrated into an organization's strategy development processes at all levels. In order to do this, they also argue that these values need to be reflected in the corporate vision and act as guidance for further strategy development.

Some aspects have been highlighted in the literature as having an important enabling impact on the implementation and execution of sustainability related strategies. Active management and strong internal support for sustainability have been presented as such important factors (Dalton and Quinn, 2009; Epstein 2008). However, when working with sustainability strategies in practice, companies tend to be unwilling to let sustainability practices incur additional costs (Bartolomeo et al. 2000; Steger et al. 2009).

3.1.8 Performance measures

Key performance measures or, sometimes, key performance indicators, are measures or metrics to assess performance accomplished. This performance can be related to goals, objectives plans etc. to evaluate the current level of performance vis-à-vis a desired or targeted level of performance (Otley and Ferreira 2009). Measures can be both financial and non-financial (Otley 1999). It is a common understanding in established management control literature that that which is measured, gets done (Anthony and Govindarajan, 2001; Merchant and van der Stede 2007; Simons 2000), and that that which is measured can drive out that which is not measured (Otley and Ferreira 2009). Too many measures however, can cause confusion and cause those who are being controlled to have difficulties balancing the different aspects (Kaplan and Norton, 2008). Another thing that should be kept in mind is that performance measurement systems need to account for the organization's specific and individual settings. This results in unique features in design and implementation in any performance measurement system (Karapetrovic, McCartney and Searcy 2008).

3.1.9 Performance measures/sustainability

When defining sustainability, one should consider the spatial and temporal dimensions with which to relate your efforts to. Spatial dimensions can be interlinked and it may be hard to identify absolute and discernible boundaries, potentially complicating the identification considerably (Bell and Morse, 2008). Appropriate sustainability measures are essential in order for a company to evaluate its progress in terms of sustainability (Epstein, 2008).

Whereas some understanding and consensus is to be found about what an environmentally sustainable system could look like, or at least a general idea of the desired outcomes, it is even more subjective to define a system based on social sustainability. Moreover, elements in such a system for social sustainability tend to be complex and interrelated, making it even harder to quantify, measure and evaluate them (Bebbington 2007). Relating this more specifically to a business perspective, and complicating the control situation further, Steger et al (2009) have found that sustainability-related issues faced can be unique to companies or even local sites and entities. Moreover, issues related to sustainability are complex and companies sometimes lack the will and/or capacity to collect relevant information (Steger et al. 2009).

3.1.10 Target setting, Performance evaluation and reward systems

Stringer (2007) argues, in her review of field-study literature on management control systems, that many studies are lacking in terms of coverage of reward systems, motivational target setting and performance evaluations. The coverage on the interrelationships between these elements and the larger performance management system has been very limited. Performance evaluations can be made on the basis of objective or subjective criteria, or it could involve a mixture both components and performance could be recognized and rewarded both on an individual or an aggregated level, so called group rewards (Otley and Ferreia 2009). In their model, Otley and Ferreia (2009) define rewards in a very broad sense. As such, both formal and informal rewards are considered and rewards could take the form of either financial or non-financial elements. More specifically rewards, in this sense, could range from management approval, recognition or improved career trajectory to formal financial incentives and bonuses. Rewards could be either positive, as is the common understanding of the word, or negative, which translates into sanctions and penalties. Both forms are relevant when assessing the control system (Otley and Ferreia 2009).

3.1.11 Target setting, Performance evaluation and reward systems/ sustainability

Target setting, performance evaluation and reward setting in relation to control for sustainability are concepts that have not been covered specifically in the literature reviewed. Several researchers briefly mention some or all of these however, as aspects that a well-functioning control system for sustainability could or should have.

Bonn and Fisher (2011) argue that, in order to follow a sustainability strategy, an organization would need to set up a system for relevant performance evaluation and reward system, in order to connect employees' performance to the sustainability dimensions. Epstein (2008) moreover, talks about performance evaluation as an important way of connecting an organization's sustainability goals with the actual outcome. Through the comparison of actual performance and targeted performance, continuous improvement of results is facilitated, he argues. Riccaboni and Leone, (2010) emphasizes the need to consider both formal and informal aspects of the management control system in order to fully implement a sustainability perspective in the organization. Examples of formal control elements which they argue should be considered, both the performance measurement system and the rewarding systems are mentioned. Henri and Journeault (2010) argue that there are many ways to add controls related to environmental performance in conventional management accounting systems. Some of the suggestions provided include: the development and use of relevant performance measures; integrating goals related to environmental performance into controls such as the budget; and connecting the goals and measures to incentives (i.e. rewards).

Epstein (2008) argue that some factors that are relevant for improved sustainability, such as proactively avoiding risk for accidents, can potentially be associated with disincentives in the normal financial control system. Acting proactively in these situations could lead to short-term financial losses and might be counteracted within the organization. Rewards related to sustainable performance, Epstein, argues could act to offset this potentially destructive behavior. Relevant rewards for sustainability, according to Bonn and Fisher (2011), should include long term focus on the organization's sustainable impact and suggest the use of several long-term sustainability measures to be included in financial remuneration packages.

3.2 Findings and observations from prior research

Here, findings from field and case based research relating to sustainability and management control systems are reviewed.

3.2.1 Integration of sustainability in conventional management control systems

Riccaboni and Leone (2010) studied a company where the environmental and social dimensions were catered by the organization's conventional management control system. This was a case where these additional sustainability dimensions were internalized in the existing management control system. Based on their findings, they argue that there is a need to integrate sustainability in the strategy process in order to be able to reflect sustainability in the company's internal structures and operations. They also found that sustainability was gradually implemented and adopted as a concept in the studied organization and that the company increasingly committed to sustainability over time, as opposed to radical and sudden changes. Relating to these findings about gradual change, Adams and Frost (2008) found in a study of 7 companies that management and reporting for sustainability was shaped and constrained by the companies' existing practices and processes. The set of existing processes exerted pressure and put constraints on new processes relating to sustainability. In some of the examined cases, the sustainability capabilities evolved completely within the pre-existing processes.

Morsing and Oswald (2009) studied a company which had strategy influenced by sustainability considerations and was set to translate and operationalize this perspective into the organization. In this case, the sustainability dimension was integrated in processes set to monitor and evaluate the general performance of the company. This could partly be witnessed in the company's balanced scorecard, where some measures were specifically set to address sustainability-related dimensions. As part of assuring compliance with the overall strategic direction, including the sustainability dimension, the company sent out certain professionals to travel around the different parts of the organization. These would then observe, support, advice, evaluate performance and spread organizational best practice. In this case, the sustainability perspective was integrated alongside the other controls, but there are several where integration has been less clear or complete. Another thing that was noted was that most of the sustainability variables relating to the overall strategy were not connected to any formal rewards.

Other research findings depict situations where the degree of integration and organizational localization of responsibility for sustainability issues varies a lot. Integration of the sustainability perspective within an organization can also be less complete than external communication indicates. Regarding the internal scope of sustainability-related projects, (Bartolomeo, et al. 2000) found that, while the companies they examined claimed to work with environmental considerations, the scope of the commitment could be

quite limited in practice. Once under closer scrutiny it often turned out that the environmental perspective was only reflected minor projects and that a systematic implementation was lacking. Consequently, even though external communication implied otherwise, sustainability considerations did not permeate the organizations.

3.2.2 Organizational location of responsibility

Adams and Frost, (2008) studied seven companies' development, use and integration of sustainability key performance measures. The degree of formality in the process of developing these key performance measures varied significantly between the companies. So did also the level of use of key performance measures and the ways they were considered in performance measurement and decision-making. Adams and Frost's (2008) findings also illustrate how internal responsibility for sustainability reporting varied between the companies. Here, the responsibility could vary between departments, primarily responsible for functions such as corporate communications or corporate affairs to sustainability departments. The number of people engaged in the process, as well as the scope of sustainability issues dealt with, also varied significantly between companies.

3.2.3 Difficulties managing the social dimension of sustainability

Durden (2007) studied a company which presented itself as committed to social performance. As part of its strategic plan, the company had an ambition to exercise best practice in social responsibility. Due to a lack of specific goals about which stakeholder groups' demands were to be catered by the system, however, and how to act in order to conform to the social responsibility plan, it failed to provide the management control system with usable measures and ways to monitor performance. Instead, the financial dimension, which was much better integrated in the system turned out to be much more dominant in controlling the company's performance. Another company, analyzed by Norris and O'Dwyer (2004), also strived to manage performance in terms of social responsibility. The internal control system lacked measures or dimensions to consider socially responsible behavior, however. Consequently, any outcomes could neither be assessed nor rewarded. This lacking integration was also reflected in the emphasis put on the financial dimension at the expense of social considerations when the company faced harder times. Both studies show examples of a situation where the sustainability perspective was underrepresented in the formal control system and where the outcomes of control for sustainability could be questioned.

To sum up the findings from the case-based literature, there seems to be a large variety of approaches to deal with managing sustainability performance. This also seems to be so in terms of level of

integration into a management control system the respective companies' systems' ability to cope with different aspects of sustainability.

4 - Empirical Findings

In this section, this study's findings are structured thematically around our adapted version of Otely and Ferriea's (2009) model, including the companies' definitions of sustainability as a concept. One exception from the structure has been made with strategies and plans, which have been divided into two parts in this section instead of one, as is the case in the rest of this paper. This was done for the sake of fluency and coherence of the text. The first part covers strategies and plans specifically, while the second covers issues that were perceived as important for enabling and facilitating said strategies and plans.

4.1 Sustainability definition

Company A, B and E, do not have any explicit sustainability definition. Company C and D were the only companies that could present a definition of the sustainability concept, either through the annual report, or orally, during an interview. Company C, define corporate sustainability as: "...a business approach that generates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments. Sustainability initiatives generate improved competitiveness, reduced cost and reduced risk." (Annual report, company C) According to Company C, this is the definition on which they base their sustainability activities.

Company D's, sustainability definition is based on WECD's definition (See WECD 1987). This interpretation has been translated into the company's sustainability program. This program acts as a guiding principle that focuses on four major dimensions relating to sustainability. These are as follows: (1) Business, (2) Environment, (3) Employees, and (4) Community. The sustainability representative at company D explained that, since D is a large company with global operations, different interpretations of the company's sustainability concept can be found throughout the organization.

4.2 Vision and Mission

Only one of the studied companies, company B, could present a formal corporate vision statement which made a reference to sustainability: *"to actively contribute towards the development of a sustainable society in Gothenburg"* (Environmental representative at company B). At company D, one of the other companies which made no explicit reference to sustainability in its corporate vision, it was explained that the corporate vision was still indirectly linked to sustainability: *"If we look to the vision 'to equip the world with [D] knowledge', it's in a way in line when we say we develop environmental technology, and that's the knowledge that we have and want to bring to the industry. So knowledge could be in the form of our knowledge in environmental technology, lifecycle management, and environmental change and so on."* (Sustainability representative, company D). This statement was

elaborated with a practical example: *“In the automotive industry, our knowledge and competence is working together with car manufacturers’ to develop more fuel efficient car solutions such as an electrical motor.”*(Sustainability representative, company D). The remaining three companies, company A, C and E, made no references to sustainability in their vision statements at all. Company B and C made references to environmental considerations in their respective core values. In addition to this, both companies made references to social aspects relating to the employee’s perspective. None of the other companies made any explicit references that could be connected to sustainability.

4.3 Key success factors

Company D stated that sustainability was considered to be one of their main business drivers, and as such represented one of the company’s key success factors. The other companies in this study, however, did not present any key success factors, or similar, that could be related their sustainability initiatives.

4.4 Organizational structure

Companies C, D and E have a sustainability department responsible for sustainability-related issues. Company A and B, on the other hand, have divided the responsibility for social and environmental sustainability on two different departments. In all companies, the responsible sustainability department’s tasks include participating in the development of annual plans together with the respective companies’ management board and other business units.

Company A and B do not have a single particular department for sustainability issues. Instead, responsibility for coordinating these companies’ sustainability activities has been divided on two departments within these companies. In both cases, the companies’ respective human resource departments have been assigned issues related to social sustainability and an environmental department the issues relating to environmental sustainability. Representatives from both companies said that the respective companies are looking into options to concentrate all sustainability-related tasks to one unit in the future. For the moment, however, company A did not consider itself to have sufficient resources available to accommodate such an organizational arrangement: *“We are a big company but at the same time, we don’t have the necessary resources to consolidate the governance of sustainability efforts into one department”* (Environmental representative at company A). Both company A and B lack an organizational unit responsible for social sustainability issues that reaches outside of the company, i.e. issues which are not covered by the human resource departments’ responsibility for the companies’ employees. Both companies are said to lack guidelines on the treatment of these issues and that local factories and units are set to use their own judgment in dealing with this.

In company C, D and E, coordination and distribution of sustainability related information is primarily done through the sustainability department. This department also constructs most of the information that is sent out. In studied companies with environmental and human resource departments responsible for the sustainability strategies, i.e. company A, and B, coordination and distribution of sustainability related information primarily relates to the dimension they represent. These companies' human resource and environmental departments also construct most of the information that is sent out. The primary purposes of the sustainability departments were the same. These included developing strategies and goals for sustainability, providing support for and coordinating sustainability related issues in the organizations, collecting and processing data returned from the different business units and factories and report back to management board. Each local unit has a representative who is responsible for that that particular unit accomplishes the sustainability plan developed at the sustainability department. At company B, the human resource department acts as a support function in sustainability issues that fall under their responsibility. This also involves some coordinating characteristics. This department is also responsible for constructing annual business plans. The responsibility to fulfill these plans is put upon the human resource representatives in the respective business units and/or departments. The environmental department at this company is responsible for developing the company's environmental plan.

All the companies' sustainability departments or responsible human resource and environmental departments have some kind of structural solution with responsible contact persons at each controlled unit. This means that all of the studied companies use a system of representatives at local units. To illustrate this, company D for instance, has a responsible "environment, health and safety coordinator" at all factories and larger warehouses responsible for the environmental dimension of the company's sustainability efforts. This person represents the sustainability department at the site at which he or she is active. Moreover, each country has its own country coordinator who is responsible for reporting back to the sustainability department on the progress on sustainability. Other issues are managed jointly with other departments, such as sustainability issues relating to employees, which are managed together with the human resource department. Issues relating to community care are coordinated together with the company's respective national units. The role of company D's sustainability department and its approach to coordination of its activities was commented during one interview: *"We work more in parallel, where focus is more on collaboration."* (Sustainability representative at company D). The sustainability department's organizational situation was later further elaborated on: *"It's a much more decentralized approach, because we don't own the sustainability work, we want the ownership to be in the organization. We facilitate, when it's required, we give help, support, with guidelines, and policies. We're the backstage people."* (Sustainability representative at company D).

Apart from having local representatives throughout the organization, company A and C also use a system of qualified people to act as a support network for sustainability-related questions. These complement local representatives and help coordinate and facilitate development of sustainability initiatives. This is done by providing input for problem solving at the operational levels and thus providing support where it is needed. As tools for information collection related to sustainability performance, different reporting systems are used at the companies studied. Examples of this included online systems and questionnaires. Company A also used externally submitted questionnaires to collect and consolidate data on relevant performance.

The companies also use different means to distribute and disseminate information throughout the organizations. All five companies use the organizational intranet as a means to spread information. The companies' annual reports also contain information provided by the departments responsible for sustainability dimensions, and are available for internal users. Company C and D also use internally accessible web pages related to sustainability, to publish information. The intended users are primarily those affected by the sustainability targets, but the sites are accessible for all employees. Other means for the responsible departments used as platforms for distributing information to the internal users are corporate web pages, company newsletter, and information displayed on billboards and sustainability campaigns. Other means of communicating and sharing information that the relevant departments used are more targeted to concerned individuals. This include, for instance training programs and courses relating to sustainability which were used at company A and D. It also involves meetings, mails and the use of data-bases with limited access.

4.5 Strategies and plans

In company C, D and E, which are the companies that have a sustainability department, the sustainability department is involved in the process of developing annual sustainability plans. In some of these companies, this is done jointly with the business units or departments affected by the plans. In the two other companies, A and B, development of plans falls under the responsibility of the companies' respective environmental and human resource departments. Each department is responsible for developing a sustainability plan corresponding to their areas of responsibility. This means that the environmental departments are responsible for the environmental dimension of sustainability and the human resource department for social sustainability. In company B, however, the environmental sustainability plan is attached as an appendix in the company's business plan and does not constitute an independent document. The separate development of plans for social and environmental sustainability in company B is considered sub-optimal because of the lack of holism in the sustainability process. At

company B, the planning process relating to sustainability involves the participation of the departments concerned by the plans. At this company, the human resource department engages in an annual planning process, and it has representatives in the different departments and business units who are responsible for performance according to this plan.

Companies use different approaches when identifying relevant areas of attention for sustainability planning. At company C, for instance, data collected from the product lifecycle analyses performed is used to estimate products' environmental impact. This information is then later used when establishing environmental targets. Another important aspect when selecting which environmental areas to focus on in company C is what the end-users perceive as important. At company B, planning is based on predictions for future production. Based on the scenarios identified, targets for production are established. This includes the development of environmental targets as well.

The sustainability departments in company C, D and E use the strategies and goals that have been approved by management to set target levels on environmental and some aspects of the social sustainability that applies on a company level. The social dimensions primarily involved here include measures that relate to the employees and compliance with the companies' respective codes of conduct. These target levels constitute a desired minimum level of sustainable performance. On social sustainability beyond this however, the companies did not work with strategies and goals. On the other hand, all of the studied companies addressed social sustainability issues beyond the employee perspective anyway. Company D, for instance, while having developed strategies relating to three of the four areas highlighted in its sustainability initiative (see part 4.1), had no strategy that covered the aspect called community responsibility. As a substitute for a strategy in this area the company has developed a policy which is to provide guidelines in how to work with community responsibility: *"We have a social policy in the code of conduct. Beyond that we encourage the local countries to identify ways of helping the local communities to develop."* (Sustainability responsible at company D). Company D uses a more decentralized approach for managing community responsibility, since local communities were thought to be better suited identifying and addressing local needs. In this case, the role of the central sustainability department was to consolidate the relevant data received.

Company A and B do not have any central guidelines relating to this kind of social sustainability provided by the responsible human resource departments. Instead, local units are to use their judgment to decide how to treat this appropriately. Company B, while not having a strategy or any goals relating to social sustainability beyond that which relates to the employees, still undertakes some projects related to this. For instance, it collaborates with a local unemployment agency by providing internships and helps these

people gain work experience. It was moreover argued that: *“Our profit goes to the city of Gothenburg every year. Since we are owned by the municipality which is run by politicians, it is up to them to decide what the money goes to”* (HR representative, company B). The company thus argued that it contributed to social sustainability through this practice, since the politicians were better suited to use the money for that purpose than the company was.

Sometimes, the measures relevant for the company-wide sustainability strategies would not apply for all settings in a company because of contextual settings rendering these irrelevant. In cases like that, that particular aspect of the strategy would be disregarded. Company B had its approach to deal with the issue of limited applicability: *“Even though we construct environmental group goals, each business unit’s and factory’s specific conditions vary. Therefore, they construct their own environmental plans based on the group plan”* (environmental representative, company B). Deviations from the plan and goals at company B are most often caused by targets being inapplicable on some parts of the organization. In these cases the environmental department would work together with the affected units to find an alternate solution. It is possible for the environmental department in company B, in these cases, to remark whether it perceives environmental targets as too un-ambitious. If so, recommendations on how to proceed are issued. However, there are no obligations to comply with the environmental department’s recommendations.

4.6 Strategies and plans – enabling factors

There were many factors which were seen as relevant for enabling or facilitating the implementation of the sustainability strategies in the organizations studied and these findings are presented below. Locating these aspects under strategies and plans might be somewhat counterintuitive at first, but it is based on the structure that has been adopted from Otley and Ferreia’s (2009) framework. Based on this reasoning, the following paragraphs will treat aspects that were seen as enabling the sustainability strategies and initiatives.

Different methods are used to enable and facilitate the successful implementation of the companies’ respective sustainability strategies. When implementing a new sustainability strategy, company C utilizes different tools to raise awareness of the new strategies. Company A and C offers training courses related to the companies’ sustainability initiatives. The sustainability department at C, D and E also provide some assistance to business units on various sustainability related issues, such as offering assistance and knowledge on sustainability related problems that might arise. At all companies, the extent of internal support for the concept sustainability was mentioned as a very important element in a

successful implementation of a sustainability strategy. This support has to come from both employees and the management board. At company D, the CEO's outspoken support for and interest in sustainability has had a facilitating impact on the company's work implementing its sustainability strategy. At company B, which is the only company studied that explicitly mentions sustainability in its corporate vision, the corporate vision has facilitated the implementation of sustainability strategies. This presence makes it easier for employees to commit themselves to the company's sustainability initiative.

Something that was visible in all companies was the limited possibilities for the sustainability departments or their equivalents to provide resources for sustainability related investments. One exception was company D, which deposits money specifically to be used for environmentally friendly product development. This, however, was nothing the sustainability department was involved in. Often, the responsibility for financing investments fell on the individual business unit or factory to manage. None of the companies' departments responsible for the sustainability perspective offered any formal system of funding for sustainability-related investments. At company B, D and E, it was argued that any sustainability-related investments needed to be funded by the concerned business units, departments or factories themselves. According to company D, this has at times resulted in business units and factories prioritizing financial targets over sustainability targets. At company E, financing for business units or factories that were behind in their sustainability performance could sometimes be provided on an ad hoc basis: *"It could be that [underperformers] sometimes don't see any available areas of improvement. This could then be something that we assist them with. On other occasions, it could be that they simply cannot afford the costs that some sustainability improving investments would provide. In such cases, the sustainability department could give them financial assistance."* (Sustainability representative at company E).

In all companies studied, there was an acknowledgement of the benefits provided by promoting the financial gains that could be had when trying to influence business units, departments or factories to make sustainability enhancing investments. One example of this was in company E, where it was pointed out that an efficiency enhancement of the waste reduction could lead to financial gains for the unit concerned. Normally, there would be no difficulties for the sustainability department at company E to have business units and factories to commit to improved sustainability of their operations. In company A, there was an understanding that sustainability considerations would sometime conflict with other considerations: *"When there is a need to decide on what is deemed more important, it could sometimes be that the firm needs to prioritize the timely production of products over environmentally friendly production processes."* (Environmental representative at company A). In company D, sustainability considerations would sometimes conflict with financial interests: *"I'm not denying that*

we've had cases where they've said that they don't want to do that, and instead want to focus on the bottom line. There will always be a few of these. Hopefully these will groups will be smaller, and smaller." (Sustainability representative at company D). In company E, the success of the company's sustainability efforts much depended on the sustainability department's ability to build support for sustainability through convincing people of the importance of the concept. The work was made much more efficient by knowing which people to talk to in order to influence and get things done. Not knowing whom to talk to could be a considerable obstacle for newly employed.

4.7 Performance measures

The type of performance measures related to sustainability performance within the companies varied and all companies used both qualitative and quantitative measures. To illustrate this, company C had identified four measures relating to its sustainability strategy. These related to 1) the level of CO² emissions from use fossil fuels 2) level of raw materials sourced from acceptable sources 3) water usage and 4) compliance with the company's code of conduct. In this case, the three first were given specific target values and the target and evaluation for the fourth measure was based on qualitative considerations, based on predefined guidelines. All companies had a few sustainability measures (ranging from 3 to 9) at group level, managed by the responsible departments (i.e. either the assigned sustainability department or the environmental and human resource departments respectively). The number of measures was higher in company A and B, which had divided the sustainability perspective on the respective human the human resource and environmental departments.

The weightings of different aspects of sustainability differed among the companies. Company E's sustainability department used performance measures that were primarily related to environmental performance. Company D and C's sustainability departments both used measures that were related to environmental performance and other areas relating to social responsibility, although there was an overrepresentation of environmental measures in both cases. In companies A and B, the organizations which lacked a sustainability department, the responsibility for creating and maintaining sustainability-related measures fell on the companies' respective environmental and sustainability departments. Measures relating to both dimensions were used in both companies. None of the companies studied measured social sustainability at a company level when it was not related to employees or the companies' codes of conduct. All companies, however, had social sustainability measures or goals relating to either the employee perspective and/or compliance with the code of conducts. In company B and E, work on social sustainability beyond these categories lacked guidelines and they were consequently not measured. In company D, to give another example, there were no explicit requirements to work with the dimension they referred to as "community care". This has resulted in

some units simply choosing not to work with these issues. Moreover, none of the companies presented any performance measures that were explicitly related to economic sustainability

Performance measures related to environmental sustainability never applied to all parts of any organization studied. Some measures used were simply not relevant for all units. *“Previously we had a lot of targets, but now we have consolidated these into only a few, this has resulted in sustainability goals only affecting some factories, and therefore not the entire company.”* (Environmental representative at company B). The consolidation has resulted in a situation where sustainability measures only relate to some aspects of the company’s businesses. This, in turn, has had an adverse impact on the dedication of employees not covered by these measures and consequently their related goals. This dilemma at company B was elaborated further: *“It is difficult to coordinate these two aspects, and we don’t really know how to handle this issue, especially since there aren’t any resources available to handle these issues”* (Environmental representative at company B). Company A has established a policy to address situations where company-wide environmental strategies and goals may not apply, where it was said that the company strived to *“...have an open attitude towards environmental issues”* (Environmental representative at company A).

In all the studied companies, responsibility for reaching company goals relating to sustainability is set upon the various business units and factories that are affected by them. For the environmental sustainability targets, this applies to the business units and factories where the measures are relevant and applicable, which is not always the case (as was discussed above). When it comes to social sustainability, measures that relate to the employees, in one way or another, are coordinated with or with the help from human resources. At company E, for example, a coordinator from the human resource department is responsible for the performance of social sustainability relating to employees.

4.8 Target setting

In all companies studied, company-leveled sustainability targets were determined through the responsible sustainability departments’ assessments and corporate management’s approval. Company E wants its environmental targets to be challenging but realistic and this have to be considered when developing target levels. Company B argued similarly and the process of deciding suitable levels of performance was done in cooperation with the local units.

The selection and design of company-leveled measures differed between the companies. Waste management and reduction of CO² emissions, however was something that was targeted in all

companies. Except for company D, all companies expressed their targeted environmental performance measures related to a reduction of emissions as a relation to production output. At company D, however, these measures were given an absolute value expressed in percentages, by which the company wanted to reduce the factories' emissions within a given time-frame. These targets are still valid despite a recent and ongoing heavy increase in production capacity, particularly in Asia.

4.9 Performance evaluation

Performance evaluation of sustainability is based on the targets and goals set up by the sustainability departments or the respective departments responsible for environmental and social sustainability at each company. These departments are also, at all companies studied, responsible for evaluation of performance relating to sustainability. The data considered in performance evaluations is both of a quantitative and of a qualitative nature, and evaluation of this data contains both objective and subjective elements. Company E, for instance, primarily works with quantifiable measures that have clearly defined targets. This could for example be, the measure "less time accident", a measure that indicates the extent of work-related accidents causing absence among employees. Here evaluation is quantifiable and comparable with pre-set target levels. As such it entails little, if any, subjective evaluation.

However, the importance of qualitative information in order to evaluate performance at company A was emphasized: *"We as a firm wouldn't be able to survive on merely the numbers. It is very important that we get a hold of both qualitative and quantitative information."* (Environmental representative at company A). As part of this subjective performance evaluation at company A, data collected from more extensive surveys are used to uncover more situational descriptions than mere numbers can provide. Other ways of collecting complementing qualitative information involves physical audits. Company A, D and E use this form of information collection to evaluate whether factories are operating in accordance with policies set, such as those relating to working conditions.

4.10 Reward systems

None of the companies' departments responsible for handling sustainability issues administered any form of financial reward systems related to sustainability performance. At company C, the reasons for this were explained by the sustainability representative: *"I don't know how important financial rewards are in this context. These could make more sense in cases where companies are unsuccessful in engaging in sustainability efforts."* (Sustainability representative at company C). While financial rewards relating to sustainability performance were not sanctioned on a group level in any company, company A, D and E opened up for the possible existence of different reward practices on a local level. At Company D, this

could be administered by local organizational units, such as particular business units, departments or individual factories and would operate outside the sustainability departments' responsibilities. At Company E some factories rewarded innovations and good ideas that contributed to improving sustainability performance. This was not something that the sustainability department was involved in at any level. The qualifying definition of a contribution, as well as the composition of any reward, is up to each participating local unit to decide.

The only company studied which formally rewarded sustainability performance on a group level was company D. Each year at this company, there is an annual award ceremony, where past performance within several "genres" is rewarded. One of the awards relates to sustainability performance and is handed out to individuals or groups who have been identified as responsible for outstanding achievements. There are no financial rewards associated with the reward, but it serves the purpose of providing recognition and appreciation for what has been accomplished. The other companies had no company-wide formal reward mechanisms and none of the companies' departments responsible sustainability issues were involved in any formal reward related to sustainability.

All of the examined companies said that recognition for sustainability-related performance was one aspect of their communication within the companies. At company D: *"...You'd get appreciation from corporate management if you've performed well. Usually in the form of positive attention on the intranet"* (Sustainability representative at company E). By highlighting different individual cases relating to good sustainability performance in texts and articles, recognition could be given to those who were "behind" the story. All companies used similar channels and platforms to disseminate this information, and examples include annual reports, intranet and promotional magazines. The process of identifying relevant success stories differed a little among the companies. In company D stories were assessed on a subjective basis, whether they fit the sustainability department's definition of an outstanding achievement. In company C the selection process was not only subject to the perceived importance of the performance, but also whether it would make interesting reading, particularly for customers.

None of the companies in this study used any penalties or punishments for poor sustainability performance when evaluated business units or departments failed to achieve targets. As opposed to the use of punishments, company E's sustainability department had an accommodating and understanding approach towards units who failed to perform according to plan: *"Not all perform equally well, it is important to give underperformers necessary support."* (Sustainability representative at company E). A similar attitude was evident at company A: *"Departments are not punished for not meeting the targets, its goes without saying that they do everything in their power to meet our requirements. There are often*

legitimate reasons for why targets aren't met. In these cases qualitative individual estimation are necessary." (Environmental representative at company A).

Here, company D stood out from the others with a quite different attitude towards punishments than the other companies studied: *"We would like to use the carrot, but we can use the stick. We would actually prefer a combination of both."* (Sustainability representative at company D). The actual usage of punishments did not reflect this attitude, however, and few measures could be taken if units failed to deliver: *"There isn't much in forms of sanctions. If a unit performs badly in reference to our targets, and this has been occurring for a longer period, our CEO, in cases before, has gone down there and pointed out the reprimand to them orally."* (Sustainability representative at company D).

5 – Discussion

In this section, this study's findings are contrasted with prior research and literature. This comparison is thematically structured around the adapted version of Otley and Ferreira's (2009) framework, including a theme about the definition of sustainability. All these themes and aspects are summarized and the collective coherence of the management control systems for sustainability in the studied companies is assessed.

5.1 Definition of sustainability

Searcy (2009) suggest that, in order for a company to really work with sustainability, the starting point would be to define sustainability and what it mean within the context the company is operating. Hannon and Gallagher (2011) also argue that the definition of sustainability is important, in order to integrate the perspective in the organization and operationalize it. The companies in this study were partly selected based on the fact that they publicly convey a commitment towards sustainability (see screening process in the method section). However, of five companies studied, only two had defined sustainability and what it meant for the company.

In one of the companies, company D, the interpretation of the concept had resulted in a sustainability program which was made intentionally wide and opened up for some interpretation. This was the consequence of the company's scale and scope and was done in order for it to be relevant in the different settings that prevailed within the company. This observation and reasoning would align with Hannon and Gallagher's (2011) conclusions that a sustainability definition might have to be kept wide, in order to ensure its relevance in all parts of an organization.

5.2 Vision and mission

Although it has been argued that sustainability values should be reflected in a company's vision statement when engaging in corporate sustainability (Dalton and Quinn, 2009; Bonn and Fisher, 2011), only one of the companies studied, company B, made an explicit reference to sustainability in the corporate vision statement. This company also found that the presence of the sustainability dimension in the company's vision statement had made it easier for employees to commit to the company's sustainability initiative. Perhaps worth noting though, is that company B was one of the three companies in this study which completely lacked a working definition of the concept of sustainability. One of the four remaining companies (company D) showed that its vision statement was compatible with a sustainability initiative and that, although it was not explicitly stated in the vision itself, there was

a connection. The other three companies made no connection with sustainability in their vision statements whatsoever.

5.3 Key performance indicators

Otley and Ferreira (2009) suggested the use of Key performance indicators as a means to make a corporate vision more concrete. Only one of the companies in this study makes a reference to sustainability in their key performance indicators at all. None of the others do so.

5.4 Organizational structure

In a study of seven companies, Adams and Frost (2008) found that the organizational focus for the sustainability responsibility differed a lot between the organizations that were studied. The main functions of the departments primarily responsible for the sustainability process differed and one of the organizational constellations that were observed was a separate sustainability department. The five companies studied in this study had chosen much more similar approaches in terms of organizational responsibility, than was evident in Adams and Frost's (2008) study. Out of five companies, three had implemented a separate sustainability department. The two companies that did not have a sustainability department had instead allocated the responsibility for social sustainability issues to the respective companies' human resource departments and environmental departments had been assigned to manage environmental sustainability issues. Moreover, both these companies were positive towards consolidating work with sustainability to one single sustainability department. This seems to support Riccaboni and Leone's (2010) observation of sustainability integration growing gradually through incremental changes rather than radical transformations. The primary objective of all the departments involved in managing sustainability issues within their respective companies in this study were the same. This included developing strategies and goals, providing relevant support and collecting and processing data relating to sustainability or aspects of it.

In all of the companies studied, the departments responsible for sustainability perspectives had set up systems with representatives on local levels, such as business units and factories, through which coordination took place. This was, in some companies, complemented with additional means to coordinate sustainability activities. All companies' sustainability departments, or departments responsible for managing certain aspects of sustainability, have set up means to communicate sustainability related information to employees and other parts of the organization.

5.5 Strategies and plans

Bonn and Fisher (2011) argue that, in order to work proactively with sustainability, it needs to be reflected and integrated in the strategy making and implementation on all levels of an organization. Some have suggested that companies might not follow any particular strategy when working with sustainability (Baumgartner and Ebner, 2010; Epstein, 2008). All five companies in this study have, however, through the departments responsible for sustainability, or sustainability aspects, established processes to develop strategies and plans relating to sustainability.

Hannon and Gallagher (2011) found that the interpretations of the sustainability concept in their study tended to focus on environmental aspects. The development and use of strategies in the studied companies mostly relate to environmental sustainability performance and some social sustainability performance, primarily relating to issues concerning the respective companies' employees. Bebbington (2007) argue that social sustainability issues can be more complex and interrelated than environmental dimensions and that they are often more subjective to define. All companies in this study lacked formal strategies and plans that were related to social sustainability beyond the employee perspective. In the case of company D for instance, sustainability relating to the community was an important part of the company's overall commitment to sustainability. Steger et al. (2009) argue that the sustainability issues faced by companies tend to be complex and that companies sometime lack the will or capacity to collect relevant information

Active management and commitment to sustainability have been introduced as important variables if a sustainability perspective is to succeed within an organization (Epstein 2008; Dalton and Quinn, 2009). All the companies in this study identified internal support for the notion of sustainability as a very important variable in the internal work with the sustainability strategy. Other measures had also been taken by the responsible departments in the five companies to enable and facilitate the commitment to sustainability. It has been argued that companies working with sustainability in practice are unwilling to let his translate in to new net-costs (Bartolomeo et al. 2000; Steger et al. 2009). None of the studied companies' responsible departments had any formalized means to financially support investments related to sustainability. Moreover, all companies' responsible departments saw an advantage of promoting the financial aspects of improved sustainability when trying to convince local units to commit to sustainability.

5.6 Key performance measures

All the companies studied used performance measures that were connected to different aspects of sustainability performance. Bebbington (2007) argue that it might be easier to establish desired

outcomes from sustainability efforts based on environmental sustainability than social sustainability. The performance measures' focus varied among the five companies studied. In the companies with a sustainability department, there was an overrepresentation of sustainability measures and goals relating to the environmental dimension, and less focus was placed on social sustainability measures. In the other two companies, the companies' human resource and environmental departments had set up measures relating to the sustainability dimension they were responsible for.

Riccaboni and Leone (2010) also argue that a social sustainability perspective might be hard to operationalize and implement in a company. Prior studies have analyzed companies control for social sustainability (Norris and O'Dwyer, 2004; Durden). In both cases, the studied companies had an outspoken ambition deliver socially responsible performance. In Durden's (2007) case, the company had also incorporated work with social performance in a strategic plan. In none of the companies, however, this was translated into measures and performance evaluation and it was questioned whether these systems contributed to improved social sustainability at all. Reflecting the five companies' lack of formal strategies to manage social sustainability beyond the employee dimension in this study, none of the five companies had any measures relating to this dimension.

One of the two companies which provided a working definition of sustainability referred to WECD's (1988) definition. Based on this definition, sustainability is often translated to social, environmental and economic considerations (Bebbington, 2007). None of the measures used to control for sustainability on a company level in the studied companies related explicitly to the economic dimensions. These findings align with those of Adams and Frost (2008), who observed that the companies they studied focused their performance measures exclusively on social and environmental dimensions of sustainability. Management control theory says that if something is not measured, it will not get as much attention as it would otherwise (Anthony and Govindarajan 2001; Merchant and van der Stede 2007; Simons 2000). Furthermore, that which is measured can drive out that which is not (Otley and Ferreira 2009). The observation that the departments which are responsible for sustainability in the studied companies do not measure social performance beyond an employee perspective or anything explicitly relating to the economic dimension of sustainability stands in contrast to what management control theory seem to suggest.

As was mentioned earlier, Hannon and Gallagher (2011) suggested that a sustainability definition should be wide in order to be compatible with the different aspects of an organization's operations. Steger et al (2009) also argue that the relevant sustainability issues faced within an organization can differ and be

unique to certain parts of it. Some of the companies in this study had problems making the company-level environmental goals relevant for the entire organization. The context in which business units and factories operated in made some measures less applicable under certain conditions. These measures primarily related to environmental sustainability. The social measures relating to the employees, as a contrast, were always implemented on a company-wide level.

Bell and Morse (2008) argue that, in order to measure the progression made in terms of sustainability, there must be underlying spatial and temporal demarcations made in the definition of the sustainability concept. While perhaps not as clear for environmental aspects, there seems to be marked differences in the way the studied companies approach different aspects of social sustainability. Social sustainability measures and goals, relating to the employees and thus (more or less) spatially confined to the company itself, were evident in all five companies. However, there were neither strategies nor measures related to social sustainability that went beyond this spatial dimension in any of the studied companies, even though several companies tried to address this dimension as well.

5.7 Target setting

In all the studied companies, targets for sustainability related goals that were effective on a company level were set by the responsible departments and corporate management. All companies had goals to reduce CO² emissions. Four of these companies had set the targeted value in relation to production output. Company D, on the other hand, had set the targeted reduction as an absolute percentage within a given time-frame. This could result in a situation where the absolute requirements for emission reductions would increase, even though the predefined target would remain unchanged. The other companies' emission targets, expressed as a relation of produced output would not be affected by increased production, as in company D. In fact, if production increased enough when applying the relative measure, a company could theoretically reach the target and still *increase* its amount of emissions in absolute terms.

5.8 Performance evaluation

Performance evaluation of sustainability performance took place in all companies. The responsible departments in the companies studied had established ways to collect both qualitative and quantitative data, on which the performance evaluations were based. The departments responsible for the sustainability perspectives, i.e. either the sustainability departments or the companies' respective human resource and environmental departments, had all been involved in establishing the goals and targets relating to sustainability.

5.9 Reward systems

Some have argued that it might be useful considering reward setting to be connected with control for sustainability (Epstein, 2008, Henri and Journeault, 2010; Riccaboni and Leone, 2010). Epstein (2008) suggests that rewards could be used to offset potentially inherent disincentives within the conventional control system to act proactively on sustainability risks. In practice however, there were very little use of any formal reward setting related to sustainability in the studied companies. Only one of the companies, company D, had any form of formal rewards related to sustainability on a company level at all. In this particular case, the sustainability reward was but one of many handed out on an annual ceremony, and as such the sustainability dimension was unlikely to be the *raison d'être* for this ceremony. Moreover, this particular reward was strictly non-financial. Bonn and Fisher (2011) argue that consideration to long-term sustainable performance should be taken into account when designing remuneration packages. In the five companies studied, however, there was no use of financial rewards related to sustainability on a company level at all. Three of the companies did open up for the possible existence of reward setting as part of local initiatives throughout the organizations, but this was not something that the companies' respective departments responsible for the sustainability process were involved in. The findings in this study correlate with Morsing and Oswald's (2009) findings, in that company-level targets relating to sustainability were poorly reflected in the formal reward system.

According to Otley and Ferreira's (2009) view, rewards could be interpreted in a broader sense than just monetary rewards, and as such include intangible aspects like recognition or management approval. In all studied companies, recognition for past performance relating to sustainability could be provided through the responsible departments' ordinary communication channels. These were however the same media which were used by the responsible sustainability departments to disseminate information in general about the companies' sustainability initiatives. Rewards can be either positive like normal rewards or negative, i.e. penalties (Otley and Ferreira 2009). None of the five companies' departments responsible for sustainability issues had much leverage to use in terms of sanctions, and several companies do not use sanctions for underperformance in relation to sustainability targets at all.

5.10 Coherence of control system for sustainability

Despite the importance that seems to be suggested by literature to define sustainability in order to implement it in a company (Searcy, 2009; Hannon Gallagher, 2011), only two companies had defined sustainability. Sustainability was also generally poorly reflected in the companies' vision statements and their respective key success factors. All organizations studied, however, seem to have centralized coordination of the organizations' sustainability initiatives to one or two departments, which in turn have set up capabilities to collect data and disseminate relevant information throughout the

organizations. All companies had also developed capabilities to create and made use of strategies and plans related to sustainability. The use of sustainability measures based on sustainability performance was also evident in all companies. The responsible departments were involved in both establishing targets for these measures and for evaluating performance. The use of rewards, on the other hand, was not widespread, and though it may exist on local levels throughout these companies, the use of formal rewards related to sustainability was virtually non-existent, while informal rewards might partly be a consequence of the responsible departments' communication practices.

Bartolomeo et al (2000) studied companies which publicly conveyed a dedication to sustainability. It turned out, however, that the organizational scope of these companies' sustainability projects were rather limited. While no evidence in this study was found that the studied companies had focused their sustainability commitment to isolated projects, the coherence of controls for certain sustainability aspects was stronger for some than for others. The control for social sustainability relating to the employees was coherent in strategy creation and implementation and use of performance measures, while coherence for control of social sustainability beyond the employee perspective was much weaker. These latter perspectives were poorly reflected in both the strategy processes and in measures, even though all companies were addressing these aspects as well.

In some cases, it was evident that the company-leveled sustainability strategy and its corresponding measures were not applicable in all settings. More specifically, this related to some environmental sustainability measures. The companies had different approaches to deal with these exceptions, e.g. through separate measures and plans. Because of this, and the necessity for individual ad hoc solutions, the coherence of the controls for these aspects was generally somewhat lower than for the social sustainability perspective related to the employees.

It is unclear if and if so, how, the companies' sustainability programs reflected any considerations to the economic dimension of sustainability with regards to strategies and measures. The economic variable is one of the three dimensions commonly associated with sustainability (Bebbington, 2007). No measures relating explicitly to economic sustainability could be found at any of the companies.

6 – Concluding remarks and suggestions for further research

In this section the study is summarized and the resulting conclusions are presented. Limitations and further research is also discussed.

6.1 Concluding remarks

This study has covered the control situation in five different large Swedish companies with regards to sustainability. The study has been structured around different themes of a management control system and has described how the control for sustainability was managed for these different aspects. The approach is qualitative and primarily draws its findings from interviews with employees involved in their respective companies' sustainability initiatives.

Based on the findings made, the level of coherent use of this internal control for sustainability in the studied companies was assessed. All companies in this study have established internal control capabilities to address the management of sustainable performance. In some elements of the control systems, however, the coherence between the sustainability ambition and the designated controls was more poorly reflected than what was generally the case. This limited integration of sustainability is particularly visible in the companies' respective vision statements, Key success factors and reward systems. Also worth noting is some of the studied companies' limited use of definitions of sustainability. We also see that the control situation for certain aspects of the companies' sustainability efforts are less coherent than for other aspects. This is particularly true for control for social sustainability beyond the employee perspective. Despite being part of the companies' sustainability efforts, these aspects were poorly integrated in the companies' strategies and goals relating to sustainability.

While not statistically generalizable, we believe that the findings made here provide a relevant account for how larger Swedish companies engaging in sustainability might construct their internal control systems' to manage this perspective in a structured and systematic fashion. The specifics of the individual management control systems for sustainability are likely to be highly context-bound, but we argue that the more general practices found in this study are likely to be relevant for a broader population. This study contributes to the limited field of management control system design and sustainability. It also highlights potential shortcomings in current practice in terms of coherence of control systems for sustainability and certain aspects of sustainability, which are only reflected to a lesser extent in these systems.

6.2 Limitations of study

This study is not without its limitations. This study has provided a snap-shot in time of current control practices with regards to sustainability within the studied companies. While this was a deliberate choice made, it made examination of the direction and development of the respective companies' sustainability efforts impossible. This study, moreover, offered an overview of the control practices for sustainability currently used in these five companies. While more attention could be paid to larger conceptual issues and trends, some of the richness and detail of the individual cases had to be traded off.

6.3 Suggestions for further research

For future research, it would be interesting to adopt a longer time perspective when studying companies' management control systems with regards to sustainability. This could perhaps contribute to whether findings made in this study are inherent to this type of control or whether these companies' management control systems with regards to sustainability are in a similar phase of development. Of particular interest here is the control situation for sustainability relating to social aspects beyond an employee perspective. It would be interesting to closer study the possibilities for and usefulness of management control to manage these aspects. Another area that could prove interesting is to explore the reasons as to why the control systems with regards to sustainability have been designed in a certain way. Are there any particular explanations why some companies' control for sustainability appears more coherently implemented than in others?

7 - Frame of references

Adams C. A. and Frost G. R. (2008); Integrating sustainability reporting into management practices; Accounting forum; no 32; pp 288-302.

Anthony R. N, Govindarajan V. (2001); Management control systems; McGraw Hill; tenth edition

Bansal, P. (2005); Evolving sustainably: A longitudinal study of corporate sustainable development; *Strategic Management Journal*. vol. 26; pp. 197-218.

Bartolomeo M, Bennet M, Bouma J. J, Heydkamp, James P and Wolters T. (2000); Environmental management accounting in Europe: current practice and future potential; *The European accounting review*; no 9:1; pp 31-52.

Bebbington J. (2001); Sustainable development: a review of the international development, business and accounting literature; Accounting forum; no 25:2; 128-157.

Bebbington J. (2007); Accounting for sustainable development performance; CIMA publishing.

Baumgartner R. J. and Ebner D. (2010); Corporate sustainability strategies: sustainability profiles and maturity levels; *Sustainable development*; no 18; 76-89.

Bell S. and Morse S. (2008); Sustainability indicators – measuring the immeasurable?; Earthscan; second edition.

Berry A. J., Coad A. F., Harris E. P., Otley D. T. and Stringer C. (2009); Emerging themes in management control: a review of recent literature; *the British accounting review*; no 41; pp. 2-20.

Burrit R. L. and Schaltegger S; (2010); Sustainability accounting and reporting: fad or trend?; *Accounting auditing and accountability journal*; no 23:7; pp 829-846.

Bonn I. and Fisher J. (2011); Sustainability: the missing ingredient in strategy; *Journal of business strategy*; no 32:1; pp 5-14.

Chenhall R. H. (2003); Management control systems within its organizational context: findings from the contingency-based research and directions for the future; *Accounting, organizations and society*; no 28, pp 127-168.

CIMA; (2010); Evolution of corporate sustainability practices.

Dalton L. and Quinn M. (2009); Leading for sustainability: implementing the tasks of leadership; *Corporate governance*; no 9:1; pp 21-38.

De Waal A. A. and Counet H; (2009); Lessons learned from performance management systems implementations; *International journal of productivity and performance management*; no 58:4; pp 367-390.

Durden C; (2008); Towards a socially responsible management control system; *Accounting auditing and accountability*; no 21:5; pp 671-694.

Epstein M. J (2008); Making sustainability work – Best practices in managing, and measuring corporate social, environmental and economic impacts; Greenleaf publishing.

Ferreira A. and Otley D. (2009); The design and use of performance management system s: An extended framework for analysis; *Management accounting research*; vol. 20; pp 263-282.

Gates S. and Germain C. (2010); Integrating sustainability measures into strategic performance measurement systems: an empirical study; *Management accounting quarterly*; no 11:3; 1-6.

Gray R. (2002); Of messiness, systems and sustainability: towards a more social and environmental finance and accounting; *British accounting review*; no 34; pp 357-386.

Gray R. (2006); Social, environmental and sustainability reporting and organizational value creation? Whose value? Whose creation?; *Accounting auditing and accountability journal*; no 19; pp 793-819.

Hahn T., Figge F., Pinkse J. and Preuss L. (2010); Trade-offs in corporate sustainability: you can't have your cake and eat it; *Business strategy and the environment*; no 19; pp 217-229.

Hannon A. and Gallagher E. G. (2011); Definitions and organizational practice of sustainability in the for profit sector of Nova Scotia; *Journal of cleaner production*; no 19; pp 877-884.

Henri J-F. and Journeault M. (2010); Eco-control: the influence of management control systems on - environmental and economic performance; *Accounting, organizations and society*; no 35; pp 63-80.

Hussey J. and Hussey J. (1997); *Business research*; textbook; MacMillan Business; first edition.

Kaplan R. S. and Norton D. (2008); Mastering the balanced scorecard as a strategic management system; *Harvard business review*; July-August edition; pp 150-161.

Karapetrovic S., McCartney D. and Searcy C; (2008); Application of a systems approach to sustainable development performance measurement; *International journal of productivity and performance management*; no 57:2; pp 182-197.

KPMG; (2008) KPMG/CIES Survey 2008 – a survey into the growth and sustainability issues driving consumer organizations worldwide.

Langfield-Smith K. (1997); Management control systems and strategy: A critical review; *Accounting, organizations and society*; vol. 22; pp 207-232.

Laszlo C. (2008); *Sustainable Value - How the world's leading companies are doing well by doing good*; Stanford university press.

Merchant K. A. and Van der Stede W. A. (2007); *Management control systems – performance measurement, evaluation and incentives*; Prentice hall; second edition.

Milne. M. J., Tregidga H. and Walton S; (2009); Words not actions! The ideological role of sustainable development reporting; *Accounting auditing and accountability journal*; no 22:8; pp 1211-1257.

Morsing M. and Oswald D. (2009); Sustainable leadership: management control systems and organizational culture in Novo Nordisk A/S; *Corporate governance*; vol. 9; pp 83-99.

Norris G. and O'Dwyer B. (2004); Motivating socially responsible decision making: the operations of management controls in socially responsive organization; *The British accounting review*; no 36; 173-196.

Otley D. (1999); Performance management: a framework for management control systems research; *management accounting research*; vol. 10; pp 363-382.

Riccaboni, A. and Leone, A.L. (2010); Implementing strategies through management control system: the case of sustainability; *International Journal of Productivity and Performance Management*. vol. 59; no 2.

Ryen A. (2004); *Kvalitativ intervju – från vetenskapsteori till fältstudier*; Textbook; Liber.

Scapens R. W. (1990); Researching management accounting in practice: the role of case study methods; British accounting review; no 22; pp. 259-281.

Searcy C. (2009); Setting a course in corporate sustainability performance measurement; no 13:3; pp 40-57.

Sharicz C. and Smith P. A. C. (2011) The Shift needed for sustainability; The learning organization; no 18:1; pp. 73-86

Simons R. (2000); Performance measurement & control systems for implementing strategy; Prentice hall.

Steger U., Inonescu-Somers A. and Salzmann O. (2007); The economic foundations of corporate sustainability; Corporate governance; no 7:2; pp 162-177.

Stringer C. (2007); Empirical performance management research: observations from AOS and MAR; Qualitative research in accounting & management; vol. 4; pp 92-114.

WECD (1988); Vår gemensamma framtid; translation: Hägerhäll B.

7 – Appendix 1 – Interview guide

Sustainability definition

Q1. How does your company define sustainability?

Mission and vision

Q2. What is the organization’s vision and mission and how is this communicated to managers and employees?

- A. How is this managed in general, when it comes to the organization itself and subsidiaries?
- B. How is this managed in terms of sustainability related contents?

Q3. What mechanisms, processes and networks are used to convey the organization’s over-arching purposes and objectives to its members?

Key success factors

Q4. Have you identified any key success factors related to sustainability?

- A. If so, what are the key success factors that are believed to be central to the organizations future success and how is this communicated to managers and employees?
- B. If you don’t have any KSFs related to sustainability, are there any particular reasons for this? Has it been discussed or on the agenda?

Organizational structure

Q5. What is the organizational structure?

Q6. What impact does it have on the design and use of sustainability performance management systems?

- A. How concentrated/dispersed is the responsibility for sustainability issues within the company?

Strategies and plans

Q7. What strategies and plans has the organization adopted in regards to sustainability?

Q8. What are the processes and activities that is has decided will be required for it to ensure its success?

Q9. How are strategies and plans adapted, generated and communicated to managers and employees?

- A. What influence has sustainability-related strategies and plans throughout the organization?

Performance measures

Q10. What are the organization's performance measures in regards to sustainability, deriving from its objectives, key success factors and strategies and plans?

Q11. How are these then specified and communicated and what role do they play in performance evaluation? Are there any significant omissions?

Target setting

Q12. What level of performance does the organization need to achieve for each of its performance measures (identified in Q10)?

Q13. How are appropriate targets set for them?

Q14. How challenging are those performance targets?

Performance evaluation

Q15. What processes, if any, does the organization follow for evaluating individual, group and organizational performance with regards to sustainability?

- A. If so, what are they like?

Q16. Are performance evaluations primarily objective, subjective or mixed?

Q17. How important are formal and informal information and controls in these processes?

Reward system

Q18. What rewards, financial and/or non-financial, will managers and employees gain by achieving performance targets?

- A. Further, what penalties, if any, will they suffer by failing to achieve them?

Information flows, systems and networks

Q19. What specific systems and networks has the organization in place to support the operation of its PMSs related to sustainability?

Q20. How is the information used?

Strengths and coherence

Q21. How strong and coherent are the links between the components of OMSs and the way in which they are used? (This is based on the outcome of the previous 20 questions)

- A. How does control for sustainability relate to the more general internal control in terms of design and purpose? Are there any major differences?
- B. How integrated is the control for sustainability in the general internal control system?
- C. How do you think the coexistence of sustainability controls and the general internal control system works? Are there any major conflicts or incompatibilities?