Sustainability Reporting and Organizational Change Management in Companies

A survey-based Analysis of the Relationship between Sustainability Reporting and Organizational Change

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Master's Thesis

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Abstract

Over the last decades, there has been an increase in sustainability reporting (SR) in the corporate world. A review of the literature on SR in companies showed that although there has been research on how to assess sustainability, the link to organizational change management (including its challenges and barriers, management practices) and its potential to foster organizational learning has been underexplored. Therefore, this study aimed to explore the process and evolution of SR in companies, whether (and how) SR fosters organizational learning and to analyze whether (and how) SR fosters organizational change or vice versa. In a worldwide survey a non-probability sample of companies, listed in the Global Reporting Initiative's (GRI) Sustainability Disclosure Database as having published at least one sustainability report in the last ten years, were addressed to close this research gap. A quantitative dominant mixed methods approach was applied to analyze the obtained data. Results were obtained via descriptive, bi- and multivariate analyses and complemented by qualitative analyses based on the Grounded Theory method. The overall findings showed that the decision to publish a sustainability report is primarily driven by company internal motivations including an increase in corporate transparency and the assessment of sustainability efforts. Challenges concerning the technical organization of the reporting process and a lack of commitment to SR can be overcome by improved internal communication and adjustments in the reporting strategy. Furthermore, the process of SR induces learning processes resulting in stronger sustainability awareness throughout the company, which in turn positively influences organizational change processes. However, SR can be both, the outcome of change processes by communicating corporate sustainability efforts that were implemented in a company, and a catalyst for change by inducing organizational learning based on the process of assessing a company's sustainability performance. Perceiving a sustainability report as an opportunity to evaluate the sustainability performance and to improve identified shortcomings rather than a possibility to gain competitive benefits and reputation from the mere disclosure of the obtained data could strengthen SR's role in organizational change management.

Keywords: Corporate sustainability, companies, sustainability reporting, organizational change management, organizational learning, survey, quantitative dominant mixed methods

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Table of contents

Abstract ii
Acknowledgements iii
List of tables & figures vi
List of acronyms vii
1. Introduction 1
1.1 Background & Problem definition 1
1.2 Research Objective & Research Questions 5
1.3 Research approach 6
1.4 Scientific and practical relevance 7
1.5 Thesis outline 7
2. Literature Review 8
2.1 Conceptualizing CS 8
2.2 Organizational change management 10
2.2.1 Theory of organizational change 10
2.2.2 Drivers for organizational change 12
2.2.3 Barriers to organizational change and strategies to overcome these barriers 13
2.3 Sustainability reporting 15
2.3.2 Drivers for Sustainability Reporting 20
2.3.3 Barriers to sustainability reporting and strategies to overcome these barriers 23
2.4 Synthesis of drivers for sustainability reporting and organizational change management 26
2.5 Identification of the knowledge gap 28
3. Research perspective, scope and level of analysis 30
4. Research methods 31
4.1 Survey design 32
4.2 Data collection 36
4.3 Data analysis methods 39
4.3.1 Quantitative data analysis 39
4.3.2 Qualitative analysis based on Grounded Theory 41
4.4 Advantages and Limitations of a survey approach for data collection 43
4.5 Replicability, reliability & validity 44
5. Survey Results 45
5.1 Evaluating the representativeness of the survey participants 46
5.2 Exploring company characteristics, SR-processes and links to organizational change 47
5.2.1 Sustainability Reporting 49
5.2.2 Motivations for publishing a report 51

5.2.3 Sustainability reporting and organizational change management 54
5.2.4 Exploring relationships between sustainability reporting and organizational change management 56
5.2.5 Supplementary insights into SR and OCM based on qualitative analysis 61
6. Discussion 63
6.1 Factors influencing companies' decision to engage in sustainability reporting and roles of SR in companies 63
6.2 Relationships between sustainability reporting and organizational change management 65
6.3 Lessons learned and how companies can improve SR 67
6.4 Explanatory model 68
6.5 Research limitations 69
7. Conclusions 70
7.1 Managerial recommendations 70
7.2 Future research 72
List of references 74
Appendices 88
Appendix 1: Organizational learning in companies 88
Appendix 2: Drivers for organizational change 89
Appendix 3: Barriers to organizational change 92
Appendix 4: Strategies to overcome barriers to change 93
Appendix 5: Additional results from quantitative analyses 94
Appendix 5.1: Industry memberships in sample of contacted companies (N) and companies that participated (n) 94
Appendix 5.2: Differences in company size according to region 95
Appendix 5.3: Corporate impacts according to industry membership 97
Appendix 5.4: Intended and actual roles of sustainability reporting according to sector 98
Appendix 5.5: Influence of sustainability reporting on the corporate culture according to industry membership 98
Appendix 5.6: Main reasons for publishing a sustainability report according to industry membership 99
Appendix 5.7: Intentions underlying SR and actual role of SR 99
Appendix 5.8: Facilitation of change due to SR according to industry membership 100
Appendix 5.9: Facilitation of change by sustainability report according to region 101
Appendix 5.10: Correlations between assessment & communications of sustainability efforts in company elements and roles of SR in a company 101
Appendix 6: Cover letter survey 102
Appendix 7: Survey 103

List of tables & figures

Table 1: Most commonly recognized barriers to change and strategies to overcome the barriers 14
Table 2: Approaches for sustainability assessment 17
Table 3: Comparison of tools for assessment and reporting 19
Table 4: Drivers for sustainability reporting. Sources indicated in table. 20
Table 5: Strategies to overcome barriers to sustainability reporting 25
Table 6: Synthesis of drivers for SR and organizational change 27
Table 7: Summary of key themes and intended purpose of questions 35
Table 8: Sample characteristics 39
Table 9: Advantages and disadvantages of online self-administered surveys 44
Table 10: Ranking of stakeholders according to importance 51
Table 11: Involvement of department responsible for SR in decision-making 54
Table 12: Intended and actual purpose of SR 57
Table 13: Items included in new variables differentiating intentions underlying SR 59
Table 14: Cronbach's alpha for multi-item variables assessing intentions underlying SR 60

Figure 1: Visualization of the strategic research framework 6
Figure 2: Organizational changes, moving from the Status Quo (SQ) to the More Sustainability Oriented State (MSOS) 11
Figure 3: Internal, connecting and external drivers for organizational change towards CS 13
Figure 4: Internal, connecting and external drivers for sustainability reporting 23
Figure 5: Internal, connecting and external barriers to sustainability reporting 24
Figure 6: Possible relationships between SR and organizational change 30
Figure 7: Region of origin of contacted companies (N) and those that replied (n) 46
Figure 8: Shares of sectors most represented in the samples 47
Figure 9: Company size (employees) 48
Figure 10: Departments responsible for developing the sustainability report 49
Figure 11: Stakeholder involvement in sustainability reporting 50
Figure 12: Drivers for publishing a sustainability report 52
Figure 13: Drivers for sustainability reporting 53
Figure 14: Facilitation of change by SR 55
Figure 15: Explanatory model for the relationship between sustainability reporting and organizational change management 68

List of acronyms

CEC	Commission of the European Communities
CEFIC	European Chemical Industry Council
CS	Corporate Sustainability
EMAS	Eco-Management and Audit Scheme
GRI	Global Reporting Initiative
HEI	Higher Education Institution
IFC	International Finance Corporation
ISO	International Standardization Organization
MSOS	More Sustainability Oriented State
OCM	Organizational Change Management
OECD	Organization for Economic Co-operation and Development
SD	Sustainable Development
SQ	Status Quo
SR	Sustainability Reporting
TTSE	Two Tiered Sustainability Equilibria
UN	United Nations
WBCSD	World Business Council for Sustainable Development

1. Introduction

In 2011, during an internship at the Evonik Industries AG, I consciously read a corporate sustainability report for the first time. Although the concept was familiar to me – a company assesses and discloses its efforts to improve the corporate sustainability performance to communicate it to relevant stakeholders (see Haman, 2003; Alonso-Almeida et al., 2013) – I was wondering about the actual use of the report both inside and outside the company. In particular, I wondered about the intentions underlying this report, the intended target audience and if the report had an added value beyond the mere disclosure of promoting success stories based on a seemingly excellent sustainability performance. I was especially interested if this understanding of sustainability reporting would hold after a closer examination of the practice or whether there are effects caused by the process I was unable to account for. Still, these questions remained unanswered at this point in time.

Two years later I had to decide about a topic for my master's thesis as part of the study program "Sustainable Development: Environmental Governance". I had chosen this program because of my ambition to contribute to a more sustainable society by facilitating and inducing change towards more corporate sustainability in companies, which would in turn mitigate negative externalities of corporate production on society and environment. During the process of delineating an issue to be researched, I realized that this thesis project offered the opportunity to combine two topics related to my main sustainability interests: sustainability reporting and organizational change management (OCM). The thesis would allow for an analysis of this practice in the corporate context, help to evaluate the underlying intentions and to assess whether reporting goes beyond the common perception of serving to promote sustainability efforts and to gain reputation. Thus, this master's thesis project could serve to analyze whether sustainability disclosure contributes to changes in the sustainability performance based on evaluations preceding the publication of such a report.

A first tentatively conducted literature review to gain an overview over the field under scrutiny showed that SR has become "a global business practice" (KPMG, 2013:21), but little research has been conducted concerning the effects of sustainability reporting, particularly with regard to organizational change management (see e.g. Hahn & Kühnen, 2013). Due to the fact that companies have increasingly implemented the former, in my opinion the exploration of sustainability reporting's capabilities as a sustainability management tool is necessary to enable progress in a company's sustainability efforts. Therefore, also the link between reporting and organizational change management has become a highly relevant field of research to provide insights to academics, policy-makers and company executives about possible roles of reporting in corporations and how it can be used to generate an added benefit for business, society and the environment.

With these ideas in mind I decided to engage in research in the field of sustainability reporting and organizational change management. Therefore, this master's thesis focuses on reporting processes in companies and its relation to change management to fill both a personal knowledge gap and to contribute to closing a knowledge gap in the scientific literature as well as improving the process of sustainability reporting in companies.

1.1 Background & Problem definition

Industrial development and the process of globalization – along with market liberalization – have brought technological and social progress to great parts of the world (Held, 1999). However, these processes have significantly contributed to environmental deterioration, precarious conditions for parts of societies and severe regional economic disparities (Kaplinski, 2005; Kovel, 2008; Ruether, 2008). Inter-related developments along the economic, environmental and social dimensions like negative effects of industrialization and economic growth, changing consumption patterns or the continuous increase in life expectancy threaten the opportunity for future generations to meet their needs and will result in losses in quality of life in the long-term (Blewitt, 2008; Lozano, 2008).

Companies have catalyzed such processes by exploiting natural resources, creating wealth and thereby significantly influencing both the physical and social conditions of our world (Dunphy et al., 2003). Since multinational corporations have become important entities at the global scale, power relations in national and global governance structures changed (Chang, 2003). These entities have increasingly participated in decision-making processes that had traditionally been reserved for political actors like states and governmental organizations (Ruggie, 2004; Scherer et al., 2005). Against this background, the impacts of economic activities have led to a discussion about corporations' responsibilities and role towards society and nature (Atkinson, 2000; Scherer et al., 2005). In the author's personal opinion the 'polluter pays principle' has defined particularly well the duty of entities who have contributed to negative externalities due to economic growth, industrialization and production processes to mitigate these harmful effects regardless of how big the positive contribution of this entity has been. Therefore, corporations should be assigned responsibilities towards society and environment. Optimally, the precautionary principle, i.e. if an action may have a harmful impact it should be avoided a priori (Harremoes et al., 2013), should be the underlying logic of corporate sustainability rather than the polluter pays principle. The original environmental focus of these principles should be extended to all sustainability dimensions (economic, environmental, social, time) and thereby denote a responsible approach to business beyond the neo-liberal economic paradigm which tends to define short-term profit-generation as the sole responsibility of business.

This debate has been rooted in considering companies a source of environmental degradation and unequal distribution of wealth, but at the same time as an essential part of social and economic development, and an important social actor who has to play a prominent role in creating a sustainable future (Azapagic, 2003). This perspective has contradicted the traditional understanding of the state as the only actor responsible for creating and maintaining control, business as creating wealth through competition and cooperation (market) and civil actors structuring and shaping society via collective action and participation (Van Marrewijk & Werre, 2003). As the coordinating mechanisms of governments and business have shown fallacies in solving societal issues, civil society has gained importance and influence (Chang, 2003) and governments have increasingly left societal issues within the authority of corporations (Héritier & Eckert, 2009). The central question therefore remains whether current understandings of companies have to be modified to contribute to the continuing health of our planet and the survival of humans and other species (Dunphy et al., 2003). Since companies are at their core instruments of social purpose and have contributed to the problems we face today, they must be part of the solution to ensure their future 'license to operate' (Diesendorf, 2000; Dunphy et al., 2003; Ruether, 2008).

Perceptions of the role of business have spanned from defining profit generation as industry's sole responsibility (Friedman, 1970) to placing the business case at the heart of activities related to social responsibility (Lantos, 2001), and holistic approaches addressing all sustainability dimensions in corporate activities under simultaneous involvement of a diverse set of stakeholders (Dyllick & Hockerts, 2002; Linnenlücke et al., 2009). In the latter case, companies have been considered more than shareholder-wealth generating entities isolated from society and environment by both academic researchers and company managers (Van Marrewijk, 2003; Ruggie, 2004; Dunphy et al., 2003).

While conventional scientific disciplines have failed to understand and analyze the complex relations between economic, environmental and social aspects, including their development over time, the concept of Sustainable Development (SD) has been perceived as a means to apprehend and restore the balance between these dimensions (Lozano, 2008). The debate concerning the reestablishment and maintenance of a dynamic long-term balance between these dimensions and to achieve sustainability became relevant when globalization gained momentum (Millar et al., 2012). Since deterioration of environmental, social and economic spheres still happens at an increasing speed, catalyzed by corporations and companies, firms have been at the core of the SD-debate and have

been considered to play a central role in integrating social and ecological responsibility into conventional business management (Van Marrewijk, 2003; Linnenlücke & Griffiths, 2010).

Companies have faced pressure by civil society to address environmental and social problems and the concept of corporate sustainability (CS)[1] has gained importance in the last decades (Starik & Marcus, 2000). The key challenge in this debate has been to translate general principles of SD into business practice (Azapagic, 2003). Therefore, CS has been developed with the aim to tackle the interlinked economic, environmental, social and time issues of sustainability in corporate management and operations (Montiel, 2008). As a simple, but rather vague analogy (Lozano, 2013a) to the Brundtland definition of Sustainable Development (SD), CS has been defined to "meet the needs of a firm's direct and indirect stakeholders, without compromising its ability to meet the needs of future stakeholders as well" (Hockerts & Dyllick, 2002:131).

In a more specific approach, Siebenhuner & Arnold (2007) highlighted changes required for the incorporation of CS in companies, which included the introduction of resource efficient technologies, sustainability reporting (SR) schemes, and the provision of sustainable products, services and product-service combinations. Lozano (2008) and Linnenlücke et al. (2009) added that CS required firms to apply a holistic perspective of the four sustainability dimensions (economic, environmental, social, time) and the continuous improvement of their performance (internal activities, structure, management, engaging with stakeholders) to contribute to a more sustainable society.

Other authors have related sustainability to organizations, whereas the degree to which they classify CS as ecological concerns (Shrivastava, 1995), as an organizations' social responsibility (Carroll, 1999) or as the integration of corporate economic activities with ecological and societal concerns (Dunphy et al., 2003) has varied to a great extent. This variety of definitions has resulted in impediments concerning the implementation of CS as the concept has remained ambiguous and difficult to operationalize (Daily & Huang, 2001; Linnenlücke & Griffiths, 2010).

The negative externalities of corporate activities have caused strong demand for more sustainable operation and production patters. Additionally, environmental degradation and potentially harmfully effects on human health have exposed firms to the public demand for justifying their actions to ensure their 'license operate'. This demand for corporate accountability has originated from the concept of quasi-public institutions in modern management theories based on business-ethical considerations (Ulrich & Fluri, 1995) and provided the starting point for corporate sustainability reporting (Ball, 2002; Daub, 2007).

Corporate sustainability reporting has been defined as a voluntary process to assess the current state of an organization's economic, environmental and social dimensions in the respective reporting period and to communicate a company's efforts and sustainability progress to its internal and external stakeholders by disclosing both financial and non-financial information and entering into a dialogue about CS (Hamann, 2003; Alonso-Almeida et al., 2013). According to Dalal-Clayton & Bass (2002), the systematic assessment of key sustainability variables over time and space to analyze changes induced by particular strategies has been the central objective of SR. This has been necessary to identify sustainability issues to be addressed in strategies, to ensure management accountability, to evaluate the results of chosen strategies and link particular measures with changes, and to provide feedback to the responsible organizations and their stakeholders (Willis, 2003; Fifka,

[1] The author is aware that there are numerous alternative concepts to Corporate Sustainability. These approaches encompass Corporate Social Responsibility, Business Ethics, Corporate Accountability and Corporate Citizenship. This portfolio of concepts expresses society's expectations as to the role and responsibility of business towards society (Kakabadse et al., 2005). Due to a lack of common ground there is no common single definition of this concept. Therefore, the author uses 'CS' as a synonym for this concept throughout the research project.

2013; GRI, 2014a). Therefore, SR has been perceived as an element of corporations' contributions to sustainability (Lozano, 2011).

Since companies and organizations have increasingly focused on becoming more sustainable and SR has helped organizations to measure, understand and communicate their sustainability efforts, SR has increasingly become a business practice (Moneva, 2005; GRI, 2014a). Besides evaluating and communicating CS, SR has been assumed to foster organizational change (Adams & McNicholas, 2007). Porter et al. (1975) defined a company system as consisting of five elements (operations & production, management & strategy, organizational systems, procurement & marketing, assessment & communication), which provided a framework to identify potential leverage points for SR to foster organizational change. As reporting has been included in the category of assessment and communication (Lozano, 2012), the process of evaluating a company's sustainability efforts, identifying progress and shortcomings and developing a report may induce change in assessment patterns. Since most of the elements interact as part of the whole system, change could spread to management and strategy elements by influencing business values and attitudes, or influence the organizational system by changing the corporate culture. In the long-term, theoretically all elements can be influenced.

These changes can result in cultural change and transformation in organizations, which is needed to appropriately respond to environmental and social challenges (Post & Altman, 1994; Crane, 1995). OCM has been required to move towards CS and has been defined as a process to meet the demands of internal and external stakeholders by moving the organization from its current state to a more desirable status quo (Ragsdell, 2000; Todnem By, 2005). This has entailed both the management of 'hard' structural change as well as cultural change towards a more sustainability-oriented corporate culture to ensure a commonly supported implementation of CS (Gill, 2002).

Organizational change is required to move towards a more sustainable society (Dunphy et al., 2003; Montiel, 2008; Linnenlücke & Griffiths, 2010). Therefore, it is of interest whether there is a relationship between SR and organizational change. The review by Hahn & Kühnen (2013) showed that the academic focus has been on factors influencing the extent and quality of SR. The main interest has been on drivers (e.g. Adams et al., 1998; Herzig & Schaltegger, 2006), barriers (e.g. O'Reilly et al., 2000; Doppelt, 2009) and strategies to overcome these barriers (e.g. Frehs, 2003; Stubbs et al., 2013) both in the fields of SR and organizational change. The role of SR in change processes has remained underexplored to date. Only a limited amount of authors explicitly addressed the link between SR and organizational change. Alonso-Almeida et al. (2013) stated that SR has contributed to improving both corporate transparency and relationships with stakeholders. Christofi et al. (2012) found an influence of SR on internal management processes and the general corporate attitude towards sustainability. According to Adams & McNicholas (2007), the process of implementing a system for SR has resulted in an improved sustainability performance due to the application of sustainability assessment tools, increased internal communication and learning processes. Although Ioannou & Serafeim's (2011) quantitative study showed a significantly positive impact of SR on CS and Lozano's (2013a) findings pointed to SR as a driver for organizational change, an insufficient level of detail has inhibited the unambiguous identification of a causal relationship between these concepts.

Despite having researched some links between the processes of organizational change towards CS and SR, academic research has been unable to provide a sufficient level of detail to enable the identification of a direct link or the direction of a causal relationship (e.g. Ioannou & Serafeim, 2011; Christofi et al., 2012). Hence, the assumed relationship between the concepts could still be spurious, one-directional or reciprocal. Against this background this research project sets out to provide a contribution based on quantitative research supplemented by qualitative analyses to fill this knowledge gap. There is a need to analyze the process of SR itself, the effects of the process on internal organizational structures and learning processes and the role of SR in organizational change

processes. This research can provide insights into if and how these internal processes of performance evaluation, disclosure and engagement induce organizational change in companies and thereby contribute to improvements in the overall sustainability performance. The goal of this research project is elaborated upon in more detail in the following section.

1.2 Research Objective & Research Questions

Based on the identified knowledge gap, the overall research objective is:

To gain an in-depth understanding of the process of developing sustainability reports, to assess whether and how SR induces organizational learning and to analyze whether and how SR fosters organizational change or vice versa.

This objective is to be achieved by the analysis of quantitative and qualitative data collected with the help of a worldwide survey among companies on organizational change and the process and evolution of SR. Core issues addressed in the survey will be drivers for SR, the purpose of SR as perceived by companies, the process and benefits of SR as well as organizational changes. Thereby, the analysis of the quantitative data will help to generate descriptive and explanatory knowledge and the research project will contribute to a deeper understanding of the relationship between SR and organizational change. The results will be integrated into an explanatory model depicting the links between the concepts. The analysis of challenges faced by companies engaged in SR and organizational learning processes will allow for the provision of recommendations to further improve the process of sustainability reporting.

The unit of analysis in this project is defined as companies listed in the Global Reporting Initiative's (GRI) Disclosure Database as having published at least one sustainability report in the last ten years. The GRI's guidelines are considered most encompassing in terms of corporate sustainability by addressing the economic, environmental and social sustainability dimension and are acknowledged as a worldwide standard for SR (Alonso-Almeida, 2013; KPMG, 2013). Since the majority of companies active in SR is registered in the GRI's database, this population provides an encompassing sample for research.

In order to gain the knowledge necessary for achieving the research objective, research questions focusing on the internal aim of the research, and thus the goal within the project, need to be answered (Verschuren & Doorewaard, 2010). Clearly defined research questions help to specify the research objectives and provide guidance concerning the generation of knowledge and necessary steps to meet the research objectives (Bryman, 2001; Saunders et al., 2007). Based on the research objective stated above, one central research question is of interest:

Has there been a link between the processes of developing a sustainability report in companies and organizational change management for corporate sustainability? If so, has sustainability reporting affected this process or vice versa?

Explanatory knowledge is required to allow for a profound answer to this question. The following sub-questions are formulated with regard to the underlying key concepts and contribute to answering the central research question.

1) What factors have influenced the process of developing a sustainability report in companies?
2) Has the process of sustainability reporting influenced the process of organizational change management for corporate sustainability or vice versa, or does neither of the concepts influence the other respectively?
3) What lessons can be learned from challenges and opportunities faced by companies when developing a sustainability report? How can SR in companies be improved based on these insights?

1.3 Research approach

This research requires a structured approach to achieve the research objective and to answer the research questions. The research framework illustrated in Figure 1 presents the research approach and serves as a schematic visualization of the steps to be taken (Verschuren & Doorewaard, 2010). A detailed literature review on SR and its link to organizational change processes will be conducted (phase a). As research in both fields has been majorly conducted in isolation from the other respective concept, the literature review will depart in the respective research fields and aim to identify knowledge gaps and possible links between the concepts of interest. The review of available research will provide insights into SR in terms of commonly used sustainability assessment and reporting tools, companies' motivations for SR, barriers faced by companies to engage in SR and strategies to overcome these barriers. Literature on organizational change will be reviewed to provide an overview over research on drivers for organizational change, barriers and strategies to overcome these barriers. The review aims to identify knowledge gaps concerning the link between SR and organizational change. The results of the review will be used to develop a survey to collect data concerning SR in companies (phase b). The cross-sectional survey will be conducted at a single point in time and allow for gathering quantitative and quantifiable data. This data will be analyzed with regard to the process of developing a sustainability report, if (and how) SR induces organizational learning and the link between SR and organizational change (phase c).

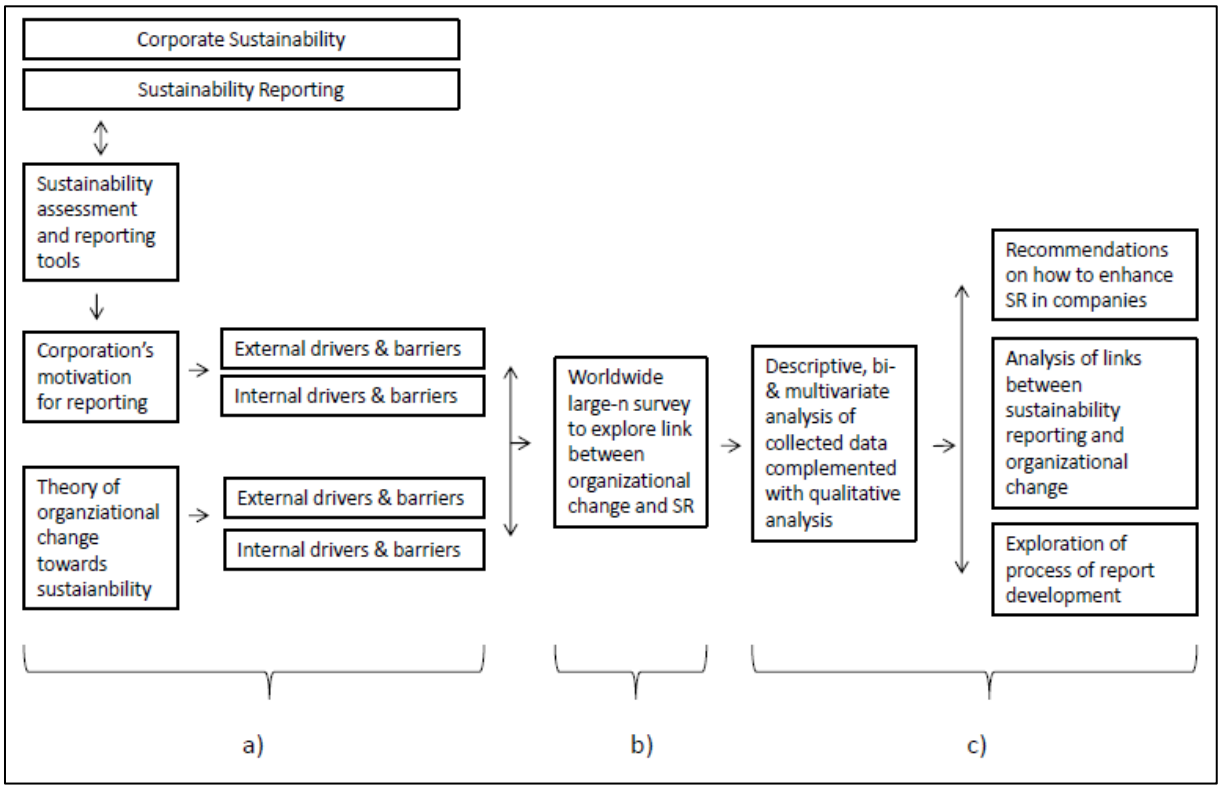

Figure 1: Visualization of the strategic research framework

Figure 1 shows a chronological order of the tasks to be completed, as each step logically builds on the previous steps. The literature review primarily serves the development of the survey, which in turn helps to gather data for subsequent analyses followed by the development of an explanatory model. However, the literature review will continue throughout the whole research project to ensure the consideration of the latest research results in the fields of interest.

In line with the definition of Johnson et al. (2007), this project is based on a quantitative dominant mixed method approach. Thus, quantitative methods are applied to analyze the data obtained from the survey. A qualitative analysis of answers to a limited amount of open-ended survey questions

serves to add detail to the findings. Yet, before the research is conducted, the scientific and practical relevance of this thesis is explained.

1.4 Scientific and practical relevance

As discussed in section 1.2, this research project aims to generate descriptive and explanatory knowledge in an under-researched field. Its overall added scientific value lies in a quantitative exploration of the role of SR in organizational change, which has been assumed to serve as a catalyst for change, but little evidence has been provided to analyze this relationship in detail. Against this background and the complexity of the concepts under scrutiny, a quantitative explanatory and analytical research based on a survey-design allows for the examination of relationships between variables in question and thereby allows providing insights into an under-researched field (Saunders et al., 2007).

This research aims to contribute to filling the knowledge gap at the intersection of two fields of research in terms of providing insights into the relationship between corporate sustainability reporting and organizational change management towards more corporate sustainability. Although a relationship between these concepts has been identified (Ioannou & Serafeim, 2011) and empirical research has indicated an influence of SR on organizational change (Adams & McNicholas, 2007; Lozano, 2012), academic research has been unable to show causal relationships.

Organizational change has played an important role in the strategic management of companies because they continuously have to adapt to minor and major changes in their environment (Kotter & Schlesinger, 2008). If these changes can be anticipated and managed they can lead to advantages for the company, while poor management may result in economic losses (Cannon, 1994). A tool for planning change could be SR, as it has served to assess and communicate the current state of a company's CS performance (Hamann, 2003; Alonso-Almeida et al., 2013). Since SR has increasingly become a business practice (KPMG, 2013), the analysis of potential links between SR and organizational change is of practical relevance. In case SR can be considered a catalyst for organizational change, it could serve as a self-governance tool to induce changes in corporate activities and thereby improve the corporate sustainability performance. Since most companies have assumed a business case for sustainability (Dyllick & Hockerts, 2002), this tool can theoretically lead to both corporate benefits and a more sustainable society. This research project could help academic researchers, company managers and policy-makers to gain insights into the process of SR, its potential benefits and factors influencing SR practices. Additionally it is of interest for both researchers and stakeholders to analyze the link between the processes of SR and organizational change management and to assess if and how SR may foster organizational change in companies' governance systems and/or operations. This could provide recommendations on how to improve SR, to explore how organizational learning and internal communication processes may be enhanced and how to foster change towards more sustainability by engaging in SR (if a link can be established).

This research can be characterized as an exploration of sustainability governance (see Doppelt, 2009). Both sustainability reporting with the aim of assessing and communicating sustainability efforts as well as organizational change towards sustainability can be termed as self-governance (for more information see Driessen et al., 2012). These concepts can be classified as self-governance tools aiming at facilitating change towards more corporate sustainability.

1.5 Thesis outline

Chapter 1 places the research topic into the broader context of the sustainability debate, identifies the knowledge gap of interest and defines the research objective and research questions which logically flow from the problem definition. Chapter 2 provides the literature review with regard to the two research fields of interest: sustainability reporting and organizational change management. A special focus is on possible links between both concepts, which could explain the relationship under scrutiny. In chapter 3 the key concepts delineated in the literature review are combined to define the

project's research perspective demarcating the scope and level of analysis. Chapter 4 illustrates the research methods applied in this thesis project, including the data collection strategy and the design of the survey as well as the methods of analysis. The results of the data analysis concerning the process of SR, influential factors and links to organizational change management are elaborated upon in chapter 5. Chapter 6 discusses the findings by relating them to the research objectives and to the prevailing literature. Chapter 7 provides conclusions drawn from this project and offers recommendations for managerial practice as well as for future research in this field.

2. Literature Review

The purpose of this literature review is, firstly, to define corporate sustainability, as it is the concept underlying this research project. Secondly, the theory of OCM will be elaborated upon and drivers for organizational change as well as barriers to change and strategies to overcome these barriers will be presented. Thirdly, the development of SR, drivers for SR, barriers to SR and strategies to overcome these barriers will be addressed. The purpose of reviewing drivers, barriers and strategies for both SR and organizational change is to identify and discuss possible interlinkages between these concepts.

2.1 Conceptualizing CS

In 1987 the Brundtland commission defined Sustainable Development (SD) as "meeting the needs of present generations without compromising the ability of future generations to meet her own needs" (WCED, 1987). Originally defined at global scale, SD has increasingly been considered at smaller spatial cases such as regions, cities and economic entities (Gray et al., 1993; Atkinson, 2000). Translated to the business level, Dyllick & Hockerts (2002:131) defined corporate sustainability (CS) in a simple, but rather vague analogy to the Brundtland definition to "meet the needs of a firm's direct and indirect stakeholders, without compromising its ability to meet the needs of future stakeholders as well". This definition of CS has been only one amongst a myriad of different approaches to the concept (Linnenlücke et al., 2009). This section therefore aims to illustrate the blurred boundaries of the concept and to provide a definition of CS that will underlie this research project.

CS has been based on the assumption that future well-being is determined by what happens to wealth over time (Atkinson, 2000). Still, this concept has been highly debated as definitions of CS have been rooted in varying circumstances and value systems companies have operated in, which implies that there is no single set of features characterizing the concept (Van Marrewijk, 2003; Lo & Sheu, 2007).

The concept of CS has challenged the assumption that environmental integrity and social equity are at odds with economic prosperity (Bansal, 2005). Company managers therefore simultaneously have to ensure social responsibility, ecological sustainability and economic competitiveness by integrating market and non-market strategies (Orlitzky et al., 2011). As firms are considered to be ethically obliged to address societal needs, failure to conform to this approach may threaten the firm's legitimacy granted by civil society (DiMaggio & Powell, 1983; Wilson, 2003). Thus, aiming to improve the company's sustainability performance should be in the company's own economic interest as it helps to improve its relationships with stakeholders and will in turn facilitate the achievement of the company's business objectives (Freeman, 1984; Wilson, 2003). However, the following examples show that approaches to CS have been based on different attitudes towards sustainability.

A focus on economic sustainability has assumed companies to operate in the interests of their shareholders by maximizing their wealth (Fowler & Hope, 2007). Since the ultimate goal has been profit maximization, ecological and social investments without direct benefit to the shareholders should be avoided as they might weaken the companies' competitiveness (Friedman, 1970). The concept of ecological sustainability, by contrast, has assumed business to operate within the natural environment, which may be affected by negative externalities (Sharma, 2003). Therefore, shifts in

business practices have been considered necessary to reverse business' negative environmental impact and to operate within the carrying capacities of ecosystems (Hart, 1997). As a third approach, social sustainability has included the expansion of business' responsibilities beyond the generation of shareholder value towards various stakeholder groups and the social environment it operates in (Carroll, 1999). This has required attention to both internal staff development and to proactive engagement with the business' community base and stakeholders (Dyllick & Hockerts, 2002; Dunphy et al., 2003).

These approaches show that CS has often been perceived as technocentric and compartmentalized. Since links between the sustainability dimensions have been neglected, the focus has been limited to one of these dimensions, while long-term effects of decisions, i.e. the time dimension, have been neglected entirely (Lozano, 2008). Without integrating the different dimensions sustainability can only be defined separately for each of these aspects. Therefore, only a low level of sustainability can be reached with these approaches. This has been indicated by Lozano (2008) and Baumgartner (2009), who placed different CS approaches on a scale respectively.

Lozano (2008) categorized different concepts on a spectrum. The conventional economist's perspective defining sustainability as a steady state based on normative characteristics and focusing on efficiency, while neglecting business impacts on the environment has been placed at the one end. The holistic sustainability perspective has been placed at the other end and aims at the integration of economic, environmental and social aspects while paying special attention to relations between these sustainability dimensions and continuity in terms of taking long-term effects of decisions into account. Baumgartner (2009) also developed a scale of sustainability strategies, which reaches from an introverted strategy focusing on legal compliance with ecological and social standards to avoid risks for the company to extroverted strategies aiming at securing public acceptance by informing stakeholders about relevant activities, and finally to a visionary approach based on CS seated at the normative level of the company aiming to implement sustainability into all business activities.

Taking into account the critique at the aforementioned CS definitions based on compartmentalization and technocentrism, achieving true CS requires companies to complementary and equally consider all four sustainability dimensions (economic, environmental, social, time) as well as their inter-relations, which also implies the continuous improvement of their performance (internal activities, structure, management, engaging with stakeholders) to contribute to a more sustainable society. This approach represents the holistic perspective as demanded by Linnenlücke et al. (2009) and Lozano (2013a). Therefore, this study normatively assumes that all companies should aim at the implementation of sustainability guided by the Two Tiered Sustainability Equilibria (TTSE) underlying the holistic perspective in which "issues in each aspect (economic, environmental and social) interact with each other, with issues in other aspects, and through time" (Lozano, 2008:1845). The author of this thesis considers this definition of CS appropriate because the integration of the sustainability dimensions accounts for cross-relations between them, which can create synergies to foster CS or negatively affect a company's CS performance if neglected. Additionally, the intergenerational element of this definition ensures the consideration of short-, long- and longer-term effects of decisions (Lozano, 2008). Thus, the more a company aims to improve its sustainability performance, the closer it has to move from compartmentalized sustainability approaches towards the holistic sustainability perspective applied in this thesis (see Van Marrewijk, 2003).

Based on this definition every firm has been recommended to apply this perspective in a custom approach to the company's business model and circumstances in which it operates (Van Marrewijk & Werre, 2003). Lozano (2013b) referred to the continuous process of adjusting and improving corporate sustainability measures as a journey for companies towards more effectively contributing to a more sustainable society. The processes, motivations and obstacles underlying this 'journey' are elaborated upon in the following section to review whether sustainability reporting has been identified as a driver for change in the respective literature.

2.2 Organizational change management

In this section, the theory of organizational change is presented and drivers and barriers for organizational change towards sustainability, as well as strategies to overcome these barriers will be discussed.

2.2.1 Theory of organizational change

Organizational change has been defined as a process to meet the demands of internal and external stakeholders by moving the organization from its current state to a more desirable status quo (Ragsdell, 2000; Todnem By, 2005). These changes have ranged from incremental, evolutionary changes (Dawson, 1994; Gill, 2002; Doppelt, 2009) to radical ones (Meyerson, 2001; Burnes, 2009). External events have made most companies or divisions of firms change moderately at least once a year and face major changes every four or five years (Kotter & Schlesinger, 2008). However, the frequency and magnitude of change have been increasing (Burnes, 2009). As effectively managed change has provided opportunities for organizations (Gill, 2002) and failure to change due to poor planning and control has resulted in economic losses (Cannon, 1994), change management has become an important aspect of companies' strategic management (Burnes, 2009).

A seminal work on the theory of organizational change is the integrated three-step model of planned change at group, organizational and societal levels by Lewin (1947). He defined the status quo as the maintained balance of opposing forces. Change has taken place through modifications in the balance of general contextual factors (social, political, economic context) influencing the power-relations of the opposing forces (Adams & McNicholas, 2007). A successful change process has included unfreezing the present level (i.e. shifts in the balance of opposing forces), moving to the next level and subsequently freezing the more desirable new status quo (i.e. preventing the new status quo from further change) (Lewin, 1947). These steps can be identified in Figure 3 in terms of the status quo, strategies acting as a leverage to overcome barriers to change, the following transition period and the subsequent freezing (institutionalization) of the more sustainability oriented state.

The stage of unfreezing the status quo in a company has posed different challenges in different circumstances and different companies. The induction of change has required an emotional 'stir up', which increases the awareness of the problems caused by the status quo and the desirability of a diverging future status quo among all individuals to be involved in the respective change process (Adams & McNicholas, 2007). The same problem has applied for freezing the new level (Lewin, 1947).

The nature of organizational change has been considered to require a continuous adaptation process instead of a linear process limited to a given period of time (Lewin, 1947; Todnem By, 2005). A company's internal changes have permitted a higher degree of control, while external changes in the business environment tended to limit the company's role to being reactive, unless these changes have been anticipated (Freeman, 1984; Lozano, 2013b).

Organizational change processes have also been applied to improvements in corporate sustainability practices. A holistic approach to planned change towards CS has required focusing on the "identification of mission and values, collaboration and conflict, control and leadership, resistance and adaptation to change, utilization of human resources, communication, and management development" (Lozano, 2013b:277). This has included explicit approaches for managing problems and participation at all levels of a company, which has increased the effectiveness of planned change compared to technocentric changes neglecting social elements in such processes (Lorenzi & Riley, 2000; Lyon, 2004). Therefore, both the technical aspects (management) and the social elements (leadership) of change have been considered important (Gill, 2002). Leadership has helped to ensure the alignment and congruence of informational, emotional and behavioral attitudes among individuals, groups and the whole organization (Kotler & Armstrong, 2001; Frehs, 2003; Lozano, 2012). While informational attitudes represent the beliefs and knowledge an individual has about a particular object, emotional attitudes entail feelings about this object and behavioral attitudes

describe the individual's behavior and actions towards this object (Luthans, 2002). Yet, Lewin (1947) stated that changes in the individual's behavior alone do not result in organizational change due to conformance with group pressure. Therefore, group norms within a company have to be challenged to implement change (Adams & McNicholas, 2007).

According to Lozano (2008), these changes in attitudes have required learning processes through inter-personal and inter-group interactions, which result in organizational learning. Continuous organizational learning must be congruent and aligned within the different company levels to avoid conflicts that may prevent progress towards sustainability in the company (the process of organizational learning is explained in detail in Appendix 1). These altered attitudes have to be institutionalized in the 'new' organizational culture to ensure alignment and to avoid failure in change because of inconsistencies between the more desirable status quo and the cultural mind-sets and behavior (Adams & McNicholas, 2007; Doppelt, 2009). Hence, long-lasting CS change has been assumed to require, besides changes in attitudes, changes in the management, organizational structure and operations (Diesendorf, 2000), the development of sustainability visions (Doppelt, 2009) and strategies to achieve these visions (Hodge et al., 1999). This transition from the Status Quo to a more Sustainability Oriented State and the institutionalization of altered attitudes is illustrated in Figure 2. According to Lozano (2013b), top-down processes have facilitated the incorporation of new visions, strategies and structures, but may simultaneously impede their institutionalization in case leadership changes during this period. Bottom-up processes, by contrast, can facilitate the institutionalization process, but may also be impeded by changes in leadership styles.

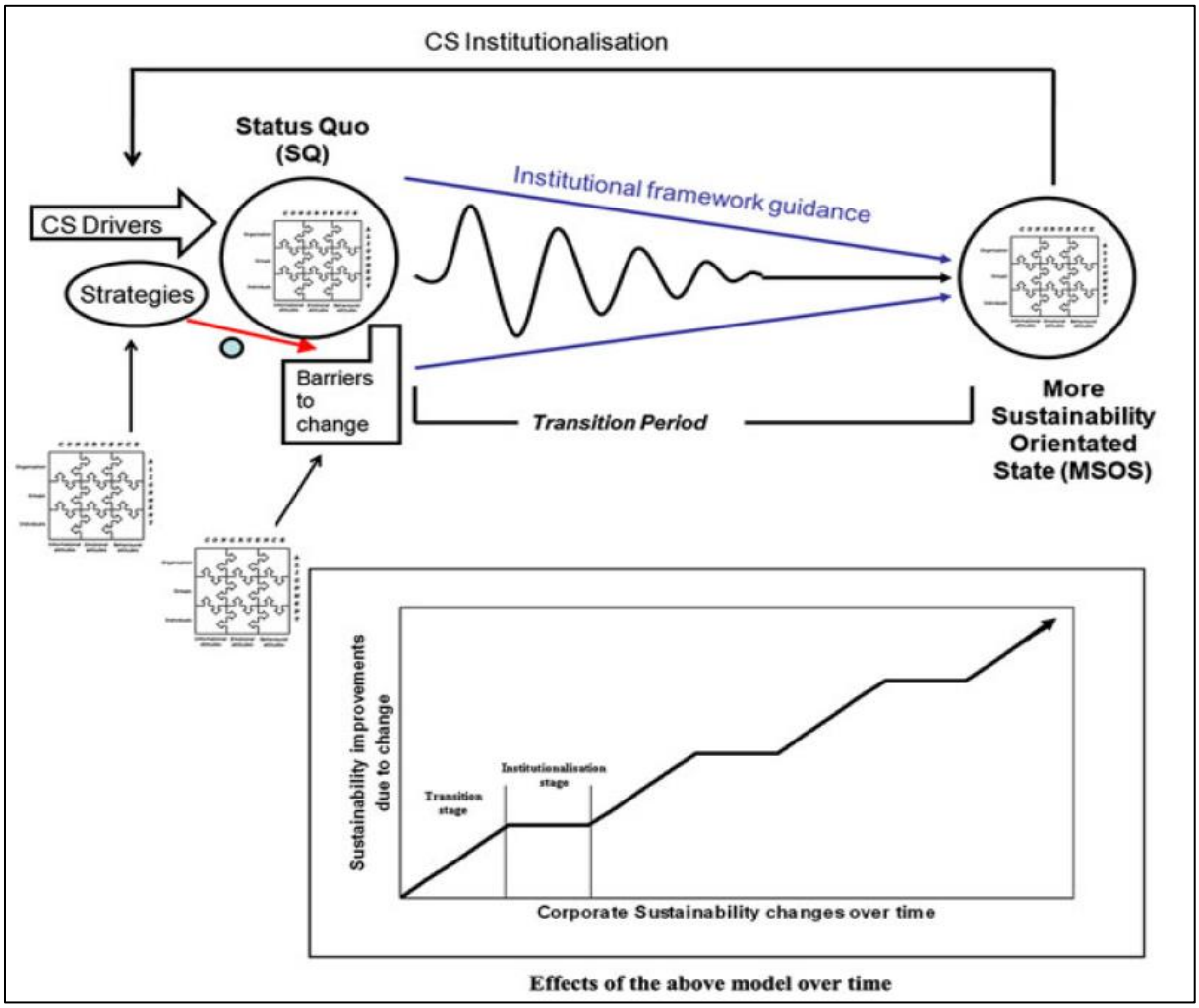

Figure 2: Organizational changes, moving from the Status Quo (SQ) to the More Sustainability Oriented State (MSOS) (Lozano, 2013b)

As indicated in Figure 2, the process of organizational change may be fostered by particular CS drivers. These drivers are explained in the following section.

2.2.2 Drivers for organizational change

Academic researchers have identified numerous factors underlying organizational change towards CS (Hopkins, 2002; Salzmann et al., 2005; Oskarsson & Von Malmborg, 2005), which have been categorized into external (extra-mural) and internal (intra-mural) drivers (Lozano, 2013a). External drivers have forced companies to react to circumstances beyond their direct control and have thereby left little space for innovative measures, which in turn fostered CS to a low extent (DeSimone & Popoff, 2000). A major driver has been stakeholder pressure in terms of external actors (NGOs, communities, suppliers, etc.) demanding to be involved in the definition of social and environmental performance targets and the incorporation of stakeholders' expectations into corporate governance and planning processes (Frehs, 2003; Fernández et al., 2006). Companies reacted to these pressures to generate and restore civil society's trust in them by meeting social normal and standards and to thereby ensure their 'license to operate' (CEC, 2002). Additional pressure to comply with particular performance targets has been placed on companies by national legislation (Quazi, 2001). This has been complemented by the aim to promote the company's role as a sustainability frontrunner in company benchmarks with competitors (Quazi, 2001), which has been intended to increase corporate brand reputation and yield competitive advantages (Frehs, 2003; Oskarsson & van Malborg, 2005). These advantages have been reflected in the capability to meet market expectations concerning social and environmental issues, to gain access to markets for values based goods and to satisfy customer demand for ethically sourced goods (Biscaccianti, 2003; Dunphy et al., 2003).

Since a focus on external drivers alone would treat companies as 'black boxes' and neglect internal processes (Jensen & Meckling, 1976), company internal drivers have also been addressed in the literature. These internal drivers have provided greater leverage for change towards CS, as they can be dealt with under direct control of the company (Fukukawa & Moon, 2004). Ethical leadership of companies pushing towards the introduction, implementation and institutionalization of change by anchoring a strategy within the entire organization (DeSimone & Popoff, 2000; Gill, 2002; Cramer, 2003) and improvements in economic values due to value maximization from strategic CS (e.g. resource and cost savings) (Carroll, 1999; CEC, 2001; Lantos, 2001) have been major internal drivers. Business managers can influence these factors pro-actively by deciding to which extent these factors will play a role in their company. These have been complemented by increased sustainability awareness and employee motivation (Frankental, 2001; Oskarsson & van Malmborg, 2005), moral commitment to CS (Frehs, 2003; Ditlev-Simonsen & Modttun, 2011) and responsiveness to stakeholder and shareholder demands by complementing the company's core business functions by the integration of sustainability values (Weymes, 2004; Doppelt, 2009). Additionally, organizational change towards CS has been aimed at attracting prospective high quality employees (Frehs, 2003). A detailed overview over drivers for organizational change is presented in Appendix 2.

A limited amount of authors has approached their research from a holistic perspective taking interlinkages between the economic, environmental and social dimensions into account (Lozano, 2013a). This separation between the drivers suggested that companies were closed systems[2] (Drury & Farhoomand, 1999). Still, based on the assumption that companies are semi-open or semi-closed systems, the categorization of drivers had to be redefined by adding the category of 'connecting drivers', which provided a more differentiated approach to CS drivers (Lozano, 2013a). This

[2] Closed systems are defined as systems that do not interact with their environment via the import and/or export of resources (e.g. money, energy, information). They are the opposite to open systems, which interact with their environment by exchanging resources (Bertalanffy, 1968; Daly, 1991). Semi-open (or semi-closed) systems also exchange resources, but some resources are excluded from this process (e.g. intellectual property, patents, etc.) (Lozano, 2013a)

classification has been based on the aforementioned drivers. Yet, drivers linking internal drivers and external pressure are 'connecting' these elements, e.g. sustainability reporting has served companies to evaluate their CS performance internally and external stakeholders have used the disclosed information to pressure firms towards more CS (Figure 3).

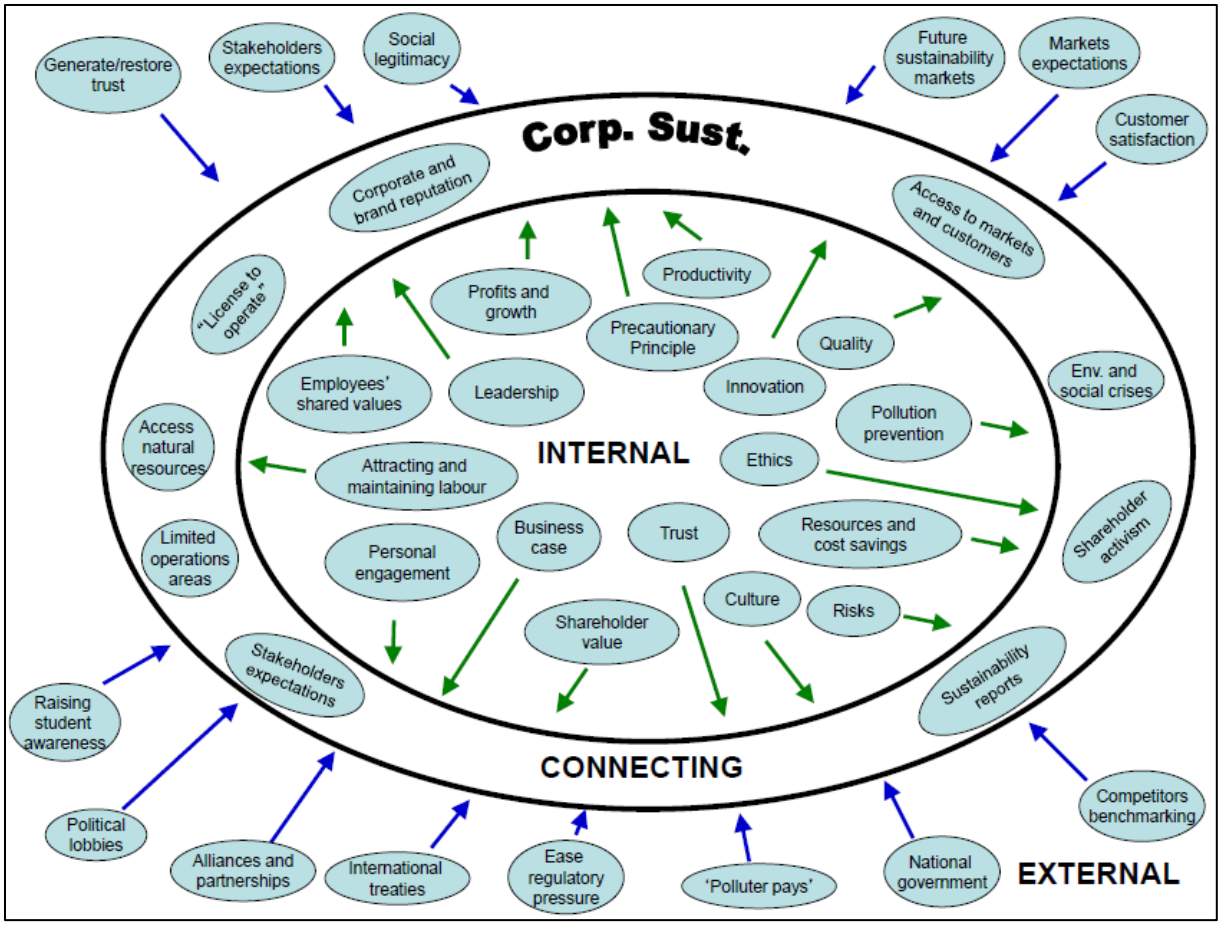

Figure 3: Internal, connecting and external drivers for organizational change towards CS (Lozano, 2013a)

The holistic perspective established in Figure 3 has demanded companies to cope with and balance internal, connecting and external drivers to appropriately react to extra-mural factors and to actively approach internal drivers to institutionalize CS (Lozano, 2013a).

This section discussed drivers for organizational change towards sustainability in companies. A great share of the external and connecting factors inducing organizational change have aimed at corporate benefits, reputational gains and maintenance of the license to operate granted by civil society. Internal drivers have primarily originated from personal engagement and ethical business principles, aiming at improving companies' business performance. Still, the ultimate aim has been the enhancement of the corporate image, profit and the business case for sustainability. Despite numerous drivers for change, a multitude of factors has hindered processes towards more sustainability in companies. These barriers for change are addressed in the next section.

2.2.3 Barriers to organizational change and strategies to overcome these barriers

Change has implied the transformation of the status quo and it has been a common phenomenon that any change effort faces resistance (Gill, 2002; Kotter & Schlesinger, 2008). This resistance to organizational change has originated in a lack of willingness or capability by those affected by these changes to accommodate to the change process itself or the new status quo (Garvin & Roberto, 2005). This has either been caused by insufficient knowledge about how to adapt to change or from emotional resistance based on an aversion against the imposed changes accompanied by individual

self-interest and a lack of confidence to deal with the new situation (Gill, 2002). Opposition to change originating from these reasons has either been covert, i.e. resistance is not openly shown and stemming against change secretly, or expressed explicitly through overt actions expressing doubts about planned changes (Lewin, 1947; Doppelt, 2009). Dent & Goldberg (1999) have shown that individuals or groups have been concerned about developments beyond their direct control, which has resulted in resistance against anticipated costs and losses in status or comfort. Hence, resistance has been directed at unknown developments rather than at change itself.

Barriers to change may occur at every level of the company's system (individual, group or organizational) (Lozano, 2013b). These challenges have to be identified and overcome in advance to reduce required costs and efforts for the successful implementation of change (Garvin & Roberto, 2005). The barriers to change differ in the degree of efforts required to neutralize resistance. While most barriers and strategies have affected only one organizational level, there have been types applicable to or affecting more than one level (Lozano, 2012), which has resulted in the development of various strategies to overcome barriers to change existing throughout the organizational system and their underlying attitudes respectively (Langer & Schön, 2003). Typical barriers have been group culture, conflicts, bureaucracy, and a lack of commitment and communication (Dent & Goldberg, 1999; Ragsdell, 2000; Doppelt, 2009). Appropriate strategies to overcome them have been considered to be negotiation, participation, changing values, developing new strategies and collaboration. Commonly recognized barriers to change and strategies to overcome them are listed in Table 1.

Table 1: Most commonly recognized barriers to change and strategies to overcome the barriers (Lozano, 2013b)

	System level		
	Individuals	Groups	Organizational
Barrier to change	Misunderstanding/Lack of communication (level 1) Lack of trust (level 2) Threat to job status/ Security (level 2)	Group culture Ignoring Institutions in the group Individual – Group conflict	Lack of strategy/long term plans (Managerial) Bureaucracy/Patriarchal models (Organizational) Lack of top management commitment/walking the talk (Managerial)
Strategy	Negotiation (level 2) Manipulation (level 2) Participation (level 3)	Group participation in change Individual – Groups interactions Changing group values	Developing new strategies, policies and frameworks (Managerial) Identifying champions (Managerial) Aggregation/Collaboration (Organizational)

The barriers to change and strategies to overcome these barriers referred to in Table 1 have been generic and applicable to most change processes. There have been more specific factors affecting CS in particular, mainly at the individual and organizational level (Lozano, 2013b). A great share of the barriers affecting individuals was related to emotional attitudes such as the denial of necessities for change or unwillingness to engage in the change process.

According to Lozano (2013b), the organizational barriers consist of five groups as they have been categorized into managerial (e.g. leadership, strategy & planning), organizational (structure of the organization, alignment, measuring and assessing performance), supportive (attitudes towards employees, corporate culture), historical (historic development of the organization) and external barriers to change. Except for the latter category, these drivers originated in the company's internal context and were primarily rooted in emotional attitudes towards organizational change. This included primarily unclear benefits and thereby a lack of a rationale for CS (Frankental, 2001; CEC, 2002), which was also related to a lack of commitment and motivation as well as the absence of leadership to foster change towards CS (Cramer, 2003; Frehs, 2003; Diefenbach, 2007). Major external barriers are pressure from competitors (Rosner, 1995), regulatory and legislative barriers to change (CEC, 2002), the lack of knowledge about value chain impacts (Rosner, 1995) and the lack of stakeholder interest in CS (CEC, 2002; Coors & Winegarden, 2005). A detailed overview over barriers to organizational change is presented in Appendix 3.

These more specific CS barriers can be tackled by strategies mainly focusing on the organizational behavioral category (Lozano, 2013b). Changes in a company's governance system by altering the way a company distributes power and authority through its information, decision-making and resource allocation mechanisms provide the greatest leverage, as this system has a great influence on company members' worldviews, their interactions with each other and external actors and the way they approach their tasks (Doppelt, 2009). Still, the selection of strategies congruent with the identified barriers can help to overcome resistance to change more easily (Lozano, 2013b). A detailed overview over strategies to overcome barriers to organizational change is provided in Appendix 4.

As there are multiple means to overcome CS barriers, the strategies rather have to be used as a toolkit and can be applied independently from each other or in combination to facilitate the institutionalization of CS (Lozano, 2013b). Regardless of the applied strategy, change for CS is a radical and incremental process at the same time, as it leads to complete change of the status quo in a step-by-step process (DeSimone & Popoff, 2000).

The section on organizational change management has identified sustainability reports as a potential driver for CS. Lozano & Huisingh (2011) recognized sustainability reporting as a driver to analyze a company's sustainability efforts. Although addressed only implicitly by the authors, this may result in organizational change in line with Lozano's (2013a) empirical study, which identified SR as a sustainability driver. Still, the relationship between SR and organizational change, whether there is a causal link, a reciprocal relationship or a one-directional link, has been under-explored. The role of SR with regard to barriers to change and strategies to overcome these barriers has been neglected in academic research. Nevertheless, SR can theoretically serve as a measure to mitigate resistance to change by providing information about future goals of the company and explain the necessity of organizational change. Thereby, individuals' or groups' resistance to change based on a lack of knowledge or perceived relevance of change could be overcome. Thus, although under-researched in the prevalent literature, SR could play a role in change processes and has to be further researched. For this purpose, the purpose and process of business practice, the most common tools for sustainability assessment and reporting, drivers as well as barriers to reporting and strategies to overcome these barriers are addressed in the next section.

2.3 Sustainability reporting

Sustainability reporting has been defined as the process of evaluating and publishing qualitative and quantitative information on a company's economic, social and environmental performance in a balanced way relative to the natural environment and society of which it is a part (Daub & Karlsson, 2006; KPMG, 2011). The number of companies issuing sustainability reports, mainly transnational corporations, has increased continually (Lozano & Huisingh, 2011). In a study covering SR until 2005, Kolk (2010) focused on a panel of the Fortune Global 250. According to her findings, reporting has grown from 39% of companies reporting in 1999 to 69% in 2005. European and Japanese firms

reported more than firms in the United States. 'Polluting' industrial sectors (e.g. chemicals & pharmaceuticals, automotive, oil & gas) have been most active in reporting, but significant increases have been observed in service sectors (Kolk, 2010). Complementary to academic research, commercial consulting companies have conducted studies on the development of SR on a regular basis. It has to be noted that these figures may differ from academically researched numbers as definitions of CS and SR different from those underlying Kolk's (2010) study may have been applied. The latest study by KPMG (2013) has shown a continuous increase in the SR rate of the Fortune's Global 250 companies to 93% in 2013 and indicated that SR has increasingly become a business practice among large companies. Compared to the total number of companies worldwide, however, the number of companies active in SR is still low (Lozano et al., 2013c).

Purpose of sustainability reporting

The increase in sustainability reporting practices has been caused by different factors. Since civil society's and governmental awareness for sustainability has increased and resulted in pressure exerted on companies to improve their sustainability performance, reporting has been aimed at providing an analysis of this performance at a given point in time to influence perceptions of the company and to legitimize its activities (Hooghiemstra, 2000; Ball, 2002; Macintosh & Wilkinson, 2012). It has also been employed for exhibiting CS initiatives and benchmarking against standards or other companies (Alonso-Almeida et al., 2013). Therefore, SR has become a strategic priority among private organizations worldwide (Morhardt et al., 2002; Kolk, 2004; Fifka, 2013) and has been one of the main objectives of sustainability assessment practices (Ramos et al., 2013). Besides performance evaluation, SR has also served to promote firms' values and governance models as well as corporate sustainability strategies (GRI, 2014a).

The degree to which SR has served to evaluate a company's CS performance or to primarily promote sustainability efforts among regulators and stakeholders has been influenced by the type of underlying approach to this reporting practice (Dalal-Clayton & Bass, 2002; Schaltegger & Burritt, 2010). Herzig & Schaltegger (2006) differentiated three approaches: inside-out, outside-in and the twin-approach. The reporting-driven inside-out approach has aimed at the disclosure of excellent performance management by identifying and mitigating main sustainability deficiencies in a continuous process of assessment, adaptation and improvement of the company's CS performance. By contrast, the responsive, socially-compliant outside-in approach has served as a product to secure legitimacy by meeting previously deduced information needs of stakeholders, which neglected a holistic evaluation of the company's sustainability performance. The 'twin approach' has aimed to integrate both practices by a high level of stakeholder involvement and an internal management and assessment approach including SR. Therefore, SR has either played a double-role in companies based on the twin-approach or served one of the identified purposes, which was an important subject to be addressed in this research project. It has to be noted that this double-role also means that SR may either serve as an element of continuous CS performance evaluation and improvement or it may be the outcome of a change process itself and serve as a product providing CS information to stakeholders.

Process of sustainability reporting

Lozano et al. (2013) provided insights into the process of assessing and reporting sustainability by illustrating the development of a sustainability report for a university based on a 3-step framework. The first phase included the identification of data sources and subsequent data collection from these databases or persons in charge of providing the information. The second step, populating the selected sustainability indicators, required assigning the data obtained from the responsible departments to the respective data categories. The last step contained the assessment of the performance values of each indicator from the collected data, based on a quasi-quantitative model for data analysis. Scattered data received from different departments responsible for the provision of data, compartmentalized or missing data, a lack of time to prepare the report and a lack of common

understanding concerning sustainability throughout the organization have been identified as main challenges for the process of sustainability reporting. Additionally, Schaltegger & Wagner (2006) indicated that in case responsibilities for developing a sustainability report, especially measuring CS performance, have been distributed across different company departments (e.g. accounting, environmental department, human resources), these measurement systems have resulted in a compartmentalized SR-process instead of the development of a holistic sustainability perspective.

These assessments of the sustainability performance as part of the reporting process have required sustainability accounting to focus on the evaluation of a company's economic, ecological and social impacts (Bebbington & Thomson, 1996; Burritt et al., 2002; Bennett et al., 2003). This has been an essential requirement for the determination of progress towards sustainability published in the respective sustainability report (Dalal-Clayton & Bass, 2002). Assessments have been based on three main approaches: accounts-based assessments, narrative assessments and indicator-based assessments (Dalal-Clayton & Bass, 2002; Macintosh & Wilkinson, 2012). These approaches have either been combined or used as stand-alone accounting and reporting practices (Ramos & Pires, 2013). As a detailed illustration of these approaches would go beyond the scope of this research project, a brief summary is provided in Table 2.

Table 2: Approaches for sustainability assessment. Adapted from Jasch (2000), Arts et al. (2001), Dalal-Clayton & Bass (2002), Ramos & Caeiro (2010), Macintosh & Wilkinson (2012), Ramos & Pires (2013)

Approaches to the assessment of sustainability
Accounts-based assessment
- Provide information on SD or particular aspect of SD - One-number approach: production of single composite indicator of sustainability - Conversion of data on economic, social and environmental issues into a common unit or index (e.g. monetary, area, energy)
Narrative assessment
- Written evaluation of sustainability - Combination of texts, maps, graphics, tabular data - Indicators play a minor role; may change per reporting period; rather used to support opinion expressed in the report than being the focus of it
Indicator-based assessment
- Application of systematically chosen indicators - Simplification, quantification, standardization of information - Longitudinal comparison allows for progress analysis - Complemented by text, maps, graphics, tabular data

According to Dalal-Clayton & Bass (2002:135), indicator-based assessments are the most functional and comprehensible assessment-type as "indicators enable assessments to be comprehensive yet selective: because they can be selective they are better equipped than accounts to cover the wide array of issues necessary for an adequate portrayal of human and environmental conditions". Sustainability indicators can facilitate stakeholder dialogues by aggregating and communicating the most important information (Ramos & Pires, 2013).

Based on these approaches to sustainability assessment and reporting SR has become a part of companies' contribution to sustainability (Herzig & Schaltegger, 2006; Gamerschlag et al., 2011). Since this disclosing practice has originally been based on voluntary commitment and performed in a non-default format (Moneva 2005; Kolk, 2008; Alonso-Almeida et al., 2013), different types and styles of conducting and publishing reports have negatively affected their comparability (Moneva, 2005). However, the processes of globalization and liberalization of markets have required harmonized reports from companies to enable the comparison of sustainability efforts across

companies (Prado-Lorenzo et al., 2009). Therefore, multiple institutions and governments have developed (non-) binding SR guidelines (Herzig & Schaltegger, 2006).

Guidelines for sustainability reporting

Numerous tools for systematic sustainability management, monitoring and reporting have been developed in the last decades (e.g. Robèrt, 2000; Marimon et al., 2012). The GRI Sustainability Reporting Sustainability Guidelines (GRI, 2011), the OECD Guidelines for Multinational Enterprises (OECD, 2014), the United Nations Global Compact (UN, 2014), the World Business Council for Sustainable Development's indicators (WBCSD, 2002) and the ISO 14000 series for environmental communications (ISO, 2009) are international examples of generic reporting guidelines applicable to a multitude of economic sectors[3] (Dalal-Clayton & Bass, 2002). Guidelines by CEFIC (2006) designed for the chemical industry sector, by contrast, are an example of sector-specific reporting guidelines.

From the tools and guidelines available for sustainability assessment and reporting, the majority of companies having published stand-alone sustainability reports followed the guidelines by the Global Reporting Initiative (GRI) or have applied the ISO 14000 series, especially the ISO 14031 guidelines for environmental performance evaluation, published by the International Standardization Organization (ISO) together with the European Union's Eco-Management and Audit Scheme (EMAS) (Ramos et al., 2013). SA8000, a standard ensuring ethical sourcing of products and the protection of human rights at workplaces, and AA1000, a standard to facilitate stakeholder dialogues and involvement in corporate decision-making, have been more generic standards applied worldwide, with a focus on social and ethical issues (Oskarsson & Von Malmborg, 2005). These guidelines, each of which has its own advantages and disadvantages, are illustrated in an inventory of assessment and reporting tools (Table 3). This overview is not meant to be exhaustive, but to compare the characteristics of the most applied guidelines worldwide. These tools have helped business managers and policy-makers to assess and manage a firm's sustainability performance as well as to develop strategies to improve this performance and to communicate these efforts to stakeholders in a common language (Perrini & Tencati, 2006; Lozano & Huising, 2011). The disclosure of such activities has increased corporate accountability, which has been at the heart of any form of accounting, auditing and reporting (Beckett & Jonker, 2002; Ramos & Pires, 2013).

A great share of guidelines, particularly product-related tools, have addressed sustainability issues through compartmentalization, which has resulted in non-integrated approaches to sustainability (Gray, 2006; Ness et al., 2007; Lozano & Huisingh, 2011). As a consequence, assessments have often lacked convergence across the sustainability dimensions, which have originally been intended to assess holistically whether or not a company has improved its sustainability performance (Morhardt et al., 2002). More recent initiatives like the GRI's Sustainability Reporting Guidelines have aimed at the inclusion of the social and economic dimension into their attempt to measure corporate sustainability (Ramos & Pires, 2013). The development and application of an assessment tool has required a clear vision of the multifaceted sustainability concept, which has to be transformed into context specific sustainability criteria (Ramos & Caeiro, 2010). Yet, the criteria to define sustainability have depended on the prevailing conception of sustainability in the context in which the assessment is conducted, which has led to a large number of interpretations (Pope et al., 2004).

[3] For a comprehensive list of tools for sustainability assessment and reporting please see Dalal-Clayton & Bass (2002)

Table 3: Comparison of tools for assessment and reporting. Adapted from Lozano & Huisingh (2011), complemented with O'Reilly et al. (2000), Göbbels & Jonker (2003), GRI (2011)

Tool	Brief description	Focus areas	Advantages	Disadvantages
GRI Guidelines (developed by Global Reporting Initiative)	- Voluntary guidelines for reporting on economic, environmental and social performance - Applicable to organization of any size, sector, location - General and sector specific performance indicators (50 core indicators, 29 additional) - Goal is to provide common basis for reporting - Three application levels: different level of detail	Economic, environmental & social	- One of the most complete guidelines - Multi-stakeholder process for continuous improvement of the guidelines - Global reference	- Large number of indicators complicates longitudinal studies and benchmarking - Costly data collection - No synergies between dimensions taken into account - No discourse on performance, mere reporting
ISO 14000 series and EMAS (especially 14001 & 14031) (developed by International Standardization Organization)	- Assess environmental impact of operations and improve their performance - ISO 14001: Environmental Management System to measure environmental management, e.g. EU Eco-Management and Audit Scheme (EMAS) - Guidelines for improving management practices - ISO 14031: Environmental performance evaluation and subsequent reporting of results - Provision of key performance indicators, final selection at company's discretion	Environment	- ISO 14031 most comprehensive and systematic tool to address environmental dimension - EMAS most common measure of environmental performance - Report internally about results, performance and plans - Recognized worldwide - Clear focus, drives communication and improvements - Extends to issues not directly under company control	- Does not address social and economic dimension - Entirely informational, lack of stipulation of minimum performance - Lack of indicators in ISO 14001
SA 8000 (developed by Council on Economic Priorities Accreditation Agency)	- Auditable certification standard based on International Labor Organization conventions, United Nations Declaration of Human Rights and UN Convention on Rights of the Child - Social Management System to ensure ethical sourcing of products - Measure corporate social compliance - Focus on employment and working conditions, exert pressure on value chain	Social (mainly focused on human and labor rights)	- Explicitly addresses human and labor rights throughout the company - Raises awareness of company efforts - Emphasis on principle of inclusion of stakeholders → encourages reflection on stakeholder needs - Normative perspective on whole company	- Costly and time consuming implementation - One-dimensional (no focus on environmental and economic dimension) - Does not consider synergies between the dimensions
AA 1000 (developed by Institute of Social and Ethical AccountAbility)	- Voluntary standard for social accounting, auditing and reporting - Establish a systematic stakeholder engagement process to ensure greater transparency, and effective responsiveness to stakeholders - Process model: measure progress against defined standard - Definition of stages for accounting	Social and ethical	- Stakeholder input throughout entire process - Emphasis on innovation over compliance - Possibility to include further criteria - Link between company as economic instrument and company as social entity	- Complex implementation - Resource intensive - No explicit consideration of sustainability dimensions

In addition to these voluntary guidelines, various European countries have introduced regulation concerning corporate SR to lower the costs for stakeholders entailed in reducing the information asymmetry between themselves and the firms (Herzig & Schaltegger, 2006). Additionally, independent verification by external experts, rankings and reporting awards have aimed to foster standardization and to improve the quality of SR (Herzig & Schaltegger, 2006; Kolk, 2008). Almost one third of the companies engaged in SR, mainly in Europe and the United States, have demanded external verification (Kolk, 2008).

Standards and guidelines can be viable tools to induce the implementation of sustainability principles in companies as they facilitate the publication of sustainability reports, which in turn help to increase a firm's transparency and auditability (Ramos et al., 2013). Companies publishing in accordance with a set of renowned guidelines have also benefited from reputational benefits (Herzig & Schaltegger, 2006). These and additional drivers for SR are addressed in the following section.

2.3.2 Drivers for Sustainability Reporting

Research on factors fostering SR in a company has been conducted extensively (Hahn & Kühnen, 2013). A number of issues have been identified to drive the decision by companies to disclose information about their sustainability performance. According to Wilmshurst & Frost (2000) and Adams (2002), these aspects can be sorted into three categories: firstly, external drivers in terms of contextual factors embedding the respective companies and thereby constituting the circumstances under which the firms are operating; secondly, internal drivers originating from specific corporate characteristics, and thirdly, the internal context arising from company internal processes. This categorization facilitates the differentiation and location of drivers within the corporate context.

Legislation and stakeholder pressure have been identified as the main external drivers (Watts & Zimmermann, 1978; Brown & Deegan, 1998). The resulting need for legitimacy has led to the demonstration of legal compliance and engagement in stakeholder dialogues via SR (Cooper & Owen, 2007). Firm size (Patten, 1991; Adams, 2002; Gamerschlag et al., 2011), industry membership (Frynas, 2010; Kuo et al., 2012; Alonso-Almeida et al., 2013) and economic benefits (Macintosh & Wilkinson, 2012; Ramos et al., 2013) have been considered internal drivers originating from corporate characteristics. Drivers such as the CS commitment of company managers have been recognized as major influencing factors in the internal company context (Adams & McNicholas, 2007; Macintosh & Wilkinson, 2012). Table 4 summarizes all drivers identified in the literature based on the aforementioned categorization.

Table 4: Drivers for sustainability reporting. Sources indicated in the table

Drivers for Sustainability Reporting		
External drivers: general contextual factors		**Source**
Legislation	- Prove legal compliance - Pre-empt interventionist regulation - Control the national political agenda - Influence / delay regulation - Meet business requirements (e.g. obligation for listed companies to disclose)	Dowling & Pfeffer 1975; Watts & Zimmermann, 1978; Brown & Deegan, 1998; Adams, 2002; Schaltegger & Burritt, 2010; Gamerschlag et al., 2011; Macintosh & Wilkinson, 2012; Marimon et al. 2012
Stakeholder pressure	- Accountability - Demonstrate corporate sustainability & transparency ▪ Performance evaluation and communication - Stakeholder dialogue & participation	Watts & Zimmermann, 1978; Brown & Deegan 1998; Adams ,2002; KPMG, 2002; Daub, 2007; Stiller & Daub, 2007; Gamerschlag et al., 2011; Macintosh &

	▪ Reduce information asymmetry between company and stakeholders ▪ Appease stakeholder concerns - Risk disclosure - Increase in awareness of CS concepts	Wilkinson, 2012; Mascarenhas et al., 2014
Legitimization	- Ensure license to operate - Peer pressure - Provide justification for activities, goods and services which create (negative) environmental and social impacts - Explanation of management decisions - Pre-empt attacks from pressure-groups	Cormier & Magnan, 1999; Wilmshurst & Frost, 2000; Morhardt et al., 2002; O'Dwyer,2002; Gray, 2006; Herzig & Schaltegger, 2006; Cooper & Owen, 2007; Schaltegger & Burritt, 2010
Culture	- Environmental & social concerns embedded in society - Strength of political pressure towards CS	Adams et al., 1998; Adams, 2002
Internal drivers: corporate characteristics		
Size	- Visibility of the firm (the larger the company, the more visible it becomes)	Patten, 1991; Adams et al., 1998; Adams, 2002; Gamerschlag et al., 2011; Hahn & Kühnen, 2013
Industry membership	- Risk disclosure (primarily environmental and social risks) ▪ Especially in hazardous sectors - Economic, social, environmental impact	Adams, 2002; Frynas, 2010; Gamerschlag et al., 2011; Alonso-Almeida et al., 2013; Hahn & Kühnen, 2013
Economic benefits	- Business case for sustainability ▪ Cost reductions, identification of inefficiencies and maximization of returns ▪ Lower ensurance costs by improving capacity of insurer to evaluate the risks associated with a company's operations ▪ Minimization of risks (e.g. consumer boycotts) ▪ Enhance economic value through competitive advantage gained by good sustainability performance ▪ Shareholder value creation	Adams, 2002; Schaltegger & Burritt, 2010; Gamerschlag et al., 2011; Macintosh & Wilkinson, 2012; Marimon et al., 2012; Hahn & Kühnen, 2013; Ramos et al., 2013
Reputation	- Gain recognition for sustainability performance - High quality SR as proxy indicator for overall performance - Competitive advantage & increase brand value - Creation of market opportunities - Improve business relationships - Enhance employee motivation - Attract and retain talented employees	KPMG, 2002; Herzig & Schaltegger, 2006; Adams & McNicholas, 2007; Macintosh & Wilkinson, 2012; Marimon et al., 2012
Communication	- Controlled release of information - Reduce information asymmetry - Correction of public misconceptions	Wilmshurst & Frost, 2000; Larrinaga-González et al., 2001; KPMG, 2002; Morhardt et al., 2002; Hassan & Ibrahim, 2012; Macintosh & Wilkinson, 2012; Alonso-Almeida et al.,

		2013
Investor relations	- Targeted reporting of environmental, social performance to financiers - Access to capital unavailable in case of unsustainable operations (e.g. sustainability-oriented investment funds)	Adams et al., 1998; Herzig & Schaltegger, 2006; Saleh, 2009; Marimon et al., 2012
Benchmarks	- Position company as sustainability frontrunner - Comparison with competitors - Improve transparency and accountability to stakeholders	Ramos et al., 2013
Internal drivers: internal context		
Commitment to CS	- Attitude of company leaders & personal engagement - Internal capacity building - Embed sustainability principles / ethics into corporate culture - Self-regulation to improve sustainability performance - Pressure from competitors that already disclose sustainability reports	Adams, 2002; Adams & McNicholas, 2007; KPMG, 2013
Internal communication	- Knowledge diffusion among employees (sustainability strategy, values, objectives) - Increase employee motivation - Performance control	KPMG, 2013
Greenwashing	- Signal concern but collect data only for communication purposes instead of improving sustainability performance	Lindbloom, 1994; Gray, 2006

Based on the assumption that some drivers identified in the literature represent a link between internal and external drivers, the categorization of drivers has to be redefined. The additional category of 'connecting drivers' allows for a more differentiated approach to SR drivers (Figure 4). Industry membership, reputation, communication and investor relations have been identified as such connecting drivers because they have originally been located in the internal company context but have simultaneously influenced external perceptions of stakeholders.

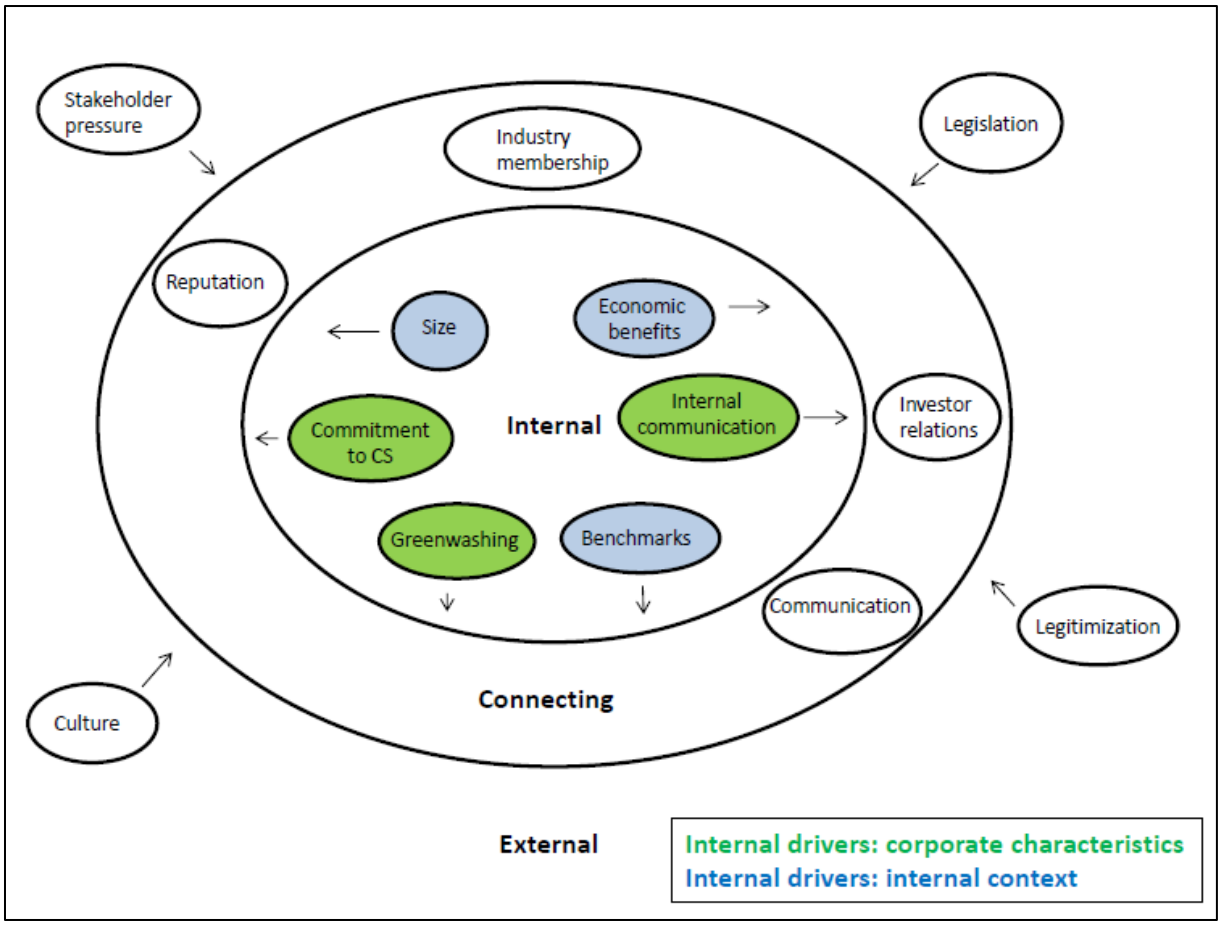

Figure 4: Internal, connecting and external drivers for sustainability reporting. Adapted from overview over drivers for sustainability reporting presented in Table 4.

Most drivers have been oriented at reputational gains and economic benefits rather than being based on the ambition to improve the firm's sustainability performance. Thus, prospective corporate benefits have been at the core of motivations for SR (Schaltegger & Burritt, 2010). As the studies underlying this review have differed in country selection, time period and explanatory variables, these differences have to be noted as an important impediment for the generalization of the findings (Adams et al., 1998). The same applies for the analysis of barriers in the following section.

2.3.3 Barriers to sustainability reporting and strategies to overcome these barriers

The interest of academics and practitioners in SR has mainly been focused on the characteristics and motivations of firms engaged in SR (Cormier & Gordon, 2001; Roberts, 1991) and to a lower extent on factors hindering reporting (Stubbs et al., 2013). These barriers to SR can be categorized, similar to the drivers for SR, into external barriers constituting general contextual factors the companies are embedded in and internal barriers originating from corporate characteristics and the internal company context.

A lack of external stakeholder pressure, which left SR at the company executives' discretion, has contributed to reluctance to engage in sustainability disclosure (Stubbs et al., 2013). This resistance has been further strengthened by external factors like concerns about possible misconceptions of SR by the public, which may engender social skepticism about such activities (Adams & McNicholas, 2007; O'Dwyer, 2002), cultural aspects like high values of secrecy assigned to accounting creating resistance to transparency (Larrinaga-González et al., 2001), and the availability of already established alternative communication channels (Stubbs et al., 2013). While little expertise in developing a sustainability report (Adams & McNicholas, 2007; Larrinaga-González et al., 2001), a lack of resources for preparing the report (Adams & McNicholas, 2007) and the perceived absence of

a business case for SR (Ramos et al., 2013) were identified as corporate characteristics resulting in SR barriers, a compliance culture (Stubbs et al., 2013) and lack of CS commitment have been considered barriers originating from the internal company context (Larrinaga-González et al., 2001; Milne et al., 2009). Figure 5 provides an overview over the barriers to SR identified in the literature. Like the drivers for SR, the barriers to SR have been categorized into external, internal and connecting barriers. Here, the accounting and reporting culture is an example of a connecting barrier, as secrecy may be valued by both the companies and external actors.

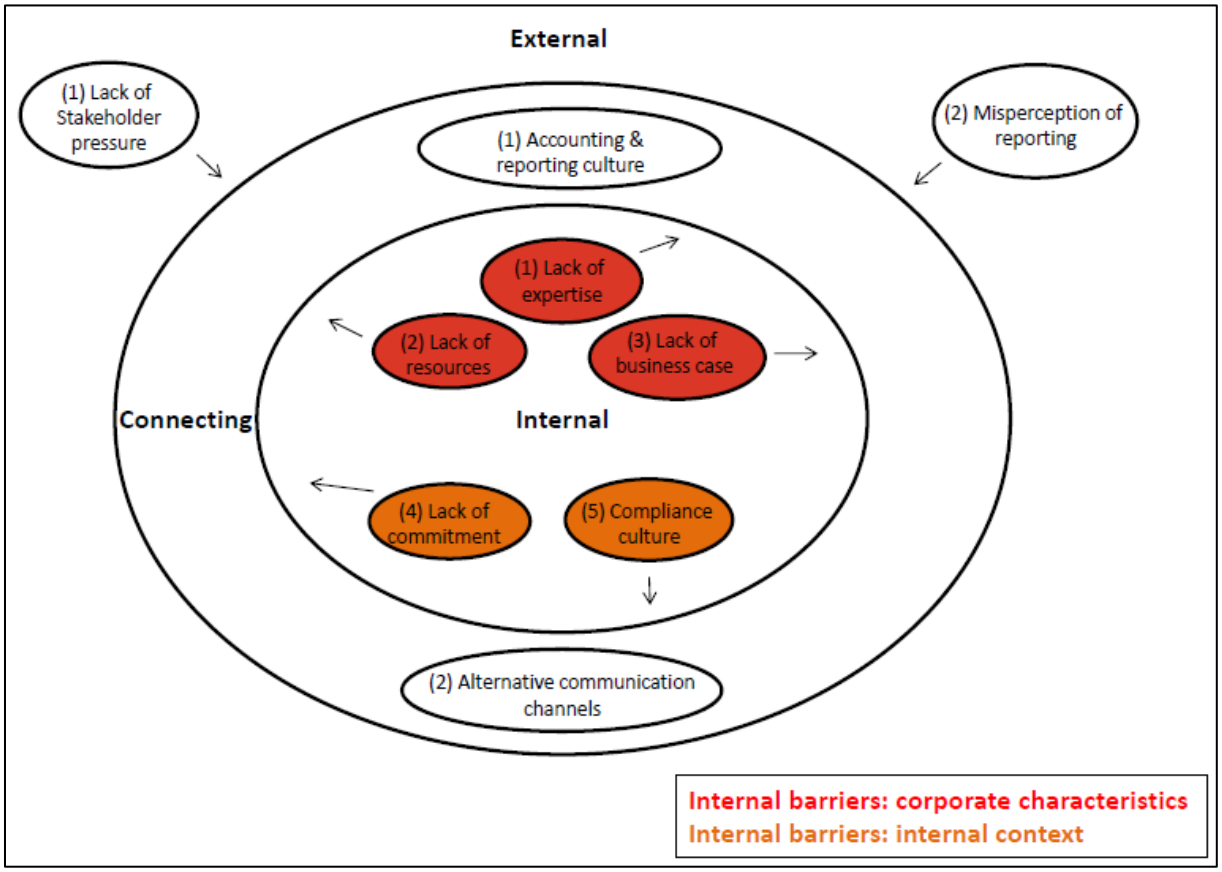

Figure 5: Internal, connecting and external barriers to sustainability reporting. Based on: External: 1 (Stubbs et al., 2013); 2 (O'Dwyer, 2002; Adams & McNicholas, 2007); Connecting: 1 (Larrinaga-González et al., 2001); 2 (Stubbs et al., 2013); Internal: 1 (Larrinaga-González et al., 2001; Adams & McNicholas, 2007); 2 (Adams, 2002; Adams & McNicholas, 2007); 3 (Gray et al., 1993; Andersson & Bateman, 2000; Solomon & Lewis, 2002; Ramos et al., 2013); 4 (Stubbs et al., 2013); 5 (Larrinaga-González et al., 2001; Milne et al., 2009)

The strategies to overcome the identified barriers to reporting are more generic in nature and cannot be explicitly categorized into internal or external factors. The measures prevailing in the literature have been related to three core strategies. Firstly, the utilization of guidance and expertise by external experts as well as stakeholder participation or the application of reporting guidelines including the development of key performance indicators (O'Reilly et al., 2000; Adams & McNicholas, 2007) has been classified as knowledge provision. Secondly, an increase in external pressure through supply chain pressure, engagement of interest groups or threats to the company's license to operate has facilitated engagement in SR (O'Reilly et al., 2000; Larrinaga-González et al., 2001; Stubbs et al., 2013). Thirdly, legislative action has pushed the development of sustainability reports (Park & Brorson, 2005; Stubbs et al., 2013). These strategies are summarized in Table 5.

Table 5: Strategies to overcome barriers to sustainability reporting. Based on: 1 (O'Reilly et al., 2000; Adams & McNicholas, 2007); 2 (O'Reilly et al., 2000; Larrinaga-González et al., 2001; Stubbs et al., 2013), 3 (Park & Brorson, 2005; Stubbs et al., 2013)

Strategies to overcome barriers to sustainability reporting	
Knowledge provision (1)	- External guidance by experts - Application of best practice examples from within the same industry sector - Support from reporting guidelines to better understand reporting requirements - Stakeholder participation for feedback on reporting and to analyze stakeholder interests - Delineate key performance indicators from company's vision and strategy
Increase in external pressure (2)	- Stakeholder engagement (especially interest groups) - Establish threats to company's reputation - Establish threats of business impediments (losing license to operate) - Supply chain pressure demanding evidence for sustainable operations
Legal requirements (3)	- Regulation by national governments making reporting mandatory, i.e. turning it into a business requirement - Change in already existing implementation to clarify requirements for SRs (content and form)

Comparatively less research has been conducted on strategies to overcome barriers to SR than on barriers to SR and drivers for SR. As discussed in this section, sustainability reporting may have driven organizational change. Civil society's demand for corporate accountability and improvements of firms' sustainability performance has led to the implementation of reporting schemes based on the accounting and reporting tools illustrated in this section. Companies can theoretically aim to improve their performance based on the insights from SR and foster organizational change to maintain their license to operate granted by an increasingly demanding civil society. Additionally, prospective economic benefits and reputational gains from promoting a company's role as a sustainability frontrunner may have induced change. Thus, reporting schemes may have been the outcomes of change processes themselves to evaluate the identification and mitigation of sustainability shortcomings. Despite these possible influences of SR on organizational change, its role in the complex process of change has remained underexplored. Research typically focused on drivers and barriers concerning reporting as well as strategies to overcome these barriers by accounting for relationships between reporting and corporate characteristics, the internal organizational context and general contextual factors (e.g. Adams, 2002). Thus, direct links between SR and OCM have not been identified in this review. Ambiguous findings have resulted in uncertainty about the links between the concepts as it remains unclear whether change can be induced by SR, whether SR is an outcome of organizational change to gain corporate benefits or if there is no relationship between these concepts at all. Before this knowledge gap is addressed in more detail, the drivers for SR and organizational change identified in the prevailing literature are synthesized based on a critical comparison of these factors.

2.4 Synthesis of drivers for sustainability reporting and organizational change management

The research discussed in the previous sections showed that the drivers underlying the concepts of organizational change and sustainability reporting can be categorized as internal, connecting and external drivers. However, a critical analysis of these drivers yielded an additional categorization as these factors were found to originate primarily from two groups of drivers. This section addresses this categorization.

Concerning SR, a multitude of drivers has aimed at the evaluation of the company's sustainability performance to increase corporate transparency, to reduce the information asymmetry between the company and stakeholders and to thereby ensure corporate accountability (e.g. Wilmshurst & Frost, 2000; Adams, 2002; Alonso-Almeida et al., 2013). However, a great share of drivers has been identified to aim at the disclosure of the company's CS performance to market sustainability efforts for reputational gains and economic benefits. Examples for these drivers are benchmarks with competitors (Ramos et al., 2013) and the focus on improvements in investor relations (Adams et al., 1998; Saleh, 2009).

A similar differentiation is possible with regard to drivers for organizational change. Changes may have been motivated by company executives' and employee's personal commitment to CS aiming at the reduction of negative corporate externalities (e.g. Oskarsson & van Malmborg, 2005), e.g. pollution prevention, and the incorporation of ethical business principles (e.g. Frehs, 2003). Yet, drivers for organizational change may also focus on economic profits and growth (e.g. CEC, 2001) as well as increases in a company's shareholder value (e.g. Weymes, 2004).

Hence, drivers can also be categorized as factors focusing on improvements of the company's CS performance and as those that aim at signaling concern but focus primarily on promoting a company's sustainability efforts to gain economic benefits. Since a multitude of drivers has been identified for both concepts, a synthesis of these factors according to the identified categories is illustrated in Table 6. This classification can help to identify the main intentions underlying a company's efforts with regard to its CS activities.

Although the identified drivers were synthesized meaningfully, a synthesis of barriers to SR and organizational change and strategies to overcome these barriers was impossible. While the barriers to organizational change and the respective strategies to overcome these barriers have been based on attitudes and perceptions of change, the barriers and respective strategies for SR were related to the company context and corporate characteristics, which impeded a direct comparison and synthesis.

Table 6: Synthesis of drivers for SR and organizational change

Focus on corporate sustainability performance		**Focus on business case for corporate sustainability**	
Driver	**Justification**	**Driver**	**Justification**
Assess sustainability efforts	- Identification of shortcomings in CS performance, otherwise potential for improvement remains unknown (Dalal-Clayton & Bass, 2002)	Benchmark performance against other companies	- Proving performance to stakeholders serves reputational gains (Herzig & Schaltegger, 2006; Daub, 2007)
Foster organizational change to improve CS performance	- Induce changes towards more CS (Adams & McNicholas, 2007) - Improving the performance requires organizational change (Lozano, 2012)	Improve sustainability reputation	- Serves to gain competitive advantages rather than improving sustainability performance (Herzig & Schaltegger, 2006)
Increase transparency of sustainability performance	- Reduce information asymmetry between company & stakeholders, increase accountability (Herzig & Schaltegger, 2006)	Promote sustainability efforts	- Focus on reputational gains through marketing of efforts (Herzig & Schaltegger, 2006)
Foster a stakeholder dialogue	- Inclusion of civil society increases accountability → element of social dimensions of sustainability (Wilmshurst & Frost, 2000; KPMG, 2002)	Improve ranking position and facilitate external auditing	- Gain reputation in civil society (Daub, 2007)
Become a leader in society	- Push industry and society towards sustainability, lead by example (inside-out perspective) (Schaltegger & Burritt, 2010)	Meet criteria defined in reporting guidelines and standards	- Fulfill standards defined by third party, achieve high ranking (outside-in perspective) (Schaltegger & Burritt, 2010)
Raise employee awareness about CS	- Foster organizational learning: attitudinal alignement for long-lasting change (Lozano et al., 2013b), change behavior to improve sustainability performance of a company (Hedberg & Malmborg, 2012)	Illustrate position as a sustainability frontrunner	- Reputational gains as frontrunner, show leading position, attract investors, customers (although company may also serve as best practice example) (Hahn & Kühnen, 2013; KPMG, 2013)

2.5 Identification of the knowledge gap

This literature review provided an overview over sustainability reporting, drivers, barriers and strategies to overcome these barriers for both SR and organizational change management.

SR has increasingly become a worldwide business practice but the purpose, approach and format of SR have varied. Different tools were developed to provide uniform reporting standards and to improve sustainability performance. Drivers for SR have primarily been based on prospects of reputational gains and economic benefits, the main barriers have been related to a (perceived) absence of a business case for SR and a lack of knowledge about reporting and CS. Strategies to overcome these barriers have focused on external guidance, knowledge provision and governmental regulation. SR has been considered a driver for organizational change, but its exact role as a lever for change has remained underexplored, as the focus of research has been on the relationship between SR and corporate characteristics, the internal organizational context and general contextual factors.

Research on organizational change has followed similar patterns. The main academic interest has been on drivers for change, followed by barriers for change in organizations and strategies to overcome these barriers. Main drivers for organizational change have primarily originated from ethical leadership and external pressure. A lack of commitment to sustainability and communication of corporate visions, strategies and values, have been identified as most common barriers to change. Strategies to overcome barriers have mostly been related to the organizational behavioral category, considering alterations in a company's governance system to provide the greatest leverage for mitigation of resistance to change. The relationship between organizational change and SR has also been underexplored in this field. Yet, the following studies addressed this link.

Besides having been identified as an opportunity for companies to increase their transparency and corporate credibility, SR has been assigned the ability to influence internal management practices towards more socially responsible corporate behavior and to strengthen supervision over the company management (Christofi et al., 2012; Alonso-Almeida et al., 2013).

Adams & McNicholas (2007) conducted a single-case study concerning the relationship between SR and organizational change. Their analysis of an Australian water authority showed that sustainability self-assessments have facilitated the identification of business areas requiring improvements in business practice as well as environmental and social outcomes. Assessments of existing policies and strategies have fostered interaction between company members and caused discomfort with the company's current situation. This has been considered the required emotional stir up for organizational change in Lewin's three-step model to unfreeze individual perceptions. Learning new concepts, meanings and scanning for solutions induced a phase of change. Stakeholder involvement and participation of external experts have been considered a facilitator for change processes, which potentially lead to the implementation and incorporation of sustainability principles into the organizational culture.

Adams & McNicholas' (2007) findings are in line with those from Hedberg & Malmborg's (2012) case study of Swedish companies. Companies have been found to use data collected for SR not only for inter-company comparisons but also as internal as education material to facilitate knowledge distribution and organizational learning processes. The process of developing a report has improved communication between company departments and has resulted in a more equal implementation of these sustainability dimensions into the business strategy. In addition to company internal improvements, SR has been found to improve stakeholder relations by having led to the development of a forum for stakeholder dialogue.

Compared to change processes induced by SR aiming at improving the company's sustainability performance, SR focusing on influencing the national environmental agenda had little impact on organizational change (Larrinaga-González, 2001). The case study of Spanish companies conducted by Larrinaga-González et al. (2001) has found that environmental accounting was unable to generate

organizational change. The authors recommended to couple environmental accounting with transparency to empower stakeholders and thereby increase public pressure towards organizational change. Thus, SR as a measure to increase corporate transparency could play a role in facilitating change.

This assumption was supported by Lozano's (2013a) empirical study of three companies, which identified SR as an internal driver for organizational change without further elaborating upon this relationship. Ioannou & Serfeim's (2011) quantitative research on mandatory corporate SR has further strengthened the assumed relationship by finding SR to directly impact corporate activities. Based on an analysis of international data on laws and regulations mandating SR for companies, the authors identified a link between SR and lower bribery levels as well as a higher perceived social responsibility of business leaders. Therefore, SR may have a positive impact on a range of corporate activities as the disclosure of sustainability information has forced firms to improve their performance to avoid having to disclose low scores in these matters. Still, Ioannou & Serafeim (2011) had to acknowledge that their quantitative approach was unable to establish a causal relationship between SR and organizational change, as confounding variables may have influenced sustainability performance.

As indicated by the aforementioned studies, research on the link between SR and organizational change has been limited.

The literature review helped to identify a set of key variables which are related to each other and may result in organizational change towards CS. These variables include drivers and barriers for SR and organizational change respectively, strategies to overcome these barriers, stakeholder pressure, attitudes towards organizational change and SR (corporate culture), leadership, approaches to SR (reporting approach: inside-out / outside-in) and data collection and data analysis for SR (Figure 6). Still, the exact nature of this relationship has remained unclear. The theory of organizational change has shown that corporate culture, drivers and barriers as well as the purpose of SR in a company and stakeholder involvement play an important role as these variables may influence the process and use of SR in a company on the one hand and organizational change towards CS on the other hand. Depending on the SR drivers and purpose of reporting, SR may either serve as an element of continuous CS performance evaluation and improvement or it may be the outcome of a change process itself and serve as a product providing CS information to stakeholders (Schaltegger & Wagner, 2006). Thus, reporting may be a product of organizational change, organizational change may be fostered by insights from the process of developing a report or a relationship may be falsely assumed. Most researchers have focused on these linear causal relationships (e.g. Adams, 2002; Christofi et al., 2012) and have neglected that SR may not only be a driver or barrier for organizational change, but an element of a continuous process of improving a company's CS performance by inducing organizational change, simultaneous reporting and assessment of these changes, which in turn may lead to further improvements of the CS performance (e.g. Lozano, 2013a). Hence, a reciprocal relationship between these concepts has to be considered within the bound of possibility as well.

Figure 6 summarizes the research discussed in the literature review. SR and organizational change management are understood as two processes that may contribute to CS in a company. Yet, both processes are also influenced by CS respectively, as SR serves to assess and disclose a company's sustainability performance and organizational change management aims at continuously moving towards CS. The under-explored relationship between SR and organizational change is illustrated by the differently colored arrows showing the aforementioned possible types of relations. The boxes to the left summarize the key variables underlying the concepts.

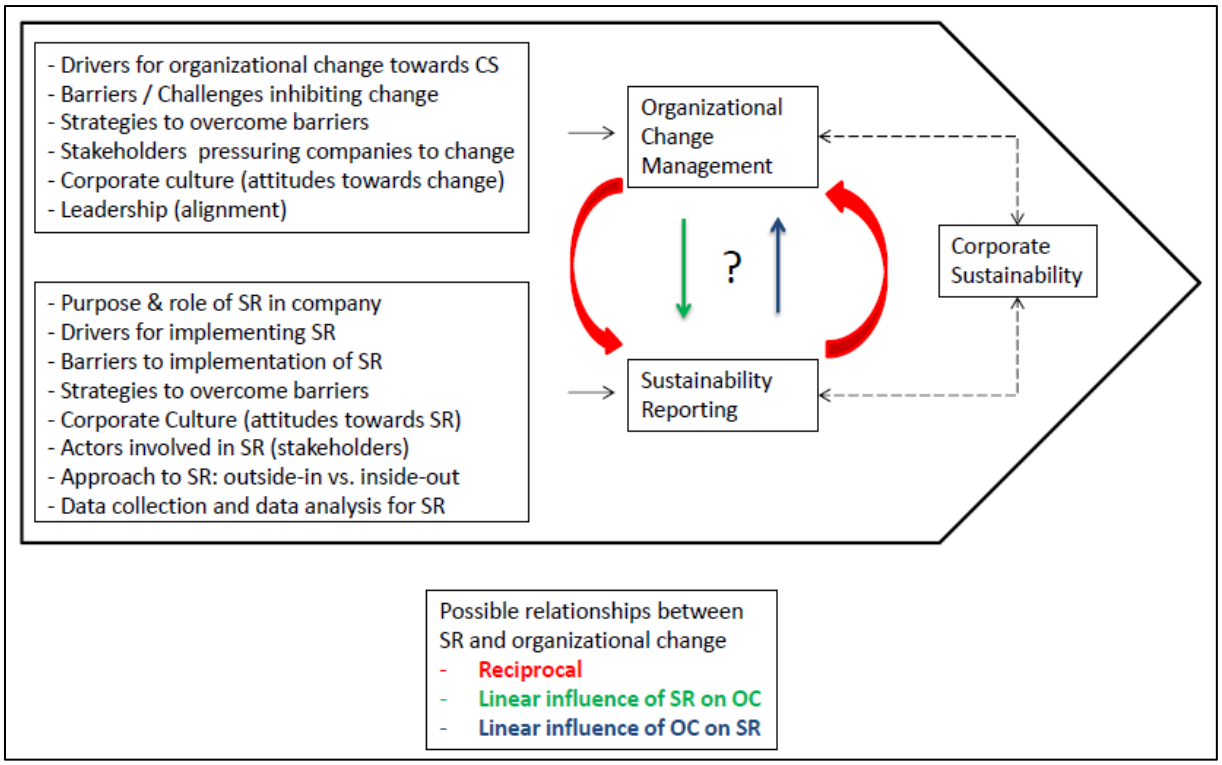

Figure 6: Possible relationships between SR and organizational change

Additional research is required to identify possible directions of this relationship and a potential causal link. Therefore, this thesis set out to explore the process of developing a sustainability report (data collection, data analysis), factors influencing this process, the effect of SR on company internal learning processes, and the general role of SR in organizational change processes. This can provide insights into if and how these internal processes of performance evaluation and disclosure induce organizational change in companies and thereby contribute to improvements in the overall sustainability performance.

3. Research perspective, scope and level of analysis

The previous chapter explored the complex nature of corporate sustainability, sustainability reporting and organizational change towards CS. The literature review illustrated the debate about the definition of CS and delineated the working definition underlying this thesis. Drivers, barriers and strategies for SR and organizational change towards more CS have been addressed respectively. The key concepts derived from the literature review are therefore 'corporate sustainability', 'sustainability reporting' and 'organizational change'. Based on these results and the research objective defined in section 1.2, this section defines the research perspective, the scope of this project and the level of analysis.

As indicated in section 2.1, this thesis is based on a holistic CS perspective. Thus, in line with Lozano (2011), companies are expected to proactively aim at contributing to sustainability equilibria to achieve true CS. Hence, change towards CS has to address all four sustainability dimensions and their inter-relations within a company system. This definition delineates a framework for change contributing to more CS. Within this framework, each company has to derive appropriate means to improve CS by taking into account the company specific context and business characteristics (see Azapagic, 2003; Van Marrewijk, 2003). As CS should cover all sustainability dimensions, SR is assumed to induce organizational change towards CS in the economic, environmental, social and time dimensions if the link between SR and OCM as assumed in the prevailing literature is confirmed.

The holistic CS perspective serves as an underlying framework to analyze the process of SR and its role and importance in the under-researched relationship with organizational change management. The scope of this research project has to be defined. SR and organizational change have been defined before. The processes and factors of interest underlying these key concepts have been delineated by the literature review, yet, ambiguity about the existence and direction of the particular relationship between the core concepts remains. Both concepts can be considered processes of corporate self-governance and have been referred to as management tools for CS (Christofi et al., 2012; Alonso-Almeida et al., 2013). While companies engaged in SR have aimed to evaluate, discuss and communicate their corporate sustainability performance, organizational change management towards CS is directed at improving this performance by mitigating shortcomings in the sustainability efforts to date. It is important to note that this research project evaluates the role of SR with regard to organizational change from the perspective that SR may be one of many tools related to organizational change. Thus, if a link exists, then SR is rather one of multiple factors influencing a company's decision to move towards CS.

This thesis sets to explore the process of SR in companies, factors influencing this process and the relationship of SR with organizational change management. Thus, the scope of this project is limited to the analysis of aforementioned concepts with a main emphasis on their possible relationship and SR's potential contribution to push companies towards more CS. Potentially influential factors were elaborated upon in the literature review and will be considered in the analysis. Data for the analysis of these key concepts under scrutiny is collected by a survey approach.

Companies that have published at least one sustainability report were defined as the unit of analysis. Since the number of companies active in SR has been limited, no geographical limitation has been defined. The companies selected for this research project were chosen from the GRI Disclosure Database, which lists firms that published at least one sustainability report in line with a particular reporting guideline[4]. Thus, the derived sample for data collection consists of international companies and allows for a general overview over SR in companies.

Concerning the level of analysis, the prevailing CS literature identified a strong focus on analyses at the organizational level and called for a stronger focus on the individual level (e.g. Linnenlücke & Griffiths, 2010). Yet, since research on the possible link between SR and organizational change has been limited to date, an organization-wide approach is indispensable for this research project. By evaluating the concepts across various companies this thesis provides solid insights into the general relationship between them, whose importance in particular company elements or at individual level can be explored in more detail in future research.

4. Research methods

The research was framed by the underlying concepts of corporate sustainability, sustainability reporting and the theory of organizational change management. The overall goal was to gather and analyze data to explore the phenomenon of sustainability reporting and its relation to organizational change processes.

A quantitative dominant mixed methods approach was chosen to conduct the analyses required to answer the research questions defined in section 1.2. This method has been defined as the type of mixed methods research in which the researcher primarily relies on a quantitative analysis of the phenomenon of interest and complements his findings by a supplementary qualitative data analysis (Johnson et al., 2007). This combined approach was chosen as it contributes to the breadth and

[4] The GRI lists sustainability reports that have been published based on the GRI Sustainability Reporting Guidelines themselves, the UN Global Compact, the ISO 26000 standards, the OECD reporting guidelines, the IFC Performance Standards or the Carbon Disclosure Project (GRI, 2012)

corrobation of this thesis. Thereby, findings' comprehensiveness and validity was increased as the quantitative results were complemented by a qualitative analysis (see Johnson et al., 2007).

A survey based on the previous literature review was developed for the purpose of data collection. This strategy provided the opportunity to collect the quantitative and qualitative information required to answer the research questions and to thereby achieve the research objectives (Saunders et al., 2007). The generic 'survey approach' refers to the collection of data from a relatively large sample representing a pre-determined population of interest (Kelley et al., 2003). Within this approach, surveys have been one of the most frequently used tools, as they offer an efficient method for data collection based on asking each respondent to respond to a standardized set of questions (deVaus, 2002; Saunders et al., 2007). A standardized survey allows relating different answers to differences between the respondents and enables the researcher to conduct descriptive and inferential quantitative data analysis to gain insights into the phenomenon of interest at a given point in time (Krosnick, 1999; Kelley et al., 2003). Surveys are therefore well suited for descriptive opinion studies and the analysis of organizational practices as well as for exploratory studies examining and explaining relationships between variables (Bryman, 2001; Gill & Johnson, 2002). As this research project attempted to fulfill descriptive and analytic tasks by exploring the phenomena of SR and organizational change and subsequently analyzing the nature of their relationship, this research strategy was well suited to provide the required data.

As recommended by Saunders et al. (2007), a cross-sectional survey approach was chosen for the purpose of conducting descriptive and explanatory research. This approach was based on the simultaneous collection of data on multiple cases at a given point in time to enable the collection of both quantitative and qualitative data. The subsequent exploration of the data set aimed at the analysis of possible links between variables (see Bryman, 2001). Since the variation of variables was of interest, a survey was developed to collect data on more than one case. The design of this survey is explained in the following section.

4.1 Survey design

According to Bryman (2001), the development of a self-administered survey, i.e. a survey completed by the respondent without supervision from an interviewer, to obtain answers from business organizations is especially difficult since respondents are expected to provide information about an entity that differs from them personally. Against this background, the survey questions had to be defined unambiguously and easy to follow (Saunders et al., 2007). A clear layout and wording, instructions facilitating the completion of the survey, grouping of questions by subject and a progress bar to inform the respondent about his progress improved the usability of the web-based survey. The readability was increased by the evasion of double-barreled questions (two or more questions asked in one) and the use of double negatives (see Fowler 1998; Kelley et al., 2003). In line with Blumberg et al. (2005) a thorough literature review and the discussion of ideas and possible survey designs with colleagues and supervisors was conducted to ensure both the development of investigative questions addressing the research objectives and the usability of the survey. Designing the survey with the help of an online tool provided the possibility to employ optional questions, which were hidden in case they became irrelevant to the respondent based on his previous answers or asked the respondent to elaborate in more detail on a particular issue (Dillman, 2007).

Key variables covered in the survey and question design

The literature review identified key variables related to SR to be covered by the survey (section 2.4):

- Drivers underlying the decision to implement SR in a company;
- Barriers to SR originating from a company's general contextual factors, its corporate characteristics and the internal context;
- Strategies based on internal and external factors to overcome barriers to SR;
- Intended purpose underlying SR and actual role of SR in a company;

- Approach to reporting (outside-in vs. inside-out) assessing reporting patterns and use of the report;
- Corporate culture (organizational attitudes and values towards sustainability); and
- Actors involved in the process of developing a sustainability report (stakeholders).

Since these variables have been researched before (e.g. Adams, 2002; Frehs, 2003; Schaltegger Wagner, 2006), closed-ended questions based on existing knowledge were designed to collect data on the reasons to publish a sustainability report, the role of SR in companies and the relevance of stakeholders in the process of developing sustainability reports. The use of closed-ended questions facilitated the completion of the survey for the respondents and the provision of answers helped to clarify the meaning of a question unclear to the respondent. Additionally, these questions enhanced the comparability of responses as possible answers were pre-defined. These responses were also pre-coded by the survey tool, which enabled the researcher to easily process the data for further analyses (see Kelley et al., 2003). Still, there are some inherent disadvantages to closed-ended questions that were taken into account. According to Bryman (2001), response categories to the questions have to be mutually exclusive and comprehensive, which requires thoughtful wording and efforts by multiple test persons to ensure unambiguous answer categories. As indicated above, this was ensured by the means of a literature review and expert discussions.

In addition to the aforementioned variables, core variables related to OCM and its relationship to sustainability reporting were identified in the literature review and included in the survey:

- Benefits from SR;
- Changes towards improved CS (induced by SR);
- Challenges in the process of developing and publishing SR;
- Strategies to overcome these challenges; and
- Process of data collection and data analysis for SR.

Since limited knowledge was available on these variables, they were addressed by open-ended questions. Open-ended questions were beneficial because responses to these questions were unknown and the respondent could provide information that the researcher was unable to contemplate during the design phase of the survey (see Krosnick, 1999; Kelley et al., 2003). Thus, following Fowler's (1998) and Saunders et al.'s (2007) recommendations, the absence of a predefined set of answers allowed for an unbiased exploration of under-researched elements. Still, 'survey fatigue', i.e. respondents impatiently quit the survey before having completed it (Bryman, 2001), originating from greater and more time-consuming efforts for answering open-ended questions had to be accounted for. Therefore, the amount of open questions was reduced to a limited amount without foregoing the chance of exploring the core concepts of interest. Concerning the effort required by the researcher, answers to open-ended questions had to be analyzed manually in a qualitative approach based on Grounded Theory.

The survey included different question designs, which were based on definitions provided by Saunders et al. (2007). Lists consisting of different items, any or multiple of which can be selected, were provided to the respondent to demand information about issues for which multiple responses may apply. By contrast, categorical question accepted only one response that had to be chosen from a list of pre-defined answers. Comprehensive but mutually exclusive categories ensured that the respondent's reply was included in only one of the possible answers. Logically ordered categories increased the usability of the survey and facilitated answering the questions. This question type was particularly useful as it allowed for the categorization of attitudes, behavior and change concerning CS.

In addition to the collection of primarily informant factual data about characteristics of an entity, processes or behavior by using the aforementioned question types, rating questions based on Likert-style scales were used to enable the collection of opinion data (see Saunders et al., 2007). Likert-scale questions demand the respondents to indicate their level of agreement with a statement or question (Bryman, 2001). The use of statements was chosen over question-based scales because the former have proven to explore opinions and attitudes more differentiated and precisely than the latter (see Bortz & Döring, 2006). Since research has shown that the respondents' capability to provide meaningful answers to scales with more than 5-7 categories is limited (Fowler, 1998), the scales employed in this survey were based on a five-point rating scale providing the opportunity to strongly agree or disagree or to indicate neutrality (Dillman, 2007). Based on recommendations from Krosnick & Berent (1993) and Fowler (1998) all five points on the rating scale were labelled with adjectives to provide clarifications of the meaning of each scale category. Additionally, ranking questions, demanding the respondent to place items in a subjectively representative order, were used to investigate the salience of issues to the company represented by the respondent (Saunders, 2007).

Survey structure

The survey consisted of a cover page and six sections covering the subjects of interest. As suggested by Bryman (2001), the cover page served to motivate the respondent to participate in the data collection process. This page briefly introduced the subject and aim of the survey, namely the exploration of the process of developing and using sustainability reports by companies and to thereby help to improve corporate sustainability management and change processes. Additionally, an explanation of why the company represented by the respondent was selected to participate in the survey was provided. The use of the data collected for this research project, i.e. the completion of a Master's thesis on the relationship between SR and OCM, was elaborated upon and information about the contact person in charge of the thesis as well as the institution and official supervisors of the research project was provided. Survey participation was anonymous and the obtained data was treated confidentially. Information about the approximate time required to complete the survey was provided to facilitate the participant's time management.

The survey consisted of six different content sections:

1) **Company characteristics:** country of headquarters, industry membership, size (employees), department responsible for SR. Aims at the categorization of the respective company and analysis of possible influences of these variables on SR and OMC.
2) **Role of respondent in the company:** addresses the respondent's role in the company and the firm's disclosing practices. Provides the possibility to forward the survey to the person in charge of data collection for SR.
3) **Sustainability Reporting:** examines the companies' motivations to publish a sustainability report, the role and purpose of SR in companies and corporate benefits gained from SR to analyze drivers underlying SR.
4) **Organizational Change:** collects data on changes occurring during developing and publishing a sustainability report and potential links to the process of SR. Additionally, collection of data on barriers to organizational change towards more CS, organizational learning in terms of developed strategies to overcome barriers to SR and lessons learned from the firm's engagement in the process of SR.
5) **Stakeholders:** stakeholders can theoretically pressure companies to engage in SR and influence its content and role within the company, therefore data on stakeholder involvement in the process of SR was collected.
6) **Process of sustainability Reporting:** evaluation of the processes of data collection, data aggregation and analysis, and costs for the process of developing a sustainability report.

Since the questions in section six could have raised confidentiality issues and requested specific numbers or descriptions of processes rather than broad estimates, they were placed at the end of the survey. Completing this section was left at the participants' discretion to prevent them from quitting the survey in case this information could not be provided. This procedure has proven efficient (Bryman, 2001; Dillman, 2007).

A summary of the survey's key themes and questions as well as their intended purpose is illustrated in Table 7.

Table 7: Summary of key themes and intended purpose of questions

Question(s)	Summary of key themes	Intended purpose
Section 1: Company characteristics		
1 - 3	General information about the company	Collect information for categorization of companies
4	Responsibility for SR	Identify department in charge of SR
5	Involvement of SR department in decision-making process	Examine influence of responsible department in company
Section 2: Role of respondent in the company		
6 - 7	Respondent's responsibilities in SR-process	Examine role & perspective of respondent
8	Person in charge of data collection for SR	Identify person in charge in case respondent lacks knowledge to answer the survey
Section 3: Sustainability Reporting		
9	Impact of the company	Examine economic, environmental and social impact of the company as perceived by the respondents to identify potential for public exposure
10	Drivers for publishing first SR	Identify drivers for engaging in SR
11	Follow-up reports	Check if company has published more than one SR
12	Drivers for publishing subsequent SR	Identify main drivers for engaging in continuous SR
13 - 14	Changes between reports	Examine differences between published reports
15	Current engagement in SR	Check if company is still publishing SR
16	Reasons to stop publishing SR	Examine motivations to stop reporting
17	Planned purpose of SR in the company	Examine the purpose of SR as aimed for by the company
18	Purpose of SR in the company	Examine the actual role of SR in the company
19	Corporate benefits from reporting	Identify benefits for the company gained from SR
20	Assessment & communication of sustainability efforts in company elements	Examine the coverage of the reports
Section 4: Organizational Change		
21 & 24	Organizational change induced by SR	Examine the relationship between SR and organizational change
22 - 23	Barriers for organizational change	Examine reasons for not facilitating organizational change and potential to drive change in the company assigned to SR by the respondent
25 - 29	Influence of SR on corporate culture & employee behavior	Examine changes in corporate mission, vision, strategy and attitudes induced by SR

30 - 31	Barriers to SR & strategies to overcome them	Identify the main barriers to SR and how these have been overcome by the company
32 - 33	Organizational learning	Examine insights gained from process of SR and identify best practices
Section 5: Stakeholders		
34	Stakeholder sensitivity	Examine potential for stakeholder pressure caused by unsustainable operations
35	Stakeholder participation	Examine stakeholder involvement in SR-process
Section 6: Process of Sustainability Reporting		
36 - 37	Process of SR	Collect information on data collection, data analysis and data aggregation
38	Costs of SR	Collect information on costs for SR
39	Future of SR in companies	Obtain the respondent's opinion on future developments for SR in companies

The survey was subsequently used to collect the required data from a sample of companies. This procedure is explained in the following section.

4.2 Data collection

The survey was designed and managed by using the online survey-tool Qualtrics, as it facilitated the simultaneous data collection from a large amount of respondents by automatically saving each respondent's input and by excluding incomplete responses from the results. The data could be downloaded and imported to computer programs for statistical analysis. Qualtrics provides an email-option for distributing the survey to all previously identified potential respondents at any given point in time (see Snow, 2012). This allowed for a high level of control as the desired respondents were approached directly by sending the survey to their company-internal email-address (Saunders et al., 2007).

The Qualtrics mail program was used to distribute a cover letter similar to the cover page of the survey. The letter provided key information concerning the topic and purpose of the survey, a short reasoning why the respective company was chosen to participate in the survey and information about the researcher conducting and the institution sponsoring and supervising the survey. Additionally, a brief elaboration upon the use and importance of the data aimed to encourage participants to complete the survey as they were the only actors able to provide the necessary insights to achieve the research objectives (see also Kelley et al., 2003; Thielsch & Weltzin, 2009). An individual web-link provided anonymous access to the survey, and ensured that each participant responded to the survey only once (see Snow, 2012).

The response rate for this type of online-survey is usually low (about 10%, see Saunders et al., 2007). Therefore, a large sample was required to ensure a representative data set sufficiently large for statistical analysis (Kelley et al., 2003). Research has shown that the majority of the selected participants react to an invitation to a survey within one or two weeks after a survey is distributed (Dillman, 2007). As recommended by Kelley et al. (2003), a concise reminder was sent to provide momentum to those contacts that have not yet replied to the survey as soon as the number of daily responses declined after two weeks. This was done two times, but in line with Sills & Song (2002) the first reminder provided the greatest effect in encouraging reluctant participants to complete the survey. The rate of people quitting the survey before having completed it (43% of all participants) was irrelevant to the results because incomplete responses were filtered out before the statistical analysis of the data set. This avoided the risk of obtaining a contaminated data set consisting of unevenly distributed amounts of answers to particular questions (see Thielsch & Weltzin, 2009). As the survey tool also indicated the time spent on completing a survey by each participant, it was possible to identify invalid data sets that may have been caused by 'click-throughs', for which the

respondent took only a few minutes to answer the survey without considering the content of the questions (see Snow, 2012). Still, no such pattern was identified in the set of responses obtained. This set of responses was obtained from a company sample selected from a larger population.

Sampling

A survey population has been defined as all units to which the researcher aims to generalize the survey results (Dillman, 2007). A set of units drawn from this population, the sample, is included in a survey to serve as a representative model of this population providing generalizable data (Gorard 2003; Dillman, 2007). The selection of these units was based on a non-probability convenience-sampling method, i.e. while some units were more likely to be included in the sample than others, the units have been selected according to their availability (Bryman, 2001; Gorard, 2003; Kelley et al., 2003). This sampling method was chosen because the total number of companies engaged in SR was limited and the GRI Disclosure Database provided the most encompassing list of companies engaged in SR (see Prado-Lorenzo et al. 2009; Skouloudis et al. 2009; Levy et al., 2010).

Before discussing the sampling process applied in this thesis, issues to be considered in the sampling procedures are addressed.

Sample surveys in quantitative research have rarely been based on probability samples because often researchers have used data that was simply available to them (Bryman, 2001). Still, constraints like the total sampling error are inherent to non-probability sampling, which had to be accounted for in this thesis.

The total sampling error has to be minimized in studies based on the statistical analysis of quantitative data drawn from a sample to ensure a valid sample design (Fowler, 1998). The total error has entailed a sampling bias resulting in a misrepresentation of the study population, sampling variability based on fluctuating sample estimates around the study population parameters that has resulted from the sample selection process, and the non-sampling bias, which has been caused by errors unrelated to sampling (Henry, 1998). Each of these components was explicitly taken into account for the design of the sampling process to reduce the total error.

Sampling provides the possibility to generate representative findings for the population in a cost- and time-efficient way (Gorard, 2003). This requires the data sample to provide an accurately composited profile of the population (Sills & Song, 2002; Saunders et al., 2007). In case a sample drawn from a heterogeneous population did not fit the population, a sampling error has impeded the generation of general inferences from statistical analysis (Henry, 1998; Kelley et al., 2003; Dillman, 2007). In case of this thesis, however, a lack of information about the characteristics of the companies included in the population and the sample impeded the analysis of the sample's representativeness before the analysis of data collected from the survey. Therefore, in line with Hickson et al. (1986) the ex-ante analysis of the sample's representativeness was considered impossible. Still, as a broad range of companies was assumed to be covered, the sample was assumed to be the most representative selection available.

According to Gorard (2003), the successful identification of patterns in the phenomenon of interest has been based on the strength of the respective effect, measures of low variability and by a large sample. Since only the sample size could be fully controlled by the researcher, the use of a large sample has provided an opportunity to increase the chances of a successful analysis. Larger samples increase the representativeness with regard to the population of interest (Kelley et al., 2003). Additionally, Bryman (2001) recommended the selection of a large sample to ensure a sufficient amount of data for statistical analysis in case of a reasonable assumption that many potential respondents could reject the survey. Following these recommendations the largest feasible sample available was selected by focusing on the GRI Disclosure Database.

In addition to the sampling-error, a non-coverage error may result from sampling in case an incomprehensive sample reduced the chances of non-covered members to be included in the sample (Dillman, 1991; Henry, 1998). As the GRI database is updated regularly and therefore comprehensively lists all companies that have published sustainability reports (GRI, 2014b), this error was considered low.

The nonresponse error has described a possible bias due to differences between respondents and non-respondents (Sills & Song, 2002). These differences may lead to a bias in terms of reducing the representativeness of the collected data for the whole population (Bryman, 2001). It has been impossible to check the non-response error for this sample, as a lack of knowledge about the companies under scrutiny inhibited comparisons between the respondents and non-respondents. Yet, it was possible to assess whether the respondents represented the original sample of contacted companies based on a comparison of their basic characteristics[5]. The representativeness of the sample has been considered more important than the actual response rate (Cook et al., 2000). Results obtained from a survey may be biased if non-response has been nonrandom and could be correlated with a certain item measured in the survey (Hox & deLeeuw, 1994). This was negated for the survey at hand because the majority of respondents that quit the survey before having completed it did this after having read the cover page without answering a single question.

Sampling process

The GRI database listed 6284 organizations that have published a sustainability report at the time the research was conducted (GRI, 2014a). As this database did not provide any contact details of the companies, an additional database for collecting information about the companies' contact persons responsible for SR was developed by the researcher. The sample was drawn from the entire population.

This approach provided valid results despite the resource constraints faced by the researcher (especially time) and the lack of available contact details. Therefore, the selection of all companies listed in the GRI Disclosure Database as having published a report in 2013 facilitated the data selection process. Costs and efforts of this procedure were lower than those involved in contacting all companies in the database or in probability sampling, according to which each unit in the population has the same probability of being selected for the sample (see Bryman, 2001). Since the GRI Disclosure Database is updated every two weeks and companies that published a report in 2013 were most likely to provide the latest information about SR, this database was used to collect contact details of the companies' departments in charge of SR. This sampling method provided access to the greatest up to date database and at the same time most representative amount of firms to be contacted for data collection purposes.

In 2013, when this research was carried out, 1089 companies were listed as having published a sustainability report in that year. As indicated in section 3, this list entailed companies which have based their reports either on the GRI Sustainability Reporting Guidelines, the UN Global Compact, the ISO 26000 series, the OECD guidelines for reporting, the IFC Performance Standards or the Carbon Disclosure Project (GRI, 2011). The broad range of guidelines covered resulted in a heterogeneous sample. The sample included all industry sectors registered by the GRI, except for Higher Education Institutions (HEI), as the scope was limited to primarily business-related organizations. The contact details of the respective companies were collected by searching through the sustainability report and the firms' internet presence. Personalized contact information was difficult to obtain for each respondent because numerous companies provided impersonal contact addresses for stakeholder requests. In this case, the impersonalized contact details were still collected although impersonalized communication has proven to result in low survey response rates (e.g. Berge & Collins, 1996; Ciolek,

[5] This comparison and its implications are presented as part of the survey results in section 5.1.

1998). Originally, the sample consisted of 1089 units, from which 1023 provided contact details either in the report or online. While 471 personalized contacts were collected, 585 companies provided impersonal email-addresses. For some companies both personal and impersonal contacts were provided. In this case the survey was sent to both contacts. An analysis of the final set of responses showed that none of these companies participated twice in the survey. Table 8 provides an overview over the sample of contacted companies.

Table 8: Sample characteristics

Characteristics of the sample of contacted companies (N)		
Companies listed in the GRI Disclosure Database (published report in 2013): 1,089 Number of companies that provided contact details: 1,023 - 471 personal contact details / 585 impersonal contact details - in some cases more than one contact person has been provided		
Region of origin	**Total number of companies in sample**	**Percentage of companies in sample**
Africa	12	1.17
Asia	149	14.56
Europe	516	50.44
Latin America	168	16.52
Northern America	151	14.76
Oceania	26	2.55
Industry membership (Top5)	**Total number of companies in sample**	**Percentage of companies in sample**
Financial Services	161	15.75
Energy & Energy Utilities	134	13.11
Other	90	8.81
Food & Beverages	53	5.18
Construction	29	5.08

After the survey was distributed to the contacts, 41 emails (4% of the total sample) bounced, i.e. failed to be delivered. While 162 respondents started the survey, 91 completed it entirely, which yielded a response rate of 8.9%[6]. Considering the large share of impersonal contacts in the sample this response rate was in line with Saunders et al.'s (2007) estimations of online survey response rates of 10% and provided a sufficient amount of data for statistical analysis, which will be described in the following section.

4.3 Data analysis methods

Since this thesis was based on a quantitative dominant mixed methods approach the statistical analysis of survey data was at the core of the research project. The quantitative methods were complemented by a qualitative analysis based on the method of Grounded Theory to explore the respondents' answers to open-ended questions. These findings allowed adding detail to the statistical results and enabled the researcher to derive stronger results than by applying only one of the methods.

4.3.1 Quantitative data analysis

The quantitative data yielded by the survey was analyzed with descriptive, bi- and multivariate statistical analysis methods.

[6] Calculation based on the number of successfully contacted companies (1023 companies)

All data collected was recorded by using numerical codes, which facilitated its administration and analysis (see Saunders et al., 2007). Coded data was processed with the statistical analysis software IBM SPSS Statistics 22 for Windows. Data of one variable were analyzed separately or grouped and combined with other variables to form new variables (see Field, 2009). Pre-set codes created by the survey tool Qualtrics were exported to statistical analysis software (see Pallant, 2001).

The different question types used in the survey provided different types of variables (see Bryman, 2001). This had implications for the statistical analysis to be conducted because not every statistical calculation or test can be applied to any variable (Field, 2009). Only those types of variables included in the data will be addressed briefly in the following. In general, data is distinguished along two categories: quantifiable data and categorical data. Quantifiable data has consists of information that can be measured numerically and assigned a clear position on a numerical scale (Saunders et al., 2007). Interval or ratio variables can be placed across a range of categories where the distances between these categories are identical (Field, 2009). Categorical data, by contrast, cannot be measured numerically (Saunders et al., 2007). This classification includes nominal variables, which are based on categories that are impossible to rank or order. Ordinal variables can be ranked based on a known relative position within the respective data set, but the distances between the categories are unequal (Bryman, 2001).

Multiple-item measures like Likert-scales have been assumed to produce such ordinal variables (Norman, 2010). However, authors have argued against this classification because the possible response categories have been assigned known equidistant values and should therefore be considered to yield interval variables (Bryman, 2001; Bortz & Döring, 2006; Field, 2009). This argument has also been valid for verbal categories applied in this thesis (Rohrmann, 1978). Therefore, variables obtained from a Likert-scale were treated as interval variables in the process of data analysis.

As indicated, both descriptive and inferential statistics were applied to explore and analyze the data set. Frequency tables and diagrams served to display quantitative data by illustrating the amount of units and percentages belonging to a certain variable category (see Bryman, 2001). Central tendencies, especially the arithmetic mean indicating the average value of a variable category across the complete data set, and measures of dispersion (standard deviation) helped to describe the distribution of answers by the respondents (see Ho, 2006; Saunders et al., 2007). The analysis of the distribution of values of a variable also required deciding about appropriate statistical tests to further explore the variables and its possible association with other variables (Field, 2009). These tests (e.g. tests for normal distribution) are not explicitly addressed in the results section, but were conducted before further analyzing these variables to ensure the selection of valid statistical methods.

Bivariate analyses were conducted to analyze two variables simultaneously to identify possible relationships between them. The analysis of relationships implied the unveiling of evidence that variation in one variable coincides with variation in the other variable (Bryman, 2001). This enabled an unbiased analysis of potential links between SR and organizational change. The methods applied did not require the definition of dependent and independent variables, which would have been impossible for this type of exploratory research (see Ho, 2006).

Cross-tabulations were used to identify possible interdependencies between variables (see Saunders et al., 2007). Since they allowed for a comparative analysis of multiple variables at once, patterns in the data indicating possible relationships between variables could be identified. This method was for example applicable particularly well for analyzing the influence of company characteristics on SR and OCM processes. In case a relationship between these variables could be reasonably assumed, a correlation coefficient was calculated to explore the relationship in more detail (see Field, 2009). As correlation coefficients have been used to measure naturally occurring events to determine covariance between variables without manipulating them (Ho, 2006), this method was particularly useful to explore the potential link between SR and OCM. The correlation coefficient was derived by

calculating the value of Pearson's r for interval and ration variables or Spearman's rho for pairs of ordinal variables (also possible for one ordinal and one interval variable) (see Field, 2009). The resulting value (between -1 and 1) showed the magnitude and direction of this link, while ±1 indicated a perfect (positive or negative) relationship and a value of zero indicated the absence of a relationship (Saunders et al., 2007).

T-tests were conducted to test the differences between the means of two independent groups based on a comparison of variables, which have been measured at least at the ordinal level (see Ho, 2006; Field, 2009). In case of this research project, this test was used to test whether there was a significant difference between the intended and actual purposes of SR in companies.

For the purpose of assessing the intended purpose of SR particular items were grouped and new variables computed. Cronbach's alpha was calculated to test the internal consistency of the newly computed variables (see Gliem & Gliem, 2003). This test provided a single correlation coefficient which provides an estimation of the average of all correlation coefficients of the selected items within a test (Bortz & Döring, 2006). Thus, the average of all correlations between items identified to represent a particular purpose of SR was correlated. In case the coefficient was high ($\alpha \geq 0.8$) all included items were reliable and the entire test was internally consistent and could be conducted (Ho, 2006). In case the coefficient was much lower than ($\alpha \leq 0.6$) at least one of the items was unreliable and it was impossible to conduct this test (see Field, 2009). This test allowed to assess the intentions underlying SR and whether there were significant differences between the respondents.

The statistical significance of tests indicates the probability of an identified relationship to exist throughout the whole population (Ho, 2006). For the following analysis, the level of statistical significance was set to $p < 0.05$, implying that there was a 5% chance of identifying a relationship in the sample although the relationship did not exist (see Bryman, 2001). In case the statistical significance was higher for a particular relationship this was explicitly reported. Still, based on statistical probabilities, it was impossible to rule out completely that a finding may be valid for the sample although it may by invalid for the population. This erroneous acceptance of an assumption although it should be rejected has been referred to as a Type 2 error. By contrast, the erroneous rejection of a hypothesis although it should have been accepted has been classified as a Type 1 error (Ho, 2006).

It is important to acknowledge that the identification of relationships is unequal to establishing a directional causal relationship between two variables (Bryman, 2001). Since the kind of survey approach chosen for this research project refrained from manipulating variables and data was collected at a single given point in time, the generation of findings appropriate for deriving causal relationships was constrained. This impeded the establishment of non-spuriousness, i.e. there may be a third variable influencing one of the variables or moderating the relationship (Gorard, 2003). The availability of potentially intervening variables unaddressed by the survey is theoretically endless and therefore statements about the causality of relationships are not possible (see Bryman, 2001).

4.3.2 Qualitative analysis based on Grounded Theory

The qualitative data analysis served to explore the respondents' answers to the open-ended questions. This included data related to the process of SR, challenges inherent to SR, organizational learning processes resulting in strategies to overcome these challenges, the influence of SR on organizational change or vice versa and examples of organizational changes fostered by SR. The Grounded Theory approach (GT) underlying this analysis was developed by Glaser & Strauss (1967) and provided guidance for systematic data categorization. Thereby, the researcher was able to identify subjects and themes in the broader context of SR and OCM (see Weber, 1990).

The link between SR and organizational change towards sustainability has been under-explored to date and no theory has explicitly related SR to organizational change or vice versa. Hence, research

guided by GT allowed for a systematic analysis of a potential relationship between these concepts and may contribute to theory building.

The analysis of the respondents' answers was based on the constant comparative method underlying GT, which required the analysis of the obtained data based on coding and deriving concrete categories and more abstract concepts (Jupp, 2006). This process allowed for the identification of patterns in the relationship between SR and organizational change.

The GT-method has been criticized for the impossibility to analyze data without applying previous knowledge (Bryman, 2001). Yet, other authors (Suddaby, 2006; Saunders et al., 2007) assumed that the coding process may be supported by previous knowledge but still primarily focusses on the data at hand. Criticism at the fragmentation and de-contextualization of data due to the categorization process (Bryman, 2001) has been refuted by the opportunity to re-integrate data in the next step of the analysis enabling the exploration of the phenomenon under scrutiny (Goulding, 2000). Since the limitations of the method did not impede the analysis of the data at hand, GT provided a suitable means to explore the respondents' answers to the open survey questions.

Data analysis method

According to Forman & Darmschroder (2008) and Strauss & Corbin (1990), the analytical process based on coding has aimed at the development of open-ended categories to enable researching the subject of interest in its entirety and to prevent limitations of the research approach originating from pre-defined categories. The codes are therefore induced from the data itself as they emerge during the immersion of the data. A preliminary analysis of latent and manifest content produces a systematically organized form of the data, which enables the categorization and identification of patterns and relationships (Kassarjian, 1977; Forman & Darmschroder, 2008).

The constant comparative method has been divided into four phases: firstly, data is categorized, secondly, categories are integrated, thirdly, the theory is derived from the categories, which leads to the fourth step involving the writing of the theory (Glaser & Strauss, 1967). Since the open survey questions focused on different aspects related to SR and organizational change, it was impossible to develop a single set of universally applicable categories for the whole data set. Each set of answers was analyzed separately. As limited knowledge about the link between SR and organizational change was available, the development of categories and their properties was primarily based on the analysis of the data.

Unlike in an ideally conducted analysis based on GT, data for this research project was collected at a single point in time (see also figure 1). Contrary to the ideal-typical process of the constant comparative analysis, categories were defined inductively instead of applying and continuously adjusting a pre-defined set of categories during multiple rounds of comparing these classifications with the data collected by the researcher (Lozano & Huisingh, 2011). Phases 1-2 were conducted to reduce and systematically order the amount of data until preliminary categories representing the most salient issues to the respondents were derived (see Forman & Darmschroder, 2008). Each answer of the respondents, typically consisting of 1-2 sentences, was coded to allow the researcher to fully explore the data. The third phase served to identify links between the introduced categories and to remove redundant categories. The frequencies of the categories applied indicated the salience of issues to the respondents (see Jones & Hidiroglou, 2013). The insights from this analysis were formulated in phase 4 to complement the findings from the quantitative data analysis.

The coding process was conducted by using the software package NVivo10 (QSR, 2014). Unstructured information can be organized, ordered and coded into nodes. These nodes are equal to categories to be developed in GT. Thus, data can be managed and categorized efficiently, overlapping codes can be integrated, relationships between nodes can be established and results of the analysis can be illustrated (Saunders et al., 2007).

4.4 Advantages and Limitations of a survey approach for data collection

Survey approaches applying a web-based self-administered survey provide advantages to the researcher, but require the simultaneous consideration of limitations inherent to this data collection strategy (Saunders et al., 2007).

A significant advantage of surveys is the possibility to efficiently cover a great amount of issues or events in a pre-defined set of questions to produce a large amount of data from a heterogenic sample within a short time period and at low costs (Kelley et al., 2003; Saunders et al., 2007; Thielsch & Weltzin, 2009). This opportunity was beneficial for this thesis, as it had to cover multiple core concepts to meet its research objectives. The absence of an interviewer as well as anonymity and confidentiality granted to the respondents reduced the probability of biased answers (see Fowler, 1998; Dillman, 2007). Additionally, self-administered surveys can increase the respondents' convenience and decrease the likelihood of group dynamic effects in terms of socially desirable answers provided in a personal communication between respondent and interviewer (Bortz & Döring, 2006; Saunders et al., 2007). Studies have shown that this social desirability bias and survey satisficing, i.e. the provision of answers without considering the content and meaning of the question, has been even lower in case of web-based surveys compared to paper-and-pencil surveys (Richman et al., 1999; Chang & Krosnick, 2009). This proved advantageous for this thesis as it enabled to address sensitive topics like the environmental impact of the company and 'greenwashing' sustainability performance by misusing SR. Additionally, the survey provided the flexibility to answer questions at the respondents' own speed, which facilitated the comprehension of questions and subsequent provision of well-considered answers (see Zhang, 2000; Dillman, 2007). This was especially important as this project explored under-researched areas and only few insights could be compared with previously conducted research. Therefore, reliable and accurate data was required. As the situation in which the survey was completed was beyond the researcher's control, communication between the respondent and other people was impossible to be ruled out and may have resulted in more qualified answers but may also have contaminated the response set (see Dillman, 2007). Nevertheless, the survey distribution via email offered a great level of control and thereby facilitated a targeted sampling approach because potential respondents were addressed personally (see Witmer et al., 1999; Saunders et al., 2007). Additionally, a reduced likelihood of errors originating from transcribing and coding results due to automatically pre-coded surveys further increased the efficiency of the data collection and analysis process as well as the data quality (Zhang, 2002; Thielsch & Weltzin, 2009).

Despite these advantages, a researcher using a self-administered survey has to account for limitations concerning the process of data collection, data analysis and the representativeness of the results. As elaborated upon in section 4.2, the researcher had to aim at the reduction of the total sampling error, the definition of unambiguous questions and the reduction of likely 'survey fatigue' in the sampling process and survey design. Yet, additional limitations of the survey approach had to be considered.

It was assumed that the most active companies in this field were most likely to participate in the survey. Although they were most likely to provide the most information about the phenomena under scrutiny, a non-response error originating from companies less active and refusing to participate in the survey may result in a bias depicting a favorable image of SR and organizational change.

Additionally, survey data may suffer from a lack of detailed information because the researcher is unable to ask the respondent to elaborate on ambiguous answers or to collect additional data on relevant issues mentioned by the participant (Kelley et al., 2003). Therefore, a survey requires a balanced approach between the collection of essential data and additional more in-depth data to promote participation and prevent participants from refusing to respond to overloaded surveys (Bryman, 2001).

Some limitations are particularly relevant to web-based self-administered surveys. Despite being able to distribute the survey to the desired participants, email-surveys may be forwarded to unintended third persons, which may limit the representativeness of the data set (Goree & Marszalek, 1995). Additionally, the researcher is unable to control the conditions under which the respondent completes the survey, i.e. multiple persons could be involved in answering the questions (see Bortz & Döring, 2006). Yet, the data quality in this research project was unaffected by the likelihood of multiple people completing one survey. A comprehensive expert view of the respective companies was beneficial for locating change processes in any company element and identifying possible relationships to SR, unless answering the survey was supervised by a company executive causing the respondents to engage in socially desirable survey completion to avoid conflicts with direct superiors.

Since the respondents completed the survey without supervision, a lack of social control increased the likelihood of respondents quitting the survey before they actually have completed it (see Dolenko, 1998). Following Thielsch & Weltzin's (2009) advice, this problem was minimized by implementing functions into the survey enabling the respondent to skip questions that have become irrelevant based on the information the respondent provided before. This option is especially applicable to online surveys because the survey-tool can show or hide optional questions without the respondents being aware of skipped items (Saunders et al., 2007).

Table 9 provides an overview over the advantages and disadvantages of the chosen survey approach.

Table 9: Advantages and disadvantages of online self-administered surveys. Sources: Goree & Marszalek (1995), Fowler (1998), Henry (1998), Richman et al. (1999), Witmer et al. (1999) Zhang (2000), Bryman (2001), Kelley et al. (2003), Dillman (2007), Saunders et al. (2007), Chang & Krosnick (2009), Thielsch & Weltzin (2009)

Conducting a web-based self-administered survey	
Advantages	**Disadvantages**
Collection of a large amount of data from a large sample possible	Low response rate
Short turnaround time	Limited number of questions possible to prevent people from 'dropping out' of the survey
Low administration & distribution costs	No prompting possible in case of unclear answers
Automatic administration → low risk of 'human error'	Negative consequences of ambiguously defined questions
High acceptance due to anonymity and confidentiality	Risk of uninformed responses resulting in data quality
High level of control (targeted communication)	Risk of (non-)sampling bias, non-response bias
Absence of interviewer effects→ Low risk of bias due to socially desirable responses	No control of conditions under which respondents complete the survey

These advantages and disadvantages of web-based self-administered surveys and the way they are dealt with in the survey design and sampling procedures influence the replicability, reliability and validity of the data and the findings of data analyses. Therefore, these concepts are addressed in the following section.

4.5 Replicability, reliability & validity

The design of the survey and the analysis of the results has to be replicable, reliable and valid (Bryman, 2001). The replicability of this cross-sectional research design was ensured by detailed elaborations upon the procedures of developing and administrating the survey, selecting the sample, data collection and data analysis. The explanations provided in this chapter enable other researchers to follow the same approach by repeating the measures applied in this project and to thereby assess and verify the findings of this work (see Bryman, 2001). Still, as the sample represented a snapshot of

companies that had published a report at a given point in time, the use of an updated list from the GRI Disclosure Database for repeating this study may result in a differently composed sample and yield varied responses.

The reliability and internal validity of this study primarily depended on the adequacy of measures (see Saunders et al., 2007). The judgment of internal validity entails an analysis of content validity, construct validity and criterion-related validity. While content validity has been based on an appropriate coverage of the phenomena under scrutiny by investigative survey questions, the assessment of construct (or measurement) validity has been concerned with the extent to which the items employed in the survey are capable of measuring the concept they have been intended to measure. Criterion-related validity has required the measures to make accurate predictions (Bryman, 2001). Hence, internal validity and reliability have been influenced by the survey quality, which is comprised of the question design and the structure of the survey (Fowler, 1998; Saunders et al., 2007). Therefore, the researcher has to ensure that the survey questions are understood by the participants as intended to enable the consistent collection of accurate data (Foddy, 1994). As recommended by Kelley et al. (2003) and Saunders et al. (2007), this requirement was met by conducting a thorough literature review to attain profound knowledge of the issue of interest and expert consultations as well as discussions with persons uninvolved in this research project, which facilitated the design of unambiguous questions to accurately measure the intended concept. Still, the internal validity of a survey also depends on the degree to which the findings can serve to identify causal relationships (Bryman, 2001). Hence, internal validity of this research approach was limited because the non-experimental cross-sectional survey design impeded the inference of causal links. The identification of relationships was still possible but internal validity of these findings was low compared to experimental data.

External validity has been defined as “the approximate validity with which we can infer that the presumed causal relationship can be generalized to and across alternate measures or the cause and the effect and across different types of persons, settings and times” (Cook & Campbell, 1979:37), Hence, the aforementioned impediments towards the identification of causal relationships and the limited generalizability of the findings due to the selection of a non-random sample also weakened the survey’s external validity. Nevertheless, as the manipulation of variables was impossible, the application of a cross-sectional survey design was appropriate (see Bryman, 2001).

The results of the survey are reported in the next chapter.

5. Survey Results

This chapter presents the results from the survey. Firstly, the sample consisting of the collected responses is assessed on its representativeness. Secondly, descriptive statistics illustrate the process of SR, companies’ motivations to engage in SR and change processes in companies. Thirdly, inferential statistics are employed to explore whether and how SR catalyzed organizational change or vice versa (or whether there is no relationship between the concepts at all). In a final step information gained from the open-ended survey questions help to add more detail to the process of developing a report, learning processes induced by SR and examples of organizational change in companies.

The results of the conducted analyses are provided as percentages and as mean values (M) with corresponding standard deviations (StD). Mean values are related to a scale from 1 - strongly disagree to 5 - strongly agree per default. In case another scale has been applied this will be mentioned explicitly.

Correlation coefficients are referred to as (r) and the results of significance tests are expressed in probability values ($p < x$), whereas the value for p indicates the probability that a finding is invalid for the sample used in this research project although the respective test has shown a significant result.

5.1 Evaluating the representativeness of the survey participants

The comparison of the contacted companies (N) and companies that actually participated in the survey (n) enabled the assessment of the representativeness of the latter. The comparison was based on information provided by the GRI Disclosure Database for all companies in N: the region of origin and industry membership.

Figure 7 shows the distribution of companies across regions both for all companies contacted (N) and those that participated (n). African companies were underrepresented in the set of respondents although the original sample only contained a small share of African companies (N = 1.17%, n = 0.0%). The amount of Asian companies was similar in both samples (N = 14.56%, n = 16.48%). While European firms were slightly overrepresented among the participants (N = 50.44%, n = 61.54%), Latin American companies were underrepresented (N = 16.42%, n = 7.69%).

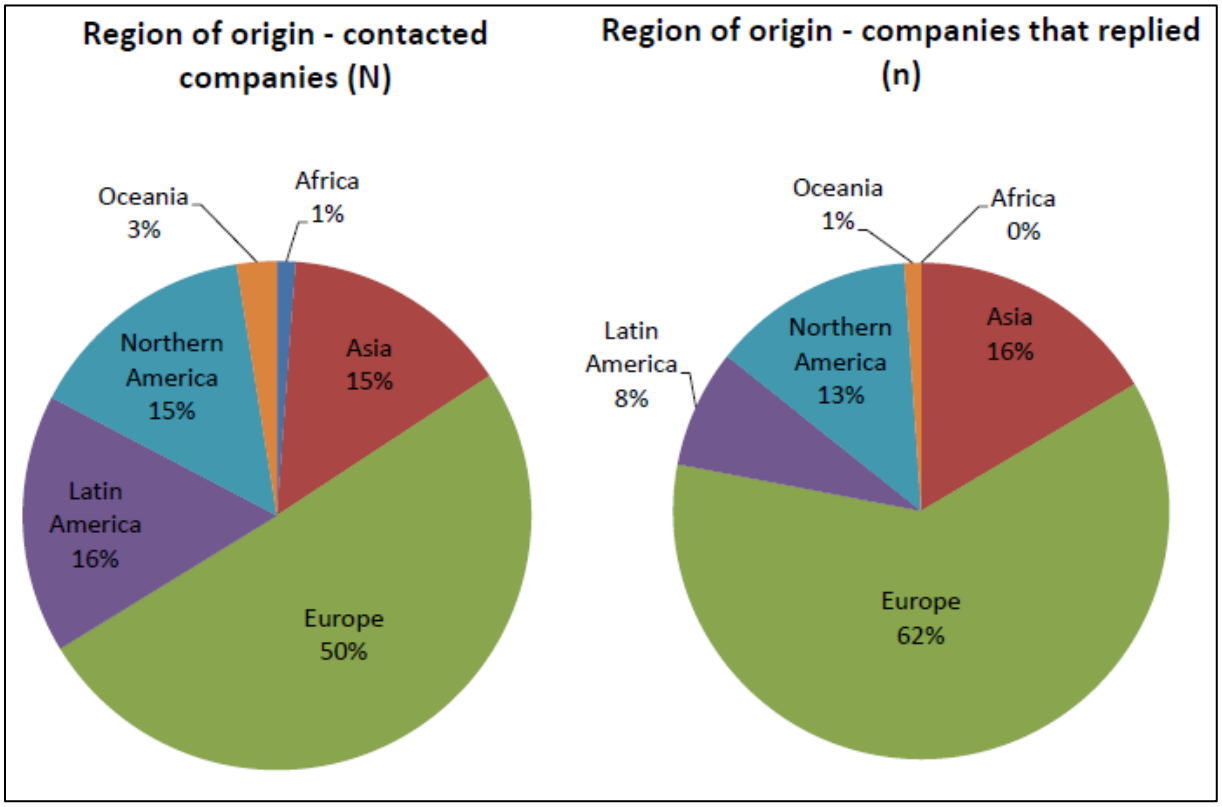

Figure 7: Region of origin of contacted companies (N) and those that replied (n)

The low amount of African and Oceanic companies in n reflected their low share in N. As the response rate was typical for an online survey (8.9%), it was unlikely that much data would be collected from these regions. A light selection bias has to be acknowledged as respondents from less represented regions may have differed from the companies included in the sample.

The regional distributions represent the global developments in SR identified by Kolk (2010) and KPMG (2013). While rates of sustainability disclosure among countries with larger amounts of firms have been particularly high in Europe, America and Asia (Kolk, 2010), SR rates have been comparatively low in Africa and the Middle East (KPMG, 2013).

Concerning industry memberships, the energy and financial sectors represented the biggest groups in N and n (Figure 8). Food and beverages, construction and companies classified as 'other sectors' by

the GRI are also among the sectors with the highest shares in both samples. 'Other' entails sectors that were impossible to include into the industry sectors defined by the GRI (GRI, 2012). Except for the latter sector category the relative proportions of the industry memberships were similar across both samples (industry memberships see also Appendix 5.1).

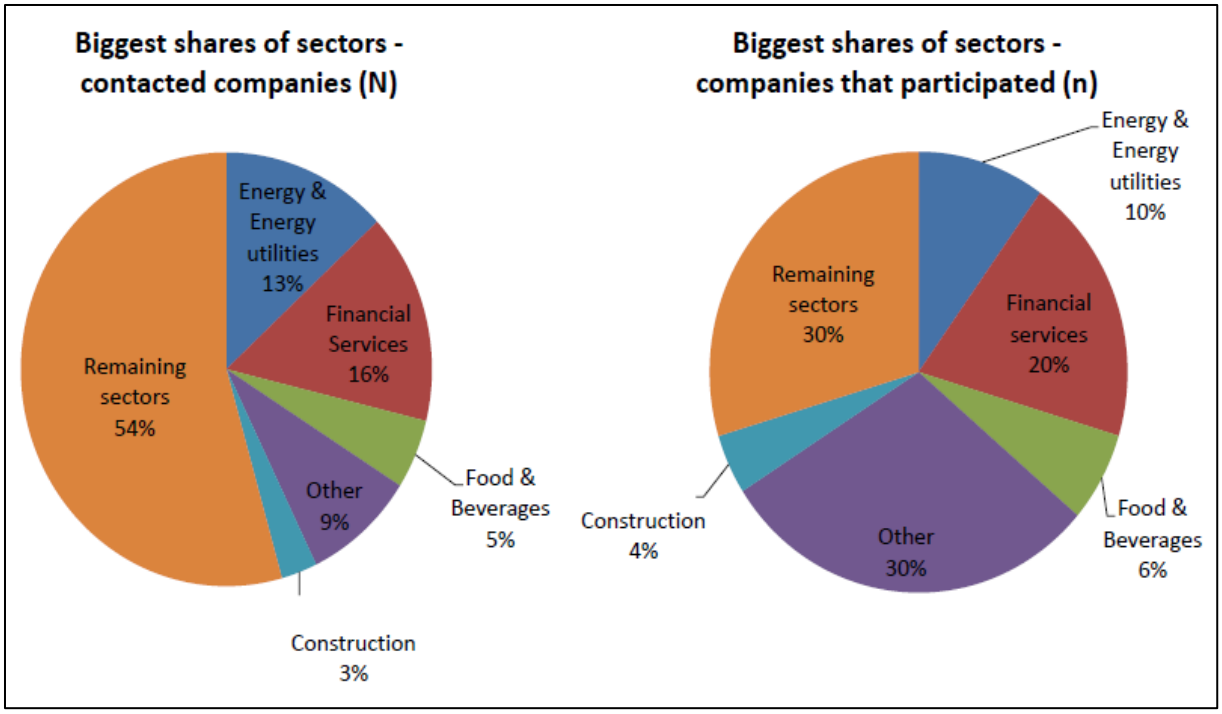

Figure 8: Shares of sectors most represented in the samples

A non-response bias may be caused by companies from sectors which were contacted but refused to complete the survey (e.g. agriculture, railroad). Still, the low shares of these sectors would have had limited influence on the survey results. Thus, the non-response error concerning the industry membership is low. A small selection bias towards the energy and financial services sectors has to be acknowledged. The shares of these sectors represent a trend identified by Kolk (2010): while the energy sector has been a sector with a great environmental and social impact and involved in SR for a long time, the financial sector reflected the increasing involvement of non-industrial and less-polluting sectors in SR. This contrasts the development reported by KPMG (2013) stating that the automotive and telecommunications sectors were among the sectors with the highest reporting rates.

Based on the comparisons between the contacted companies (N) and those that actually participated in the survey (n), it can be assumed that the participants represent the sample drawn from the population. This statement is grounded in the analysis of the externally available sample characteristics, i.e. the regional and sector comparison alone, as company internal decisions and processes remain unknown for the non-respondents. Additional factors were impossible to assess and constitute a limited amount of uncertainty concerning the representativeness of the companies that participated in the survey (n). Still, this analysis helped to refute a severe selection or non-response bias.

5.2 Exploring company characteristics, SR-processes and links between SR and organizational change

This section illustrates the process of SR, companies' motivations to engage in SR and change processes in companies with the help of descriptive statistics.

Most participating companies were large firms with more than 5000 employees (48.4%). Small and medium enterprises[7] (SME) were represented at a low extent (13.2%) (Figure 9). The differences according to industry memberships are illustrated in detail in Annex 5.2.

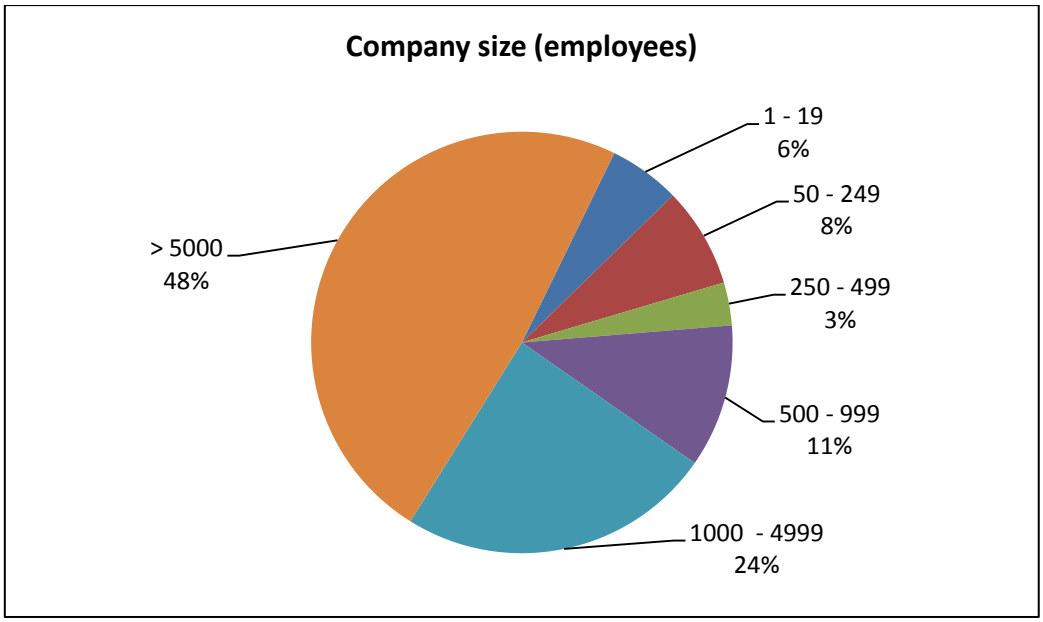

Figure 9: Company size (employees)

As indicated by a mean of M = 3.31 (StD = 0.99), the companies environmental impact as perceived by the respondents[8] was moderate on a scale from 1-5. Thus, most firms' influence on the environment was limited. The social impact (M = 3.72, StD = 0.801) and the economic impact (M = 3.83, StD = 0.903) were considered higher on average, which emphasized companies' role as economic entities with a strong effect on the society in which they are embedded. While the impacts of the automotive (each M = 4; StD = 0) and energy sector (environmental M = 4, StD = 0.707; social M = 4, StD = 0.707; economic M = 4.2, StD = 0.667) were comparatively high, the environmental impact of the financial services sector (M = 2.67, StD = 0.97) was perceived lower, which may reflect the amount of negative externalities produced by these sectors. Stakeholders were reported to be sensitive towards negative effects of unsustainable corporate processes and operations (M = 3.92, StD = 0.922), especially with regard to the commercial services sector (M = 4.5, StD = 0.707), the energy sector (M = 4.22, StD = 0.441), and the mining sector (M = 4.67, StD = 0.577). In these traditionally more polluting sectors the combination of high corporate impacts and stakeholder sensitivity may have fostered the disclosure of sustainability information. A detailed overview over the corporate impacts across all industry membership is presented in Annex 5.3.

The corporate impact (Kolk, 2010), stakeholder sensitivity (Brown & Deegan, 1998), company size (Adams, 2002; Gamerschlag et al., 2011) and sector membership (Frynas, 2010; Kuo et al., 2012; Alonso-Almeida, 2013) can influence a firm's decision to engage in SR. Therefore, these factors were treated as independent variables influencing SR and its relationship with organizational change management. If remarkable influences of these variables have been discovered these results will be addressed explicitly.

[7] Companies with up to 250 employees (CEC, 2003)

[8] Note that the measured company impacts (economic, environmental and social) represent the impact as perceived by the respondents. For improved readability it is referred to as "impact" in the following sections.

5.2.1 Sustainability Reporting

The majority of companies entrusted the Corporate Sustainability department with developing the sustainability report (71%), followed by the departments for environmental affairs (24%), human resources (21%) and public relations (20%). 22% of the respondents stated that additional departments, which were primarily related to corporate communication entities but had been disregarded in the survey question, were involved in SR. These were primarily related to corporate communication entities. The large difference between the CS department and the other units involved in this process showed that in most companies the CS department operated either alone or was linked to a small number of additional departments (Figure 10). Thus, the CS department embodied the central unit for SR in most companies.

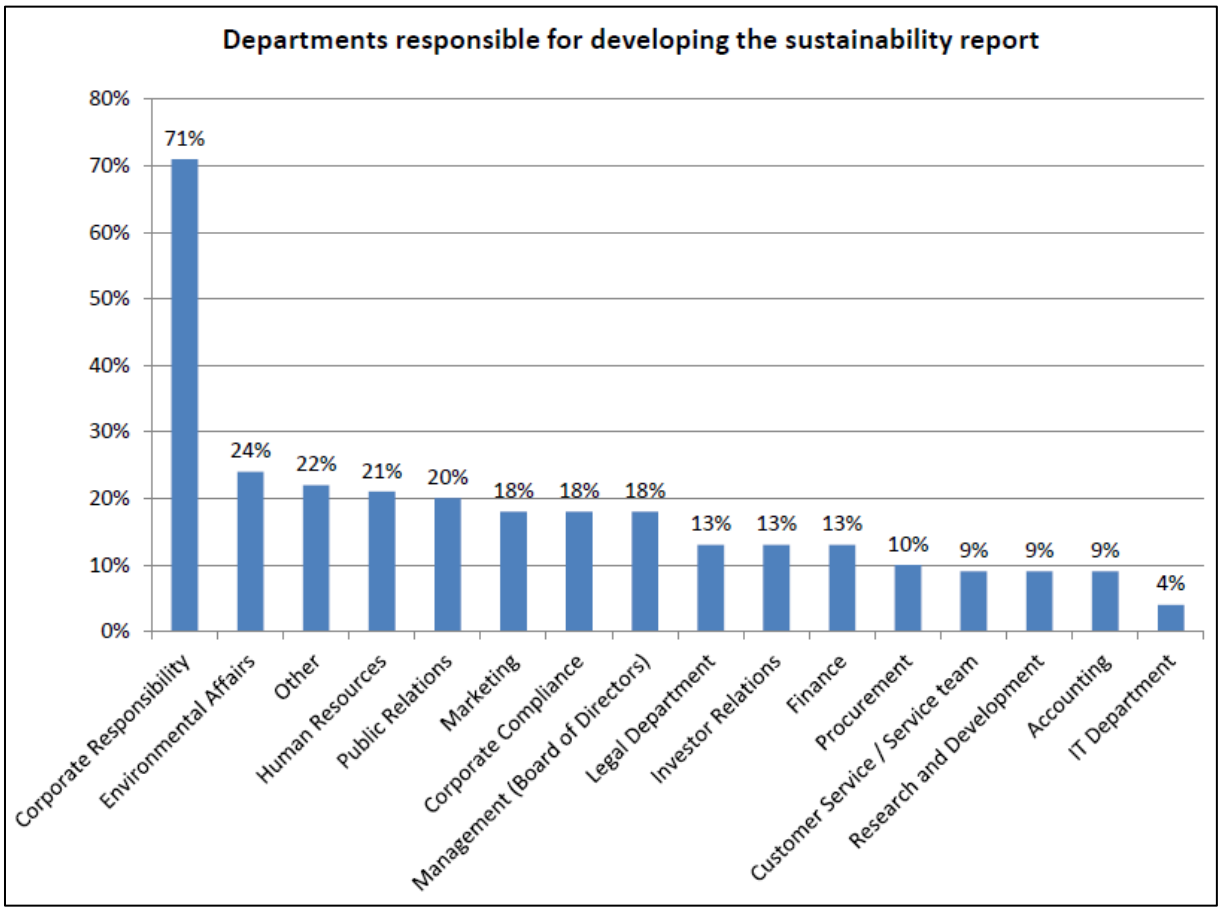

Figure 10: Departments responsible for developing the sustainability report

Various stakeholders influenced the preparation of the report (Figure 11). Company leaders and managers were the most involved actors by far. Customers, shareholders, affiliated companies (e.g. partners), suppliers, NGOs and sector organizations were considered less involved but still important for the development of the report. Direct competitors from the same sector, prospective employees, market entrants and the general public have been referred to as the least important stakeholders in the reporting process.

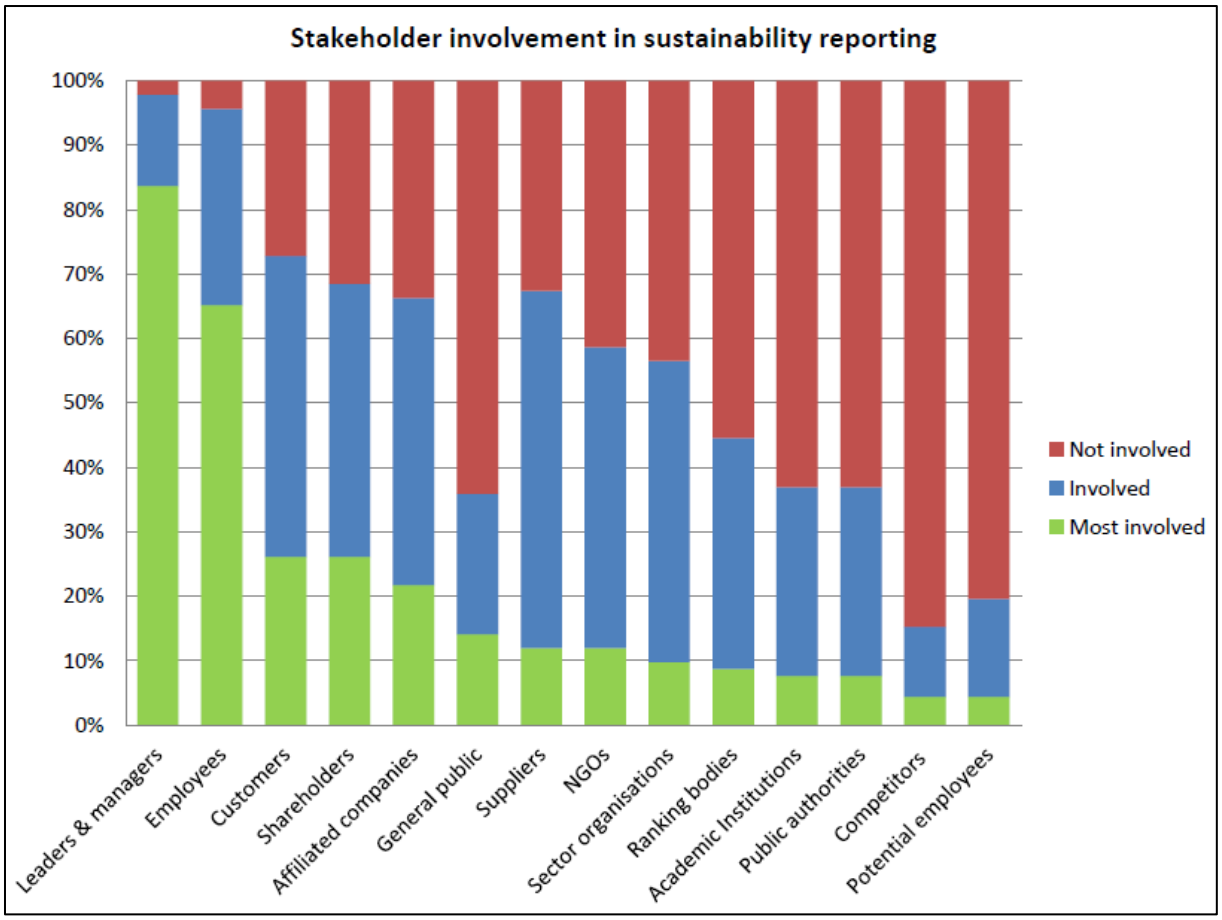

Figure 11: Stakeholder involvement in sustainability reporting

Additionally, the mean rank of a stakeholder indicated its relative importance within the categories of 'most involved', 'involved' and 'not involved' (Table 10). The lower the average rank the more important was the stakeholder within the respective category. Hence, company leaders and managers were perceived most important when they were rated as most involved in the reporting process, while market entrants were perceived the least important stakeholders in this category. Additionally, external actors like shareholders, suppliers, NGOs or competitors from the same sector gained importance when they were placed in the category 'involved' compared to their relevance when considered 'most involved'.

Table 10: Ranking of stakeholders according to importance

Stakeholder	Most involved - Mean Rank	Involved - Mean Rank	Not involved - Mean Rank
Company leaders & managers	1.45	2.46	3.50
Employees	2.20	2.11	3.75
Customers	2.46	2.56	4.48
Shareholders	2.63	2.95	3.76
Affiliated companies (e.g. partners, parent company, subsidiaries)	2.90	3.73	5.32
Suppliers	3.73	2.88	4.53
Non-governmental organizations	4.27	3.63	4.74
Ranking bodies	4.50	3.76	4.78
Sector organizations	4.56	4.37	5.50
General public	5.00	3.95	5.10
Competitors (from the same sector)	5.25	3.40	3.35
Public authorities	5.71	4.26	5.16
Potential employees	5.75	3.79	4.86
Academic Institutions	6.00	4.00	5.79
Market entrants	14.00	4.82	4.39

Taking into account the findings from Figure 11 and Table 10, internal stakeholders in terms of company leaders and employees were the most relevant stakeholders in the reporting process. They may have been considered important because they were directly involved in corporate sustainability activities and were able to provide the data required for preparing the report. Customers and shareholders were also rated important. They may have been, together with NGOs, the primary target audience of the report. Yet, it is surprising that external stakeholders like the general public and public authorities were categorized as two of the least important stakeholders. Since these actors used to grant companies their license to operate and SR has been considered a means to secure this license, the researcher expected these stakeholders to play a more important role in SR.

The involvement of stakeholders from civil society sensitive towards unsustainable corporate behavior may have driven the decision to engage in SR. The following section investigates additional motivations to apply this particular sustainability practice and assesses companies' expectations concerning the application and utility of sustainability reports.

5.2.2 Motivations for publishing a report

The preparation and publication of companies' first sustainability report was primarily driven by internal factors (Figure 12). The point that 57% of the decisions to publish such a report were driven by internal motivations (external pressures may have played a role but were less relevant) showed that SR is a corporate CS activity that primarily depends on the internal commitment to evaluate and communicate the corporate sustainability performance.

Most respondents were still engaged in SR. While 89% of the participants stated that they published a subsequent report, 11% decided to stop SR primarily because they shifted to integrated reporting in the annual company report. Except for a small increase in the importance of external pressure, the reasons to publish subsequent reports were similar to those provided for publishing the first report indicated in Figure 12, which strengthens the finding that SR was primarily driven by internal motivations and shows that these drivers changed to a very limited extent over time.

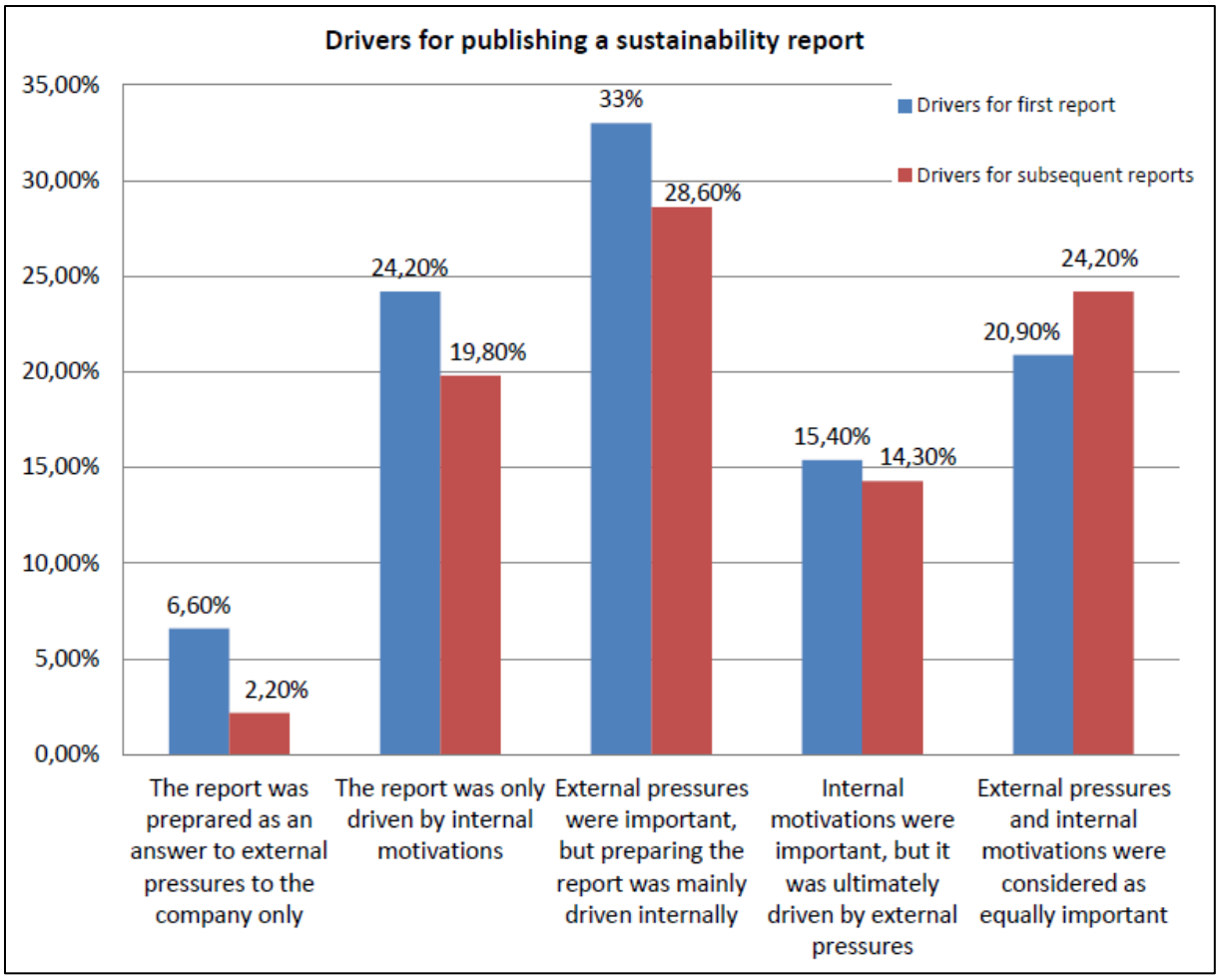

Figure 12: Drivers for publishing a sustainability report

Companies were driven by multiple factors to disclose a sustainability report (Figure 13). The publication of a sustainability report was primarily intended to increase corporate transparency (M = 4.66, StD: 0.542) and to assess firms' sustainability efforts (M = 4.44, StD: 0.562). Thus, the focus has been on accountability and the assessment of sustainability measures. Yet, since the promotion of sustainability efforts (M = 4.25, StD: 0.643), fostering stakeholder dialogues about corporate sustainability (M = 4.19; StD: 0.682) and the improvement of the company's sustainability reputation (M = 4.19. StD: 0.682) were considered important as well, companies also aimed to secure their license to operate by communicating their practices to stakeholders. Fostering organizational change towards sustainability was comparatively less important (M = 4.11, StD: 0.706), which proved that the primary target of SR is to promote sustainability efforts among stakeholders and to gain reputation instead of focusing on change towards more CS first.

The comparison of the intended purposes of SR with the actual role of SR in a company has shown that, in general, the expectations concerning the capabilities of SR to serve a certain purpose have exceeded the extent to which SR was able to meet these expectations (Figure 13). Only in areas in which expectations have been particularly low or the company did not plan for the actual capabilities exceeded the respondents' expectations. This was especially the case for meeting reporting criteria defined by the GRI, which have been considered fairly important (M = 4.05, StD = 0.821), but SR even exceeded the expectations (M = 4.2, StD = 0.891).

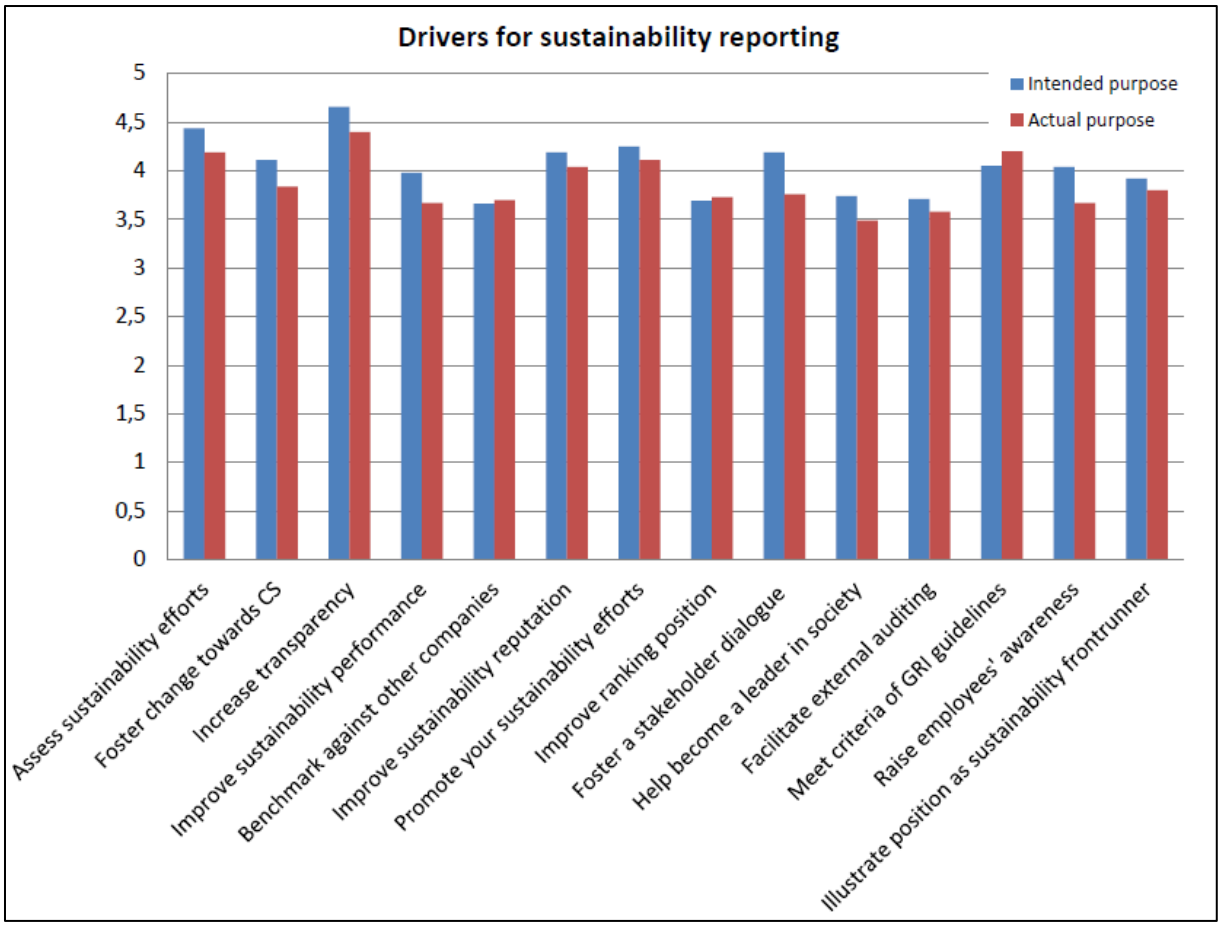

Figure 13: Drivers for sustainability reporting

SR satisfied the expectations towards the purposes listed in Figure 13 at a varying extent across the different sectors (Appendix 5.4). Here, the chemicals sector and the food and beverages sector were especially remarkable. While representatives of the chemicals sector rated SR particularly high in the previously mentioned purposes considered most important[9], the food and beverages sector rated the performance in these areas consistently low[10]. This may be the case because companies from the chemicals sector may have been engaged in SR longer and were more experienced in using the SR for the aforementioned purposes or because reporting in the chemicals sector, often considered as polluting, enabled the companies to communicate better with critical stakeholders and to foster more recognizable changes towards CS than in the food and beverages sector.

The respondents were asked to judge whether SR served to assess and communicate sustainability efforts in the different company elements. The differentiation of these company parts has been based on the categorization of company elements by Porter et al. (1975) and Lozano (2008) introduced in the literature review. These efforts were found to be assessed and communicated particularly well in the management and strategy element (M = 4.18, StD = 0.625) and in operations and production (M = 4.14, StD = 0.659). Efforts in the institutional framework were also found to be assessed and communicated adequately (M = 4.07, StD = 0.727). The procurement and marketing system (M = 3.88, StD = 0.758) and the organizational system (M = 3.85, StD = 0.759) have been covered by the report to a lower extent. These findings showed that CS efforts in the management

[9] Increase transparency (M = 4.75, StD = 0.5), promote sustainability efforts (M = 4.75, StD = 0.5), improve sustainability reputation (M = 4.5, StD = 0.577), foster changes towards sustainability (M = 4.25, StD = 0.957)

[10] Increase transparency (M = 4.0, StD = 0.894), promote sustainability efforts (M = 3.83, StD = 0.408), improve sustainability reputation (M = 3.67, StD = 0.816), foster changes towards sustainability (M = 3.0, StD = 0.864)

and strategy element were well assessed and communicated. This can point to well-defined reporting guidelines for these elements, while the guidelines may be defined less precisely for the other elements. Additionally, changes in corporate strategies (e.g. new emission reductions) may be easier to report than changes in abstract, less feasible problem-solving approaches located in the organizational system. The next sections analyze whether changes that took place in a company may have been influenced by SR or vice versa.

5.2.3 Sustainability reporting and organizational change management

The majority of respondents stated that the department(s) responsible for SR was (were) involved in decision-making processes (78%). Despite the high standard deviation indicating discordance about the degree of involvement across the companies, only 11% of the responsible departments were excluded entirely from decision-making (M = 3.93, StD = 1.104) (Table 11). The involvement of a department in decision-making may influence organizational change processes as the results of the performance analysis could be included more directly in decision-making. Thus, the involvement of the department(s) responsible for SR may have fostered change in 78% of the companies.

Table 11: Involvement of department responsible for SR in decision-making

The department(s) working on the report is (are) involved in internal decision-making processes.			
	Frequency	Percent	Cumulative Percent
Strongly disagree	6	6.6	6.6
Disagree	4	4.4	11.0
Neither agree nor disagree	10	11.0	22.0
Agree	41	45.1	67.0
Strongly agree	30	33.0	100.0
Total	91	100.0	

The high standard deviation reflected differences in the level of involvement across industry sectors. While the departments were involved above average in the computers and technology hardware as well as transport sectors (both M = 5, StD = 0) and commercial services (M = 4.5, StD = 0.707), departments in the chemicals sector (M = 3.25, StD = 1.708), construction (M = 3.5, StD = 1) and healthcare (M = 3.0, StD = 2.082) were less involved. While the former sectors may follow a more inclusive approach towards decision-making, the latter may be based on a more traditional understanding of corporate governance with one central decision-making board or department.

Besides the integration of SR results into decision-making processes to foster change, organizational learning is an important part of organizational change management. This was measured by assessing changes between the first and subsequent reports. The majority of the companies agreed (26%) or strongly agreed (34%) that there have been changes related to the development of a report. These changes imply learning processes induced by SR as they, inter alia, led to improvements in data collection and sustainability awareness (see section 5.2.4).

Figure 14 shows that SR was likely to facilitate change in companies (94.5%). These minor (30.8%) or major (26.4%) changes primarily took place in parts of the company. Minor (20.4%) or major (16.5%) changes in the whole company were induced by SR at a lower extent. Since only 5.5% of the respondents negated such an effect, SR can be considered to have a positive impact on organizational change processes. Yet, the capability of SR to facilitate change has been limited to parts of the company.

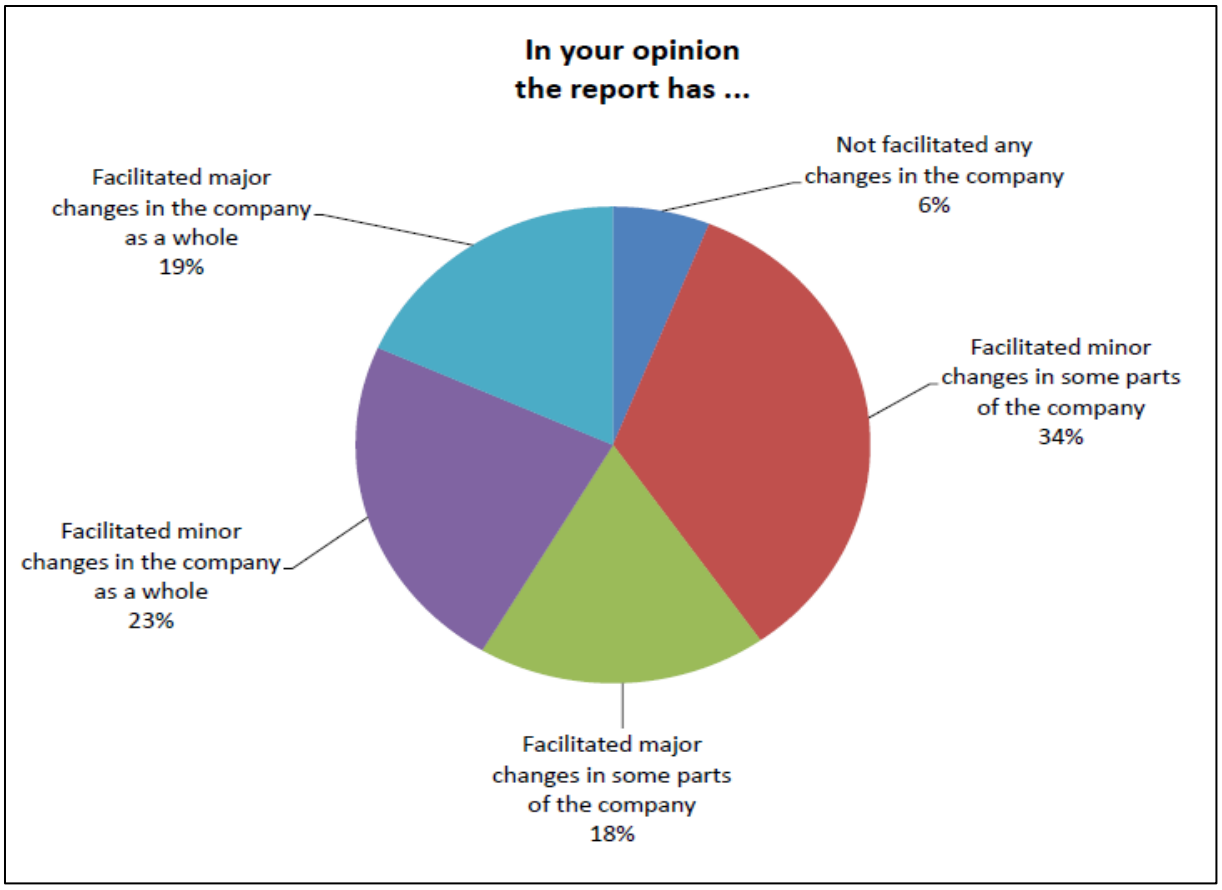

Figure 14: Facilitation of change by SR

In case SR has not facilitated any changes, the respective company either decided to neglect SR due to the absence of CS activities in general, reporting was perceived ineffective or the impacts of SR have remained unexplored to date. Still, respondents who negated changes facilitated by SR identified a potential of SR to drive changes in the company.

Changes induced by SR were not only of technical nature, e.g. re-thinking of production patterns or sustainability assessment practices, but SR also played a role in changing the corporate culture and employee behavior towards a stronger consideration of sustainability aspects. While only 11% of the companies referred to SR as having no influence on the corporate culture, 52.7% identified a minor and 30.8% a major influence. This resulted in a mean value of M = 2.21 (StD = 0.635) on a scale from 1 (no influence) to 3 (major influence). SR also had a minor influence on the employees to act more sustainably on average (M = 2.06; StD = 0.561). These changes in the corporate culture and employee behavior point to the incorporation of a 'new' sustainability-oriented corporate culture and the development of sustainability strategies based on aligned sustainability learning throughout the company. Yet, differences across sectors indicate that the openness to changes in attitudes and the incorporation of sustainability ideas may be particularly strong in the energy sector (M = 2.22, StD = 0.577), as SR had a comparatively high influence on corporate culture. This was contrasted by lower influences in the food and beverages sector (M = 1.83, StD = 0.753). The same finding may be valid for employees' reactions to SR, as SR was found to have a strong impact in the transport sector (M = 5, StD = 0), but a weaker impact in the food & beverages sector (M = 1.67, StD = 0.516). An overview over the influence of SR on the corporate culture and employee behavior across sectors is included in Appendix 5.5.

5.2.4 Exploring relationships between sustainability reporting and organizational change management

Departing from the descriptive analyses in sections 5.2.2 and 5.2.3, this section is based on the calculation of inferential statistics, which allow identifying relationships between the described variables. The analyses help to explore the relationship between organizational change and SR in more detail.

Company size was irrelevant as factor influencing companies' environmental and social impacts as perceived by the respondents. Yet, as can be seen from the significant positive correlation between company size and economic impact ($r = 0.261$, $p < 0.013$), companies economic impact increased with size, as large companies tend to naturally have a large financial turnover. Additionally, the related social impact ($r = 0.438$, $p < 0.001$) showed that companies' economic impact also affected society. This is naturally the case due to business' role in value creation and employer. Still, the correlation between environmental and social impacts ($r = 0.215$, $p < 0.042$) emphasized that the greater the companies' negative externalities were, the more negatively they affected the society. This may explain the generally high sensitivity of stakeholders towards negative effects of unsustainable corporate behavior ($M = 3.92$, $StD = 0.922$), which has been proven independent from firms' economic, environmental and social impact as well as from company size.

The correlation between the reasons for publishing the first and subsequent reports ($r = 0.653$, $p < 0.001$) supports the finding from section 5.2.2 that motivations for sustainability disclosures have barely changed between two reports. Only in the energy (40%) and financial sector (60%) more reports have been driven by external pressure, which may have been caused by a demand for transparency and accountability in traditionally polluting sectors (energy) or sectors in which trust plays an important role (financial sector) (see also Appendix 5.6). Since 80% of the stakeholders were considered sensitive towards unsustainable behavior regardless of whether reporting was primarily driven internally or externally, these actors may be considered a factor of external pressure but not as a necessary condition for SR in companies.

The relations between drivers underlying SR were explored by analyzing the correlations between them. In the following the strongest relationships are elaborated upon, for the entire list of correlations please see Appendix 5.7. The findings indicated that the intention to foster change was closely linked to improvements in the sustainability performance ($r = 0.529$, $p < 0.001$) and sustainability reputation ($r = 0.441$, $p < 0.001$). The different strength of the correlations shows that SR-related change was primarily intended to enhance CS. Yet, the strong link between the promotion of sustainability efforts and reputational gains ($r = 0.667$, $p < 0.001$) indicated that these changes may also be used for reputational improvements at the same time. This finding was supported by the strong correlation between reputation and the objective to improve a company's ranking position in sustainability assessments ($r = 0.561$, $p < 0.001$). However, the desire to improve the ranking position was also closely related to the intention of becoming a societal leader ($r = 0.548$, $p < 0.001$), which in turn correlated with the objective to illustrate the company's position as a sustainability frontrunner ($r = 0.535$, $p < 0.001$). These objectives may either indicate the desire for mere reputational gains or the will to lead by example to push other industries towards intensifying CS efforts. These findings and the overview over all intended purposes covered by the survey in Appendix 5.7 emphasize that the majority of intended SR purposes was actually interrelated. Thus, companies' disclosures may be based on one single intention, but the majority pursued various goals simultaneously.

The analysis of correlations between the actual role of SR and the intentions underlying the disclosure of sustainability information respectively showed that all relationships were imperfect ($r < 1$). Hence, the intentions exceeded the actual capabilities of SR to play a particular role, which supported the findings presented in section 5.2.2. Yet, the correlations between the intended and actual role of SR in improving transparency ($r = 0.546$, $p < 0.001$), assessing the company's sustainability efforts ($r = 0.469$, $p < 0.001$), promoting sustainability efforts ($r = 0.597$, $p < 0.001$),

improving the company's reputation (r = 0.545, p < 0.001) and fostering change towards sustainability (r = 0.458, p < 0.001) indicated that the intended purpose has not been met entirely, but still fulfilled at a high extent. By contrast, although fostering a stakeholder dialogue with the help of SR was considered important by the respondents (M = 4.19, StD = 0.682), the comparatively low correlation of r = 0.345 (p < 0.001) shows that the companies were unable to achieve this goal as satisfyingly as for the aforementioned elements. This finding is supported by the comparatively low mean indicating the extent to which SR has facilitated a stakeholder dialogue in reality (M = 3.76, StD = 0.807). Thus, expectations about the capabilities of SR to serve a particular purpose were higher than the actual purpose SR was able to serve. Meeting the GRI criteria was an exception, as in this case reality exceeded the expectations (as indicated in section 5.2.2). The moderate correlation (r = 0.347, p < 0.001) between these items emphasizes the difference between expectations and the actual role of SR.

Table 12 provides an overview over the intentions underlying SR covered in the survey, the degree to which SR allowed to meet these goals and the correlation between intended and actual purpose of SR. The comparison of means shows the difference between the respondents' expectations and reality, i.e. the higher the value, the more the expectations exceeded the actual capability of SR to serve a particular purpose in the companies.

Table 12: Intended and actual purpose of SR

Item: The report should/has allowed to …	**Mean & Standard Deviation**		**Comparison of means (M1-M2=x)**	**Correlation (p < 0,001)**
	Should (M1)	**Has allowed (M2)**		
Increase the transparency of your company's sustainability performance	M = 4.66 StD = 0.542	M = 4.4 StD = 0.648	0.26	0.546
Assess your company's sustainability efforts	M = 4.44 StD = 0.562	M = 4.19 StD = 0.613	0.25	0.469
Promote your sustainability efforts	M = 4.25 StD = 0.643	M = 4.11 StD = 0. 737	0.14	0.597
Improve your company's sustainability reputation	M = 4.19 StD = 0.682	M = 4.04 StD = 0.815	0.15	0.545
Foster a stakeholder dialogue about corporate sustainability	M = 4.19 StD = 0.682	M = 3.76 StD = 0.807	0.43	0.345
Foster changes towards sustainability in the company	M = 4.11 StD = 0.706	M = 3.84 StD = 0.778	0.27	0.458
Meet criteria defined in the GRI reporting guidelines	M = 4.05 StD = 0.821	M = 4.2 StD = 0.819	-0.15	0.347
Raise employee awareness about required measures to improve the company's performance	M = 4.04 StD = 0.773	M = 3.67 StD = 0.907	0.37	0.512
Improve the company's sustainability performance	M = 3.98 StD = 0.542	M = 3.67 StD = 0.978	0.31	0.475
Illustrate your company's position as a sustainability frontrunner	M = 3.92 StD = 0.872	M = 3.8 StD = 0.934	0.12	0.568
Help your company become a leader in society	M = 3.74 StD = 0.892	M = 3.49 StD =0.947	0.25	0.629
Facilitate external auditing of your company's sustainability efforts	M = 3.71 StD = 0.992	M = 3.58 StD = 1.065	0.13	0.759
Improve your company's ranking position	M = 3.69 StD = 0.878	M = 3.73 StD = 0.92	-0.04	0.623
Benchmark own performance against other companies	M = 3.66 StD = 0.991	M = 3.7 StD = 0.949	-0.04	0.447

The aforementioned findings supported the insights gained in section 5.2.2 showing that SR was primarily induced by company internal drivers. The aim was to increase accountability and transparency, to induce organizational changes and to gain reputation in society. Still, expectations towards SR were met only partially.

Similar to the analysis of correlations between intended purposes of SR, correlations have been analyzed between the item "The sustainability report has allowed fostering change towards sustainability in the company" and other roles a report played in a firm. The strongest correlations are addressed in the following, for a complete list refer to Appendix 5.7. The changes fostered by SR were closely related to improvements in the sustainability performance ($r = 0.73$, $p < 0.001$). This shows that measures induced by SR actually contributed to the enhancement of CS activities. As can be seen from the strong correlation between fostered changes and the promotion of sustainability efforts ($r = 0.555$, $p < 0.001$), improvements in the ranking position of companies ($r= 0.541$, $p < 0.001$) and benchmarking the sustainability performance against other companies ($r = 0.505$, $p < 0.001$), these changes were also used to actively promote CS activities among stakeholders to increase their recognition of the firm as a sustainability company. Additionally, companies used their improved ranking positions to market sustainability and to use their improved competitiveness to push changes in other industries as well. The latter is also reflected in the correlation between fostered changes and the possibility to become a leader in society ($r = 0.489$, $p < 0.001$).

In general, the significant positive correlation between the intention to foster changes by engaging in SR and changes actually fostered by SR ($r = 0.458$, $p < 0.001$) as well as between the intention to foster change and the item measuring whether SR facilitated changes ($r = 0.308$, $p < 0.003$) showed that a relationship between SR and organizational change towards CS exists.

The absence of significant correlations showed that the degree of changes facilitated by SR[11] was independent from the company's size as well as economic, environmental and social impact. Yet, the more involved the department(s) responsible for SR the more change was facilitated by sustainability disclosures ($r = 0.25$, $p < 0.017$). Thus, with these departments involved, decisions for the enhancement of CS activities may be influenced more directly by insights and arguments gained from the process of SR. Stakeholders sensitive towards unsustainable behavior also contributed to changes induced by such disclosures ($r = 0.265$, $p < 0.011$). This implies that stakeholders may pressure companies to improve their performance based on the findings from SR. Thus, lower stakeholder sensitivity was likely to result in minor changes in company parts, while higher sensitivity facilitated greater changes in parts or the company as a whole.

Industry membership, by contrast, had little influence on the facilitation of change by SR. The majority of the sectors reported either minor or major changes in parts of the company, which was in line with the general findings. Exceptions were the constructions sector (50% minor changes in whole company), the food and beverages sector (33% minor changes in whole company), the forest and paper products sector and the mining sector (both 33% major changes in whole company), which reported more changes in the company as a whole than companies from other sectors (see also Appendix 5.8). Both the automotive and transport sector indicated that 100% of the changes facilitated by SR have taken place in the company as a whole. These sectors, however, were represented by only one respondent each, which impeded the representativeness of these results. These findings may imply that the process and results of SR were both particularly well included in decision-making processes and agenda-setting in these sectors or that SR induced the consideration of CS in sectors that previously neglected sustainability in general.

Regional differences showed that SR facilitated changes in all Northern American companies represented by the respective participants, which took primarily place in parts of the company

[11] Changes ranging from minor changes in parts of the company to major changes in the company as a whole

(41.7% of minor and major changes respectively). The majority of Latin American companies also reported changes in company parts (14% minor changes, 42.9% major changes), but 28.6% stated that changes took place in the company as a whole. Changes in Europe and Asia were more diverse and more evenly distributed across all categories (see Appendix 5.9). However, while SR facilitated changes in all American companies, SR failed to facilitate change in 7% of the European firms and 6.7% of the Asian companies. This can imply that SR had a stronger effect in American companies because it played a more central role. Yet, it has to be acknowledged that the biggest share of companies was European and that the absence of change may have been a matter of statistical probability.

Concerning the assessment and communication of sustainability efforts in companies, a significant correlation was detected only between company size and procurement and marketing ($r = 0.226$, $p < 0.031$), i.e. the bigger the company the better the report assessed and communicated the efforts in this particular company element. This may be based on a greater visibility of the company which may foster higher public attention to sustainability marketing efforts and procurement patterns or because marketing and procurement gain importance with increasing size. The strong correlations with the company elements of management and strategy ($r = 0.448$, $p <0.001$) and the organizational system ($r = 0.427$, $p < 0.001$) indicate the influence of assessing and communicating sustainability efforts taking place in particular company elements on the amount of change fostered by SR. Additionally, assessment and communication of sustainability efforts in the institutional framework ($r = 0.437$, $p < 0.001$) and management and strategy ($r = 0.541$, $p < 0.001$) was positively correlated with improvements in the companies' sustainability performance (see also Appendix 5.10). Assessing and reporting efforts in these parts may have a great effect as they entail business values, strategies, corporate visions, stakeholder engagement, the corporate culture and change management approaches. Thus, the revision of these elements based on insights from SR may contribute to significant changes as they form the basis for the company's approach to business operations in general.

Considering these results it can be stated that change has taken place in companies, positively influenced by the process of SR. Yet, as almost all items assessing the intentions behind SR were interrelated, it was impossible to state whether SR was primarily intended to foster organizational change or whether SR was implemented because of prospective economic and reputational benefits. Therefore, based on the synthesis of drivers for organizational change and SR provided in Table 6, four new variables measuring the underlying motivations for SR in terms of 'organizational change towards sustainability' and 'marketing and reputational gains' were derived. These variables were computed to assess the intended purpose ("Should change/marketing & reputational gains") and the actual role of SR ("Has allowed change/marketing & reputational gains") respectively. An overview over these new variables and the included items is provided in Table 13.

Table 13: Items included in new variables differentiating intentions underlying SR

Should foster change / Has allowed to foster change towards more CS	**Should marketing & reputational gains / Has allowed marketing & reputational gains**
Items included in the variable	**Items included in the variable**
Assess sustainability efforts	Benchmark performance against other companies
Foster change towards sustainability	Improve sustainability reputation
Improve sustainability performance	Promote sustainability efforts
Increase transparency of sustainability performance	Improve ranking position
Foster a stakeholder dialogue	Meet GRI criteria
Help to become a leader in society	Illustrate position as a sustainability frontrunner
Raise employee awareness about required sustainability measures	

The calculation of Cronbach's alpha for each of these multi-item variables preceded their actual computation and helped to assess the measurement consistency of the respective items integrated into the new variables. Values for Cronbach's alpha higher than $\alpha = 0.7$ indicate a strong internal consistency of an indicator computed of multiple items (Saunders et al., 2007). Since this threshold has been exceeded for each newly defined variable (Table 14) and no item would increase the alpha score significantly if it was deleted from the selection, the tests proved that the new variables can be computed.

Table 14: Cronbach's alpha for multi-item variables assessing intentions underlying SR

Variable	Cronbach's alpha
Should foster change	$\alpha = 0.744$
Has allowed to foster change	$\alpha = 0.808$
Should marketing & reputational gains	$\alpha = 0.732$
Has allowed marketing & reputational gains	$\alpha = 0.795$

The calculation of the mean value of the new variables "Should Change" and "Should Marketing & Reputation" as well as a t-test ($t(90) = 4.657$, $p < 0.001$)) showed that the intention to induce changes by reporting ($M = 4.1648$) was considered significantly more important than using the report for marketing purposes and reputational gains ($M = 3.9615$). Yet, a strong significant correlation ($r = 0.661$, $p < 0.001$) between the variables indicated that desire to use the report for promoting a company's sustainability performance increases with a growing desire to foster changes in the firm.

The application of the same test to the variables measuring the actual role of SR showed that the difference between fostered changes ($M = 3.859$) and marketing purposes ($M = 3.930$) was insignificant ($t(90) = -1.607$, $p < 0.112$). Thus, in reality the report provided more reputational gains than actual change towards sustainability although the difference between the variable means is marginal. Again, a strong correlation ($r = 0.738$, $p < 0.001$) indicated a close relationship between marketing purposes and change towards sustainability.

The significant difference between intended changes ($M = 4.165$) and actual changes induced by SR ($M = 3.859$) confirmed the finding that more organizational changes were expected from SR than the practice induced in reality ($t(90) = 3.383$, $P < 0.001$). The absence of a significant difference between intended benefits from marketing ($M = 3.961$) and actual marketing gains ($M = 3.930$) shows that the desire to promote own CS activities by reporting was satisfied ($t(90) = 0.648$, $p < 0.518$).

The significant positive correlation between SR facilitating changes in the company and SR's influence on the corporate culture ($r = 0.419$; $p < 0.001$) as well as the link between changes fostered by SR and the influence of SR on the corporate culture ($r = 0.377$, $p < 0.001$) showed that great changes in the corporate culture require major changes in the company. This finding indicates that corporate culture is embedded in the whole company and is unlikely to be changed by efforts focusing on a single department or group within the firm. Long-lasting cultural changes require aligned efforts throughout the entire company. Yet, the minor influence of SR showed that its ability to foster efforts in this regard has been limited. Since corporate culture has been embedded in the entire company, the limited impact of SR may be traced back to SR's influence on change mostly limited to parts of the company. A strong influence on culture might require changes in the company as a whole.

As can be seen from the finding that SR's influence on corporate culture correlates with SR's influence on employee behavior ($r = 0.581$, $p < 0.001$), the stronger its influence was on the corporate culture, the more it influenced the company staff's behavior. This link indicates that the

behavior of employees is embedded in the corporate culture and changes within the latter directly influence the former. Additionally, SR's influence on employee behavior significantly correlated with changes fostered due to engagement in SR ($r = 0.396$, $p < 0.001$) and the degree of change facilitated by SR in the company ($r = 0.219$, $p < 0.042$). This pattern is similar to the influence of SR on the corporate culture. SR had a minor influence on employee behavior on average, but the bigger the changes induced by SR, the stronger grew the influence on the company staff's behavior. Thus, it can be assumed that long-lasting change in employee behavior requires great efforts, similar to changes in corporate culture, which take place in the company as a whole based on aligned learning at individual, group and organizational level. Still, if changes occur in some parts of the company, they may also have a minor influence on employee behavior although alterations will be limited to particular groups or departments.

5.2.5 Supplementary insights into SR and OCM based on qualitative analysis

This section elaborates upon the findings from qualitative analyses based on the GT-method to complement the quantitative results.

Process of data collection and analysis for sustainability reporting

While 73 companies have provided insights about the process of data collection for SR in their company, 18 companies refused to do so because of confidentiality issues. As indicated in section 5.2.1, the data collection was executed by previously identified key personnel. All relevant business units were asked to submit data for the calculation of KPI based on the GRI guidelines or custom designed measurement concepts to an online database or to complete pre-defined forms.

The majority of the companies conducted the subsequent data aggregation, data analysis and verification internally. The results of the analyses were subsequently compared internally with CS performance data from previous years. The costs for the entire process varied to a great extent: while the majority of companies invested between 5,000-50,000 Euro, other companies faced costs of up to 500,000 Euro.

Challenges inherent to sustainability reporting

SR imposed challenges concerning the technical organization of the reporting process and internal commitment to SR. Most companies (51) indicated technical challenges concerning data collection in decentralized companies and the measurement of abstract sustainability concepts (e.g. corporate social impact). The time-consuming process of developing a consistent report and the satisfaction of the extensive GRI criteria imposed difficulties to the companies. Additionally, 40 companies mentioned a lack of reporting culture and commitment to SR in particular as impediments to SR-processes.

Strategies to overcome SR challenges

Strategies to solve these problems primarily aimed at the improvements of internal communication patterns and the development of appropriate reporting strategies. Advancing to the next generation of GRI guidelines (GRI G4) and the focus on material indicators relevant for the company instead of applying the criteria defined in official guidelines indicated a general discontent with current guidelines as they were considered too extensive. The consideration of resource constraints in the reporting strategy, the development of standardized reporting procedures and manuals for unexperienced employees to provide the required information and improved communication were common strategies to solve the aforementioned issues.

Organizational learning and organizational change management

As already indicated by the problem solving strategies and the variables assessing changes in the reporting process, internal learning processes took place. Increased commitment and staff involvement (22 companies) and collaboration between departments (25 companies) were considered pre-conditions for improving data collection and content development. Hence, this

collaboration resulted in alignment concerning the SR-process throughout the company, which may in turn lead to altered organizational attitudes. As SR was considered a management tool to improve the corporate performance, respondents understood the report as leverage for change towards more CS.

These learning processes were reflected in the respondents' recommendations to other companies to develop the report internally to enhance control and reporting expertise. A firm's first disclosure was recommended to be limited to material indicators based on the respective sector's best practice examples. The resulting product can be progressively improved and aligned with the more extensive GRI guidelines.

SR has positively influenced learning processes that potentially contributed to alignment in individuals' and groups' attitudes and thereby fostered organizational learning. Organizational learning in turn may have transposed into organizational change.

Organizational changes in the reporting process took place in terms of a more systematic approach to data collection, a focus on materiality, consistency between the sustainability strategy and report content, enhanced stakeholder involvement and the integration of all sustainability dimensions into reporting (37 companies). The latter may indicate the application of a more holistic sustainability perspective. Progress in developing new reporting objectives indicated a stronger commitment to CS and SR as well as increasing reporting expertise. The majority of these changes can be classified as minor changes in parts of the company, which is in line with the findings in section 5.2.3. Yet, changes like more systematic approaches to data collection can be referred to as major changes as they were implemented throughout the whole company.

Organizational changes beyond the SR-process itself primarily resulted in adjustments in the strategy, increased sustainability awareness and more pro-active sustainability approaches. Increased CS awareness and knowledge were reported to be fostered by SR and to in turn drive company internal changes (26 companies). Without this alignment interpretations of CS would have diverged and would have caused conflicts about the definition of a common strategy. The integration of CS into the corporate strategy and mission was ensured by long-term target definitions (39 companies), which indicated efforts to align corporate actions throughout the company. Another result of organizational learning was a stronger focus on sustainability in more traditional business practices (e.g. procurement, production) and the implementation of sustainability guidelines (23 companies). CS was incorporated into the companies' business case (18 companies). Additionally, SR fostered recycling, energy conservation and more conscious resource use in offices (29 companies).

Thus, SR helped to foster sustainability measures in business activities but also in behavior at individual employee, group and organizational level. These measures were reported to increase corporate accountability and transparency, which in turn resulted in greater credibility and trust into corporations in civil society and ensured the 'social license to operate' (30 respondents). Hence, SR had both internal effects with regard to organizational changes but also concerning the relationship with external stakeholders.

Brief summary of results

The sample primarily consisted of large (>5000 employees) European companies. The respondents considered their companies' sustainability impact to be moderate in all three dimensions (economic, environmental, social). Yet, the stakeholders have been perceived to be sensitive towards negative externalities of unsustainable corporate activities. The process of data collection and analysis during the development stages of a sustainability report was conducted internally by the majority of the companies. External consultants were entrusted with this task in only one third of the firms. The respondents reported that SR imposed challenges concerning the technical organization of the reporting process and internal commitment to SR in general. These problems were mitigated by

improved internal communication and the development of sophisticated reporting strategies. Employees and executives were referred to as the most involved stakeholders in this sustainability practice. Thus, internal stakeholders have been considered more important than external stakeholders.

SR was primarily driven by the intention to foster change towards more CS. Yet, the expectations concerning the results of SR and the role it should play in business exceeded SR's capabilities to meet these expectations in reality. Nevertheless, SR induced organizational learning processes and fostered changes within the companies. Based on increased sustainability awareness and knowledge and better insights into the companies' performance, the corporate mission, vision and values have been more aligned with CS targets, which have been incorporated in the business strategy. Changes in the corporate culture and employee behavior made employees become more active in contributing to CS on an every-day basis. The pro-active approaches reflected the integration of sustainability aspects into the daily processes in company offices and the development of long-term strategies to improve the performance of the company as a whole.

The next section will elaborate on the implications of these findings, serve to provide explicit answers to the research questions developed in chapter 1.2, derive an explanatory model of the relationship between SR and organizational change based on the insights gained in this chapter and offer recommendations for the future use of SR in companies as well as for future research.

6. Discussion

The explanatory analysis of the concept of SR and its relationship with OCM yielded insights into different aspects of the processes underlying and linking these concepts. The investigation of SR based on a sample consisting of companies listed in the GRI Disclosure Database depicted SR as a catalyst for organizational change towards CS. The process of disclosing sustainability information was proven to increase sustainability awareness and knowledge throughout companies and to induce organizational learning at individual, group and company level, which culminated in stronger corporate commitment to CS and a positive influence on organizational change processes towards a more desirable sustainability oriented state.

Departing from these findings, this chapter sets out to integrate the overall results to answer the research questions defined in section 1.2. Section 6.1 provides propositions about factors influencing companies' decisions to engage in SR and roles of SR in companies to thereby answer sub-research question 1. Section 6.2 integrates findings concerning relationships between SR and organizational change and thereby answers sub-research question 2, which asked whether one of the concepts is influenced by the other. Section 6.3 addresses sub-research question 3 asking for lessons learned from challenges and opportunities faced by companies when developing a sustainability report and possibilities to improve SR in companies based on these insights. These sections ground the results in the literature review and expand on already existing knowledge, which allows to integrate the results into an explanatory model illustrating relationships between the phenomena of interest in section 6.4 and to thereby answer the main research question aiming at the exploration of possible links between the processes of SR and organizational change management for corporate sustainability.

6.1 Factors influencing companies' decision to engage in sustainability reporting and roles of SR in companies

The decision to develop and publish sustainability reports was primarily internally driven. Although external factors gained importance in between publishing a primary and subsequent reports the main reasons for sustainability disclosures changed to a limited extent. In contrast to Frynas (2010), Gamerschlag et al. (2011) and Alonso-Almeida et al. (2013) factors like company size, industry membership and perceived corporate impact (economic, environmental, social) played a minor role

in a firm's decision to start SR. Yet, as the majority of companies engaged in SR represented in this sample employed more than 5000 employees, the absence of SME may be an indicator for a general reluctance towards SR by smaller companies. Comparably higher marginal costs and the inability to assign employees solely to SR due to their already limited capacities and resources may be a reason hindering SME to disclose sustainability practices (Hahn & Kühnen, 2013).

The process of SR has been underexplored. Only Lozano et al. (2013) illustrated the stages of data collection and analysis entailed in disclosing a sustainability report by documenting their preparation of such a report for a Higher Education Institution. As addressed in section 2.2, the process requires the selection of indicators, the identification of data sources and subsequent data collection, the population of the respective indicators and the assessment of performance values. The findings presented in section 5.2.5 showed that the process of preparing a report in companies was similar to that in a HEI by following the same logic.

Stakeholders have possibly pressured companies to act more sustainably based on the findings of the sustainability report. Different involved stakeholders may have influenced the process of developing sustainability disclosures. However, the companies' focus was on internal stakeholders (company leaders and managers, employees), which presumably were responsible for developing the report content and providing the required data. Contrary to Adams & McNicholas' (2007) findings, external stakeholders like NGOs, sector organizations, the general public and public authorities were considered less involved. These actors may have constituted the corporations' target audience and were therefore perceived important but were not directly involved in the development of the report. Empirical research has supported this finding indicating that companies have hardly involved stakeholders in decision-making about a report's content, which may have negatively influenced the perceived relevance of the disclosed information among the audience (Perrini, 2006; Manetti, 2011). While Onkila (2011) assumed a lack of knowledge among companies about how to include particular stakeholders into the reporting process, Habisch et al. (2011) reported a gap between the perceived importance of stakeholder dialogues indicated in academic research and corporate practice. Although stakeholders might have been excluded from content development procedures, the findings at hand show that the majority of companies aimed for an intensification of a stakeholder dialogue about CS via SR, which refuted this assumption. Thus, in line with Kolk (2010), it can be assumed that the disclosure of corporate information and the consideration of particular stakeholder pressures were considered useful by firms to influence these stakeholders' decision-making and behavior towards the company.

This practice was considered a priority of SR and aimed, inter alia, at the legitimization of corporate activities towards stakeholders to ensure a company's social license to operate and to attract external investors. Therefore, in line with Cooper & Owen's (2007) and Hahn & Kühnen's (2013) findings, companies aimed to increase transparency and to reduce the information asymmetry between the company and external actors. This confirmed the companies' intention to promote their sustainability efforts and to improve their sustainability reputation and ranking position to signal a good sustainability performance. As the stakeholders were found to be sensitive towards unsustainable corporate behavior, less well performing companies may have aimed at reducing stakeholder pressure by engaging in SR to reduce legitimacy threats (Hahn & Kühnen, 2013). Hence, stakeholders can be an important factor fostering SR in companies (Brown & Deegan, 1998).

Additionally, the performance of SR with regard to meeting the reporting criteria, the only purpose exceeding the respondents' expectations, pointed to a strong focus on reporting patterns based on the outside-in approach as defined by Herzig & Schaltegger (2006). This implied a focus on meeting information demands defined by external stakeholders to secure a company's social legitimacy. Yet, the fact that meeting these criteria was rated one of the least important roles SR should play in a company rejected this finding. Companies were also rather repulsive towards the guidelines defined by the GRI as they were considered too extensive and to neglect material indicators while demanding

information about aspects irrelevant to the respective company's business. This criticism and importance assigned to fostering change rather than meeting reporting criteria further supported the assumption that companies applied an inside-out perspective (disclosure of excellent performance ensuring legitimacy) rather than merely satisfying information demands by applying an outside-in approach.

However, ambiguity about the intentions underlying SR remained as the majority of the analyzed drivers was proven interrelated but uncertainty prevailed whether SR was primarily intended as a marketing tool based on prospective corporate benefits (Schaltegger & Burritt, 2010) or whether SR was implemented to serve as a sustainability management tool (Christofi et al., 2012; Alonso-Almeida et al., 2013). The tests conducted in section 5.2.4 showed that sustainability changes by improving CS efforts were considered significantly more important than promoting efforts to gain reputation and competitive advantages. Yet, with regard to the actual role of SR, the small difference became insignificant and marketing purposes turned out to exceed actual sustainability measures. Therefore, SR can be assumed to play a double role by evaluating performance and thereby inducing organizational changes on the one hand and promoting these efforts to gain economic benefits on the other hand. The double role of SR seemed inherent to most of the purposes SR served, which prohibited identifying the latter purpose as mere 'greenwashing' of weak sustainability efforts. As civil society has pressured companies to become more sustainable (Starik & Marcus, 2000), those companies making the greatest efforts to meet this demand have been likely to gain competitive advantages through an improved public perception, which in turn fostered the promotion of these efforts to benefit from prospective competitive advantages (Kolk, 2010).

The findings presented in this section answered sub-research question 1. Contrary to previous research assuming corporate characteristics to be important factors influencing the decision to publish a sustainability report, primarily internal drivers like including the assessment of sustainability efforts and transparency influenced this decision. As internal stakeholders were most involved in developing the report, it can be assumed that SR was mainly conducted based on an inside-out perspective aiming to influence external stakeholders' perceptions of the company by disclosing assessments of the CS performance and to thereby ensure the company's license to operate. Thus, SR played a double role by, firstly, serving as a tool to evaluate CS performance and to identify CS shortcomings internally and, secondly, communicating sustainability efforts to stakeholders.

6.2 Relationships between sustainability reporting and organizational change management

The limited body of existing literature has assumed a positive relationship between SR and organizational change management. This finding was confirmed by the thesis at hand. Although the respondents' expectations about fostering changes towards more CS by disclosing sustainability reports exceeded the actual capability of SR to induce such processes, the findings of this study pointed to a catalyzing role of SR in organizational change processes.

Although 23% of minor changes took place in the company as a whole, SR cannot be perceived as the single catalyst for major changes throughout the company. The majority of reports facilitated minor changes only in parts of the company (34%). These findings were similar to the results of Ioannou & Serafeim's (2011) quantitative study, which identified a positive influence of SR on corporate activities targeted at strengthening sustainability efforts.

The problems faced in the process of developing a sustainability report contributed to an emotional 'stir up', which has been considered a pre-condition for organizational change (Adams & McNicholas, 2007). Performance assessments and internal discussions about their results caused discomfort with the situation concerning SR practices and the general CS performance. As indicated by Lewin (1947),

group discussions and learning during problem solving processes contributed to the unfreezing of previous perceptions about the corporate performance and thereby facilitated change processes.

The more involved the department responsible for SR was in the decision-making process, the more change was facilitated, which showed that insights from the reporting process possibly provided strong arguments in decisions about the strategic institutionalization of CS within a company. The inclusion of these departments may have facilitated a more direct consideration of the respective arguments. Additionally, improvements between two consecutive reports and strategies to solve problems inherent to SR illustrated SR's role as a facilitator for organizational learning, which has been considered an important aspect of long-lasting change towards more CS (Diesendorf, 2000; Lozano, 2008). These learning processes facilitated changes in the employees' attitudes, fostered collaboration between departments and increased the commitment of employees to SR. Hence, in line with Lozano (2008), knowledge diffusion and group discussions facilitated learning about the process of SR and, based on the information provided by SR, about sustainability throughout the company. This helped to align attitudes, which in turn enabled organizational change towards CS. Similar to Adams & McNicholas' (2007) findings, organizational learning contributed to the institutionalization of aligned perceptions of a more desirable status quo in the corporate culture and new sustainability strategies. Additionally, resistance to change originating from different interpretations and a general unwillingness to engage in SR were reduced. These processes were consistent with findings by Hedberg & Malmborg (2012), who identified the SR-process to internally serve as a means to diffuse sustainability knowledge and to thereby overcome resistance to organizational changes. Additionally, Doppelt (2009) and Lozano (2013b) recommended the alignment of attitudes and increased communication throughout the company to overcome resistance to change. Commitment to CS and persuasive means employed by key personnel were identified as ethical leadership as demanded by Gill (2002) and Baumgartner (2009) to increase the commitment of executive managers and employees to CS.

Awareness building and knowledge diffusion related to the process of SR also contributed to behavioral changes and changes in the corporate culture. Hedberg & Malmborg (2012) found a more equal consideration of all sustainability dimensions in the corporate strategy and daily business due to the disclosure of sustainability information, which was confirmed by the results in this study. As demanded by Lozano (2008) and Linnenlücke et al. (2009) a more holistic perspective possibly resulted in a less compartmentalized approach to CS. Yet, whether the respondents' understanding of CS actually became less compartmentalized requires further research.

Besides facilitating changes in the corporate strategy by including sustainability in strategic planning and corporate values, increased sustainability awareness translated into behavioral changes among the companies' employees. These findings go beyond findings provided in the prevailing literature. Employees became more active in CS planning and focused on sustainable resource use both in corporate production patterns and their daily work in office spaces. Yet, as respondent #82 stated, "it [was] difficult to establish a causal link between reporting and changes. What reporting has achieved is more awareness and understanding of sustainability issues". SR had a positive impact on organizational change by primarily contributing to increased sustainability knowledge and commitment, which in turn resulted in changes towards more CS.

Hence, sub-research question 2 concerning the relationship between SR and organizational change management can be answered by stating that the concepts are interlinked and mutually influence each other. The aforementioned findings indicated that SR can be a product of change by communicating efforts to stakeholders. Additionally, SR contributed to awareness building and commitment to CS throughout the company based on the continuous evaluation of sustainability performances. This catalyzed discomfort with the status quo and thereby positively influenced organizational change processes to improve identified shortcomings in CS. SR communicated these efforts and simultaneously assessed achieved progress towards CS, which in turn may foster

additional changes. Yet, the decision to engage in SR may have started the entire process, which delineates SR as a catalyst for feedback processes, organizational learning, positively influencing and communicating sustainability changes and facilitating a dialogue about CS. Therefore, in line with Schaltegger & Wagner (2006), SR can be considered both the outcome of change and a catalyst for change itself.

6.3 Lessons learned and how companies can improve SR

This thesis identified similar challenges concerning the process as the reviewed literature. While Lozano et al. (2013) indicated problems related to scattered or compartmentalized data from different departments, participants reported problems concerning data collection caused by the decentralized nature of companies and incomplete data sets retrieved from the respective business units. Respondents referred to difficulties due to a perceived irrelevance of this process in particular departments which originated from limited sustainability knowledge. Similar problems rooted in a lack of commitment to CS in general and SR in particular were reported by Larrinaga-González et al. (2001) and Milne et al. (2009) to inhibit SR.

Complementary to these findings, Lozano et al. (2013) and the respondents to this survey indicated resource constraints to be a challenge inherent to SR. As the report was produced besides the every-day operations in the companies under scrutiny, the creation of new positions assigned to SR and improved planning processes were necessary to increase the reports' quality.

Additionally, confirming the findings by Larrinaga-González et al. (2001) and Adams & McNicholas (2007), companies reported little expertise concerning SR to cause impediments when starting the process of SR. More experienced companies recommended to simply engage in SR by taking into account the sector's best practice example, to publish a first sustainability report and to improve the quality of the report over time. In a similar manner, O'Reilly et al. (2000) and Adams & McNicholas (2007) suggested stakeholder and expert consultations and focusing on best practice examples to overcome the initial resistance to SR. Furthermore, companies proficient in SR advised less experienced firms to develop the entire report internally to strengthen learning effects rather than to outsource parts of the process. Aforementioned adjustments of the reporting strategy in terms of taking into account resource constraints, timely data collection, standardized procedures and manuals for inexperienced employees were considered useful measures to improve the reporting process by the respondents, which have been neglected by the prevailing reporting literature to date. Involving a scientific research institution to provide expertise and to improve the reporting process was considered beneficial by Herzig & Schaltegger (2006). However, academic institutions were referred to as unimportant stakeholders in the SR-process by the participants.

This study complemented Lozano et al.'s (2013) findings by providing insights into the progress made in reporting patterns over time. Respondents reported improvements in the quality of disclosing practices over time, a stronger focus on materiality rather than on the criteria defined by the GRI and a more positive perception of SR throughout the company as the importance of the process was communicated and proved beneficial for the overall performance of the company.

This section set out to answer sub-research question 3 focusing on challenges inherent to SR and strategies to overcome these challenges. Comprising the findings, the technical organization and a lack of commitment to SR among employees as well as resource constraints concerning the process of data collection were identified as major challenges inherent to SR. These were overcome by the introduction of new positions responsible for structuring the SR-process, a focus on best practice examples for developing a report and the adaptation of reporting strategies to the constraints originating from a company's characteristics.

6.4 Explanatory model

This section integrates the answers provided to the sub-research questions into one comprehensive product. This product is depicted in the explanatory model (Figure 15) and serves to answer the main research question. Therefore, the findings from the quantitative analysis are combined with the elements most salient to the respondents derived from the delineation of categories based on constant comparative analysis. Hence, the explanatory model visualizes the reported and discussed findings grounded in the data and lit review concerning the relationship between SR and organizational change as well as factors influencing the processes of SR and organizational change respectively. These factors include drivers, barriers to the processes and strategies to overcome these barriers.

The explanatory model relates to Figure 6 in section 2.4, which illustrated the identified knowledge gap. This thesis contributed to reducing the ambiguity concerning the relationship between SR and organizational change as it can be assumed from the findings that the relationship is reciprocal. SR can be outcome of and catalyze the organizational change process. Additionally, the model is related to Figure 2, which illustrated the process of organizational change, to depict the link between both processes under scrutiny.

Both processes are at the core of the explanatory model. As aforementioned, the development and publication of a sustainability report may cause an emotional 'stir up' leading to discomfort with the Status Quo (SQ). This may result in organizational changes to improve the company's sustainability performance. The implemented changes are subsequently evaluated and disclosed in a sustainability report. Since sustainability has been identified as a dynamic state (Lozano, 2011), a continuous process of evaluation and performance improvement is required. Therefore, the evaluation of this More Sustainability Oriented State (MSOS) may become a feedback loop. The results from the assessment, which are subsequently disclosed in the report, may in turn act as CS drivers fostering organizational change. Additionally, the strategies to overcome barriers to SR presented in section 6.3 and those to overcome barriers for organizational change presented in section 2.2.3 can act as leverage to foster organizational change towards CS.

Hence, SR was found to positively influence organizational change and to contribute to the institutionalization of CS in companies as well as to induce knowledge diffusion and organizational learning, which in turn may increase sustainability awareness and foster organizational change. These processes are indicated by the feedback processes leading from the MSOS to the CS drivers.

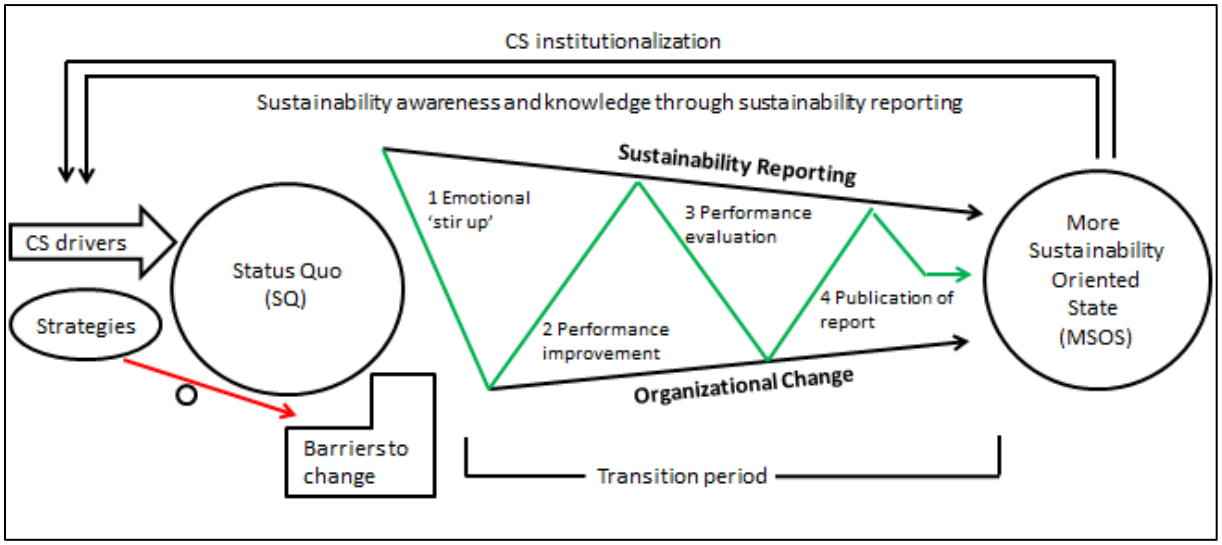

Figure 15: Explanatory model for the relationship between sustainability reporting and organizational change management

6.5 Research limitations

The quantitative dominant mixed methods approach provided the opportunity to gain a general understanding of SR and OCM in companies by conducting quantitative analyses and adding further detail to the findings by analyzing qualitative data. The large-n cross-sectional survey approach enabled the researcher to explore attitudes and opinions towards SR and to identify relationships between the variables under scrutiny at organizational level (Creswell, 2014). As shown in section 4, this approach was particularly well suited to explore the concepts of SR and OCM and their relationships. However, the research conducted in this thesis faced some limitations, which are addressed in this section.

The heterogeneous sample and the limited scope of this thesis, i.e. the company sample drawn from the GRI Disclosure Database, impeded the generalizability of the findings. Hence, the researcher was unable to infer the nature of the relationship between SR and OCM for firms that applied reporting guidelines different from those covered in the database. Therefore, the validity of the results was limited to the companies listed by the GRI as having published a sustainability report.

The survey design and structure was grounded in the literature review and covered the respective concepts of interest. In hindsight the role of stakeholders, especially because they have been considered a driver for organizational change (e.g. Frehs, 2003), could have been explored in more detail to allow for a more accurate differentiation between stakeholders involved in the development of the report and those considered as the target audience without being involved in this process. However, questions analyzing such single aspects more in depth were initially excluded from the survey to reduce the time required by respondents to complete the survey and to thereby avoid a high non-response rate.

Additionally, the Likert-scale questions could have employed a 7-point scale instead of a 5-point scale. Especially the results concerning the intended and actual role of SR in a company showed very little variation because respondents considered all of the suggested purposes important. Therefore, the applied scale yielded little differentiation among the respondents and complicated the identification of priorities for sustainability disclosure. As Bryman (2001) considered a 7-point scale to represent the maximum number of categories a respondent can meaningfully differentiate between, this larger scale represents an opportunity to facilitate the process of data analysis. Additionally, a respondent may have selected the possibility to indicate neutrality in a 5-point scale because of being neutral about the statement or agreeing to it in some contexts but disagreeing in another (e.g. interpretation of corporate environmental impact). This ambivalence complicated the interpretation of the scale and the findings (see Bortz & Döring, 2006).

Another limitation to the meaningful interpretation of inferential statistics originated from the composition of the participants in terms of the companies' regional origin and industry membership. While the majority of respondents were located in Europe, the sample of companies that participated in the survey entailed significantly less respondents from America, Asia, Africa and Oceania, which reflected their shares in the sample of contacted companies. As the response rate was typical for an online survey (8.9%), it was unlikely that much data would be collected from these regions and a light selection bias had to be acknowledged. The uneven regional distribution may impose a constraint: as only one responded was from Oceania, but 56 from Europe, unanimous agreement with a statement among European companies may be a stronger indicator for agreement than unanimous confirmation of a statement from Oceanic companies. The same constraint had to be taken into account for analyzing differences across industry memberships. While most companies were from the energy and financial services sectors and 'other' companies, some sectors were represented by only one respondent (e.g. automotive, transport). Hence, results concerning underrepresented regions have to be interpreted with caution.

Nevertheless, taking the aforementioned limitations of this study into account, the findings of the quantitative approach complemented by results from a qualitative analysis allowed to answer the research questions defined in section 1.2. The discussion of these findings against the background of the companies enables the researcher to provide managerial and research recommendations, which are formulated in the concluding chapter.

7. Conclusions

The objective of this thesis was to gain an in-depth understanding of the relationship between the processes of SR and OCM. This aim originated from the prevailing focus in academic research on factors driving a company's decision to develop and publish a sustainability report, barriers inhibiting this process and strategies to overcome these barriers. While the same aspects have been addressed in the literature on organizational change, a lack of detailed research on the relationship between SR and OCM hindered more elaborate theory building concerning a potential link. Thus, as illustrated in Figure 6, the processes of SR and OCM may lead to improvements in a company's sustainability performance, but the prevailing research was unable to state whether there actually is a relationship between SR and OCM and if so, whether this link is one-directional or reciprocal.

Against this background, this thesis set out to contribute to closing the identified knowledge gap by applying a quantitative dominant mixed methods approach. A survey based on a sample of international companies that have published at least one sustainability report served to collect data on the process of SR, factors influencing this process and the potential link between SR and OCM. The obtained data was analyzed by quantitative methods. Descriptive and inferential statistics served to analyze the peculiarities of SR and OCM in companies. The calculation of bi- and multivariate statistics allowed for an overview over the process of SR and its role in OCM towards more CS. Additionally, qualitative analyses based on the method of Grounded Theory focusing on the process of SR, learning processes induced by SR and organizational change fostered by SR complemented the quantitative results. The integration of the results strengthened the power of the overall findings and allowed depicting the role and importance of SR in the corporate context.

The results of the analyses conducted in this thesis allowed to draw conclusions about the relationship between the process of SR and OCM. As illustrated in the explanatory model (Figure 15), the processes can be assumed to be mutually interlinked, while SR can positively influence organizational change towards CS. The preparation and publication of a sustainability report requires the assessment of current sustainability efforts in a company. This process and the discussion of the findings may increase the company executives' and employees' sustainability awareness and may cause discomfort with the status quo. This can in turn induce organizational change towards more CS. These improvements in the CS performance are subsequently evaluated and communicated to stakeholders. Hence, it can be concluded that SR can play a double role in companies. Firstly, SR is the outcome of change processes by reporting about efforts implemented to improve a firm's CS performance and, secondly, the process of SR catalyzes an increase in sustainability knowledge and awareness, which may become leverage for additional changes. Therefore, as illustrated in Figure 15, the relationship between SR and OCM represents a feedback loop concerning sustainability efforts, which entails organizational change management aiming to improve this corporate performance and their assessment and communication by SR.

Based on these findings recommendations on possible improvements in internal reporting processes and the application of SR as an instrument to facilitate change towards CS are provided in the following.

7.1 Managerial recommendations

Drivers and barriers for SR have already been analyzed in great detail by other researchers. The company internal process of SR has been elaborated upon to a limited extent. The managerial

recommendations provided in this section are primarily based on insights into organizational learning processes resulting in OCM, serve to expand on possibilities for companies to improve SR-related processes and to indicate the practical relevance of this project. It has to be acknowledged that the advice provided in the following is based on the researcher's inductively derived impressions from the analysis and may improve SR and OCM, but due to the limited external validity of the conducted research the recommendations may have to be adapted to the specific context of the company of interest.

Recommendations for improving the SR-process

The recommendations are derived from barriers to ST and strategies to overcome them as reported by the respondents. Therefore, they primarily aim to provide strategies to surmount difficulties concerning the process of preparing and publishing a sustainability report and to facilitate data collection processes. A priority is assigned to increasing internal communication and the commitment to SR.

1. Responsibilities for preparing the sustainability report should not be limited to a single department (in case of this project: the CS department). Collaboration between all company departments with regard to SR facilitates a timely access to data that is required for developing the report.
2. Key personnel responsible for providing required data in an aggregated format should be assigned in every department. The use of pre-defined templates or online databases as well as the provision of manuals to the person in charge ensures consistent and accurate data collection.
3. Company-specific resource constraints need to be taken into account. The reporting strategy has to account for resource limitations (staff, time) to arrange activities required for SR with other business operations. This prevents a perceived distraction from 'the actual work' by engaging in the SR-process.
4. Workshops and meetings help to illustrate the importance and benefits of SR, to improve internal communication and alignment with regard to SR and increase commitment to reporting practices.
5. The identification of material issues relevant for the company is important. The GRI reporting guidelines are based on a large amount of indicators, but especially in the early implementation stages the selection of KPI relevant to the specific corporate context facilitates the SR-process. In the course of improving the reporting process the selection of indicators can be expanded and adjusted to the more extensive GRI criteria. This especially applies to smaller companies with limited resources available for SR.
6. A timely decision about the relevance of activities in a particular company element for the sustainability report is important. The analysis showed that assessment and communication of efforts was particularly difficult in some company elements (e.g. the organizational system), while efforts in other elements were reported to particularly well (management and strategy). Depending on the decision additional time should be considered for measuring sustainability in the respective elements.

Recommendations for improving organizational change management for CS

The recommendations provided are based on findings from the analysis of the reporting process and its influence on organizational change. They are aimed at increasing the influence of SR on change processes. The strengthening of sustainability awareness, internal communication and stakeholder dialogues are central elements to be taken into account for catalyzing change efforts.

1. SR should be understood as an opportunity to evaluate a company's sustainability performance, to identify shortcomings, to improve CS activities accordingly and to engage in a stakeholder dialogue rather than a marketing brochure for the company. Economic

benefits and reputational gains from disclosing the results should be considered a positive side-effect.

2. Involve the employees responsible for SR in decision-making processes concerning the corporate sustainability strategy to facilitate the consideration of results from the performance evaluation.
3. Foster organizational learning by implementing working groups based on SR results to spread knowledge throughout the company and to induce attitudinal alignment concerning CS.
4. Internally developed sustainability reports raise involved employees' awareness of sustainability shortcomings and may turn them into ethical leaders promoting CS concepts in the company.
5. The implementation of a SR scheme may foster change by itself. The regular disclosure of sustainability information creates the need to report progress over time, which requires a more active approach to CS and will lead to greater peer pressure towards change by external stakeholders.
6. SR reports can be used to illustrate inter-relationships between all four sustainability dimensions within a company. This may in turn lead to a stronger consideration of these elements in corporate strategies and help to overcome compartmentalized approaches to CS.

7.2 Future research

This thesis provided an explanatory approach to provide insights into a field where limited research has been conducted to date. The research conducted in this project describes the nature of the relationship between SR and OCM based on a large company sample. A positive impact of the former on the latter has been identified but ambiguity remained concerning the non-spuriousness of the established link. The results indicated a great relevance of this issue as SR positively influenced OCM and there is a need to foster change towards CS to contribute to a more sustainable society. It can be assumed that the link between SR and OCM will attract more academic and managerial interest. Therefore, the role of SR and its relationship to SR needs to be analyzed in more detail, which requires overcoming the limitations of this study.

As indicated earlier, the generalizability of this project's findings to all companies active in SR is limited due to the application of a non-random sampling procedure and the focus on companies listed in the GRI Disclosure Database. Generalizability could be improved by a study based on a randomly selected sample drawn from the total amount of companies active in SR regardless of the guideline applied. Yet, it has to be acknowledged that the feasibility of this approach may be limited by difficulties in identifying all companies active in SR. Therefore, the qualitative analysis of the phenomenon, which was used only as a supplementary method in this project, could be expanded. A multi-case study based on interviews conducted with company representatives would allow for more detailed analyses and contribute to formal theory building.

Future research based on a constant comparative analysis approach following the GT-method's logic could lead to adjustments or confirmation of this thesis' substantive findings. Since the majority of companies included in the present sample were actively using SR, the presented results may be biased towards a favorable image of SR and OCM. Therefore, companies inactive in SR represent an interesting unit of analysis for a comparative study evaluating whether change processes similar to those identified in companies active in SR take place and what measures are applied to achieve this progress towards more CS.

Furthermore, future research should concentrate on more specific issues related to the field of interest.

As the anticipation of change has proven beneficial for companies (Freeman, 1984; Lozano, 2013a), it is of interest to what extent SR allows for internally motivated changes, which have been assumed to

provide a great level of control to companies, and to what extent SR has led to change as a reaction to external pressure from stakeholders. This may yield insights into whether SR can be a tool to increase control over changes towards sustainability.

A long-term study of companies that intend to implement SR as a sustainability management tool would allow gaining insights into the role of SR based on a quasi-experiment. A two-staged research approach would in the first step allow for an assessment of sustainability awareness and CS performance in a company before SR is implemented. In a second step, this assessment would be repeated after SR has been implemented and a (or multiple) report has been published. This would enable the analysis of changes induced by SR and facilitate the evaluation of its effects isolated from other factors influencing OCM processes. Thereby, either non-spuriousness of the link could be established or moderating and/or intervening variables identified. Additionally, possible interrelations between the report's content and its influence on the degree and direction of change could be assessed.

The recommendations provide opportunities to explore the different aspects of the relationship between SR and OCM. Thus, the main goal of future research would be to contribute to further closing the identified knowledge gap and to thereby derive additional recommendations to improve the process of SR in companies and facilitate the process of identifying and mitigating sustainability shortcomings in a planned and efficient manner. These improvements in the sustainability performance of companies could in turn help to meet their responsibilities towards the society and environment they are embedded in.

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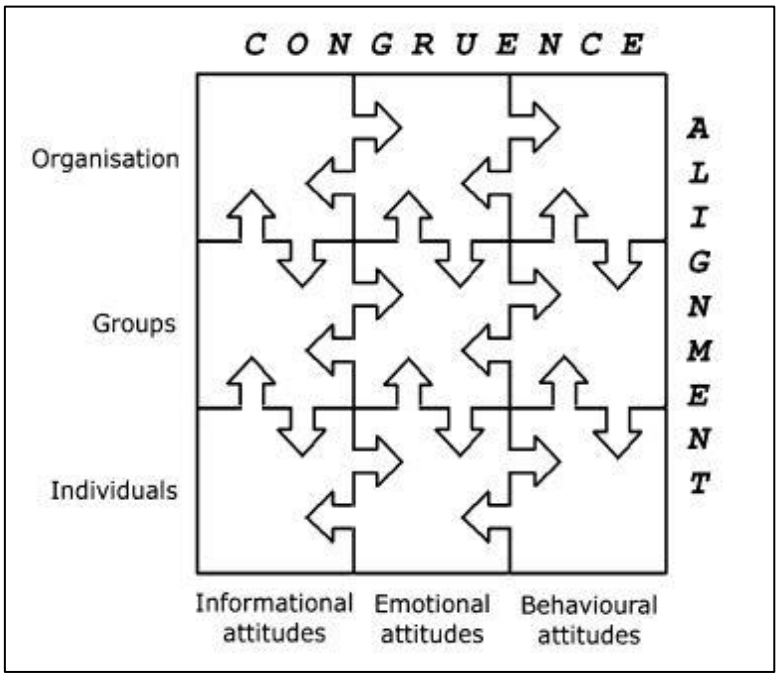
Appendices

Appendix 1: Organizational learning in companies

According to Lozano (2008), changes in attitudes have required learning processes through inter-personal and inter-group interactions, which in turn lead to organizational learning. Continuous organizational learning must be congruent and aligned within and throughout these different levels, or otherwise conflicts can prevent progress in the company. This has applied to sustainability learning, which has implied the holistic consideration of the economic, environmental and social dimension, as to any other kind of learning. Learning at the individual level has entailed the internalization of sustainability and leads from changes in informational attitudes over emotional attitudes to changes in behavioral attitudes. Group level learning has contained two processes: the internalization of sustainability knowledge leading to changes in the groups' informational, emotional and behavioral attitudes and the alignment of individuals' and groups' internalization. Learning at the organizational level has been defined as inter-relating the individuals' and groups' internalization with those of the entire organization. This multidimensionality of learning in companies and the interactions between the three company levels and three attitudes have been summarized in the so-called Multi-dimensional Sustainability Influence Change (MuSIC) memework (Lozano, 2008), which illustrates the three organizational levels and their inter-relations. The MuSIC memework is illustrated in the following figure.



Appendix 2: Drivers for organizational change

The following tables complement the illustration of drivers for organizational change by adding detail to the drivers for organizational change presented in section 2.2.2. The first table addresses external drivers, the second table internal drivers. This table was adapted from findings by Lozano (2013a) and complemented with Cannon (1994), Hart (2000), Frankental (2001), Lantos (2001), Quazi (2001), CEC (2002), Gill (2002), Biscaccianti (2003), Cramer (2003), Dunphy et al. (2003), Frehs (2003), Lyon (2004), Weymes (2004), Oskarsson & von Malmborg (2005), Adams & McNicholas (2007), Doppelt (2009), Ditlev-Simonsen & Midttun (2011).

External drivers for organizational change towards CS
Competitors benchmarking - Competitive pressure stimulating innovation - Demonstrate role as sustainability frontrunner
Corporate and brand reputation - Reputation important force in the market place (competitive advantage) - Reputational gains - Participation in philanthropic programs - Access to sustainability-oriented investment funds
Customer satisfaction - Satisfy demand for ethically sourced goods/services - Philanthropic activities - Consumer information
Markets expectations - Communities expect companies to tackle social and environmental issues - choose actions maximizing community welfare
Future sustainability markets - Sustainable products - Development of technologies for sustainability
Access to markets and customers - Access to markets for values-based goods/services
National government - Strict legislation and compulsory audits
“Polluter pays” - Extra costs for companies with negative environmental and social impact - Share prices could reflect ethical dimensions of a company’s operations
Ease regulatory pressure - Improve relation with regulators - Demonstrate sustainability performance
International treaties - Stimulation of corporate sustainability through regulation instead of market forces
Alliances and partnerships - Knowledge exchange - Informal alliances about driving sustainable goods/services - Partnerships between NGOs and business: advance social causes while achieving competitive advantages for involved business
Political lobbies - Political pressure by NGOs and other lobby groups - Public watchdogs
Limited operational areas
Access natural resources - Good sustainability performance enhances success of bids in competing for natural resources
“License to operate” - Improve relations with regulators - Obtain support from external stakeholders
Generate/restore trust - Establish trust among stakeholders in corporate activities

- Increase transparency
Stakeholder expectations - Incorporation of stakeholder demands into business planning processes
Social legitimacy - Establish good relations with stakeholders - Meet social normative and cultural demands
Raising student awareness
Environmental and social crises

The following table complements the illustration of drivers for organizational change by adding detail to the external drivers presented in section 2.2.2.This table was adapted from findings by Lozano (2013a) and complemented with Cannon (1994), Hart (2000), Frankental (2001), Lantos (2001), Quazi (2001), CEC (2002), Gill (2002), Biscaccianti (2003), Cramer (2003), Dunphy et al. (2003), Frehs (2003), Lyon (2004), Weymes (2004), Oskarsson & von Malmborg (2005), Adams & McNicholas (2007), Doppelt (2009), Ditlev-Simonsen & Midttun (2011).

Internal drivers for organizational change towards CS
Innovation - Implementation of new processes - Develop new business prospects - Enhance competitiveness
Ethics - Moral responsibility - Corporate citizenship
Stakeholder expectations - Improve stakeholder relations - Collaborative dispute resolution - Responsiveness to stakeholder demands
Leadership - Develop and communicate corporate vision, strategy, values - Inform and motivate employees (emotional alignment), empower employees - Lead by example - Use of personal power
Trust - Subscription to shared values
Productivity - Increase in employee morale and motivation leading to higher productivity
Quality - Concern for long-term performance leads to investment in quality products to avoid environmental and social criticism
Pollution prevention - Focus on minimization of waste before it is created; reduction of waste and energy use - Global standards (e.g. ISO 14000) providing guidelines to develop such capabilities
Resources and cost savings - Reduced costs through lower environmental pollution - Minimize financial, social, environmental costs
Risks - Address stakeholder concerns upfront - Better manage risks within a company (business impediments, costs): improve internal processes, intangible assets, relations with stakeholders
Shareholder activism - Responsiveness to shareholder demands
Shareholder value - Ensure long-term shareholder value through core business functions (add economic, social, environmental value)

- Instrumental use of CS from economic perspective
Personal engagement - Commitment of managers to CS - Engagement as role models and raise employee engagement
Attracting and maintaining labor - Recruit and retain loyal high quality employees - Remunerations for skilled employees
Employees' values - Motivate & inform employees - Increase sustainability awareness
Profits and growth - Profit- and/or value maximization through strategic CS - Shift focus from short-term profit to long-term value-maximization - Costs for change outweighed by benefits from corporate sustainability
Culture - Commitment to learn, tolerance of failure, openness to external ideas, continuous improvement
Sustainability reports - disclosure of economic, environmental and social performance
Precautionary principle
Business case

Appendix 3: Barriers to organizational change

This table summarizes barriers to organizational change at the level of the individual. The table has been developed by Lozano (2013b).

Individual's barriers to change	Attitude
Lack of awareness / knowledge	Informational
Unwillingness to change / lack of commitment	Emotional
Lack of trust	Emotional
Denial about operation's effects to the environment and societies	Emotional
Linear thinking	Informational / Emotional
Fear / despair about needed changes and how to deal with them (Losses, costs)	Emotional
Extra work added to day to day activities (time, effort)	Behavioral

The following table gives an overview over company internal barriers to change at organizational level. The barriers are categorized into managerial, organizational, supportive and historical barriers. The table has been developed by Lozano (2013b).

	Organizational barrier to change	Attitude
Managerial	Focus on short-term economic profits	Informational
	Unclear business case	Informational
	Narrow focus of Sustainability, i.e. confusing it with pollution prevention, recycling, waste management, or eco-efficiency	Informational
	Economic assumptions of free goods, i.e. goods that are not yet scarce or valued by the market are free	Informational/ Emotional
	Linear thinking	Informational/ Emotional
	Lack of systems thinking	Emotional
	Patriarchal thinking and structures	Emotional
	Lack of rationale and purpose clarity / unclear benefits	Emotional
	Faith in technological solutions	Emotional
	Lack of management commitment / leadership	Emotional
	Lack of motivation of middle- and lower-level staff	Emotional
	Faith in market solutions	Emotional
	Reticence or fear of transparency and reporting	Emotional
	Insular thinking and acting	Emotional/ Behavioral
	Costs externalization	Behavioral
	Economic focus that disregards or consider environmental and social aspects as costs	Informational/ Emotional/Behavioral
Organizational	Insufficient mechanisms for learning	Informational
	Lack of transdisciplinarity	Emotional/ Behavioral
	Failing to alter cultural traits	Behavioral
	Failure to institutionalize sustainability, i.e. not changing the cultural and mental models	Behavioral
	Organizational structures inhibiting collaboration	Systemic
Supportive	Lack of trained employees (transdisciplinary SD knowledge)	Informational
	Lack of clear vision for sustainability leading to mere compliance with regulation	Emotional
	Lack of communication (need for change, values, strategy, etc.)	Systemic
	Lack of systems, tools and instruments for operationalization, implementation and review of progress	Systemic

	Failure to incorporate Sustainability in core policies and procedures	Systemic
Historical	Unsuccessful incorporation attempts	Behavioral

Appendix 4: Strategies to overcome barriers to change

This table provides an overview over strategies to overcome barriers to change towards CS. The strategies have been categorized into managerial, organizational, supportive and historical barriers. The table has been developed by Lozano (2013b).

	Strategy to overcome barriers to change	**Attitude**
Managerial	Considering future expectations, i.e. internalisation of environmental and social costs	Emotional
	Better work-life balance	Behavioral
	Increase work force diversity	Behavioral
	Equal pay for equal jobs / Rewards / Recognition	Behavioral
	Profit-sharing and share ownership schemes	Behavioral
	Applying expertise	Behavioral
	Changes in governance	Behavioral
	Using power and authority (implicit or explicit coercion)	Behavioral
Organizational	Empowerment of employees (promote power of teams for change, involvement in design of change)	Behavioral
	Collaboration and shared values among individuals, groups and society	Systemic
	Alignment in all key factors, e.g. leadership, vision, attitudes, and the system	Systemic
	Changing attitudes	Systemic
Supportive	Commitment to learn	Informational
	Better communication throughout the company / diffusion of knowledge	Informational
	Educated workers (also company internal education, training)	Informational
	External guidance & stakeholder consultation	Informational
Historical	Job security	Behavioral

Appendix 5: Additional results from quantitative analyses

This appendix includes complementary calculations adding detail to the findings in section 5, which were not presented for reasons of readability and practicability.

Appendix 5.1: Industry memberships in sample of contacted companies (N) and companies that participated (n)

This table provides an overview over the industry memberships of all companies contacted and asked to participate in the survey (N).

Industry membership	Share in sample in absolute numbers	Share in sample in per cent
Agriculture	10	0.97
Automotive	24	2.34
Aviation	23	2.25
Chemicals	36	3.52
Commercial Services	11	1.08
Computers	6	0.59
Conglomerates	23	2.25
Construction	29	2.83
Construction Materials	23	2.25
Consumer Durables	11	1.08
Energy	77	7.53
Energy Utilities	57	5.58
Equipment	11	1.08
Financial Services	161	15.75
Food and Beverages	53	5.18
Forest and Paper Products	20	1.95
Healthcare Products	33	3.23
Household and Personal Products	15	1.47
Logistics	22	2.15
Media	14	1.37
Metals Products	26	2.54
Mining	41	4.02
Non-profit / Services	20	1.96
Other	90	8.81
Public Agency	16	1.56
Railroad	12	1.17
Real Estate	36	3.52
Retailers	21	2.05
Technology Hardware	16	1.56
Telecommunications	39	3.82
Textiles	8	0.78
Tobacco	3	0.29
Tourism and Leisure	13	1.27
Universities	4	0.39
Waste Management	8	0.78
Water Utilities	10	0.98
	1022	99.95

This table provides an overview over the industry memberships of the companies that actually participated in the survey (n).

Industry membership	Share in sample in absolute numbers	Share in sample in per cent
Automotive	1	1.1
Aviation	4	4.4
Chemicals	4	4.4
Commercial Services	2	2.2
Computers and Technology Hardware	1	1.1
Construction	4	4.4
Energy	9	9.9
Financial Services	18	19.8
Food and Beverages	6	6.6
Forest and Paper Products	3	3.3
Healthcare	2	2.2
Mining	3	3.3
Telecommunications	6	6.6
Transport	1	1.1
Other	27	29.7
Total	91	100.0

Appendix 5.2: Differences in company size according to region

Most European (58.9%) and Latin American (42.9%) firms that participated in the survey employed more than 5,000 people. Northern American (50%) and Asian (40%) companies were mostly smaller (1,000-4,999 employees). Still, companies employing more than 5000 people were the second largest group in both regions (25% Northern America. 26.7% Asia). This table illustrates the company size of the companies that participated in the survey according to their regional origin.

Company size (employees) across regions									
Company Size			1 - 49	50 - 249	250 - 499	500 - 999	1000 - 4999	> 5000	
Region	Asia	Count	1	0	0	4	6	4	15
		% within region	6.7%	0.0%	0.0%	26.7%	40.0%	26.7%	100.0%
		% within size	20.0%	0.0%	0.0%	40.0%	27.3%	9.1%	16.5%
		% of Total	1.1%	0.0%	0.0%	4.4%	6.6%	4.4%	16.5%
	Europe	Count	2	4	3	5	9	33	56
		% within region	3.6%	7.1%	5.4%	8.9%	16.1%	58.9%	100.0%
		% within size	40.0%	57.1%	100.0%	50.0%	40.9%	75.0%	61.5%
		% of Total	2.2%	4.4%	3.3%	5.5%	9.9%	36.3%	61.5%
	Latin America	Count	1	1	0	1	1	3	7
		% within region	14.3%	14.3%	0.0%	14.3%	14.3%	42.9%	100.0%
		% within size	20.0%	14.3%	0.0%	10.0%	4.5%	6.8%	7.7%
		% of Total	1.1%	1.1%	0.0%	1.1%	1.1%	3.3%	7.7%
	Northern America	Count	1	2	0	0	6	3	12
		% within region	8.3%	16.7%	0.0%	0.0%	50.0%	25.0%	100.0%
		% within size	20.0%	28.6%	0.0%	0.0%	27.3%	6.8%	13.2%
		% of Total	1.1%	2.2%	0.0%	0.0%	6.6%	3.3%	13.2%
	Oceania	Count	0	0	0	0	0	1	1
		% within region	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
		% within size	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	1.1%
		% of Total	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	1.1%
Total		Count	5	7	3	10	22	44	91
		% within region	5.5%	7.7%	3.3%	11.0%	24.2%	48.4%	100.0%
		% within size	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.5%	7.7%	3.3%	11.0%	24.2%	48.4%	100.0%

Appendix 5.3: Corporate impacts according to industry membership

This table provides an overview over the corporate impact (environmental, social and economic) according to industry memberships.

Industry membership		Environmental impact	Social impact	Economic impact
Automotive	Mean	4.00	4.00	4.00
	Count	1	1	1
	Std. Deviation	-	-	-
Aviation	Mean	3.25	3.50	3.75
	Count	4	4	4
	Std. Deviation	1.258	0.577	0.500
Chemicals	Mean	3,25	3,00	2,50
	Count	4	4	4
	Std. Deviation	0.957	0.816	01.291
Commercial Services	Mean	3,50	3,50	4,00
	Count	2	2	2
	Std. Deviation	0.707	0.707	0.000
Computers and Technology Hardware	Mean	4.00	4.00	4.00
	Count	1	1	1
	Std. Deviation	-	-	-
Construction	Mean	3.00	3.25	3.25
	Count	4	4	4
	Std. Deviation	0.816	0.957	01.258
Energy	Mean	4.00	4.00	4.22
	Count	9	9	9
	Std. Deviation	0.707	0.707	0.667
Financial Services	Mean	2.67	3.78	4.06
	Count	18	18	18
	Std. Deviation	0.970	0.647	0.873
Food and Beverages	Mean	3.50	3.67	4.00
	Count	6	6	6
	Std. Deviation	0.548	1.033	0.632
Forest and Paper Products	Mean	3.33	3.67	3.33
	Count	3	3	3
	Std. Deviation	1.155	0.577	1.155
Healthcare	Mean	2.00	5.00	4.50
	Count	2	2	2
	Std. Deviation	0.000	0.000	0.707
Mining	Mean	3.33	3.67	2.67
	Count	3	3	3
	Std. Deviation	0.577	0.577	0.577
Telecommunications	Mean	3.33	4.00	4.17
	N	6	6	6
	Std. Deviation	0.816	0.894	0.753
Transport	Mean	3.00	3.00	5.00
	Count	1	1	1
	Std. Deviation	-	-	-.
Other	Mean	3.58	3.77	3.81
	Count	26	26	26
	Std. Deviation	1.102	0.908	0.849

Appendix 5.4: Intended and actual roles of sustainability reporting according to sector

The survey was designed to collect data on numerous drivers for sustainability reporting and the actual role SR played in the company. Therefore, the table summarizing the mean values describing the intentions underlying SR and the capabilities of SR to serve a particular purpose in reality is very comprehensive. As the data cannot be placed on an A4-format without significant losses in readability of the results, this table has been saved as both a SPSS-output file and an Excel-file named 'Appendix 5.4' on the attached medium. Please refer to this medium to access the table in high quality.

The table presents an overview over the intentions underlying the decision to engage in SR and the actual role SR played in the companies according to sector.

Appendix 5.5: Influence of sustainability reporting on the corporate culture according to industry membership

This table provides an overview over the influence of the sustainability report on the corporate in the respective industry sectors. The survey question was based on a scale from 1-3, whereas 1 represented 'no influence' and a score of three 'major influence'.

Influence of SR on the corporate culture according to industry membership			
Industry membership	**Mean**	**Count**	**Std. Deviation**
Automotive	3.00	1	-
Aviation	2.50	4	0.577
Chemicals	2.75	4	0.500
Commercial Services	2.00	2	0.000
Computers and Technology Hardware	3.00	1	-
Construction	2.33	3	0.577
Energy	2.22	9	0.667
Financial Services	2.06	16	0.443
Food and Beverages	1.83	6	0.753
Forest and Paper Products	2.67	3	0.577
Healthcare	1.50	2	0.707
Mining	2.67	3	0.577
Telecommunications	2.00	6	0.894
Transport	1.00	1	-
Other	2.24	25	0.597
Total	2.21	86	0.635

This table provides an overview over the influence of SR on employees to behave more sustainably.

Influence of sustainability reporting on employees to behave more sustainably according to industry membership			
Industry membership	**Mean**	**Count**	**Std. Deviation**
Automotive	2.00	1	-
Aviation	2.25	4	0.500
Chemicals	2.50	4	0.577
Commercial Services	2.00	2	0.000
Computers and Technology Hardware	3.00	1	-
Construction	2.33	3	0.577
Energy	2.00	9	0.500
Financial Services	2.19	16	0.403
Food and Beverages	1.67	6	0.516
Forest and Paper Products	2.00	3	0.000
Healthcare	1.50	2	0.707
Mining	1.67	3	0.577
Telecommunications	2.00	6	0.894
Transport	1.00	1	-
Other	2.08	25	0.572
Total	2.06	86	0.561

Appendix 5.6: Main reasons for publishing a sustainability report according to industry membership

As there is a multitude of industry memberships and the question concerning the main reason for publishing the first sustainability report provided five answer categories, it has been decided to provide this table in an electronic format. Thereby readability of the table can be ensured, which would have been reduced significantly if the table was placed directly in this Annex. The table has been saved on the attached medium and can be found as 'Appendix 5.6' both as SPSS-output and Excel-file.

The table illustrates the main reason for publishing a sustainability report according to industry membership.

Appendix 5.7: Intentions underlying SR and actual role of SR

The survey was designed to collect data on numerous drivers for sustainability reporting and the actual role SR played in the company. Therefore, the table depicting the correlations calculated to identify relationships between the intentions underlying SR as well as the actual roles SR played in a company is very comprehensive. Hence, to avoid losses in readability, this table is provided in an electronic format attached to this thesis. The table has been saved on the attached medium and can be found as 'Appendix 5.7' both as SPSS-output and Excel file.

The table provides an overview over the correlation coefficients calculated for intentions underlying SR and the actual role SR played in a company.

Appendix 5.8: Facilitation of change due to SR according to industry membership

This table provides an overview over the degree of change (measured on a scale from 1-5) in the respective industry sectors. The following question has been asked in the survey (value assigned to answer in brackets)

In your opinion the report has:

- Not facilitated any changes in the company. (1)
- Facilitated minor changes in some parts of the company. (2)
- Facilitated major changes in some parts of the company. (3)
- Facilitated minor changes in the company as a whole. (4)
- Facilitated major changes in the company as a whole. (5)

The mean value in the table indicates the degree of change that took place in the company facilitated due to SR.

Facilitation of change by sustainability report (scale 1-5)			
Industry membership	**Mean**	**Count**	**Std. Deviation**
Automotive	5.00	1	-
Aviation	3.00	4	1.414
Chemicals	3.25	4	0.500
Commercial Services	3.00	2	0.000
Computers and Technology Hardware	3.00	1	-
Construction	2.75	4	1.500
Energy	2.89	9	1.054
Financial Services	3.22	18	1.309
Food and Beverages	3.00	6	0.894
Forest and Paper Products	4.33	3	0.577
Healthcare	2.00	2	0.000
Mining	3.67	3	1.155
Telecommunications	2.83	6	1.169
Transport	4.00	1	-
Other	3.07	27	1.328
Total	3.12	91	1.182

Appendix 5.9: Facilitation of change by sustainability report according to region

This analysis is based on the same question as elaborated upon in Appendix 5.9. As the datafile was split according to regions, this table provides an overview over the degree of changes facilitated by SR in the different regions of origin.

Facilitation of organizational change due to sustainability reporting			
Region	**Mean**	**Count**	**Std. Deviation**
Asia	3.07	15	1.280
Europe	3.13	56	1.222
Latin America	3.57	7	1.134
Northern America	2.83	12	0.937
Oceania	4.00	1	-

Appendix 5.10: Correlations between assessment & communications of sustainability efforts in company elements and roles of SR in a company

As there is a multitude of company elements and numerous roles SR served in a company, it has been decided to provide this table in an electronic format attached to this thesis. Thereby readability of the table is ensured, which would have been reduced significantly if the table was placed directly in this Annex. The table has been saved on the attached medium and can be found as 'Appendix 5.10' both as SPSS-output and Excel-file.

The table provides an overview over the calculated correlation coefficients between the assessment and communication of sustainability efforts in particular company elements and the roles SR played in a company.

Appendix 6: Cover letter survey

Dear [first name, surname],
We would like to invite you to participate in our research project exploring the process of developing and using sustainability reports by companies. We are inviting you because your company has published at least one sustainability report in the past ten years.

This survey is part of a study on the process and evolution of developing sustainability reports in companies worldwide, organised by Dr. Rodrigo Lozano (Utrecht University, Netherlands). The findings of this survey will be part of the master thesis on "Linking sustainability reporting and organizational change management" of Benjamin Nummert (Utrecht University).

It should take you approximately 25 minutes to answer the online questionnaire. You can find the survey by clicking on the following link:

Survey link placed here

If you are interested in the results of the survey, please indicate so via replying to this email.

If you are not able to respond to the survey, please send us your suggestions for an alternative respondent in your company, or forward this e-mail to the person responsible for sustainability reporting in your company.

We would like to thank you in advance. Your insights on this topic and your support are very valuable for our research. If you have any questions regarding the survey, please contact Mr. Benjamin Nummert (email: bnummert@students.uu.nl).

Best regards,
Benjamin Nummert

Follow this link to the Survey: ${l://SurveyLink?d=Take the Survey}

Appendix 7: Survey

Universiteit Utrecht

Survey

Sustainability Reporting in companies

There has been an increased interest by corporations in sustainability reporting during the last years. At the same time, there have been a number of academic papers published that discuss the coverage and performance of such reports. The purpose of this survey is to explore the process of developing and using sustainability reports by multinational corporations, and, thus, help to improve corporate sustainability management and change processes. We are inviting you to this survey because you have published at least one sustainability report based on the GRI reporting guidelines in the past years.

This survey will be used to complete a Master thesis on "Linking sustainability reporting and organizational change management" by Mr. Benjamin Nummert (Master's Program "Sustainable Development" at the Department of Geosciences at Utrecht University). The research project is supervised by Dr. Rodrigo Lozano (Utrecht University) and Ms. Kim Ceulemans (Catholic University of Leuven).

All your responses will remain anonymous and will be kept confidential. They only serve for our research purposes. Your participation is entirely voluntary and, if you wish, you are free to withdraw from the survey at any time.

The survey should take approximately 25 minutes.

Thank you for completing this survey. Your insights on the topic are very valuable to us.

If you have any questions please email them to Mr. Benjamin Nummert (b.nummert@students.uu.nl).

Country of headquarters

This question included a dropdown-list of countries to indicate the company's country of origin. For reasons of readability of this appendix, this list has been excluded from this document.

Industry sector: Please choose one of the following answers from the list below.

- ❍ Agriculture
- ❍ Automotive
- ❍ Aviation
- ❍ Chemicals
- ❍ Commercial Services
- ❍ Computers & Technology Hardware
- ❍ Construction
- ❍ Energy
- ❍ Financial Services
- ❍ Food & Beverages
- ❍ Forest & Paper Products
- ❍ Healthcare
- ❍ Mining
- ❍ Public Agency
- ❍ Railroad
- ❍ Telecommunications
- ❍ Transport
- ❍ Other _____

Company size (employees)

- ❍ 1 - 49
- ❍ 50 - 249
- ❍ 250 - 499
- ❍ 500 - 999
- ❍ 1000 - 4999
- ❍ > 5000

Which company department(s) is (are) responsible for developing the sustainability report? Multiple answers are possible.

- ❑ Accounting
- ❑ Corporate Responsibility / Sustainability
- ❑ Corporate Compliance
- ❑ Customer Service / Service team
- ❑ Environmental Affairs
- ❑ Finance
- ❑ Human Resources
- ❑ Investor Relations
- ❑ IT Department
- ❑ Legal Department
- ❑ Management (Board of Directors / CEO)
- ❑ Marketing
- ❑ Procurement
- ❑ Public Relations
- ❑ Research and Development
- ❑ Other _____

The department(s) working on the report is (are) involved in internal decision-making processes.

- ❍ Strongly disagree
- ❍ Disagree
- ❍ Neither Agree nor Disagree
- ❍ Agree
- ❍ Strongly Agree

How many years have you been involved with sustainability reporting in your company?
Please choose one of the following answers from the drop-down menu.

- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10
- ❍ > 10

What is your role in sustainability reporting at your company? Multiple answers are possible.

- ❑ You made the decision to prepare the report
- ❑ You prepared the report
- ❑ You oversaw the preparation of the report
- ❑ You collected the data for the report
- ❑ You supplied information for the report
- ❑ Other(s) (please specify) _____

Who is in charge of the data collection for your company's sustainability report? Please provide title and contact details if it does not breach any confidentiality issues.

What do you consider to be ...

	Very low	Low	Neither high nor low	High	Very high
... the economic impact of your company?	❍	❍	❍	❍	❍
... the environmental impact of your company?	❍	❍	❍	❍	❍
... the social impact of your company?	❍	❍	❍	❍	❍

From the following list of five statements, please select the one that most represents your opinion about the main reason for publishing your first sustainability report.

- ❍ The report was/were prepared as an answer to external pressures to the company only
- ❍ The report was/were only driven by internal motivations
- ❍ External pressures were important, but preparing and publishing the report was mainly driven internally
- ❍ Internal motivations were important, but it was ultimately driven by external pressures
- ❍ External pressures and internal motivations were considered as equally important when preparing and publishing the report

Has your company published more than one sustainability report?

- ❍ Yes
- ❍ No

What were the main reasons for publishing (a) subsequent report(s)?

- ❍ The report(s) was/were prepared as an answer to external pressures to the company only
- ❍ The report(s) was/were only driven by internal motivations
- ❍ External pressures were important, but preparing and publishing the report(s) was mainly driven internally
- ❍ Internal motivations were important, but it was ultimately driven by external pressures
- ❍ External pressures and internal motivations were considered as equally important when preparing and publishing the report(s)

To what extent do you agree with the following statement?
There have been major changes between the first and (the) subsequent report(s).

- ❍ Strongly Disagree
- ❍ Disagree
- ❍ Neither agree nor disagree
- ❍ Agree
- ❍ Strongly agree

What major changes could you point out between the first and subsequent reports?

Is your company currently still publishing sustainability reports?

- ❍ Yes
- ❍ No

What are the main reasons why your company stopped publishing sustainability reports?

To what extent do you agree with the following statements?
In your opinion, the sustainability report should:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Assess your company's sustainability efforts	❍	❍	❍	❍	❍
Foster change towards sustainability in the company	❍	❍	❍	❍	❍
Improve the company's sustainability performance	❍	❍	❍	❍	❍
Increase the transparency of your company's sustainability performance	❍	❍	❍	❍	❍
Benchmark own performance against other companies	❍	❍	❍	❍	❍
Improve your company's sustainability reputation	❍	❍	❍	❍	❍
Promote your sustainability efforts	❍	❍	❍	❍	❍
Improve your company's ranking position	❍	❍	❍	❍	❍
Foster a stakeholder dialogue about corporate sustainability	❍	❍	❍	❍	❍
Help your company become a leader in society	❍	❍	❍	❍	❍
Facilitate external auditing of your company's sustainability efforts	❍	❍	❍	❍	❍
Meet the criteria defined in the GRI reporting guidelines	❍	❍	❍	❍	❍
Raise employee awareness about required measures to improve the company’s performance	❍	❍	❍	❍	❍
Illustrate your company's position as a sustainability frontrunner	❍	❍	❍	❍	❍

To what extent do you agree with the following statements?
In your opinion, the sustainability report has allowed your company to:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Assess your company's sustainability efforts	❍	❍	❍	❍	❍
Foster change towards sustainability in the company	❍	❍	❍	❍	❍
Improve the company's sustainability performance	❍	❍	❍	❍	❍
Increase the transparency of sustainability performance	❍	❍	❍	❍	❍
Benchmark own performance against other companies	❍	❍	❍	❍	❍
Improve your company's sustainability reputation	❍	❍	❍	❍	❍
Promote your sustainability efforts	❍	❍	❍	❍	❍
Improve your company's ranking position	❍	❍	❍	❍	❍
Foster a stakeholder dialogue about corporate sustainability	❍	❍	❍	❍	❍
Help your company become a leader in society	❍	❍	❍	❍	❍
Facilitate external auditing of your company's sustainability efforts	❍	❍	❍	❍	❍
Meet the criteria defined in the GRI reporting guidelines	❍	❍	❍	❍	❍
Raise employee awareness about required measures to improve the company’s performance	❍	❍	❍	❍	❍
Illustrate your company's position as a sustainability frontrunner	❍	❍	❍	❍	❍

What do you think have been the benefits to your company from sustainability reporting?

To what extent do you agree with the following statements?
In your opinion, the report assesses and communicates the sustainability efforts taking place in:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The institutional framework (including policies, strategies, etc.)	❍	❍	❍	❍	❍
Operations and production (technology, materials, energy sources, etc.)	❍	❍	❍	❍	❍
Management and strategy (investment, business values & attitudes, vision, stakeholder engagement, etc.)	❍	❍	❍	❍	❍
Organisational systems (culture, leadership style, problem-solving, innovation)	❍	❍	❍	❍	❍
Procurement and marketing (supply chain, customers, etc.)	❍	❍	❍	❍	❍
Collaboration with other companies	❍	❍	❍	❍	❍

In your opinion the report has ...

- ❍ Not facilitated any changes in the company
- ❍ Facilitated some minor changes in some parts of the company
- ❍ Facilitated major changes in some parts of the company
- ❍ Facilitated minor changes in the company as a whole
- ❍ Facilitated major changes in the company as a whole

What would you consider the reasons for not facilitating any changes?

In your opinion the report has ...

- ❍ No potential to drive changes in the company
- ❍ The potential to drive minor changes in some parts of the company
- ❍ The potential to drive major changes in some parts of the company
- ❍ The potential to drive minor changes in the company as a whole
- ❍ The potential to drive major changes in the company as a whole

Could you please provide some examples of changes due to sustainability reporting? Please comment on how they took place.

In your opinion, the sustainability report has ...

	... no influence ...	... minor influence ...	... major influence ...
on the corporate culture	❍	❍	❍
on the employees to act more sustainably	❍	❍	❍

Do you think the report could influence the corporate culture? If so, could you explain how?

Could you please provide some examples of changes in the corporate culture and how they took place?

Do you think the report could influence the employees to act more sustainably? If so, could you explain how?

Could you please provide some examples of employees acting more sustainably and how these changes took place?

What do you think have been the main challenges in developing and publishing your sustainability report(s)?

How have you/do you plan to overcome the challenges in developing and publishing your report(s)?

What are three lessons you have learned from undertaking sustainability reporting at your company?

Lesson 1:
Lesson 2:
Lesson 3:

What could other companies learn from your experiences in sustainability reporting?

To what extent do you agree with the following statement?
The company's stakeholders are sensitive towards negative impacts of unsustainable operations and processes.

- ❍ Strongly disagree
- ❍ Disagree
- ❍ Neither agree nor disagree
- ❍ Agree
- ❍ Strongly agree

Which stakeholders (if any) were involved in preparing and publishing your sustainability report?

Please drag and drop each stakeholder into one of the boxes on the right hand side. In each box, you can reorder and rank the stakeholders in order of your preference (most preferred stakeholder at the top of the box).

Note: all of the stakeholders have to be moved into one of the boxes.

Please answer the following questions if they do not breach confidentiality issues.

Could you please describe the process of data collection for the sustainability report?

Could you please describe the process used to analyze and aggregate the data collected?

Could you please provide an estimate of how much it costs your company per year to prepare and publish the sustainability report?

What future developments do you expect for sustainability reporting in companies?