Corporate Sustainability Management in the Energy Sector – An Empirical Contingency Approach

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Lausanne, April 2006 OLIVER SALZMANN

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Table of abbreviations

BCS	Business case for sustainability
CS	Corporate sustainability
CSM	Corporate sustainability management
CSP	Corporate social performance
CSR	Corporate social responsibility
EHS	Environmental, health & safety
ESP	Environmental/social performance
GM	General manager
IEA	International Energy Agency
NGO	Non-governmental organization
OG	Oil & gas
OPEC	Organization of Petroleum Exporting Countries
RoI	Return on investment
SME	Small and medium-sized enterprise
SD	Sustainable development
SO	Sustainability officer
TQM	Total quality management
UNEP	United Nations Environment Programme
UT	Electric/gas utility
WBCSD	World Business Council for Sustainable Development
WEC	World Economic Forum
WRI	World Resources Institute

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1 Introduction

1.1 Research field

The history of corporate social responsibility and other related concepts can be traced way back to ancient Mesopotamia and Greece (and probably even further), where businessmen were punished for negligence that harmed workers and the general public. However, it is obvious that the industrial revolution at the end of the 19th century substantially increased the significance of businesses and thus also their scope to behave more or less responsibly within society. Because there was no legislation in this area at that time, history mentions several businessmen who postulated that business should serve society and took corresponding initiatives (Balza & Radojicic, 2004; Wren, 1979). With the emergence of labor unions and legislation (on minimum wages, disability compensation etc.), the concept of the social responsibility of the businessman gained importance over the following decades.

After World War II, social concerns were increasingly incorporated into management education and legislation (foremost social security systems). Between 1960 and 1980, rapid economic growth and its social and environmental effects (including incidents such as e.g. Aberfan, Wales in 1966 and Seveso, Italy in 1976) triggered several initiatives such as the Club of Rome and the Brandt Report as well as new regulatory standards in industrialized countries, e.g. the US Environmental Protection Act (Mohan, 2003).

Obviously the growing acceptance of businesses' social and environmental responsibility was intensively discussed among scholars and practitioners. The best-known contribution to this debate is undoubtedly Milton Friedman's claim that "few trends could so thoroughly undermine the very foundation of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their stockholders as possible" (Friedman, 1962). Consequently scholars increasingly built a stronger and more logically grounded case for corporate social responsibility (CSR). For example Johnson (1971) presented several views of social responsibility, among them utility maximization (rather than profit maximization) as the prime motivation of companies. He postulated that socially responsible managers maximize utility by extending their interest beyond their own well-being to their fellow employees and citizens.

In the 1980s and 1990s a plethora of further definitions and frameworks were developed and refined (Arlow & Gannon, 1982; Carroll, 1999; Davenport, 2000; Moir, 2001). Furthermore, the notion of sustainable development, initially defined in the Brundtland Report by the World Commission on Environment and Development (1987), gained more and more importance. However, the inflated use of terms such as corporate social responsibility, corporate sustainability and corporate citizenship led to significant skepticism and cynicism, particularly in civil society.

So far empirical research essentially only produced a plethora of instrumental studies yielding inconclusive evidence for a sound business case, and failed to describe corporate sustainability management (CSM) and its economic rationale comprehensively (Griffin & Mahon, 1997; Morsing, 2003).[1] In particular, sector-specific and comparative approaches are missing although the contingent character of CSM and related concepts such as social responsiveness was diagnosed as early as the 1970s (Arlow et al., 1982, p. 235; Carroll, 1979; Sethi, 1975). Understandably skepticism has not ebbed away (Walley & Whitehead, 1994).

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[1] The term "corporate sustainability management (CSM)" essentially means corporate responsiveness to environmental and social issues; the term "business case for sustainability" refers to the economic rationale for corporate sustainability (i.e. positive net economic benefit). Both concepts will be defined in detail below.

The present study's objective is to fill these gaps by empirically examining the main external and internal determinants (i.e. drivers or barriers) of CSM, companies' approaches to CSM in terms of both strategic disposition and implementation, and the economic rationale for their approaches and their outcome – the individual research questions are laid out in detail in section 4. The study adopts a clear descriptive contingency approach that is based on data collected from two groups of managers, namely sustainability experts and non-sustainability experts, in two different industry sectors (integrated oil and gas vs. electric utilities) and several geographical regions of operations.

1.2 Structure

The study is divided in nine blocks (see Figure 1-1). In the introductory section the author elaborates on the study's research field and objectives as well as its structure and intended contributions.

Section 2 deals with existing different theoretical frameworks for CSM and related concepts. It also defines the key concepts used in this study.

In section 3 the author assesses empirical studies and data to provide a comprehensive benchmark for the present study.

In section 4, the author elaborates on every detail of the study's conceptual rationale and focus – based on the theoretical and empirical gaps identified beforehand. Section 5 presents and evaluates the research method chosen. More specifically, it explains (1) why and how the design and instruments of this study were selected, and (2) how the data were collected and analyzed.

Section 6 presents an analysis of the main characteristics of both sectors (corporate activities, drivers, trends, etc.) from a non-sustainability perspective to provide the context for a comprehensive and holistic discussion of CSM. Obviously companies' activities and business environments (regulation, competition) greatly determine the degree to which they can engage CSM.

In section 7 the author describes the samples on which the study is based. In particular he elaborates on the distribution of respondents' management functions, their regions of operations and their nationalities.

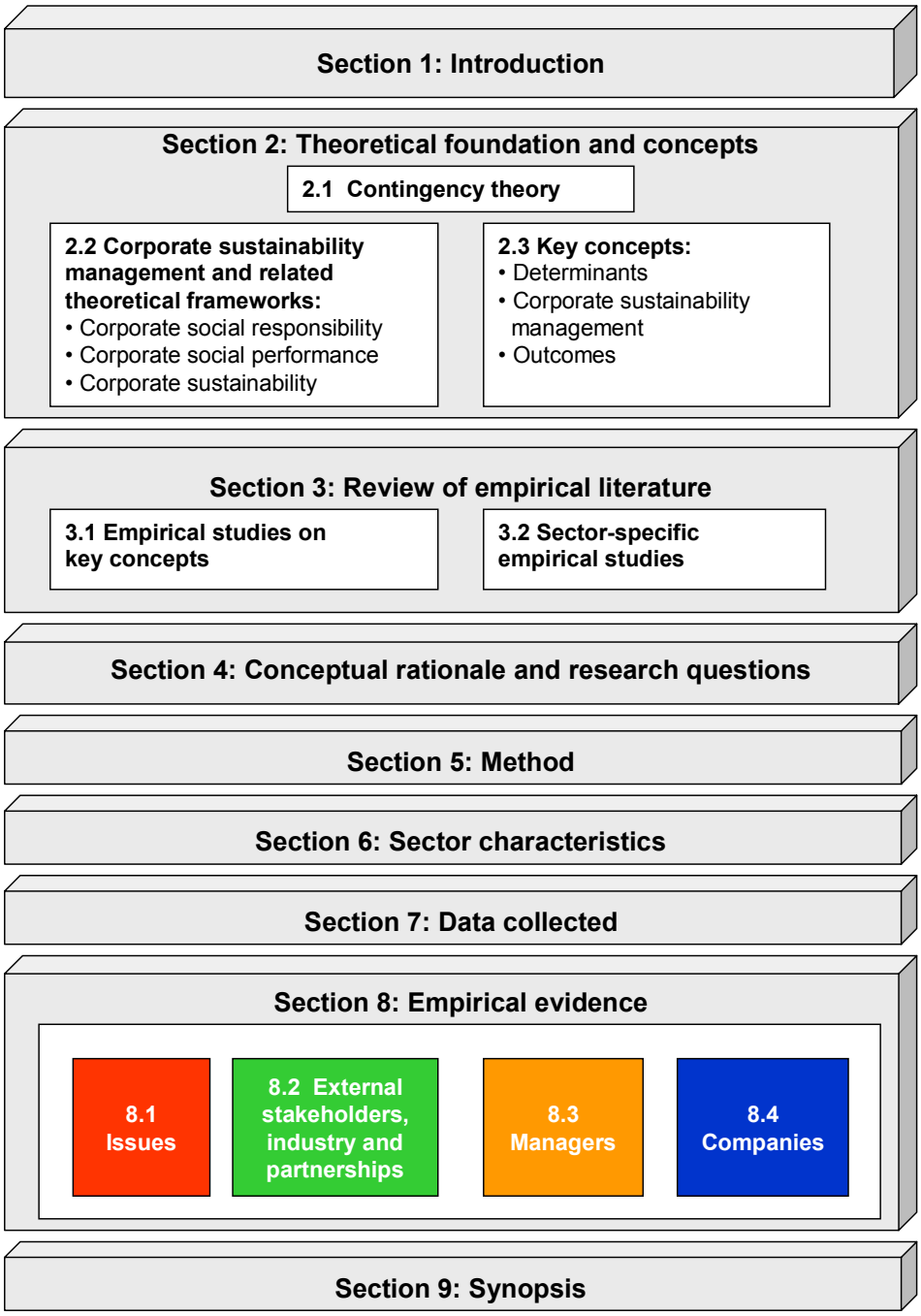

Figure 1-1: Structure of the content

Section 8 presents and interprets of the empirical evidence collected. Finally section 9 features the author's key findings, an assessment of the study's significance and suggestions for further research.

1.3 Intended contributions

The present study is largely deductive and explanatory in nature, since it aims to comprehensively analyze and explain companies' approaches to CSM and their outcome. Since the economic rationale for CSM is an area in which descriptive empirical studies have

not been undertaken to date, the author will analyze this subconcept in a more inductive and exploratory way, namely the analysis of the economic rationale for CSM.[2]

It should be noted that the study does *not* include any normative discussion about how "much" CSM companies should engage in to resolve existing environmental and social issues. It is based on the assumption that companies are economic entities whose primary objective is the maximization of expected profits (Lankoski, 2000, p. 5)

Contributions can be expected in three areas that comprise (1) the conceptual framework developed for and tested in this study, (2) the method, and (3) the data.

Conceptual framework

To data a theoretical framework for corporate sustainability performance (that incorporates CSM as a key concept) does not exist as such. Corporate social performance models (Wood, 1991) are largely adequate to capture the complexity of corporate sustainability performance. However, they exhibit several shortcomings. This study's conceptual framework for corporate sustainability performance (see section 4) builds on the strengths of Wood's (1991) model of corporate social performance. It is innovative insofar as it takes a sequential (process-oriented) perspective of CSM. It includes the determinants of CSM, companies' strategic disposition to and implementation of CSM and the outcome. Thus it is also designed to examine causal effects between the key concepts defined. Its heuristic value (Bortz et al., 2002, p. 17) should be significant, since it not only explains variations in CSM and its outcome but is also able to anticipate future events and developments. Furthermore, unlike competing models of corporate social performance (Wood, 1991), it explicitly differentiates between four motivating principles of CSM and takes into account both its social and environmental dimension. Finally, it incorporates the economic rationale for CSM.

Method

Empirical literature on CSM or related concepts has largely ignored its contingent nature (Salzmann, 2002). Early studies by Buehler (1979), Abouzeid (1978) and Shetty (1979) as well as more recent research by Henriques and Sadorsky (1996), Banerjee (2003) and Lankoski (2000) focus on a narrower research domain, i.e. on a subset of concepts analyzed in the present study, and consider other and fewer contingencies such as organizational resources and industry.

Based on the premises of contingency theory that companies' strategies, structures and performance – whether in a general or a specifically social/environmental context - are determined by situational (both internal and external) variables (Greening & Gray, 1994, p. 491; Luthans & Steward, 1977, p. 183; Wood, 1991, p. 700), the present study takes a multiple contingency perspective by describing corporate sustainability management, its determinants and its outcome across:

- two groups (or disciplines) of managers in
- two industry sectors and
- various regions of operations.

Thus it allows for (1) a sector-, management group- and region-specific analysis that ensures clear interpretability (internal validity), and (2) comparative analysis that yields more generalizable results (external validity).[3]

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[2] A combined inductive and deductive approach is not uncommon in empirical research (Bortz & Döring, 2002, p. 35), since studies are often based on known theoretical frameworks but also offer modifications to them.

[3] See e.g. Bortz (2002, p. 37) on the need for internal and external validity of research results.

The validity and the scope of results is further increased through the study's mixed method design that combines both qualitative and quantitative instruments of data collection and analysis and thus makes a complementarity and triangulation of findings possible (Teddlie & Tashakkori, 2003, p. 17).

Data

It is surprising how few descriptive studies on the business case for sustainability management are available to date (see Epstein & Roy, 2003 as a rare exception), particularly if one takes into account that a plethora of instrumental studies produced largely inconclusive evidence regarding its existence (Salzmann, 2002). This study is the first of its kind to include a comprehensive description of the economic rationale for CSM as it is perceived by managers.

Furthermore the dataset on which this study relies is new, unique and – considering that this is not a cross-sectional study – relatively large. Thus the study provides an extensive and current benchmark for a so far unmatched variety of dimensions of CSM. It should be noted, however, that due to its broad scope, it *cannot* provide detailed analyses of the individual dimensions.

2 Theoretical foundation and concepts

In this section, the author provides an overview of existing theoretical frameworks and definitions that relate to the study's research objective and key concepts (see Figure 2-1).

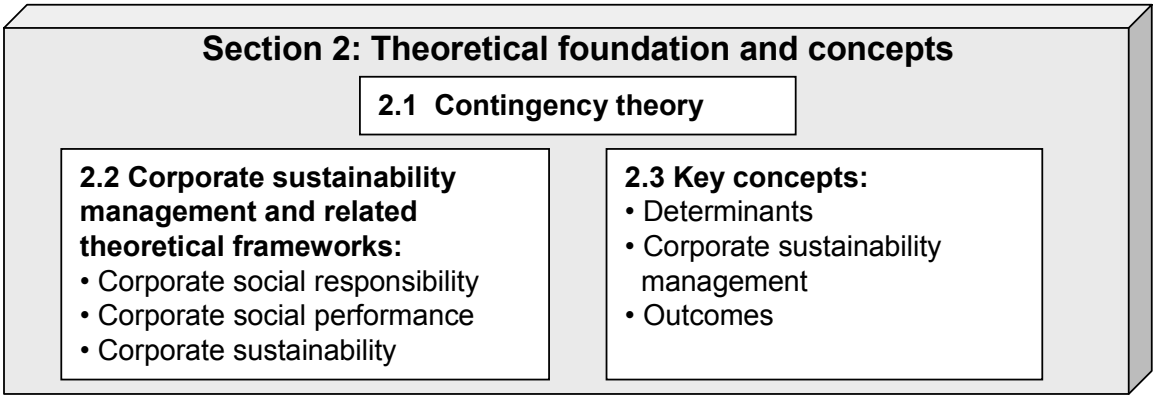

Figure 2-1: Structure of section 2

2.1 Contingency theory

Contingency theory was popularized in the 1960s in particular (Dessler, 1976; Fiedler, 1967). It states that management and organizational life are situational and subject to contingencies. The theory has a wide range of applications, such as e.g. in organization design as well as leadership and behavior (Luthans et al., 1977, p. 183).

It implies that the strategies, structures and practices of an organization depend on the way in which environmental variables become relevant to it (Longenecker & Pringle, 1978). Luthans and Stewart (1977) attempted to develop a general contingency theory of management and defined the contingency approach as identifying and developing functional relationships between environmental (e.g. culture, technology, raw materials), management (e.g. planning, leadership) and performance variables. They also offered a detailed classification of the variables they incorporated (p. 184). However, their theory has several shortcomings. Most importantly it is very complex and lacks a description of the functional relationships between the variables. Hence it is not a general theory in a strict sense (Longenecker et al., 1978, p. 681; Luthans & Todd, 1978, p. 685).

It is obvious that contingency theory also applies to the domain of corporate social responsibility and performance. Early empirical studies in that area pointed to the need to examine corporate social performance and responsiveness contingently upon factors such as organizational size, relevance of issues and industry characteristics (Abouzeid et al., 1978; Arlow et al., 1982; Buehler et al., 1979; Holmes, 1977, 1978; Shetty, 1979). However, theoretical foundations in the domain only emerged much later: Husted (2000) presented an issue-contingent model, arguing that a better fit of corporate strategies and structures with social issues increases social performance. Furthermore, Greening and Gray (1994) presented, based on their empirical analysis, a model that incorporates institutional pressure, managerial discretion and firm size as the key determinants of corporate issues management structures. The author will describe both studies (Greening et al., 1994; Husted, 2000) in more detail in section 2.2.2 Corporate social performance.

2.2 CSM and related theoretical frameworks

An assessment of the current academic literature quickly reveals that the term "CSM" is only rarely used. Scholars have focused more strongly on other concepts such as corporate sustainability and in particular corporate social responsibility and corporate social

performance. In the following paragraphs the origins, meanings and links of the different terms will discussed in more detail.

2.2.1 Corporate social responsibility

The origin of corporate social responsibility (CSR) can be traced back to the first half of the last century or even further to the industrial revolution. During the 1950s and 1960s, the notion gained more importance through contributions from authors such as Bowen (1953) and McGuire (1963) who reacted to emerging social issues of employee and human rights in the US. A comprehensive scholarly framework developed virtually exclusively in the US through contributions from authors such as Carroll (1979), Wartick and Cochran (1985), Wood (1991), Swanson (1999) and McWilliams (2001).

Studies mainly searched for principles to guide business in terms of its role in society, i.e. factors that motivate business to certain levels of responsiveness to social and environmental issues, and discussed several theories such as agency theory (Friedman, 1970), stakeholder theory (Freeman, 1984) and corporate social performance models (Carroll, 1979; Wartick et al., 1985; Wood, 1991). Overall, the concept of corporate social responsibility varies greatly across the different management and academic disciplines. Probably the most significant contribution comes from Carroll (1979) with his definition of four categories of social responsibility. He defined the four categories – economic, legal, ethical and discretionary responsibility – as hierarchical but not mutually exclusive concepts and argued that they could serve as principles for managers selecting adequate corporate responses to a specific issue. Carroll acknowledged companies' economic responsibility to generate profits as the fundamental organizing principle and thus defused arguments relating to the priority of economic over social responsibility (Friedman, 1970). The remaining three principles are defined as follows: The legal responsibility of business is compliance with existing regulation; the ethical responsibility refers to fulfilling society's expectations or avoiding causing harm; the principle of discretionary (also later called philanthropic) responsibility refers to actions that are not expected by society or those that bring about social benefits.

The 1980s mainly saw empirical instrumental studies investigating the economic effects of different levels of corporate social responsibility. Since then scholars have partly refocused on theoretically sound and practical principles for corporate social responsibility (Carroll, 1999; Whetten, Rands, & Godfrey, 2002, p. 381). Wood's (1991) formulation of three fundamental principles as part of her reformulated corporate social performance model remains one of the most significant contributions to date. The model comprises the institutional principle of legitimacy (proper use of power), the organizational principle of public responsibility (responsibility for outcomes related to the primary and secondary activities of businesses) and the individual principle of managerial discretion (managers' responsibility to exercise the discretion available to them to contribute to socially responsible outcomes) (Wood, 1991, p. 696). It will be discussed in more detail in sections 2.3.1.1 to 2.3.1.3.

2.2.2 Corporate social performance (CSP)

The concept of corporate social performance refers to corporate behavior rather than to principles that guide the behavior. The first key theoretical contributions originated in the 1970s: Sethi (1975) argued that corporate social performance is culturally and temporally determined and presented a three-state schema for classifying corporate behavior, which comprised (1) social obligation (proscriptive), (2) social responsibility (prescriptive), and (3) social responsiveness (anticipatory and preventive). Subsequently, Carroll (1979) introduced a three-dimensional corporate social performance model. It comprised (1) social responsibility encompassing the four categories referred to above, (2) social issues that change over time

and differ between industries, and (3) social responsiveness that stands for "an action phase of management responding in the social sphere" (Carroll, 1979, p. 502).

Wartick and Cochran (1985) continued with Carroll's three-dimensional CSP model. They discussed three key challenges to the concept of social responsibility:

- The concept of economic responsibility attacks both basic premises of corporate social responsibility: (1) the social contract that implies a set of rights and obligations that business operation must follow, and (2) the idea of moral agency postulating an alignment between the values of business and society.
- The concept of public responsibility (Preston & Post, 1975) calls for a discussion of which issues are relevant or irrelevant and how responsibilities may be realized.
- The challenge of social responsiveness demands a shift of emphasis away from social obligations to the process of social responsiveness.

They synthesized the challenges and existing models. First, both economic responsibility and public responsibility were subsumed in one model. Second, social responsiveness was included as a separate process dimension of corporate social performance. Third, corporate social performance was based on the policies of (social) issues management (as a direct extension of social responsiveness). Thus the authors created a principle/process/policy model of corporate social performance. Corporate social performance was defined as "the underlying interaction among the principles of social responsibility, the process of social responsiveness, and the policies developed to address social issues" (Wartick et al., 1985, p. 758).

Wood (1991) revisited the model of corporate social performance and synthesized formulations from several authors such as Carroll (1979) and foremost Wartick and Cochran (Wartick et al., 1985). She addressed the following issues in existing theoretical literature (Wood, 1991, p. 692):

1. The term "performance" refers to actions and outcomes – rather than interactions and integration as conceptualized by Wartick and Cochran (1985). Hence an action component needed to be added to the model of corporate social performance to facilitate the definition of corporate social performance as such. Wood's (1991) model features a process view of social performance rather than an outcome-oriented approach as presented by Wood and Jones (1995).
2. There are various facets of social responsiveness. Hence it is essential to see it as a set of processes (e.g. stakeholder management, environmental assessment) rather than a single process.
3. The outcome component of Wartick and Cochran's (1985) model, namely policies, is too restrictive. A comprehensive corporate social performance model should incorporate additional dimensions of outcome such as programs and other observable outcomes (e.g. social impacts of corporate behavior).
4. Corporate social performance is a "neutral" concept in the sense that it is not limited to responsible companies: It can be positively or negatively evaluated.

Wood (1991, p. 693) defined corporate social performance as a company's "configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationship" (see Figure 2-2 for a visualization of the model): It is process- rather than results-oriented: Corporate social performance is seen as a configuration of drivers, processes and outcomes, rather than as an outcome only.

She also suggested that the three guiding principles of social responsibility – public responsibility, legitimacy and managerial discretion (discussed in more detail in 2.3 Key concepts) – should not be understood as absolute standards, but as "analytical forms to be filled with the content of explicit value preferences that exist within a given cultural or organizational context and that are operationalized through the political and symbolic processes of that context" (Wood, 1991, p. 700).

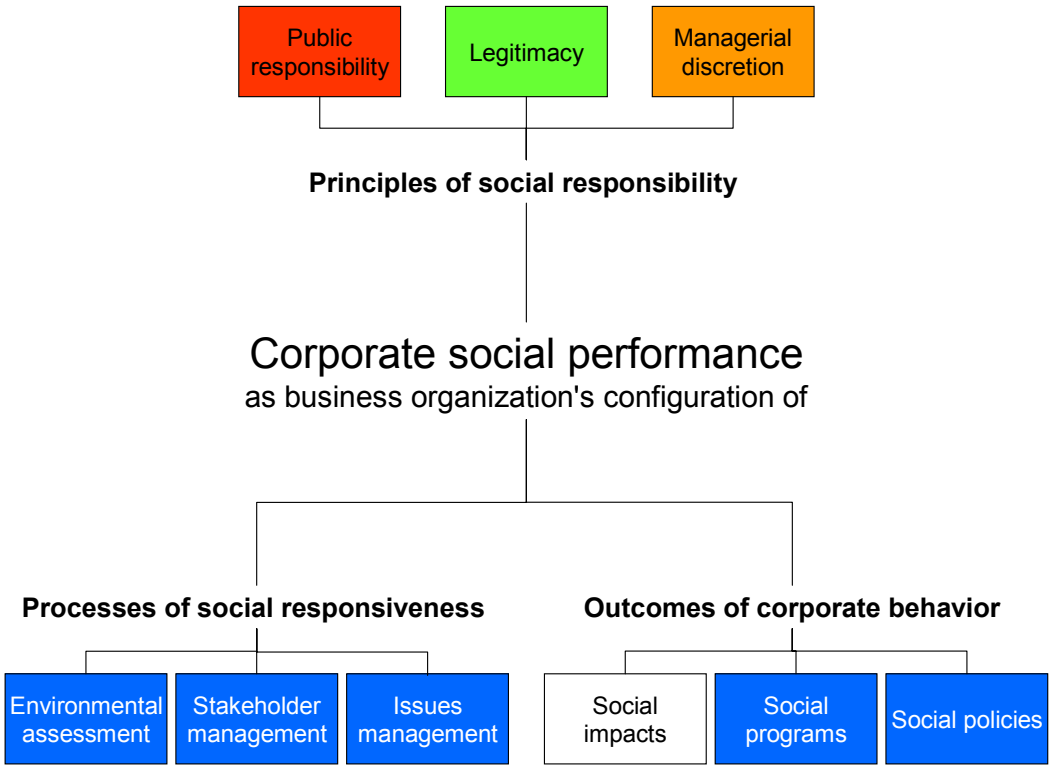

Figure 2-2: Wood's corporate social performance model – based on Wood (1991)

Wood discussed three processes that are interlinked and partly overlap: environmental assessment (analysis of the company's business environment), stakeholder management (the management of stakeholder relationships), and issues management (minimizing surprises, crisis management, public affairs). Outcomes of corporate behaviors were categorized into the social impacts of corporate behavior (although not explicitly named, environmental incidents such as oil spills were also accounted for), corporate social programs (investments of resources in some course of action) and corporate social policies to guide decision-making (Wood, 1991, p. 709). It should be noted that – unlike social programs and social policies – social impacts exist both within and beyond the organization (hence the white rather than the blue box in Figure 2-2 – in contrast to the other outcomes and the processes of social responsiveness). It is important to note that Wood (1991) primarily presents a "classificatory device" rather than a theory, as the nature of the relationships between the elements of her model remain unclear.

Since Wood's refinement, research has increasingly focused on measurement and theoretical development (Collins & Starik, 1995; Greening et al., 1994; Griffin, 2000; Griffin et al., 1997; Husted, 2000; Moore, 2001; Simpson & Kohers, 2002; Swanson, 1999; Wood et al., 1995). As Carroll (1999, p. 292) also pointed out, revised or adapted frameworks have not emerged distinct from existing frameworks and are unlikely to do so in the future. Nevertheless two subsequent models of corporate social performance will be discussed in more detail, as they also – like the present study – incorporate a contingency approach.

Based on empirical analysis, Greening and Gray (1994) presented a contingency model for corporate social performance that incorporates both institutional theory and resource dependency theory. Partly in alignment with Wood (1991), they concluded that corporate social performance is driven by issues management structures which are in turn motivated by external institutional pressures, i.e. legitimacy, and organizational response capabilities (Gray, 1994, p. 491).

Husted (2000) formulated an issue-contingent model of corporate social performance as "a function of the match between the social issues and the varieties of response that are available to the firm" (p. 25). His model implies that aligning strategies and structures to social issues will lead to greater social performance. In contrast to Wood's (1991) model, it is results-oriented, as he defines corporate social performance "as the extent to which stakeholders' expectations regarding the firm's behavior with respect to those same or other relevant stakeholders are satisfied or exceeded" (p. 31). He continued to present several hypotheses about which strategies (computation, discovery, inspiration, bargaining) and structures (bureaucratic, collegial, organized chaos and representative) should be used to achieve the alignment between the firm and its environment most effectively, depending on the nature of the existing social issue, which he defined in terms of different kinds of expectational gaps between the company and its stakeholders (see also section 2.3.1.1)

2.2.3 Corporate sustainability

Corporate sustainability was "born" with a slight environmental emphasis at the end of the 1980s. It is based on the normative since multigenerational concept of sustainable development.[4] In general, compared to corporate social responsibility, it is seen as the broader organizing principle, because it differs from the traditional management paradigms of growth and profit maximization by incorporating a societal three-dimensional (economic, environmental and social) goal of sustainability for corporations, governments and civil society (Wilson, 2003). Business responded to the "call" of the *Brundtland Report* (World Commission on Environment and Development, 1987) with the Business Charter for Sustainable Development (1990) and *Changing Course* (Schmidheiny, 1992) which was endorsed by the then Business Council for Sustainable Development. Both argued for a synergistic rather than dualistic relationship between economic performance on the one hand, and environmental and social performance on the other.

Corporate sustainability was subsequently refined by several authors (Marrewijk, 2003; Marrewijk & Werre, 2003; Starik, 1995, p. 916). Alongside sustainable development, Wilson (2003) identified three key constituents of corporate sustainability:

- Corporate social responsibility, which offers ethical arguments for managers' and companies' engagement in sustainable development.
- Stakeholder theory which provides the necessary business arguments, as it suggests that more sustainable business practices will improve companies' relationships with their stakeholders.
- Corporate accountability, which complements corporate social responsibility by referring to companies' duty to explain and justify corporate activities rather than to the need to engage in them.

[4] There are a variety of definitions for the term sustainable development. The most common one originates from the Brundtland Report (World Commission on Environment and Development, 1987), in which sustainable development is defined as a development that meets the needs of present generations without compromising the ability of future generations to meet their needs.

As these more recent contributions show, improving the theoretical basis of corporate sustainability remains a challenging task, since the underlying normative concept of sustainable development is more complex than that of corporate social responsibility due to its multi-dimensional and multi-generational nature. It is also obvious that any theoretical foundation of corporate sustainability will to a certain extent "fall back" on the already existing frameworks for corporate social responsibility and social performance.

2.2.4 Discussion

A review of existing theoretical frameworks reveals significant differences in terms of two criteria:

1. Comprehensiveness: Both corporate social responsibility and corporate social performance feature a strong and conclusive theoretical basis. In contrast, corporate sustainability is hardly theoretically grounded.
2. Focus: Corporate social responsibility and corporate sustainability are conceptualized as principles that motivate corporate behavior. In contrast, models of corporate social performance are a lot broader: Alongside motivating principles, i.e. drivers of corporate behavior, they include corporate behavior as such (processes of social responsiveness) and its outcome. Furthermore, the notion of corporate social responsibility tends be more narrow and less strongly focused on environmental (more strongly on social) effects of corporate activities than corporate sustainability (Marrewijk et al., 2003). The meanings of both concepts have increasingly converged (Wheeler, Colbert, & Freeman, 2003, p. 2), and are nowadays often considered synonyms.

Since the present study aims to analyze the determinants of and resulting approaches to CSM, the theoretical framework of corporate social performance is best suited. To date, the models of Wood (1991), Greening and Gray (1994) and Husted (2000) represent the most stringent theoretical foundations. As the author will illustrate in the following, they differ in terms of their strengths and weaknesses.

Lack of differentiation between social and environmental issues

Wood (1991, p. 708) focuses on the short-term social impacts of corporate behavior (factory disasters, illegal payments, etc). Here it is necessary to broaden the framework to explicitly differentiate between social and environmental issues, and thus take into account the pure environmental, i.e. biophysical, constraints (see section 2.3.1.1 Issues – the principle of public responsibility) of economic activities (Starik & Rands, 1995, p. 909). Similarly, Greening and Gray (1994) and Husted (2000) fail to distinguish between the two issue dimensions.

Inadequate process-orientation: From motivating principles to strategy, implementation and outcome

As pointed out earlier, Wood's (1991) model is a classificatory device that does not describe functional theory-based relationships between its elements. Furthermore, its systemization of processes (e.g. stakeholder management) and outcomes (e.g. social programs) does not lend itself to an analysis of how external and internal determinants influence companies' strategic disposition to CSM, which in turn influences the implementation of CSM and eventually the outcome (i.e. actual social and environmental effects) of CSM.

Husted (2000) takes a systems approach to social issue strategies, based on which the "nature of the social issue determines ideal strategy and structure that must be used to achieve an alignment between the firm and its social environment" (p. 34). He links certain strategies and structures to higher satisfaction of relevant stakeholders' demands (p. 36). His process orientation is very specific – clearly too specific for the present study, which was designed to

detect commonalities and differences between industries across the "entire process", i.e. from motivating principles to outcome.

Greening and Gray's (1994) model also incorporates a process view of external and internal determinants that influence the choice of corporate responses and resulting corporate social performance. However, their framework primarily relates to issues management structures and does not differentiate between strategic disposition and implementation.

Partial ignorance of company-specific determinants

Wood's (1991) framework does not account for company-specific determinants of CSM, a concept the author defines – following the terminology of managerial discretion – as corporate discretion. Corporate discretion has been referred to – even if not explicitly – in the context of two other motivating principles, legitimacy and managerial discretion: Davis (1960) states that the social responsibility of businessmen is influenced by the *cultural framework, objectives and policies of their companies*. Wood (1991, p. 700) notes that the principle of managerial discretion focuses on the "options and opportunities available to individual actors within *their organizational and institutional contexts*." The author of this study postulates that internal drivers such as corporate culture, tools and processes are significant motivating factors that influence (and are influenced by) managerial discretion: Managers' proactive attitudes are more likely to result in corresponding behavior (i.e. decision-making) when their working environment is "in tune" with them. Nevertheless, a differentiation between corporate and managerial discretion is clearly meaningful, because, for example, personal attitudes and corporate culture do not necessarily match.[5]

Whereas Greening and Gray (1994) separately and explicitly consider corporate discretion – under the label of resource dependencies/firm capabilities – and top management discretion (p. 491), Husted's (2000) model implicitly incorporates them into the different issue types. For example, Husted's (2000) type 2 social issue may involve an incongruence between the firm's perception of corporate vision/purpose and its external stakeholders. This incongruence may be partly caused by both corporate and managerial discretion (p. 32).

Lack of consideration of economic rationale

Wood largely neglects the economic rationale for processes of social responsiveness, although its importance is implicit (Freeman, 1984; Wilson, 2003, p. 4): Without profits, a firm neglects its economic function, its first and foremost social responsibility (Carroll, 1979, p. 500), and thus risks losing the license to operate from several stakeholders such as owners and employees. Greening and Gray (1994) include both corporate social and financial performance as an outcome component in their model. Husted (2000) implicitly takes into account the economic rationale, as he defines corporate social performance in relation to the (profit-driven) satisfaction of stakeholders. Overall, however, the business case for corporate sustainability is only marginally discussed in any of the frameworks presented.

2.3 Key concepts

Having discussed the existing theoretical frameworks relevant to this study, in this section the author introduces the corresponding key concepts that comprise:

- the determinants of CSM
- CSM and the individual subdimensions of strategic disposition, the economic rationale and implementation

[5] In fact, corporate discretionary factors such as investment in human resources directed at environmental issues have already been tested empirically under the label of the managerial discretion (Henriques & Sadorsky, 1995).

- and the outcome of CSM.

2.3.1 Determinants of CSM

The determinants of CSM comprise the three principles of social responsibility that feature in Wood's (1991) model of corporate social performance: public responsibility (issues), legitimacy (stakeholders) and managerial discretion (managers). As stated above, Wood's model does not account for company-specific determinants such as corporate culture. In the present study they are explicitly accounted for. In analogy to Wood's three original principles, company-specific determinants are summarized under the principle of corporate discretion.

2.3.1.1 Issues – the principle of public responsibility

The principle of public responsibility refers to the "functions of organizational management within the specific context of public policy" (Preston et al., 1975, p. 10). It postulates that

> *"businesses are responsible for outcomes related to their primary and secondary areas of involvement with society" (Wood, 1991, p. 697).*

Hence, it does not allow a definition of corporate responsibility through personal preferences and the social connections of firms' top executives. However, it leaves room for managerial interpretation of the relevance of problems (Wood, 1991, p. 698). It targets companies at the organizational level but does not require them to solve all of society's social and environmental problems (Wood, 1991, p. 697).

Wartick and Mahon (1994, also cited in Husted, 2000, p. 32) classified social issues based on different kinds of expectational gaps: (1) a cognitive conflict due to disagreements about the reality (e.g. different perceptions of environmental problems), (2) a conflict of vision and purpose (e.g. different perceptions of the legitimacy of producing a potentially harmful product), and (3) goal incongruence, e.g. conflicting goals and purposes between a company and its stakeholders (i.e. clash with a competitor's different corporate strategy).

Along these lines, the author of the present study defines an issue as any kind of social or environmental problem that is caused through companies' primary and secondary activities (also a lack of engagement), and which may eventually lead to expectational gaps between the company and its stakeholders. However, he will not differentiate between the different kinds of gaps described above, but rather between the environmental and social nature of issues.

Issues can differ across several dimensions that are interdependent and influence the strength of the underlying motivating principle: scope (global vs. local), sensory visibility (sight, smell, etc.), certainty (determinability of impacts), transparency (determinability of cause) and emotivity (Bansal & Roth, 2000; Bowen, 2000, p. 100).

The principle of public responsibility is empirically supported by various studies (e.g. Agle & Mitchell, 1999; Bansal et al., 2000; Cordano & Frieze, 2000; Henriques et al., 1996; Lawrence & Morell, 1995; Rondinelli & Berry, 2000; Winn, 1995). It is also linked to the principle of legitimacy: Obviously, the significance of an issue to a company depends on the existence of at least one stakeholder who is willing to reward or punish corporate activities that do or do not address the issue, i.e. the stakeholder's demand links the issue to financial threat or opportunity.

Scholars began discussing the significance of social issues relatively early – in fact environmental issues were treated as being of a social and an economic nature (Throop, Starik, & Rands, 1993, p. 66). Environmental issues were only recognized very late by strategic management theories, despite their biophysical and thermodynamic significance as is briefly illustrated in the following two paragraphs:

- The law of entropy states that disorder in any closed physical system is always increasing. Localized reduction of entropy within human organizations and other biological systems is only possible "at the expense of much greater amounts of disorder in the surrounding environment" (Throop et al., 1993, p. 72). This means that economic activities are inherently linked to increases in entropy, e.g. through the use of fossil fuels.
- Carrying capacity stands for the maximum population an environment can "sustain" without incurring long-term damage. For the human species, lifestyles play a significant additional factor since they determine intensity of consumption. Current levels of consumption are believed to be approaching or even exceeding the thresholds of global carrying capacity (Starik et al., 1995, p. 910).

Obviously environmental issues are largely sector-specific. In the energy sector they span a growing range of pollutants, hazards and ecosystems, but are also due to several factors such as population growth, economic development and lifestyles that are partly beyond the energy industry's control (e.g. air emission from mobility sector). They are mainly associated with the production and consumption of fuels, and most importantly include acid precipitation (through SO_2 and NO_x emissions associated with the use of fossil fuels), stratospheric ozone depletion (NO_x emissions), global climate change (mainly through CO_2 emissions), the emission of nuclear substances and the direct destruction of ecosystems through extractive activities (Dincer, 1999).

Social issues primarily comprise fuel poverty, particularly in rural areas of developing countries – also referred to as the North-South energy divide (World Energy Council, 1999). They also include relocations due to large hydropower or surface mining projects (Khagram, 2003; Suzman, 1998) and fair allocation of oil revenues between often totalitarian national governments and the local communities around extraction and production projects (Fritz, 2003; Gavin, 2003).

2.3.1.2 Stakeholders – the principle of legitimacy

The institutional principle of legitimacy originates from Davis (1960)' Iron Law of Responsibility. Davis defines social responsibility as "businessmen's decisions and actions that are taken for reasons at least partially beyond the firm's direct economic or technical interests (Davis, 1960, p. 70), and influenced by the cultural framework, objectives and policies of their companies. He states that people have historically been concerned with balancing power and responsibility. The Iron Law of Responsibility suggests that power and responsibility are co-equal: Avoidance of social responsibility has led to the reduction of power, since other societal groups, most importantly governments will assume the necessary responsibilities. Society can amend or revoke a company's charter to exist (i.e. license to operate), if it does not use its power in a way that society considers responsible (Davis, 1973 p. 314). Thus the principle of legitimacy can be phrased as follows:

> *Society grants legitimacy and power to business. In the long run, those who do not use power in a manner which society considers responsible will tend to lose it (Davis, 1973, p. 314 cited by; Wood, 1991).*

The principle of legitimacy is supported by several significant theoretical development such as Freeman's stakeholder theory – according to which firms should be responsible to "those groups who can affect or are affected by the achievement of an organization's purpose" (Freeman, 1984, p 49), and legitimacy theory (Suchman, 1995). The latter transcends early management theories that understood organizations as rational, social machines that efficiently transform inputs to outputs. The underlying rationale is based on the concept of organizational legitimacy, which Suchman defines as a "perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed

system of norms, values, beliefs and definitions" (Suchman, 1995, p. 574). Suchman concludes that companies and their managers have significant room for maneuver to ensure organizational legitimacy.

Numerous studies also empirically confirm the principle of legitimacy (Bansal et al., 2000; Greening et al., 1994; Lawrence et al., 1995; Winn, 1995). The importance of stakeholders in driving CSM depends on two factors: (1) their power to revoke a company's license to operate and (2) their demand for CSM. The latter factor is influenced by the legitimacy and the urgency of the demand (Agle et al., 1999, p. 508).

It is also meaningful to differentiate between two kinds of licenses to operate: the formal and the informal. The former is obviously granted by governments and regulators, the latter by non-regulatory stakeholders such as capital markets, NGOs and customers. Since both kinds are granted by different stakeholders, they can be amended or revoked for varying degrees of corporate environmental and social effects, depending on each stakeholders' individual agenda. The informal license to operate includes intangible concepts such as brand value and reputation, employee satisfaction (i.e. the goodwill of non-regulatory stakeholders). It is a significant moderating factor of CSM for the following reasons. First, every company has to have a formal license to operate. Hence a greater importance of the informal license to operate is associated with a risk premium. Second, legislative processes are relatively slow compared to possible ad hoc reactions from customers, NGOs or employees, which can affect the informal license to operate immediately (e.g. brand damage due to consumer protests, discontinued operations through strikes) (Steger, 2003, p. 73).

2.3.1.3 Managers' attitudes – the principle of managerial discretion

The principle of managerial discretion focuses on the level of the individual. It states that socially responsible action is not carried out by an abstract organization but by managers

> *who have an individual's right and responsibility to act responsibly within a given economic, legal and ethical framework (Wood, 1991, p. 698).*

The principle is based on the premise that society and companies provide managers with a set of choices (Ackermann, 1975, p. 32). Job description and corporate procedures leave managers' significant room to act more or less responsibly as individuals. Individual decisions are determined by several factors such as personal attitudes and values, which may vary according to different cultural backgrounds, levels of experience, etc (Wood, 1991, p. 700). As Dutton et al. (1983) state in their framework on strategic issue diagnosis, managers also have significant impact on how issues are organized and explored – i.e. on developments that precede the actual managerial decision – through their cognitive maps and political interests (p. 10) which influence cause-effect understandings, predictive judgments, language and labels.

A theoretical principle of socially responsible human action has been missing for a long time. Whereas literature on corporate social responsibility primarily emphasized organizational reaction to external demand, business ethics was to some extent more concerned with the action of individuals within the organization (Whetten et al., 2002, p. 382). Models of ethical and unethical behavior in companies were largely absent until the end of the 1980s, when Bommer et al. (1987, p. 265) developed a model that explains decision-making through the individual problem situation or dilemma and several environmental (such as social, professional and personal) factors.

The importance of the principle of managerial discretion has been empirically confirmed by various authors (Andersson & Bateman, 2000; Bansal et al., 2000; Cordano et al., 2000; Egri & Herman, 2000; Greening et al., 1994; Morris, Rehbein, Hosseini, & Armacost, 1990; Sturdivant & Ginter, 1977; Winn, 1995).

2.3.1.4 Company-specific determinants – the principle of corporate discretion

The principle of corporate discretion is not an explicit part of Wood's framework, although it is interlinked with managerial discretion. In analogy to the latter, it states that

> *companies have the potential and responsibility to provide an adequate organizational and institutional context for the mindset and activities of its employees*

through e.g. corporate cultures, corporate objectives and policies (Davis, 1960; Wood, 1991, p. 700). Company-specific factors constitute important determinants of how strongly companies exercise their discretionary powers to resolve social and environmental issues: "Though external factors create incentives and expectations for firms, intrafirm dynamics are likely to influence how managers perceive, interpret and translate these external pressures into actionable items" (Griffin, 2000, p. 485). Bommer et al. (1987, p. 271) also argue that corporate goals, policies and culture "strongly influence managers' decisions on whether to act ethically or unethically." Furthermore, Fredrickson (1986) suggests that – in addition to the undisputed "structure follows strategy" – structure has a significant effect on strategy, particularly when strategy is not sufficiently institutionalized (p. 295). This is likely to be particularly relevant to CSM if strategy lacks – as it is often the case (Morsing, 2003) – institutionalization and integration into business strategies.

Several empirical studies have confirmed the importance of corporate discretion, although the authors never explicitly referred to the principle as such. In fact Henriques and Sadorsky (1995) tested and partly confirmed firms' financial positions and investments in human resources as determinants of environmental responsiveness under the explicit label of "managerial discretion." Other authors ascertained the role of corporate structures (Lawrence et al., 1995, p. 116; Swinth & Raymond, 1995), corporate tools (Kolk & Levy, 2001), corporate culture (Cruz Deniz-Deniz & Garcia-Falcon, 2002) and organization size (Greening, 1995, p. 487) in influencing *individual* dimensions of CSM such as climate change strategies, emission reductions, issue management structures and social programs.

2.3.2 CSM

As outlined above, a widely accepted definition of corporate sustainability is missing in the theoretical literatures to date. The notions of corporate sustainability and sustainable development are rather abstract and constitute rather guiding principles for corporate activities (Marrewijk, 2003; Marrewijk et al., 2003; World Commission on Environment and Development, 1987).

In most corporate social performance models, the notion of responsiveness provides "an action counterpart to the principled reflection of social responsibility" (Wood, 1991, p. 703). This action counterpart, which corresponds to the meaning of CSM in the present study, has been systemized in different ways (Ackermann, 1975; Strand, 1983; Wood, 1991). However, none of them differentiated between strategy and implementation. The author argues that this differentiation is meaningful, because it takes into account that corporate responsiveness through processes such as environmental assessment, stakeholder management and issues management (Wood, 1991, p. 703) is contingent upon:

- a more or less conscious strategic decision to react to the motivating principles, i.e. drivers, more or less strongly and systematically (strategic disposition). This decision obviously relies on how companies recognize and evaluate drivers, and how they perceive the financial effect of responding to them, i.e. how strong and sound their economic rationale is.
- and a company-specific approach to implementing this strategic decision through different means such as management tools, structures, etc. (implementation).

In this situation it appears obvious to go beyond existing notions of corporate social responsiveness, also to consider both social and environmental issues. The resulting definition refers to CSM as:

> *The strategic and profit-driven corporate response to environmental and social issues that are caused through the organization's primary and secondary activities. It incorporates a certain level of strategic disposition to respond, is based on a more or less elaborated economic rationale and implemented through tools, structures and initiatives.*

The first part of this definition is rather close to that of issues management which has been described as a firm's identification, analysis and response to social and – in the case of strategic issues management as defined by Dutton (1987) – purely competitive issues (Greening et al., 1994). However, the author intentionally refrained from using this terminology to dissociate the concept of CSM from the usual "dangerous" connection of issues management with public relations and crisis management (see also p. 26).

The attribute "strategic" emphasizes the need for a systematic and integrated approach, the attribute "profit-driven" stresses the importance of a sound economic rationale for resolving issues under consideration and thus acknowledges economic responsibility as the fundamental organizing principle: A firm can only successfully resolve issues associated with its activities if it generates profits in the mid to long term.

CSM as defined above incorporates three important subconcepts, namely strategic disposition, economic rationale and implementation. Since none of them has been described and defined in the context of corporate social responsiveness or related concepts before, the author provides definitions in the following paragraphs.

Strategic disposition

The strategic disposition to CSM refers to

> *companies' willingness to integrate social and environmental issues systematically and persistently into their business strategies.*

Thus it represents the strategic component of corporate social and environmental responsiveness. It is influenced by the four motivating principles described above: public responsibility, legitimacy, managerial discretion and corporate discretion.

Economic rationale

The economic rationale for CSM has been conceptualized through the notion of the business case for sustainability (Epstein et al., 2003; Holliday, Schmidheiny, & Watts, 2002; Perceval, 2003; Reed, 2001).[6] If a significant positive economic net effect of integrating an environmental or social issue into business strategies or operations can be clearly diagnosed, one usually speaks of a strong business case for sustainability. Obviously, the stronger the business case (e.g. improved reputation and process efficiency), the greater the motivation for CSM (Bansal et al., 2000).

It should be noted that the term "business case for sustainability" is still rarely used among scholars who, particularly in the US, refer rather to a positive financial-social performance link (e.g. Griffin et al., 1997; Preston & O'Bannon, 1997; Stanwick & Stanwick, 1998a). This link is also at the root of the major frameworks building a theoretical business case for sustainability. They primarily comprise the social impact hypothesis (Cornell & Shapiro, 1987) and the good management hypothesis (Waddock & Graves, 1997). Several authors have

[6] To fully adhere to the terminology used in the present study, one would have to use the term "the business case for CSM." However the author has stuck with the original notion, since it is already relatively commonly used today.

also explicitly discussed a non-linear, inverted U-shaped relationship between environmental or social and financial performance (Alanen, 1998; Lankoski, 2000; Salzmann, 2002; Schaltegger & Synnestvedt, 2001; Steger, 2004). An inverted U-shaped relationship not only explains the largely inconclusive empirical evidence on the link between environmental or social and financial performance, but is also intuitively appealing since "exaggerated" improvements of environmental or social performance (e.g. towards a zero emission goal) are extremely costly, and would most certainly damage corporate profits.

A business case for sustainability can only be built systematically through a process that

> *recognizes relevant social and environmental issues and the economic potential of resolving them and integrates them into strategies.*

This process, in the following text referred to as issue integration, should not be confused with the notion of issue management, which still largely has a connotation of issue shaping through public relations, crisis management, etc. (Ansoff, 1975; Arrington & Sawaya, 1984).

Implementation

Applying contingency theory to organization design suggests that there is no best way to align organization to a strategic decision, but all alternatives are not equally suitable (Galbraith & Kazanjian, 1986, p. 9). Various "soft" (e.g. corporate culture) and "hard" (e.g. structure) means exist to fulfill this task. They comprise inter alia management tools such as e.g. incentive systems, tasks and initiatives (i.e. concrete actions depending on how the strategy is operationalized) and structures (e.g. cross-disciplinary, cross-business teams) (Hussey, 1996, p. 8; Maxwell, Rothenberg, Briscoe, & Marcus, 1997, p. 120).

In the present study, three dimensions of the implementation of CSM are considered:

1. The portfolio of management tools that companies use to ensure that the strategic disposition is implemented
2. The portfolio of initiatives that companies carry out to resolve environmental and social issues. It should be noted that – to narrow the already immense scope of the study – initiatives for stakeholder interaction (Wood, 1991, p. 704) will not be accounted for, even though they constitute a significant component of sustainability management.
3. The corporate structures and degree to which they facilitate collaboration between sustainability experts and general managers (in the following referred to as cross-disciplinary collaboration).

The third component is meaningful, because structures strongly determine companies' information processing and learning capabilities (Steger, 1998, p. 232). Collaboration may occur for a finite period of time in ad hoc cross-functional teams (Ford & Randolph, 1992, p. 272; Lawrence et al., 1995) or continuously in permanent management structures that have been established for e.g. goal setting (Maxwell et al., 1997, p. 120). In any case, closer collaboration between general management and (environmental or sustainability) experts indicates a higher level of implementation, since it illustrates that the experts take a greater role as advisors or change agents.

2.3.3 Outcome of CSM

Wood (1991) divides the outcome of corporate social performance into three types: social impacts of corporate behavior, programs used to implement responsiveness and policies to handle issues and interact with stakeholders (p. 708). She considers corporate social performance a configuration of motivating principles, processes and outcomes. In contrast to her process-oriented perspective, Greening and Gray (1994) and Husted (2000) prefer a

"results orientation" in their frameworks, i.e. the outcome of a corporate response is some level of corporate social performance, defined as the extent to which stakeholders' expectations are satisfied or exceeded (Husted, 2000)

As already elaborated above in section 2.2.4, for the purposes of this study it is more adequate to define outcomes of CSM

> *as a change in the social and environmental effects of a company's primary and secondary activities, which results from undertaking social and environmental initiatives and affects the company's financial performance.*

The definition is kept neutral, since the outcome of corporate initiatives is not necessarily positive, particularly since it features three dimensions (environmental, social and financial), which cannot – as discussed above – be expected to have a consistently synergistic relationship (see also Griffin et al., 1997; Salzmann, 2002).

3 Review of empirical literature

In this section, the author will review the relevant empirical literature. He will begin with an overview of empirical studies undertaken on both sectors (see Table 3-1). This overview will be brief and concise to on the one hand provide some insight into research foci to date but on the other to avoid redundancies: Any sector-specific research that is relevant to the present study will be discussed in more detail in the coming subsections, in which previous research in the study's key concepts will be reviewed.

It is apparent that much more research has been done on the OG sector than on the UT sector, largely due to its great visibility, the sheer scale of its operations, its financial power, and environmental effects. Empirical studies on the two sectors primarily focus on:

- environmental issues (climate change in particular) and their external costs; as well as stakeholder management (with a clear focus on the OG sector)
- corporate strategies and management paradigms (here the OG sector is clearly a more frequent subject of studies)
- major drivers and trends in both markets such as supply security, consolidation through mergers and acquisitions, market liberalization (in the UT sector only), etc.

Studies on the oil & gas (OG) sector		Studies on the electric/gas utilities (UT) sector	
Environmental issues in general, in particular those associated with extractive activities and emissions.	Dincer (1999), Garcia (2003)	Market trends and liberalization	Birnbaum (2002)
Corporate responsiveness and strategies	Sharma (1999), Perceval (2003)	Climate change	Asmus (2002)
Climate change strategies	Asmus (2002), Kolk (2001), Rowlands (2000), Skjaerseth (2001), Reinhardt (2001)	Nuclear power	Stoett (2003), OECD (2002)
Changing industry structure through mergers and acquisitions	e.g. Ernst (1999)	External cost of power generation	Söderholm (2000), Folland (2000)
Management paradigms	Adelman (1995), Pollio (1999)		
Long and short-term stability of supply and possible economic and political implications	Tempest (1993), Moran (1981)		
Stakeholder and crisis management	Steger (1997), Lawrence (2002)		

Table 3-1: Empirical studies on OG and UT sector

Overall this leaves vast research areas such as a comprehensive analysis of the determinants and outcome of CSM untouched. Sharma and Vredenburg's (1994) and Perceval's (2003) contributions are rare exceptions but are merely qualitative in nature.

3.1 Determinants of CSM

In general, research taking a contingency perspective to examine various influential factors is – despite several early studies in this domain – limited. This is because those studies only focused on narrow aspects of CSM, e.g. changes in corporate structures (Holmes, 1978), corporate preferences for social activities (Holmes, 1977) and corporate goals (Shetty, 1979). Holmes (1978) found that structural alterations in large corporations in order to become more socially responsive were industry-specific. She also identified industry-specific preferences for certain kinds of social activities (Holmes, 1977): Whereas oil, gas and mining companies were particularly inclined to reduce pollution, utility companies (alongside transportation and communication firms) were more strongly focused on donations and recruiting racial and ethnic minorities (p. 436). Shetty (1979) similarly concluded that industry-specific strategic issues and company size influenced the (also socially-oriented) configuration of corporate goals.

Studies on managers' attitudes toward corporate social responsibility are relevant for two reasons. First, they point to the principle of managerial discretion, particularly since they have been able to link managers' attitudes to corporate responsiveness (e.g. Sturdivant et al., 1977). Second, they provide complementary evidence for the contingent character of CSM, since they detected several significant determinants of attitudes:

- Organizational activity: Leaders in nonprofit environmental organizations are more pro-environment and more receptive to transformational leadership (i.e. fundamental

transformation of mission, structure, culture, etc.) than leaders in for-profit environmental product and service organizations (Egri et al., 2000)

- Management level: Marz et al. (2003) found that mid-level and female managers exhibited higher social orientation than their low-level and male counterparts.
- Age: Collins and Ganotis (1973) detected an "unexpected" lowest sense of personal responsibility among young managers.

Country influences appear to be less important. Quazi and O'Brien (2000) tested the validity of their two-dimensional model of CSR across two national cultures (Australia and Bangladesh) and found that differing cultural and market settings were found to have little effect on managers' CSR concepts. Similarly, Maignan and Ferrel's (2000) cross-national study (US, France) on a four-dimensional model of corporate citizenship revealed only a few differences between the samples.[7]

Another set of studies examined determinants of varying concepts of corporate social or environmental responsiveness. Since virtually all of these studies analyze a set of several determinants, a detailed determinant-specific discussion would become rather opaque. It should be noted that the empirical findings of *all* studies have been respectively briefly referred to already in sections 2.3.1.1 to 2.3.1.4 above in the context of the corresponding determinant. However, in the following the author will only discuss the most significant contributions in more detail:

Greening and Gray (1994) analyzed differences in corporate structures for issues management and their determinants within similar macro-institutional environments. Based on their empirical testing of hypotheses incorporating both institutional and resource dependency theories, they developed a contingency model of corporate social performance, which includes – consistent with Wood's (1991) model – societal demands and organizational response capabilities (Greening, 1994, p. 491). They concluded that a combination of institutional pressure, managerial discretion and firm size determines variations in issues management structures. The authors also controlled for possible industry influences in their data and found that oil and gas companies as well as utilities were less likely than food processing companies to employ committees for issues management activities.

Winn (1995) studied the determinants of innovative environmental policy changes through interviews she conducted in four US firms. Firms surveyed (American Airlines, Bank of America, Patagonia Inc., and StarKist Tuna Company) were selected to represent a wide range of different companies in terms of age, size, ownership structure and industry sector. Winn identified "changing legitimacy demands by various pressure groups in conjunction with the presence of a management champion" as the most significant drivers of policy changes.

In their survey of 400 large Canadian firms, Henriques and Sadorsky (1995) quantitatively examined the determinants of environmental responsiveness (operationalized through a formulated plan for dealing with environmental issues). Regression analysis indicated that environmental responsiveness was positively influenced by several company-specific factors (such as having a person responsible for environmental issues, the existence of an issue committee, sizable assets due to high level of managerial complexity and public visibility), environmental issues that were seen as very important, and outside pressure from shareholders, customers, regulators (due to high cost of non-compliance). A firm's

[7] Attitudes towards CSR were also investigated by e.g. Arlow et al. (1982), Bowman (1977) Holmes (1976) and Rojsek (2001).

profitability and information-related investments had no influence. In another paper based on the same data, the authors adopted a different statistical approach and detected significant effects of outside pressure, a firm's sales-to-asset ratio[8], the importance of environmental issues and industry sectors: Compared to the manufacturing sector, the natural resource sector was more, and the service sector less environmentally responsive (Henriques et al., 1996).

Lawrence and Morell (1995) analyzed environmental management practices and their drivers through case-study research in eight US manufacturing firms. Facilities were selected based on previous significant progress in reducing hazardous chemical emissions, achieved through excellence in environmental management. The authors identified a complex interaction of four factors leading to proactive environmental practices: Motivation (through regulation, competitive advantage, top management), opportunity (defined as a recognized occasion for change such as the introduction of a new product), resources (financial, technical and informational) and processes (such as line management involvement, cross-functional team, TQM processes, environmental audits and incentive systems).

Sharma et al. (1999) analyzed corporate environmental strategies in the Canadian oil and gas industry in terms of issue interpretation and organizational context elements. The authors conducted 19 interviews with senior executives and middle managers in seven different companies. Based on this multi-case study approach, they were able to differentiate between reactive and proactive strategies, which were driven by risk reduction and the creation of competitive advantage, respectively. They found that leaders appeared to adopt proactive opportunity-based approaches, whereas laggards exhibited more reactive and threat-based strategies (p. 94). Differences in strategies were additionally attributed to the following dimensions of organizational context: timing of response, issue legitimation through top management, information flow and control (incentive) systems.

Bansal and Roth (2000) identified the following motivations for ecological responsiveness (defined as a set of corporate initiatives aimed at reducing environmental impact) through a qualitative study on two large UK firms: (1) the potential to improve long-term profitability (competitiveness) from improved reputation, process efficiency, etc. ; (2) legitimation in order to avoid undermining the license to operate or long-term survival; and (3) ecological responsibility. Although motivations were found to be mixed, firms were largely driven by legitimacy, less by competitiveness, and even less by ecological responsibility.

Skjaerseth and Skodvin (2001) discussed differences in the climate policy strategies of Shell and Exxon Mobil based on two models. The corporate actor model explains strategic choice through company-specific factors (in this study: environmental risk, environmental reputation and organizational learning); the domestic politics model suggests that differences in climate policy strategies are due to country-specific societal demands and governmental pressure. The authors concluded that observed differences in strategies cannot be explained through company-specific features, but rather through the variation in societal and political context.

Kolk and Levy (2001) analyzed developments in oil companies' climate change strategies and identified several explanatory factors. These included the location and timing of changes in strategies (socio-cultural and regulatory context), companies' economic and market position, and internal organizational factors (degree of centralization, position of CEO, corporate culture).

Dunn (2002) compared corporate climate change strategies and their drivers. He identified three major determinants of climate policy risk, which vary across industry sectors and

[8] A high ratio is seen as an indicator of firms that work close to capacity, and thus may be more concerned with reengineering and restructuring than environmental issues (Henriques et al., 1996).

countries, and drive corporate climate change strategies (technology, economics and policy). Since the perceived risk of climate policy is relatively high among electricity and energy suppliers, they exhibit relatively active climate change strategies. Dunn also specifically points to cross-functional variation in terms of involvement in government trading schemes and investment in long-term energy sources, and a transatlantic divide of corporate positions due to different government policies and public opinion.

Banerjee et al. (2003) empirically examined antecedents of corporate environmental orientation and environmental strategy. Based on multigroup path analysis of data from 243 North American managers, they concluded that public concern, regulatory forces, competitive advantage and top management commitment constitute important drivers of corporate environmentalism. Furthermore, they found that several of these effects are moderated by industry type. Whereas high environmental impact industries are mainly driven by public concern, followed by regulations, sectors causing moderate environmental effects mainly react to competitive advantage, followed by regulatory forces.

Buysse and Verberke (2003) analyzed the environmental strategies of 197 Belgian firms from different industries in terms of their stakeholder management perspective. They found that companies with (rather reactive) pollution prevention strategies considered regulators most important, whereas those exhibiting more proactive leadership strategies aimed to "actively manage the changing norms and expectations of various stakeholders, other than regulators" and perceived the primary stakeholders (employees, shareholders, customers and suppliers) as particularly important (p. 476).

3.2 CSM

Empirical studies on CSM have focused on a wide range of different topics such as strategies (Tapon & Sarabura, 1995), stakeholder management practices (Morris, 1997), business planning (Dechant & Altman, 1994), and reporting (Rondinelli et al., 2000).[9]

In the following sections, empirical studies that relate to the subconcepts of CSM, namely strategic disposition, economic rationale, and implementation will be reviewed. It should be noted that several studies examined several concepts simultaneously (e.g. Arlow et al., 1982; Rondinelli et al., 2000).

3.2.1 Strategic disposition

Studies that examined companies' strategic disposition to or different conceptualizations of corporate social and environmental responsiveness (e.g. changes in policies, introduction of environmental plans) primarily focused on the determinants of responsiveness (e.g. Banerjee et al., 2003; Henriques et al., 1995). Studies on strategic disposition as such could not be found in the literature, obviously because an isolated examination of this concept only provides limited scope for research.

The author presents two empirical studies that deal with corporate strategies, their link to CSM and operationalization. They are featured to illustrate:

- how corporate strategies are influenced by motivating principles of CSM, i.e. "green concerns," in a sector (the chemical sector) that is as process-oriented as the OG and UT sectors (Tapon et al., 1995).
- that the complex requirements of the concept of sustainable development or corporate sustainability tend to overburden companies in general, and are clearly dominated by financial goals (Mathieu, 2002).

[9] Other relevant studies include those of Elkington (1994), Mathieu (2002) and Dunn (2002).

Tapon and Sarabura (1995) discussed the impact of green concerns on corporate strategies in the chemical industry. Three key elements of green strategies were identified: (1) transparency to build and maintain trust through strategic intent, adequate corporate cultures, environmental audits and customer/public relations; (2) process and product redesign; and (3) waste handling.

Mathieu (2002) examined the role of sustainable development in German companies through 31 interviews with experts, managers and members of industry associations. She discussed problems associated with the complexity of the term "sustainable development" (SD), SD dimensions and their integration into corporate goals, operationalization and implementation, and measures and instruments. According to her findings, SD (as a three-dimensional concept) plays only a minor role in most companies. The economic dimension dominates the social and environmental ones. Furthermore, most companies followed internal guidelines for implementing SD. Due to a clear lack of specifically SD-related measures and instruments, companies mostly relied on "conventional" tools of environmental management (p. 223).

3.2.2 Economic rationale

Studies that deal with the economic rationale for CSM can be broadly assigned to three categories: (1) instrumental studies on the financial effects of CSM; (2) descriptive studies on how the economic rationale is built in companies; and (3) studies on the process of issue integration.

Instrumental studies

Qualitative approaches such as case studies are dominated by anecdotal evidence on successful pollution prevention projects and cost savings but also refer to other issues such as risk avoidance and corporate sustainability as part of operational excellence (Dechant et al., 1994; Elkington, 1994). Furthermore, a plethora of quantitative studies based on various different methodologies[10] did not find a simple relationship between environmental and social performance on the one hand and financial performance on the other. This is obviously – as pointed out in several empirical research reviews (Griffin et al., 1997; Pava et al., 1996; Wagner & Schaltegger, 2001) – because:

- The relationship is dynamic and contingent on situational, company-specific, country-specific and plant-specific[11] factors. Industry and plant effects appeared to reflect factors within corporate control (e.g. organizational capabilities) and beyond it (e.g. imperfect markets, government interventions) (Lankoski, 2000; Reinhardt, 1999, p. 10).
- There were several shortcomings in the methodologies such as the use of a wide variety of sometimes poor social performance (SP) measures, a lack of control variables,[12] insufficient empirical testing of definitions and concepts, and inadequate sampling techniques (Griffin et al., 1997; Orlitzky, 2001).

The wide majority of studies are focused on large multi-industry US samples, leaving a vast research area untouched. Given the substantial amount of instrumental research undertaken, it

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[10] Methodologies comprised correlation, regression and portfolio analysis (e.g. Bowman & Haire, 1975; Bragdon & Marlin, 1972; Campbell & Soderstrom, 1996; Davidson III & Worrel, 1990; Dowell, Hart, & Yeung, 2000; Hillman & Keim, 2001; Kiernan, 2001; McGuire, Sundgren, & Schneeweis, 1988; Pava & Krausz, 1996; Preston et al., 1997; Ruf, Muralidhar, Brown, Janney, & Paul, 2001; Stanwick & Stanwick, 1998b; Stanwick et al., 1998a; Verschoor, 1999, 2002), and event studies (Frooman, 1997; Innovest, 2002a).

[11] Lankowski also found firm level effects almost forty times as important as industry-level effects.

[12] Several control variables were proposed, including the national level and approach of environmental regulation, firm size, and industry market structure (Wagner et al., 2001)

is particularly unfortunate that to date only few studies have taken a more differentiated contingency perspective: They focused on one particular industry (Greening, 1995; Moore, 2001; Simpson et al., 2002), adopted a comparative approach across several industries and/or plants (Klassen & McLaughlin, 1996; Lankoski, 2000) and examined additional factors that could possibly confuse the relationship. Probably the most significant study to date is Lankoski's analysis of the determinants of environmental profit (Lankoski, 2000).[13] Overall the evidence of instrumental studies reviewed reveals considerable uncertainty among scholars about the robustness of a business case for sustainability.

Descriptive studies

Very few studies so far have dealt with the economic rationale on a more specific organizational level, i.e. how companies build and present their business case for sustainability. Epstein and Roy present a sustainability linkage map that helps managers operationalize corporate sustainability strategies. The framework incorporates five components comprising corporate and business unit strategies, sustainability actions, sustainability performance, stakeholder reactions and long-term corporate financial performance (Epstein & Roy, 2001, p. 589). They acknowledge the difficulty of a broad identification and assessment of stakeholders, issues and related performance, but argue that "few costs can be considered purely external" in the long term. Furthermore, they note that only a few companies have quantified the link between sustainability and financial performance. Some engage in sustainability actions as the right things to do. In both cases, sustainability actions are vulnerable to "swaying public opinions, changing corporate leadership and financial cycles" (Epstein et al., 2001, p. 603). In a corresponding analysis of 20 external corporate reports, they examined companies' use of systems and measures that link sustainability actions to long-term financial performance. They distinguished between environmental, health & safety, community- and employee-related elements of sustainability actions. Examples of a full link to corporate financial performance were numerous for the environmental dimension but typically limited to the direct benefits of cost reduction (Epstein et al., 2003, p. 84). The authors did not find any full linkages between corporate financial performance and community relations or employee management. Consequently they advocate the use of corporate performance models that illustrate companies' underlying assumed motivations for sustainability actions, and point to the need for more specific guidance about trade-offs and causal relationships through appropriate metrics and data gathering.

Ruud (1995) assessed the rationality of the corporate environmental actions of transnational corporations involved in bauxite mining. The author argues for a distinction between two factors relevant to corporate decision-making: the individual decision-maker and the firm. In the case of reclamation of bauxite mines, the decision-makers' belief that their firm should engage in more sustainable business practices is suggested to be rational from both the individual's moral and the company's profit-maximizing point of view: The beyond compliance behavior has several economic advantages, such as the standardization of global activities; better access to new, neighbor mines through reclamation; enhanced licenses to operate and image; and the reduction of future liabilities. Although morally phrased projects can be (ex post) explained by their profitability, the promotion of more sustainable practices can be "severely hampered if the proposed projects are presented in times of financial difficulties, particularly if the project has purely cost creating character in the short term (p. 18).

[13] Environmental profit was operationalized as overcompliance, i.e. a perceived win-win situation, measured as the percentage share of actual effluent discharges in the permitted effluent discharges.

Similarly few studies provide more "technical" assistance on how to build and quantify the BCS. WWF-UK (2001) has published a route map toward the business case, designed as a guideline for senior managers aiming to build their company-specific business case. The route map has 6 steps – from identifying significant impacts to determining preferred actions for inclusion in a business case. Repetto (2000) presents a tool that is primarily targeted at the financial sector (but also managers). It is designed to quantify and benchmark environmental exposure and risks and identify the financially most effective investments to reduce environmental risk. The underlying methodology is scenario-based and uses standard techniques of financial analysis.

Issue integration

Hainsworth and Meng (1988, p. 27) argued that issue management can be seen as "proactionary rather than reactionary," since it is used to influence the development of issues that may have an impact on corporate activities. However the terminologies used in most empirical (and theoretical) studies suggest that issue management refers to a more reactive approach of managing surprises at an operational level rather than the active search for important issues whose integration into business strategies can be based on a sound economic rationale. Thus empirical studies on issue management are hardly relevant.

3.2.3 Implementation

Essentially there are no empirical studies on the implementation of – explicitly – CSM. However several dimensions of corporate responsiveness – environmental management in particular – have been researched. Inter alia, studies have discussed companies' activities (Maxwell et al., 1997), effects (e.g. Hamschmidt & Dyllick, 2001; Steger, 2000), success factors (Ramus & Steger, 2000) and barriers (Apsan, 2000). In the following, the most relevant studies will be discussed in more detail:

Arlow and Gannon (1982) conducted a meta-analysis of empirical studies on the relationship between social responsibility and executive perceptions, corporate goals and practices, organizational changes, and economic performance. They found that corporate social responsibility (CSR) is operationalized in companies in a mixture of voluntary and mandated programs, rarely driven by profitability. They also identified new company policies, organizational positions and arrangements as CSR-driven organizational changes, and concluded that the most appropriate perspective on social responsiveness is a contingency one, incorporating several factors such as the nature of the industry and organizations' resources and skills (p. 240).

Maxwell et al. (1997) presented three case studies to discuss issues of implementing corporate environmental strategies. They identified several key challenges, including internal conflicts, lack of management structures, inconsistencies between goals and resources – across business divisions and diverse geographic markets. Furthermore, the authors pointed to various success factors for effective implementation, including (1) visible top management commitment and incentive systems; (2) management structures improving lines of communication and encouraging the integration of (environmental) issues into business operations; and (3) formulation of environmental strategies and corresponding management systems that are congruent with the existing corporate culture (p. 131).

Andersson and Bateman (2000) compared successful and unsuccessful environmental championing episodes in US firms through survey and interview data. They concluded that the former were associated with more environmental scanning and specific issue framing (e.g. relying on formal business language, and framing issues as financial opportunities). "Soft" influencing tactics of coalition building and inspirational appeal were found to be used more often by successful environmental champions. Additionally, the following internal and

external contextual factors appeared to influence the success of championing episodes: corporate environmental paradigms, regulatory requirements, competitive pressures and the presence of antagonists.

Perceval (2003) compared the approaches of Shell and BP to sustainable development: Based on qualitative data (primarily interviews in both companies), he reports that both have recognized the strategic advantage of beyond compliance positions, mention concepts of sustainability in mission and value statements. Whereas Shell anticipates social and environmental expectations through "global business scenarios", BP has opted for a more "opaque system" because it considers changing business strategy "according to expectations of future outcomes" too risky. In both companies, responsiveness to societal expectation is essential to maintaining their licenses to operate and is facilitated through various systems such as stakeholder engagement to detect issues and respond adequately. Furthermore, both firms have systems, structures and routines reflecting the significance of social, environmental and economic criteria: At Shell, responsibility is delegated more fully to units and businesses. Measurement and information systems also differ slightly, presumably reflecting different perceptions about their responsibilities: BP measures its impact in order to manage its risk and be accountable to society. Shell is pioneering in its acceptance of the role of NGOs as verifiers of its reporting. Perceval also identified a clear distinction in policy formulation: Whereas BP takes a risk-based view of the BCS with a "keen awareness to focus on avoiding value reduction that might arise from over-integration of SD thinking," Shell has a more synergistic and growth-based approach.

Rondinelli and Berry (2000) carried out a content analysis of the environmental reports of 37 multinational companies' in order to identify driving forces, practices and their effects on sustainable development and economic performance: The number of reported externally oriented practices (e.g. strategic alliances with stakeholder groups) was relatively small compared with that of internally oriented initiatives, among them pollution prevention and clean manufacturing, and product and process redesign. Despite the lack of quantification, companies report on the economic benefits and value drivers, including the reduction of risks and liabilities, longer-term returns resulting from competitive advantage, resource preservation, favorable image, and product innovation.

3.3 Outcomes

There are several empirical studies examining the outcomes of CSM. They are limited to case studies and anecdotal evidence on the successful implementation of CSM and have already been reviewed above in sections 3.2.2 Economic rationale and 3.2.3 Implementation. Overall insights provided are limited because the outcome of CSM is not consistently defined and operationalized – through e.g. more commitment, lower emissions, improved source reduction – in any of the studies (Maxwell et al., 1997).

There are no quantitative studies examining possible determinants of the outcome of CSM in the existing literature. Several instrumental studies (Kraft & Hage, 1990; McGuire et al., 1988; Moore, 2001) examining the corporate social-financial performance link found that greater financial performance led to greater social performance. However, their approach was clearly focused on the link between social and financial performance, and thus additional determinants such as structure, management tools and initiatives were ignored.

3.4 Summary and research gaps

Based on his review of empirical studies on key concepts of this study, the author concludes the following:

1. Studies on the drivers of CSM only examined a subset of the four determinants referred to above. They are based on either qualitative or quantitative approaches. The empirical basis for Wood's three "original" principles of social responsibility is strong but biased toward the environmental dimension of CSM.
2. CSM is contingent upon various factors such as sector and even plant characteristics, region of operations, etc. Hence it is important to conduct (1) sector-specific studies to increase the internal validity of results; or (2) – even better – comparative studies to simultaneously ensure internal and external validity. Few studies explicitly analyzed sector and plant effects respectively but focused only on components of CSM such as determinants of environmental responsiveness (Banerjee et al., 2003; Henriques et al., 1996) and environmental profit (Lankoski, 2000).
3. There is a lack of descriptive research on CSM in general and on its economic rationale in particular. Based on the few studies that have been conducted, one can conclude that companies engage in CSM for economic reasons, but lack adequate models and methodologies to operationalize this economic potential in a systematic way. Thus managers' decisions are often taken in conditions of significant uncertainty.
4. Implementation of CSM is contingent upon various internal factors such structures, management tools, etc. However, quantitative research on implementation and its effectiveness are largely lacking.
5. Overall most empirical studies focus on more or less narrow subsets of the key concepts of CSM. Generally they take a narrow environmental perspective. The social dimension of CSM is largely ignored.

4 Conceptual rationale and research questions

In the following sections the author presents the conceptual framework, which is based on the comprehensive assessment of existing theoretical frameworks in section 2 Theoretical foundation and concepts. It was developed to:

- match the focus of the study, and
- provide a stringent theory and well laid-out arguments from which research questions or hypotheses can be derived (Bortz et al., 2002, p. 27).

Furthermore the author links the framework to a set of specific research questions formulated to concretize the study's objective and reflect the gaps in the empirical literature identified in section 3.

The framework attempts to model corporate sustainability performance. Analogous to Wood's model (1991, p. 693), corporate sustainability performance is defined as

> *a business organization's configuration of external and internal determinants of CSM, strategic disposition to, economic rationale for, implementation of CSM, and its outcome*

The framework is based on several models of corporate social performance (Greening et al., 1994; Husted, 2000; Wood, 1991) that have several shortcomings in the context of this study. Thus the final framework has several modifications (see Table 4-1):

Shortcomings in models of corporate social performance (Greening et al., 1994; Husted, 2000; Wood, 1991)	**Modified framework for corporate sustainability performance**
Lack of differentiation between social and environmental issues	Explicitly incorporates both the social and environmental dimension
Economic rationale ignored	Definition of CSM includes reference to the need for a business case
Inadequate process orientation and systemization of subconcepts	New systemization of subconcepts and definitions: - Strategic disposition - Implementation - Outcome defined as social and environmental effects of corporate behavior only
Partial ignorance of company-specific determinants of corporate responsiveness	Explicitly accounts for the motivating principle of corporate discretion ➔ Accounts for four motivating principles in total

Table 4-1: Modifications to Wood's (1991) model of corporate social performance

Consequently the corporate sustainability performance model has several advantages (see Figure 4-1):

1. It explicitly accounts for both the social and environmental dimensions of issues and of CSM, and thus also emphasizes their biophysical (and non-social) and intergenerational long-term scope.
2. It features four determinants – in Wood's (1991) model referred to as principles – of social responsibility: issues, external stakeholders, managers and company-specific factors.
3. Its systemization of concepts allows a differentiation between the strategic and the implementational dimensions of CSM.
4. Its process orientation facilitates a sequential view of CSM ranging from its determinants through strategic disposition and implementation, to its outcome. It thus allows one to see corporate sustainability management and its outcome as dependent variables (Husted, 2000, p. 25)
5. The model explicitly incorporates the economic rationale for CSM and thus signalizes a synergistic relationship between the three dimensions of corporate sustainability (financial, environmental, social), and the importance of building a sound economic rationale for addressing the environmental and social issues caused by companies' primary and secondary activities.

It should be noted that the colors used in Figure 4-1 indicate four different units of analysis examined in this study: issues (red), external stakeholders (green), managers (orange) and companies(blue). The colors are matched in all corresponding figures to facilitate readability.

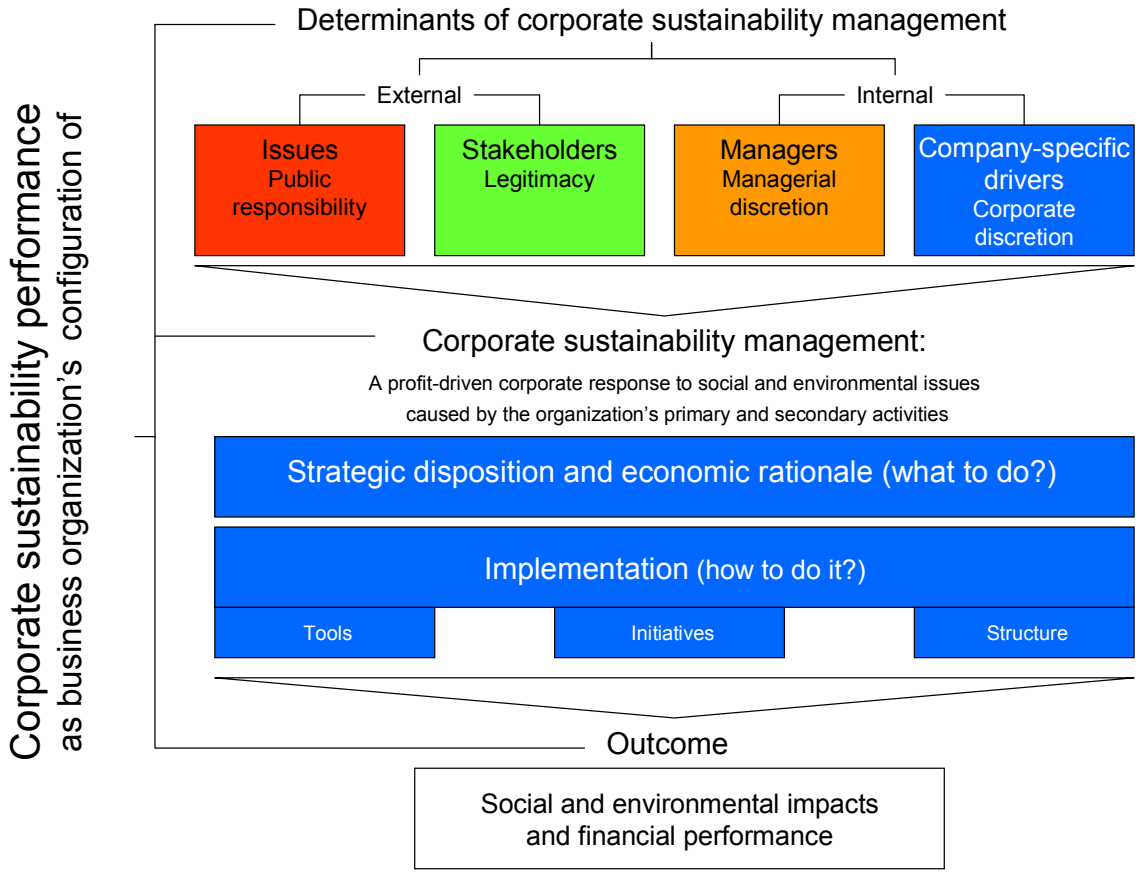

Figure 4-1: Corporate sustainability performance model

The framework rests on the following cornerstones:

1. Strategic disposition to CSM is jointly affected by four factors, namely issues, stakeholders, managers and company-specific determinants. This means that strategic disposition may vary depending on:
   - how important social and environmental issues are to the corporate activity (Henriques et al., 1996, p. 383; Wood, 1991, p. 697): The same issue, e.g. employment or biodiversity, may vary significantly in terms of importance depending on e.g. the location and kind of corporate activity.
   - how strong the pressure from stakeholders other than managers is (Henriques et al., 1995, p. 72; Wood, 1991, p. 695): The same stakeholder may exert different levels of pressure depending on e.g. local levels of regulation, kinds of corporate activities.
   - how proactive or reactive managers are (Bansal et al., 2000, p. 731; Wood, 1991, p. 698)
   - how proactive or reactive a company as a whole is. Some may be more proactive than others through a more open corporate culture, effective tools such as scenario building and other organizational factors (Griffin, 2000, p. 485; Kolk et al., 2001, p. 505).
2. The strategic dimension of CSM (what to do?) incorporates companies' strategic disposition to and the business case for sustainability. E.g. the decision to approach CSM strategically through, say, a pilot business unit for renewable energy technology depends on a company's strategic disposition and the economic rationale for corresponding decisions.

3. The strategic dimension of CSM affects the implementation. E.g. a more strategic and committed approach through top management commitment, and a stronger integration of issues into business strategies lead to more effective implementation of CSM (Kolk et al., 2001, p. 506 ; Maxwell et al., 1997, p. 131).
4. Implementation of CSM is characterized by management tools, initiatives and structures (Hussey, 1996, p. 8; Maxwell et al., 1997, p. 120). Thus leaders are likely to feature a bundle of more sophisticated tools and initiatives (scenario-building, community involvement) than laggards:
5. Companies' approaches to implementation determine the outcome of CSM (Maxwell et al., 1997, p. 131). E.g. the use of more sophisticated tools and initiatives can be expected to improve the outcome of CSM .

Based on these cornerstones, the study is designed to fill several gaps identified in the body of empirical literature reviewed in section 3 (see Table 4-2).

Shortcomings in empirical literature	**Characteristics of the present study**
Focus on environmental dimension and only some subsets of the concepts of CSM	Broad analysis of the determinants of, approaches to and outcome of CSM, taking into consideration both the social and environmental dimensions
Only focused on a subset of the four drivers of CSM featured in the conceptual framework	Examines all four drivers: issues, external stakeholders, managers and company-specific drivers
Lack of research on the business case for sustainability	Business case for sustainability examined as part of CSM
Lack of studies on implementation and the determinants of the outcome of CSM	Analysis of companies' approaches to implementing CSM (management tools, structures, initiatives) and their effect on the outcome

Table 4-2: Gaps in empirical literature and study characteristics to fill them

The study employs a contingency approach (see 5.1 Selection of suitable method) that examines the internal and external determinants of, the strategic disposition to, the implementation of and the outcome of CSM. The social and environmental dimensions are considered equally. Furthermore, it is designed to analyze companies' economic rationale for CSM and the determinants of strategic disposition to and the outcome of CSM.

Following the comprehensive review of theoretical frameworks, empirical research and the definition of the study's key concept, the author translates his research objective – an empirical examination of the main external and internal determinants (i.e. drivers or barriers) of CSM, companies' approaches to CSM in terms of both strategic disposition and implementation, the economic rationale for their approaches and their outcome – into individual research questions. They are systemized according to the four units of analysis – issues, external stakeholders, managers and companies (corresponding to sections 8.1 to 8.4) – of the study:

1. *Issues*: What are the most important environmental and social issues across a company's entire value chain and how do they affect CSM (see section 8.1)?
2. *External stakeholders*: What roles do external stakeholders play and how does pressure or ignorance on their part affect CSM (see section 8.2)?
3. *Managers*: What role do managers play in CSM and how do their attitudes, knowledge and mindset influence CSM (see section 8.3)?

4. *Companies (see section 8.4):*
    - What are the most significant company-specific (rather than manager-, i.e. individual-related) determinants of CSM (e.g. processes, tools, culture), and how do they influence CSM?
    - What is companies' strategic disposition to CSM, and what are its key determinants and effects on implementation?
    - What is companies' economic rationale for CSM and how do they integrate social and environmental issues into their strategies and operations based on this rationale?
    - How do companies implement CSM: e.g. what tools do they use, what initiatives do they undertake to resolve environmental and social issues?
    - What is the outcome of CSM and what are its key determinants?

The author intends to *identify* significant relationships between variables, e.g. the determinants of strategic disposition, rather than to *compare the strengths* of the relationships found. This approach appears adequate: The rather exploratory stage of this research field and the broad scope of this study would make it difficult to explain the greater strengths of one association over another, since complementary qualitative data or secondary data from other studies may be lacking.

5 Method

This section describes in detail how the author intends to achieve the objectives of the study. This includes:

- a discussion of the suitability of the method chosen (see section 5.1 Selection of suitable method)
- a description of the instruments used to collect and analyze the data (see section 5.2 Instruments) and of how they complement each other (see section 5.3 Synergistic fit of methods)
- an overall evaluation of the method (section 5.4 Evaluation).

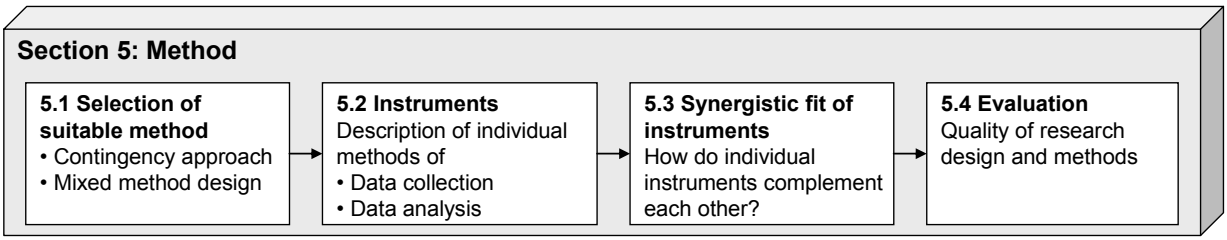

Figure 5-1: Structure of section 5

It is important to note that this study is based on data collected in the course of a cross-industry research project (refer to Table 5-1 for the exact timeline and procedures) carried out by the Forum for Corporate Sustainability Management (CSM) at IMD in Lausanne, Switzerland, in partnership with WWF International (Refer to Appendix J – Author's contribution to cross-industry research project for more details of the author's involvement.).

Period	Step
April 2002	Research review Formulation of research hypotheses and objectives – developed jointly by the research team (see Appendix C – Hypotheses and objectives of IMD research project)
June 2002	Development and pretests of means of data collections (interview guidelines and questionnaires)
July 2002 – April 2003	Establishing contacts with companies Distributing questionnaires Conducting face-to-face interviews including follow up
May– August 2003	Finalization of sector-specific research reports and feedback process

Table 5-1: Timeline of the cross-industry research project

The project was established to examine the business case for sustainability in nine industries in total; in addition to the OG and UT sectors (subject of this study), the industries surveyed were: automotive, aviation, chemical, food and beverage, finance, pharmaceutical, technology.

5.1 Selection of suitable method

In the following sections the authors will elaborate on why the method chosen is the most suitable in the context of this study.

5.1.1 Contingency approach

As the review of empirical literature revealed, CSM, its determinants and its outcome are dependent on a variety of factors including local social and environmental conditions, markets and corporate activities, national regulations and cultures. To control for those, the study adopts a contingency approach that is visualized in Figure 5-2.

It is based on the consideration that corporate sustainability performance and the way it is described by the respondents is contingent upon external and internal determinants that are likely to differ across industries (e.g. different technologies and resources), countries (different levels of regulatory and public pressure) and managers (different expertise and responsibilities).

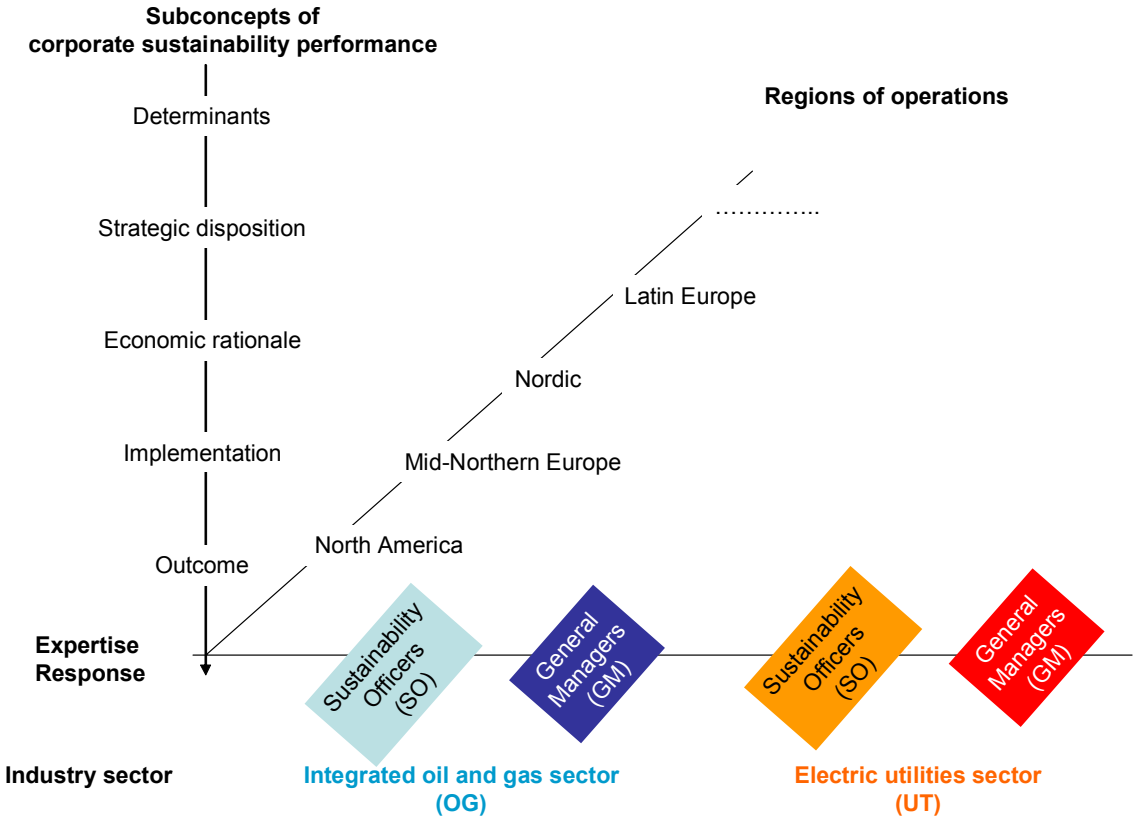

Figure 5-2: Visualization of contingency approach

The study's contingency approach allows the empirical examination of the constituents of the corporate sustainability performance model across the following dimensions:

1. Two industry sectors: the integrated oil & gas (OG) sector and the electric utilities (UT) sector
2. Two management groups: sustainability officers (SOs) and general managers (GMs)
3. Different regions of operations: primarily Europe and North America

Industry sectors

The two sectors were chosen for their economic, environmental and social relevance. The energy industry as a whole not only contributes to economic development and activities through the provision of primary and secondary energy, but its activities are also associated with several social and environmental issues (Dincer, 1999; International Energy Agency, 2003; International Energy Agency & OECD, 2002; WBCSD, 1999).

The selection of this sector largely implies a focus on large and often global companies rather than small and medium-sized enterprises (SMEs). This focus is legitimate and reasonable, since large corporations constitute more compelling research objects because they (1) feature a wider range of activities and have more resources than SMEs, and (2) are under significantly more scrutiny from governments and civil society demanding that responsibility comes with power (Davis, 1960, p. 314).

The focus on large corporations has an additional advantage. This universe lends itself better to convenience sampling: It mad sense to benefit from direct access to respondents at IMD which – as an international business school – hosts many management education programs, mostly attended by managers from global firms. It should be noted that convenience sampling is prone to bias (Saunders, Lewis, & Thornhill, 2003, p. 177). Nevertheless, the sampling strategy was chosen – even if only for a part of the final sample – because the intended contingency approach posed a significant challenge in terms of sample size.

Management groups

The study differentiates between two groups (or disciplines) of managers – sustainability officers and general managers – to take account of the contingency of respondents' perceptions of corporate sustainability performance on professional activity and experience. For the purposes of this research the two groups of managers are defined as follows:

- Sustainability officers are managers who exhibit special sustainability-related expertise and have the role of promoting CSM in their company. They are usually affiliated with corporate sustainability, environmental or public affairs departments.
- General managers are managers from other (i.e. non-sustainability) business functions such as finance, research and development (R&D), human resources (HR) and corporate staff. They shall represent a population with lower levels of awareness of issues, outside pressure from stakeholders, and corresponding corporate responses.

Countries

Countries represent the third dimension of the contingency approach adopted to account for differences in the business environment (e.g. level of regulations, societal pressure, corporate cultures). The author attempted primarily to recruit companies in North America, Europe and Japan, i.e. industrialized countries, for his interviews, since they account for the major share of energy consumption globally and related social and environmental effects (Energy Information Administration, 2004, p. 1). The sampling for the mail/online/fax questionnaire focused less strictly on the three regions, also for reasons of convenience (see section 5.2.1 Data collection).

5.1.2 Selection of instruments

In the following paragraphs the author will build a case for the instrumentation chosen for the present study.

Mixed method design

The study features a mixed method design, i.e. it uses both qualitative and quantitative data collection and analysis techniques (Teddlie et al., 2003, p. 11). It should be noted that mixed method research has been subject to significant criticism by researchers who considered qualitative and quantitative methods irreconcilable because of the incompatibility of their paradigms of postpositivism (quantitative methods) and constructivism (qualitative methods). This incompatibility thesis has been largely discredited mainly due to the successes of mixed method research in the past. Moreover, mixed methods are supported by two paradigms, namely pragmatism and the transformative-emancipatory paradigm (p. 20). As Teddlie and

Tashakkori (2003) illustrate, mixed methods research is superior to single approach design in three areas:

Scope: Using mixed methods offers a broader scope, mainly since it enables "the researcher to simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study" (p. 15). Through mixed method research it is possible to demonstrate or detect a relationship between two variables and to explain why the relationship exists. In the present study, relationships are detected through quantitative methods (correlation and regression analysis). The process by which the relationships occur is explored in more detail through qualitative methods (interviews and content-analysis).

Better inference: Better inference results from mixing methods in a such way that their strengths are complementary and their weaknesses do not overlap (see Table 5-2). In the case of the present study, a qualitative component (interviews) ensures sufficient depth, and a quantitative component (mail, fax and online questionnaire) adequate breadth. This use of both methods facilitates sound inferences about complex topics such as corporate sustainability performance (Teddlie et al., 2003, p. 16).

Criteria of comparison	**Questionnaire (Mail, fax and online)**	**Interviews (semi-structured, personal)**
Data generated	Quantitative	Qualitative
Survey situation	Largely uncontrolled (unclear who filled in the questionnaire)	Largely controlled
Costs	Less expensive	More expensive
Amount of control over survey situation	Low (e.g. uncertain who really filled in the questionnaire)	High (personal control through interviewer)
Accuracy/bias	Weaker bias: due to greater anonymity	Stronger bias Less accurate, since reality verbalized and interpretatively assessed
Degree of standardization	High	Low
Results	More generalizable Common patterns Detected relationships between variables	Less generalizable, case-specific Explanation of detected relationships

Table 5-2: Complementarity and triangulation through mixed methods – based on Bortz (2002, p. 237) and Teddlie (2003, p. 15)

Opportunity to detect divergent views: Qualitative and quantitative components do not necessarily lead to the same conclusions. When they do converge, this indicates their validity. However they can also generate "a new comprehension of the phenomenon by forming complementary parts of a jigsaw puzzle or [..] produce unexplainable divergence leading to a falsification of previous theoretical assumptions" (Erzberger & Prein, 1997, p. 146-147 cited by Teddlie et al., 2003, p. 17). This advantage is particular significant in a study that takes a rather explanatory approach.

The approach adopted in the present study fulfills two key functions – triangulation and complementarity (Teddlie et al., 2003, p. 17), which are more concretely illustrated in section 5.3 Synergistic fit of methods, after the individual methods of data collection and analysis have been described in more detail:

1. *Triangulation:* The study's concurrent triangulation design, depicted in Figure 5-3, features the simultaneous use of quantitative and qualitative methods to cross-validate

findings within the study. The method is primarily quantitatively driven and deductive in nature to test the conceptual framework presented in section 4 (Bortz et al., 2002, p. 34). Data collected and analyzed from the two management functions (general managers and sustainability officers) provide a second opportunity for triangulating results within the quantitative dimension of this study.

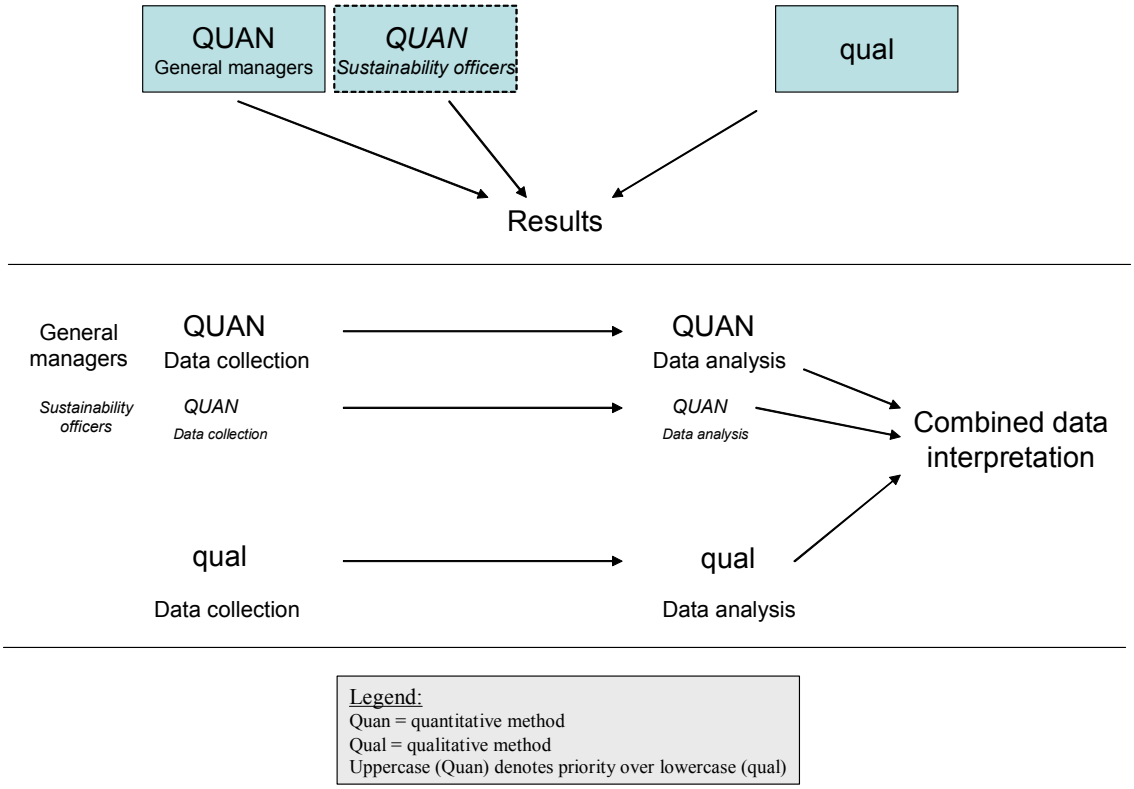

Figure 5-3: Visualization of concurrent triangulization design (based on Creswell, Clark, Gutmann, & Hanson, 2004, p. 236)

Although both groups of managers were also interviewed, it would not be deceptive to speak of a comprehensive third opportunity for triangulation, because qualitative data lack the necessary accuracy.

2. *Complementarity:* The complementarity results from two characteristics of the interviews. First they have a slightly different focus than the questionnaire: They examine the economic rationale for CSM and the process of issue integration more closely. Due to the lack of "preparatory" descriptive research and theoretical foundations in this area, it was obvious to adopt a rather exploratory, inductive and thus qualitative approach (Bortz et al., 2002, p. 34, 299). A quantitative and deductive approach would have been premature. However, the business case is too important as a key concept of CSM to omit it from the analysis completely.

   Second, interviews are able to explain or illustrate components of the model in more depth (Teddlie et al., 2003, p. 17). To achieve this objective, a semi-structured and personal interview approach was chosen (Bortz et al., 2002, p. 239, 315). It strikes a balance between (1) allowing for the necessary degree of freedom to effectively capture the complexity of the research topic and (2) avoiding compromising the reliability of the approach through a certain level of standardization that decreases interviewer bias.

Data collection

The present study's data collection employs two survey methods, i.e. two means of systematically collecting primary data from respondents (Saunders et al., 2003, p. 280; Tull & Hawkins, 1993, p. 165): direct personal interviews and online/fax/mail questionnaires. There are two key arguments for a survey approach:

1. The author found a clear lack of survey-based, contingency approaches in the empirical literature. Such studies on the entire scope of CSM (from determinants to outcome) and its economic rationale in particular are clearly needed.
2. The contingency perspective taken in this study requires data from two industry sectors in various countries. Thus the issue of data compatibility again points to a survey approach as the obvious choice.

The survey follows the research philosophy of interpretivism (Saunders et al., 2003, p. 83), which points to the need to "explore the subjective meanings motivating people's action" in order to be able to understand these. The importance of subjectivity (i.e. personal knowledge, experience) is based on the theory of social constructivism and the model of symbolic interactionism and justifies the operationalization of the study's key concepts through respondents' perceptions: Respondents' response to things is determined through the meanings those things have for them (Bortz et al., 2002, p. 304).[14] However, surveys are subject to typical biases such as self-presentation and social desirability bias (Bortz et al., 2002, p. 232), particularly if the research topic is as values-laden as CSM. To counteract and control for possible biases, the author employed two strategies:

1. Two different groups of managers – general managers and sustainability officers – were surveyed to triangulate results.
2. Results were benchmarked with qualitative primary data obtained from interviews with external stakeholders (e.g. public pressure groups, legislators, experts; see Appendix A – Interview samples) and qualitative secondary data sourced from internal and external company documents, academic journals and newspapers.

Data analysis

Instruments of quantitative data analysis were particularly carefully selected. It should be noted that data generated by Likert-type scales were generally coded from 1 to 5 and *treated as interval data*. Only interval data are suited to the use of more powerful statistical tools such as t-tests, correlations and regressions. However, strictly speaking, Likert-type scales generate ordinal data.

The present study follows the common practice of carrying out "per fiat" measurements using instruments that are *assumed* to measure respondents' characteristics (such as e.g. attitudes in the case of this study) on an interval scale (Hammann & Erichson, 2000, p. 27). Academic dispute between purists and pragmatists on this kind of measurement has a long history and appears to be ongoing (Bortz et al., 2002, p. 180; Davis & Cosenza, 1988, p. 180; Hüttner, 1997, p. 111). Per fiat measurement as advocated by the pragmatics and carried out in the present study can be justified as follows:

1. Most standard statistical techniques such as regression analysis are not strongly affected by small deviations from the interval requirement (Mason, Lind, & Marchal, 1999, p. 475; Traylor, 1983; Tull et al., 1993, p. 308).

[14] As the corresponding Thomas-Theorem postulates: "If men perceive situations as real, they are real in their consequences." (cited in Rogers, 1995, p. 209)

2. Several authors have concluded that respondents perceive certain Likert-type scales as equidistant, and thus able to generate virtually interval data (Crask & Fox, 1987; Rohrmann, 1978; Traylor, 1983; Wyatt & Meyers, 1987).[15]

3. The confirmation of empirical research hypotheses becomes more difficult through incorrect assumptions about the measurement scale, i.e. an empirical confirmation of the hypothesis is seen as a proof for the correct assumption about the measurement scale (Bortz et al., 2002, p. 27).

4. Multiple linear regression was chosen as the most suitable method to detect causal relationships, since ordinal regression only provided an equally "risky" alternative. This is because ordinal regression models require relatively large samples, since they are based on maximum likelihood estimation. Maximum likelihood estimation has been hardly researched and is considered risky for sample sizes: Whereas only sample sizes above 500 are considered adequate for some categorical regression models, ordered probit and logit models require even larger samples (Long & Freese, 2003, p. 69). However the large sector-specific samples that are needed to facilitate the study's contingency approach are difficult to generate.

The following measures were taken to ensure that biases through per fiat measurement were detected and/or avoided as much as possible:

1. Tests for normality using STATA's skewness/kurtosis tests.

2. Mann-Whitney U tests: Although the t-test is considered reasonably robust against the violation of the normal distribution assumption (Hamilton, 2003, p. 112), the author additionally performed Mann-Whitney U tests (Bühl & Zöfel, 2000, p. 292) to give more assurance on results (Hamilton, 2003, p. 112).

3. Cautious interpretation: The author only interprets the significance and the direction of the regression coefficients, *not* the size of their effects. As outlined above, the consequent information loss is insignificant, considering the rather exploratory stage of research and the broad scope of this study.

4. Comprehensive set of regression diagnostics (see section 5.2.2.2.2 for more details).

5.2 Instruments

In the following section, instruments of data collection and analysis will be described in more detail.

5.2.1 Data collection

5.2.1.1 Qualitative methods

Semi-structured and personal interviews with each company's sustainability officer and at least one additional general manager were employed to collect qualitative data. Online databases were used as a sampling frame for the major companies in both sectors.[16] As a rule,

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[15] However, it should be noted that – strictly speaking – such studies only justify the interval treatment for their individual sample – in the case of Crask – US college students (Crask et al., 1987, p. 336)

[16] The author contacted the following companies: BG Group plc (UK), BP plc (UK), Centrica plc (UK), ChevronTexaco Corporation (US), ConocoPhillips (US), Cosmo Oil Company Ltd. (US), Duke Energy (US), Electricité de France (France), El Paso Corporation (US), EON AG (Germany), Exxon Mobil Corporation (US),

the sustainability officer was contacted first. If the company agreed to participate in the project, he was asked to identify possible general managers who could be interviewed in addition. This sampling process is also referred to as snowball sampling (Saunders et al., 2003, p. 176).

The author also contacted several external stakeholders (regulators, public pressure groups) and experts to obtain qualitative data that could be used to cross-validate results from the interviews with the general managers and sustainability officers.[17]

The interview guidelines (provided in Appendix H – Interview guidelines) feature (1) core modules used with every interviewee to facilitate a meaningful cross-case analysis; and (2) function-specific modules that were tailored to certain management functions such as investor relations and finance, HR and corporate strategy and development.

Interviews focused on the same concepts as the questionnaire, i.e. issues, stakeholders, value drivers, strategy and implementation. However, they were more strongly geared toward the business case for sustainability and identifying the tools companies use to detect and present the economic rationale for CSM. These tools were broadly assigned to four sequential processes leading to the integration of environmental and social issues into strategic decision-making (see Figure 5-4).

Figure 5-4: Process of issue integration based on Salzmann (2003a, p. 24)

Fortum Corporation (Finland), Idemitsu Kosan Co. (Japan), Japan Energy Corporation (Japan), Koch Industries (US), Marathon Oil Corporation (US), Nippon Oil Corporation (Japan), Norsk Hydro ASA (Norway), RAG Aktiengesellschaft (Germany), Ruhrgas AG (Germany), RWE AG (Germany), Royal Dutch/Shell Group of Companies (UK, Netherlands), Schlumberger Ltd (US), Scottish Power plc (UK), Statoil (Norway), Suez (France), The Tokyo Electric Power Company Inc. (Japan), Total SA (France), TXU Corp. (US), Vattenfall AB (Sweden)

[17] The author contacted the following institutions: Greenpeace Deutschland, European Commission, The World Economic Forum (WEF), The World Business Council for Sustainable Development (WBCSD), the United Nations Environmental Program (UNEP), the International Energy Agency (IEA), WWF International.

The economic rationale for CSM was operationalized through a set of value drivers referred to in both the interview guidelines and the questionnaires. The concept of value drivers originates from Rappaport's (1986) shareholder value network, which illustrates the links between shareholder value (as the corporate objective) and management decisions. The decisions are "impounded" in value drivers such as sales growth, operating profit margin, which influence the valuation components (cash flow, discount rate and debt) of shareholder value (p. 76). Rappaport's notion of value drivers is slightly modified for the purposes of this study: Here, it conceptualizes an increase in corporate financial performance that is achieved through corporate activities that address environmental and social issues.

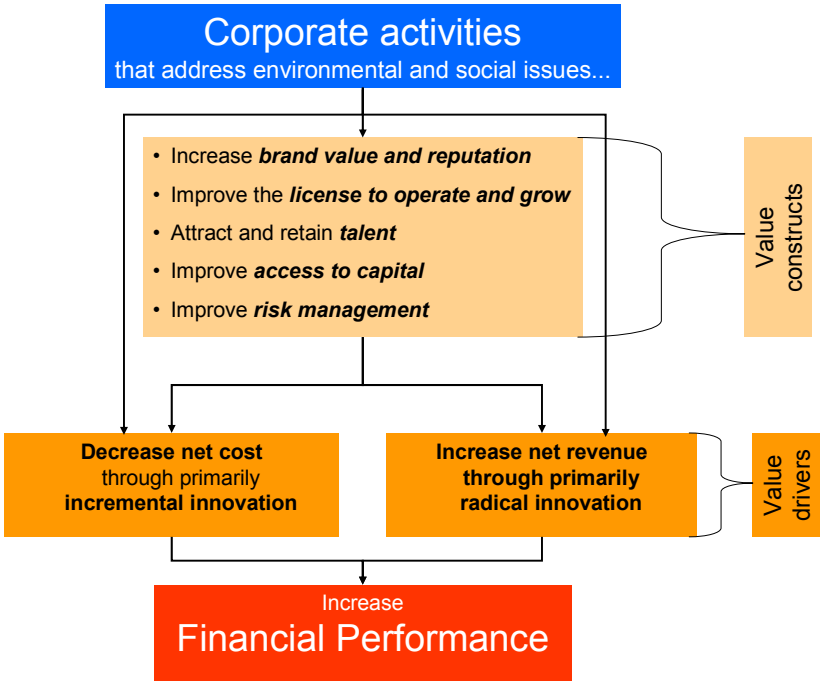

Figure 5-5: Systemization of value drivers and value constructs

Hence, value drivers are essentially economic arguments for CSM: e.g. most obviously net cost decreases or revenue increases but also more intangible concepts such as brand value, reputation and the license to operate. In the present study, these intangible concepts are referred to as value constructs, since they are more complex, interdependent and can be materialized into either reduced costs or additional revenue.

Alongside the primary qualitative data collected through the interviews, the author also used a diverse range of secondary data sources including newspaper and journal articles, corporate reports and websites. This third pillar – next to the interviews and questionnaires – is important to further complement and triangulate primary data. In particular corporate reports and websites provide an effective means to benchmark primary data collected on:

- Issues: Which issues are mentioned and discussed in detail?
- Companies' strategic disposition: What are the missions and policies of companies? To what extent do they incorporate issues? How do companies operationalize corporate sustainability?
- Implementation: What measures do companies use to implement corporate sustainability management? What environmental and social activities do they engage in?

5.2.1.2 Quantitative methods

Quantitative data were collected through two questionnaires, an SO and a GM version (provided in Appendix I – Questionnaires). The SO version of the questionnaire was distributed to the sustainability officer interviewed in the participating companies, who was asked to forward it to other sustainability experts in the organization. The GM version was distributed more widely, beyond the companies that participated in the study through interviews. This multi-pronged approach comprised distribution:

- At IMD to participants in various management courses (convenience sampling)
- Via email, mostly through the key contacts found in the interview process (snowball sampling)
- Mail and fax (using internal and external databases as sampling frames).

Furthermore, an online GM version of the questionnaire was created and made accessible on the project's website. The sample generated by the online questionnaire is largely based on a self-selection and snowball process. To increase the number of responses from UT general managers, an additional mailing targeted the UT sector in the UK, Germany, France and the Nordic countries.

The two versions partly overlap to achieve a triangulation and complementarity of results:

1. Complementarity was primarily ensured through a set of questions that account for the different levels of awareness and expertise of sustainability officers and general managers. Questions that were only used in the GM questionnaire focused on inter alia managers' personal attitudes, the importance of legitimacy (brand value, reputation) and the collaboration between sustainability officers and general managers. They were more general in nature than those that were included only in the SO questionnaire, which brought into focus concepts that require more special expertise, such as the sustainability performance of a company and sector compared to others, the most important promoting factors of CSM and the most important elements of the business case for sustainability.
2. Triangulation was achieved through a certain overlap between the two questionnaires. The questions that featured in both questionnaires deal with inter alia the significance of issues, companies' strategic disposition to CSM, barriers to corporate sustainability, the use of tools and systems that relate to corporate sustainability and the role of different stakeholders contributing to sustainable development. These questions account for roughly 60% of the SO questionnaire, and 50% of the GM questionnaire.

The questionnaires measure managers' perceptions largely through a set of non-numbered but equidistant 5-point-Likert-type scales and multiple choice questions. An overview of the operationalization of the study's concepts and the terms used is provided in Appendix D – Operationalization of key concepts. Since the empirical research domain of CSM is relatively new and untouched, widely accepted and traditional operationalizations are missing from the literature. Most of the operationalizations chosen in the present study are obvious and need no more detailed explanation.[18] However there are a few exceptions:

1. It is worth distinguishing between the three related subconcepts of issue significance, importance of legitimacy, and the SD roles of stakeholders: Issue significance is measured for the social and environmental dimensions. It refers to the significance of the financial

[18] The GM questionnaire also had a question on companies' preference for certain stakeholder management initiatives. As already outlined in the definition of corporate sustainability management, stakeholder management is a meaningful dimension of CSM, but is ignored here to limit the already substantial scope of the study.

opportunity or threat associated with a particular issue dimension. The opportunity and threat is determined by (1) a firm's responsibility for outcomes related to its primary and secondary areas of involvement with society (Wood, 1991, p. 697) and (2) stakeholders who reward corporate activities carried out assume that responsibility by minimizing negative and maximizing positive outcomes. Whereas issue significance bundles the demands of several stakeholders in terms of the two issue dimensions, SD roles of stakeholders refer to the demand for CSM of an individual group of stakeholders unrelated to a specific issue or issue dimensions, i.e. it bundles the demands of one stakeholder group on those issues it considers important to provide an overall measure for its demand for CSM. The importance of legitimacy is operationalized as the importance of brand value and reputation, i.e. it measures the importance of a company's informal rather than formal (legal) legitimacy or license to operate. This informal kind of legitimacy is granted by non-regulatory stakeholders such as capital markets, customers and NGOs. Thus the importance of legitimacy, as operationalized in this study, measures the scale of the "informal premium" added to the average financial stakes associated with the formal license to operate that every company needs to exist. It can be amended or revoked more swiftly – through boycotts, NGO campaigns, and selling of shares – than the formal license to operate. Hence a greater importance of legitimacy as operationalized in this study makes the financial threat or opportunity associated with a particular issue more immediate.

2. The four statements designed to measure the reactive or proactive attitudes of respondents were designed in the course of the cross-industry research project carried out at IMD. They were constructed to describe a "continuum" of least to most proactive statements that describe the role of business in society.

3. The multiple choice question designed to measure respondents' awareness of the availability and use of tools refers to the following kinds of management tools:

   a. *Data management tools* providing managers with relevant information: Measurement tools to increase transparency (e.g. measuring material and waste flows), tools measuring resource allocation (e.g. environmental expenses), strategic planning and accounting procedures that take account of environmental and social issues (e.g. scenario-planning, full cost accounting).

   b. *Managers' management tools* that shape managers' expectations and perceptions: Corporate values, policies and standards that take account of environmental and social issues, reward and punishment systems, management development (e.g. environmental training courses).

   c. *Conflict management tools* that are used to reallocate responsibilities and build consensus within the organization: (1) Coordination committees discussing and pushing strategic decisions at the corporate level and (2) business teams resolving conflicts and pushing environmental and social improvements on an operational level.

   This systemization was adopted from Doz, and Prahalad (1988, p. 76) to gain insights into how early or late companies are in the process of strategic redirection to CSM. Thus data should complement the measurement of companies' strategic disposition and structure. Doz and Prahalad (1988) found in their empirical investigation of processes of strategic redirection that data management tools are used early in the change process, managers' management tools throughout the process (soft tools such as management development and corporate values at the beginning; harder tools such as incentive systems later in the process), and conflict management tools in the middle of the change process.

4. The business case for sustainability is operationalized through a set of value drivers and value constructs already outlined in more detail in the previous section.
5. The outcome of CSM has a very simple operationalization, namely respondents' perceptions of the success of environmental or social initiatives carried out in their company –referred to as CSM success in this study. However, as discussed above in the definition of the study's key concepts, the outcome of corporate sustainability is more complex and three-dimensional in nature: It comprises the effect of CSM on corporate financial performance, and the social and environmental effects of corporate activities. It is important to note that the three-dimensional nature of CSM success was not elaborated on in the questionnaire, on the assumption that respondents were unlikely to indicate high levels of CSM success if initiatives were clearly unsuccessful in either the financial or the two non-financial dimensions.

   CSM success was also operationalized through sustainability officers' perception of their sectors' and companies' adoption of more sustainable business practices in comparison to other sectors and their peers, respectively ("Underperformer" to "Overperformer").

When interpreting the relative frequencies resulting from multiple choice questions, it is important to note that respondents were not asked to rank items in terms of their importance. However, one can assume that higher levels of awareness result in higher relative frequencies of certain items. Hence greater relative frequencies can be seen as proxy measures for the importance of an item.

5.2.2 Data analysis

The study employs several means of analyzing the qualitative and quantitative data collected. They will be described in more detail in the following paragraphs.

5.2.2.1 Qualitative methods

The author comprehensively documented every interview through notes in bullet point format. In a few cases, interviews were taped and transcribed. Every case was entered into word-processing software, coded and described following a category system that matched the headings provided in the interview guidelines:

- Section A – Building the business case for sustainability (BCS): External pressures (issues, stakeholders) and value drivers
- Section B – Implementing the BCS: Internal barriers and promoting factors
- Section C – BCS-related tools
- Section D – Function-specific modules.

Data were then analyzed for content using in-case and cross-case analysis and examined for concise quotes.

5.2.2.2 Quantitative methods

Quantitative data obtained from the questionnaire were coded (e.g. open-ended questions) and recoded where necessary (e.g. "other" responses were allocated to main items where adequate). They were then analyzed using the statistical software package STATA 8.0. The author provides the complete data set and corresponding STATA do- and log-files on an attached CD-Rom to ensure that results and methodologies are fully transparent and reproducible.

5.2.2.2.1 Basic statistics

Several means of basic quantitative data analysis are employed in this study. They comprise both descriptive and inferential methods:

- Relative frequencies displayed in pie charts to describe categorical data
- Summary statistics that include means, standard deviations, standard errors and 95% confidence intervals to describe interval data
- χ^2-tests to detect statistically significant differences in primarily categorical data between the different samples. Multiple choice questions were dichotomized beforehand (Hamilton, 2003, p. 99).
- t-tests for equal and unequal variances to detect statistically significant differences in interval data between the different samples. Unequal variances were detected using STATA's variance-ratio tests (Hamilton, 2003, p. 114). It should be noted that t-tests are also suited to small samples below 30 observations, as long as the sampled populations are approximately normally distributed (see also the example provided in Mason et al., 1999, p. 353, 363; Stata Corporation, 2003, p. 294)

Results of both χ^2- and t-tests are only referred to in the text. All details are provided in the corresponding log-files. Both tests facilitate two kinds of comparisons between the four samples generated for the present study (see Figure 5-6):

1. Cross-disciplinary differences, i.e. differences between the two groups of (1) general managers and (2) sustainability officers: This comparison is essential because perceptions of sustainability officers who are expected to exhibit greater awareness and expertise represent an important benchmark for general managers' perceptions. It should be noted that cross-disciplinary mean differences can only be assessed for a subset of questions that were included in *both* questionnaires.

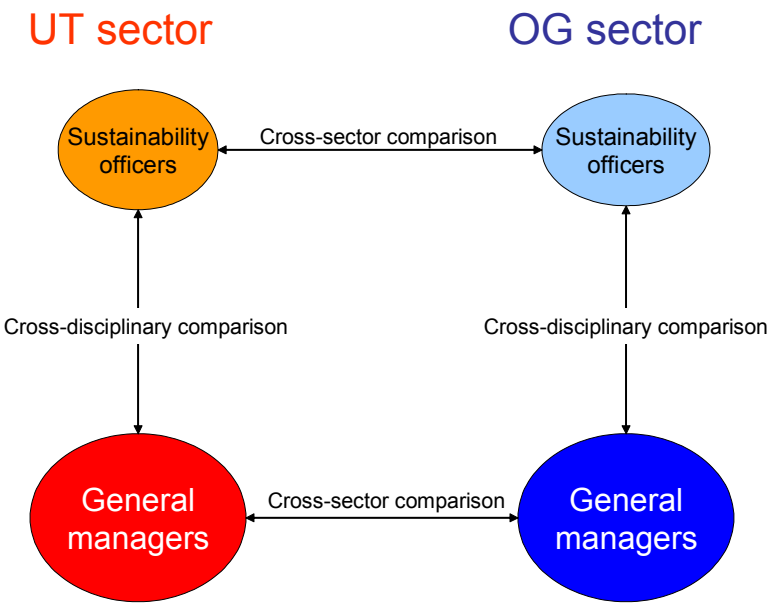

Figure 5-6: Intra- and cross-sector comparisons

2. Cross-sector differences, i.e. between the UT and OG sector, based on data from either general managers or sustainability officers: This kind of comparison is necessary to detect

and explain significant sector-specific perceptions. Differences between sustainability officers from one sector and general managers from the other will not be reported, since their relevance is clearly limited.

5.2.2.2.2 Advanced statistics

The study also features two means of advanced quantitative analysis: correlations and regressions. Correlations and regressions are applied on data collected from general managers only for several reasons: First, the scope of the study would be overstretched if data from sustainability officers was also analyzed in such depth. Second, generating samples sufficient for those means of data analysis would have be difficult (if not impossible). Obviously there are more general managers than sustainability experts in companies worldwide. Third, it could be argued that advanced analysis of GM data is more meaningful, since general managers – as the majority of managers in companies – determine companies' approaches to CSM more strongly than sustainability officers.

Correlation and regression analysis are based on the same three samples respectively: the two sector-specific samples and the total sample. Because the total sample contains the two sector-specific samples, this means that correlations and regressions that are based on the total sample are able to *borrow strength* from the OG and UT samples to detect weaker effects that may not be statistically significant in the separate samples. Basically correlations and regressions based on the total sample treat respondents as originating from the same population of energy managers. Results that are based on the sector-specific samples are more likely to detect effects that are specific for the individual sectors. However, their explanatory power could suffer from limited sample sizes.

Standard pairwise correlation

Standard pairwise correlations are used to detect associations between interval variables. Results are provided in three correlation matrices (Appendix E – Pairwise correlation analysis) which feature correlation coefficients and the corresponding t-test probabilities for the null hypotheses of each individual correlation equaling zero (Hamilton, 2003, p. 135).

Pairwise correlation is a well suited and efficient method of obtaining an overview of the data. It makes it easy to quickly identify any associations between all interval variables. The variables that are subject to correlation analysis are systemized according to the four different units of analysis: issues (red), managers (orange), external stakeholders (green) and companies (blue) (see Figure 5-7). Pairwise correlation generates a vast amount of quantitative evidence on how issues, managers and external stakeholders relate to companies' approaches to CSM, as well as on how they are linked among each other, e.g. not only how issues and managers' attitudes are related, but also how issues are linked to each other, and how the strategic disposition of companies is linked to CSM success.

The immense scope of the evidence generated is particularly visible if one acknowledges that both existing and missing correlations constitute meaningful empirical findings. Obviously the author interprets every existing (statistically significant) correlation. Missing correlations are only reported and discussed in detail if the result significantly contributes to the study's objectives.

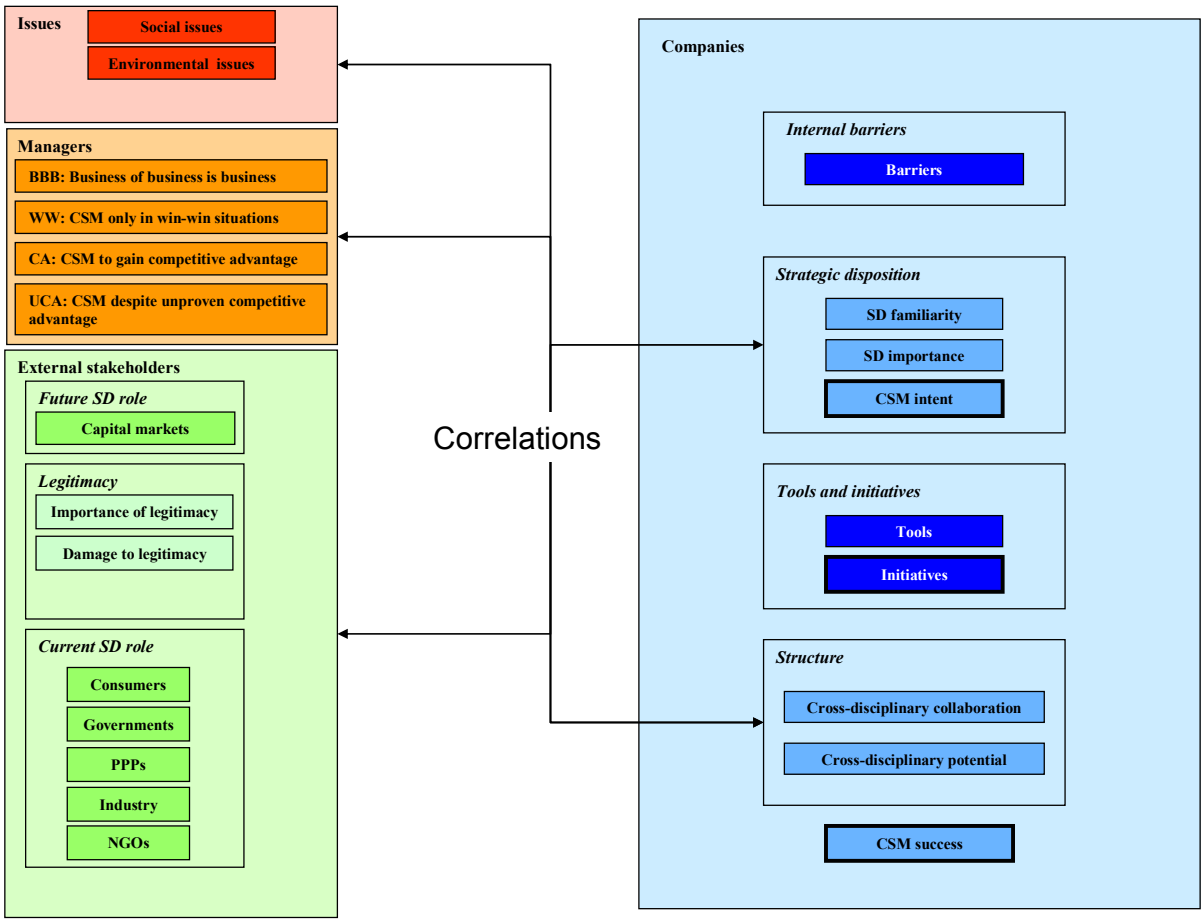

Figure 5-7: Variables that are subject to correlation analysis

Multiple linear regressions

Multiple regression analysis is employed to detect

1. The causal effects between interval variables. The first set of regression models aims to explain variation in CSM intent through (1) the nature and significance of issues; (2) the (promoting or deterring) SD role of external stakeholders – namely NGOs, governments, consumers and the financial community – and the importance of and the damage to legitimacy; (3) personal attitudes of managers toward the role of business in society; and (4) company-specific internal barriers (see Figure 5-8). The second set of regressions tests the following hypothetical determinants of CSM success (see Figure 5-9): (1) personal attitudes of managers toward the role of business in society; (2) external barriers: and (3) company-specific factors.
2. The effect of demographic variables, primarily the industry sector and regions of operations. The consideration of demographic variables represents an additional "pillar" of the study's contingency approach. Demographic variables are dichotomized and introduced into regression models as dummy variables using one of the categories as a reference group (see Table 5-3), which is thus omitted from the model.

Contingency dimension	Demographic variable	Dummy variables used	Reference group
Industry sector	Sector	UT sector	Oil & gas
Business function	Function	- R&D - Operations - Marketing - Finance - Other function	HR and corporate staff
Management level	Position	- Board member - Senior management - Middle management	Junior management
Region of operation	Operations	- Nordic - Latin Europe - North Americas - Developing economies - Other	Mid-Northern Europe
Region of nationality	Nationality	- Nordic - Latin Europe - North Americas - Developing economies - Other	Mid-Northern Europe
Age	Age	- Between 35 and 50 - Over 50	Below 35
Gender	Gender	- Female	Male

Table 5-3: Dummy variables and reference groups

As in the correlation analysis, the author employs three samples: T models are based on the *total* sample of OG *and* UT general managers: Models are run to detect the effects of independent variables that exist in both sectors. OG models and UT models are based on the respective sector-specific samples of general managers, and are more likely to detect effects that are specific for the individual sectors. However, the explanatory power is likely to suffer because of the limited sample size.

Submodels, cluster models and summary models

The total number of independent variables tested in the models on CSM intent and CSM success amounts to 28 and 30 respectively (see Figure 5-8 and Figure 5-9). Including too many of them in one model would stretch the data because of constraints presented by degrees of freedom.[19] Furthermore, multicollinearity and interaction effects would make it difficult to detect the individual effect of variables and could bias the results. To counter these possible stumbling blocks, submodels for the clusters that have too many variables are run first.

[19] Ceteris paribus an increase in the number of independent variables makes it more difficult to reject the null hypothesis that the multiple correlation coefficients are zero at an adequate significance level.

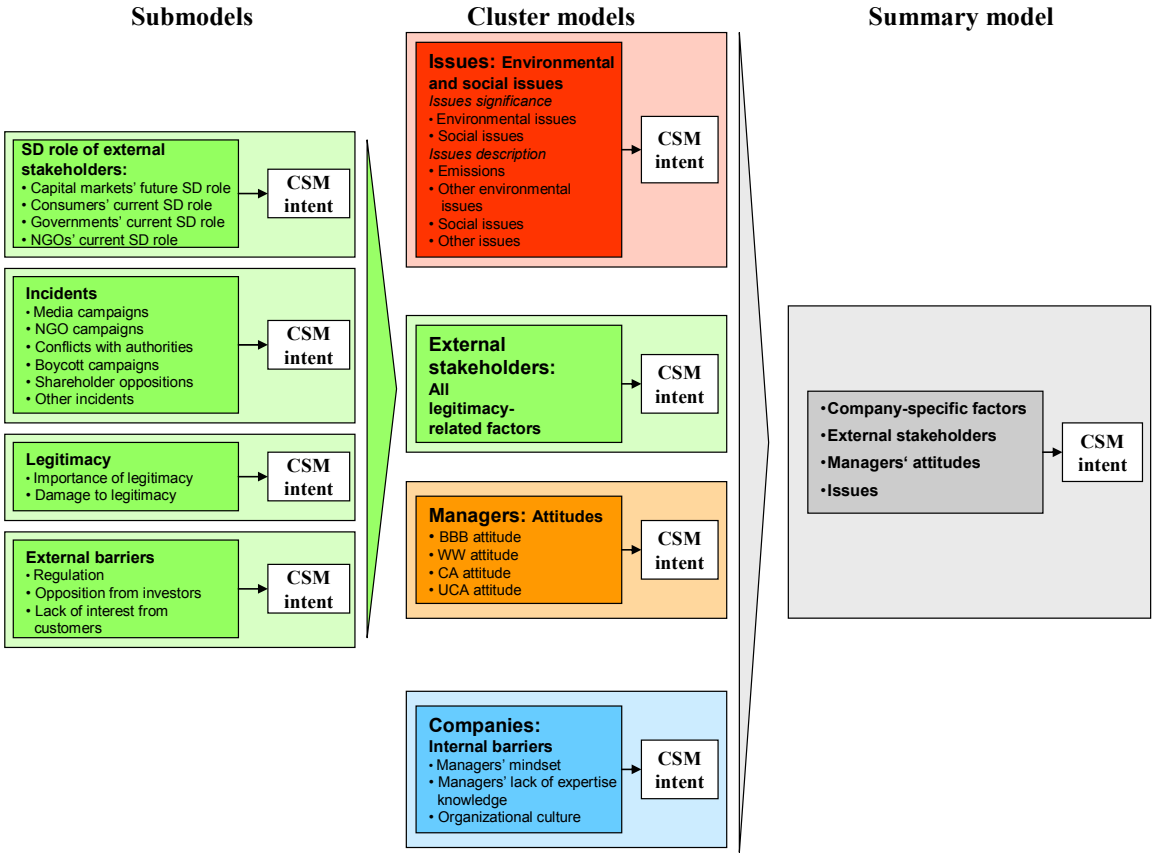

Figure 5-8: Roadmap for regression analysis – Tested determinants of CSM intent

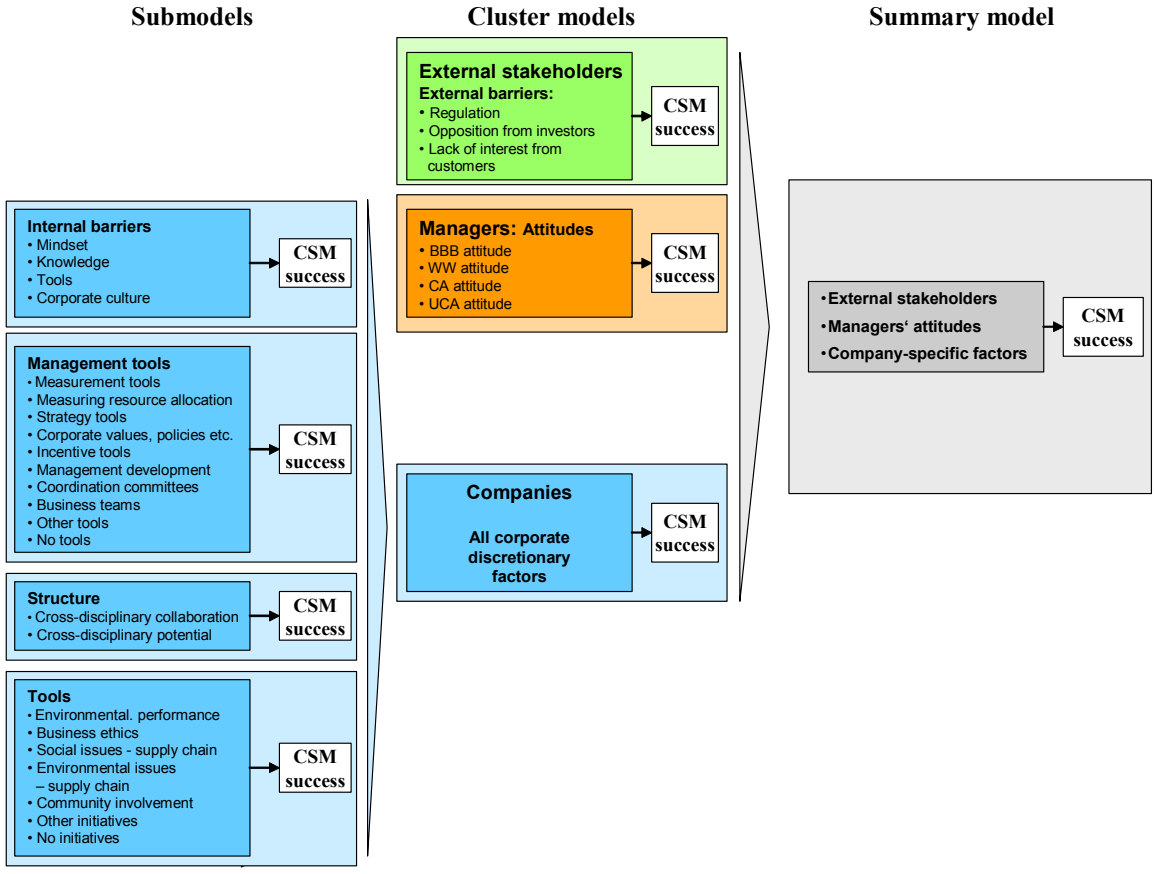

Figure 5-9: Roadmap for regression analysis – Tested determinants of CSM success

The cluster models analyze the joint effect of all variables that thematically belong to the four clusters: issues, (external) stakeholders, managers and company-specific factors (also corresponding to the four subsections in section 8). Both submodels and cluster models serve as a guide to the effect that the variables have on the dependent variable, with the caveat that they may overestimate the effect of the chosen cluster, since other variables are not accounted for. Finally, the summary models incorporate the joint effect of variables from all clusters.

It is important to note that variables operationalizing companies' strategic disposition to CSM (i.e. SD familiarity, SD importance and CSM intent) are not taken into account as independent variables in the regression models examining variation in CSM success. This is done for the following reasons:

1. The author attempts to avoid constraints in the degrees of freedom and to prevent SD familiarity, SD importance and CSM intent from picking up the effects of other company-specific categorical variables.
2. It is obvious that companies' strategic disposition determines CSM success, since the willingness to integrate certain issues into business strategies and operations precedes the implementation of CSM through organizational changes (management tools, structures) and corresponding corporate activities (e.g. community involvement, emission reduction). Nevertheless, the existence of this link between strategic disposition and CSM success does not remain untested. It is examined through correlation analysis.

Expanded and reduced models

Moreover, the author distinguishes between expanded models and reduced models:

- Expanded models are provided for all submodels and cluster models. They include all variables that form a cluster or subcluster, plus two demographic variables that were dichotomized and introduced through a dummy variable approach: (1) Regions of operations are added to all models to control for their possible moderating effects. (2) A dummy variable measuring the UT sector effect is introduced –obviously only to the T model, in which it changes the starting point of the regression line but not the slope coefficients of the independent variables, i.e. it may detect a possible overall positive or negative bias of UT respondents that is due to the characteristics of the UT sector (or respondents) that are not controlled in the regression model. The author focuses on these two demographic variables because they are key to the contingency approach adopted in the study. Adding more demographic variables would mean running into data constraints because of degrees of freedom.
- Reduced models result from an iterative and theoretically guided forward-selection process that takes into account the entire set of independent non-demographic variables included in the expanded models. Hence every expanded model has its corresponding reduced model which, however, only features statistically significant variables and hence provides a clearer regression equation. In some cases, where the expanded models lack statistical significance, reduced models may yield statistically valid regression equations. As a rule, reduced models only comprise coefficients that are statistically significant at a 5% level.[20]

[20] The author used STATA's areg command to test whether a dummy approach to demographic variables was worthwhile. If so, then the complete set of dummy variables excluding the reference group is added to the model. Based on the backward elimination procedure, the dummy variable with the highest p value above .05 is dropped.

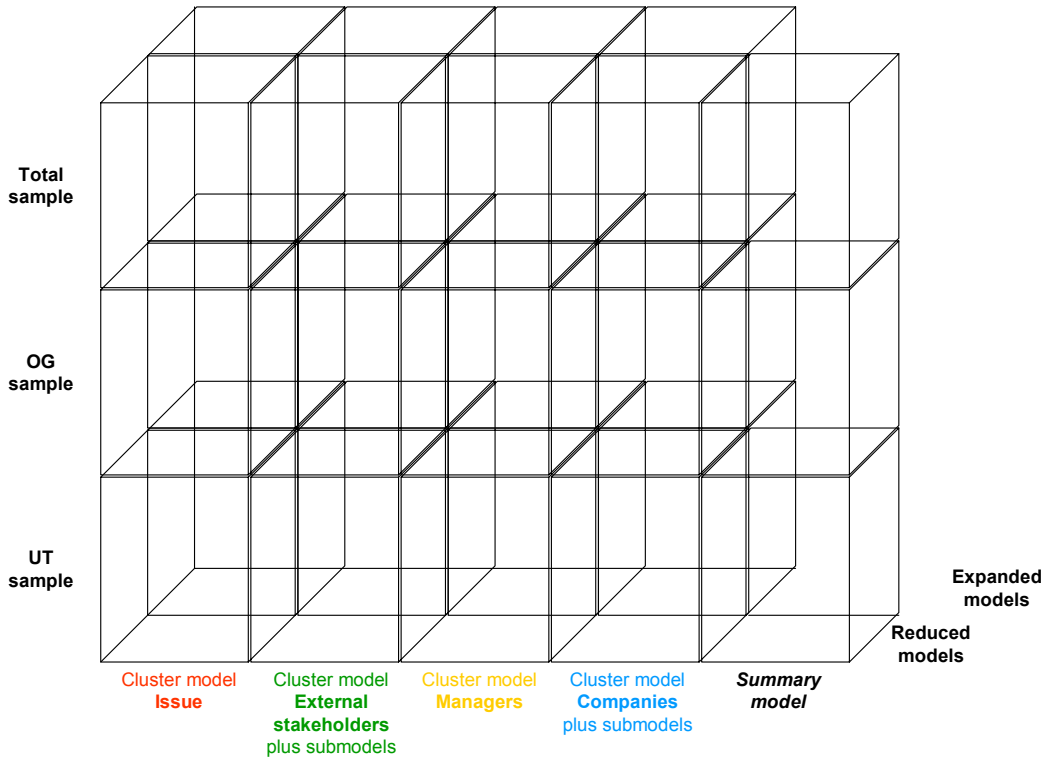

Figure 5-10: Systemization of models predicting CSM intent

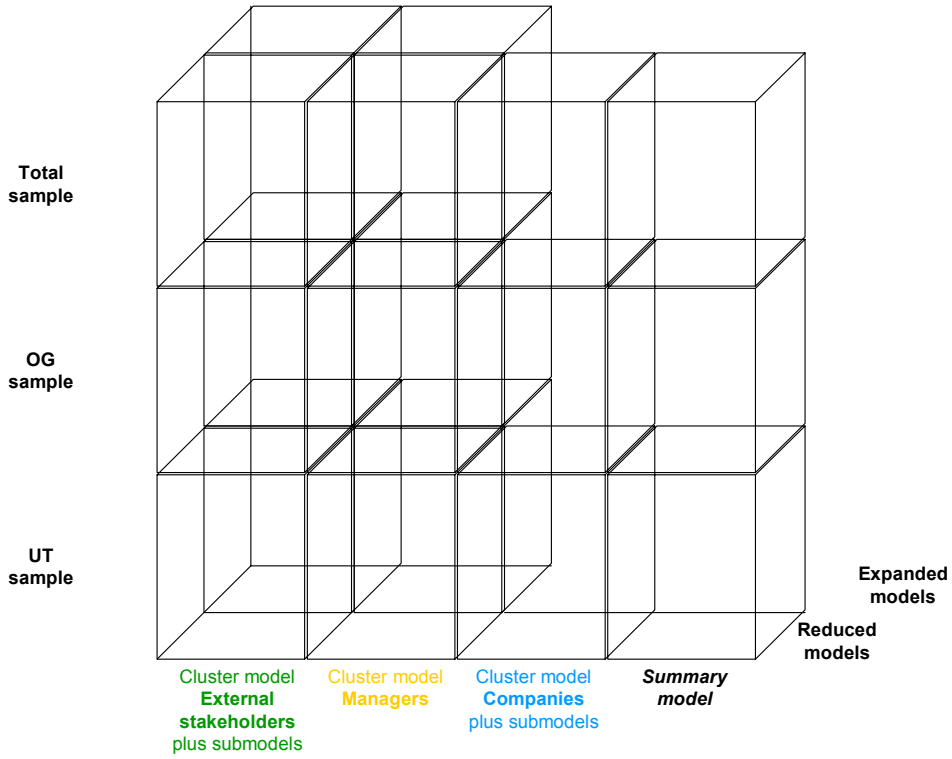

Figure 5-11: Systemization of models predicting CSM success

The number of models tested in this study is substantial, as illustrated in Figure 5-10 and Figure 5-11: All submodels and cluster models are run as reduced and expanded versions for

three samples (the total and two sector-specific samples). An exception is the cluster model on company-specific factors and their influence on CSM success. Here only a reduced model makes sense since the number of variables tested would overstretch the data because of constraints presented by degrees of freedom.

The summary models are also provided for the three samples but only as reduced models, since the sheer number of variables tested would overstretch the data.

Regression diagnostics

The following regression diagnostics were employed to test whether the assumptions required for multiple linear regressions are met (Hamilton, 2003, p. 152; Mason et al., 1999, p. 475):

1. Ramsey RESET tests for omitted variables which use the powers of the fitted values to test the null hypothesis that additional variables would not improve the model.
2. The Breusch-Pagan / Cook-Weisberg test for heteroscedasticity testing the assumption of constant error variance.
3. A test for high multicollinearity through the calculation of variance inflation factors (vif) for the independent variables specified in the fitted model (NB STATA automatically drops predictors causing perfect multicollinearity).
4. Tests of the distribution and mean of the residuals.[21]

They were applied to the summary models because of their complexity and their particular importance to this study. Detailed results of the regression diagnostics are provided in 0 and the corresponding STATA log-file (anregdiag.log).

Complementarity of correlations and regressions

One key aspect of this study is the complementary use of correlations and regressions:

1. Correlations between issues, managers' attitudes and external stakeholders on the one hand and companies' approaches to CSM on the other analyze the same associations between variables as the regression models. Regressions analyze the *joint* causal effects of independent variables on CSM intent and CSM success respectively. Hence they are likely not to detect effects of some independent variables because of constraints in the degrees of freedom. Additionally, variables could be omitted from regression models due to a lack of statistical significance, because their effect is picked up by one of the variables that remained in the models (because of their statistical significance). Thus correlations clearly provide additional insights because they reveal associations that exist in the data but are too weak to be detected in the regression models.
2. In terms of the variables that are subject to the analysis, pairwise correlation obviously goes far beyond the regression analysis by analyzing links between variables within and between a wider range of different clusters.
3. Correlations as applied in this study do not assess the effects of categorical variables. This void is filled through the regression models which allow the examination of the influence of categorical variables through a dummy variable approach. Thus regression models also shed light on the effects of demographic variables.

Figure 5-12 visualizes the complementarity of both methods: Variables that are considered in both methods are highlighted in yellow. They also include the two dependent variables CSM

[21] Multiple linear regression is based on the assumption that residuals are homoscedastic, i.e. normally distributed with a mean of zero (Mason et al., 1999, p. 475).

intent and CSM success. Categorical variables are only taken into account through regressions. They are highlighted in black. A third category of variables – highlighted in gray – is only considered through correlation.

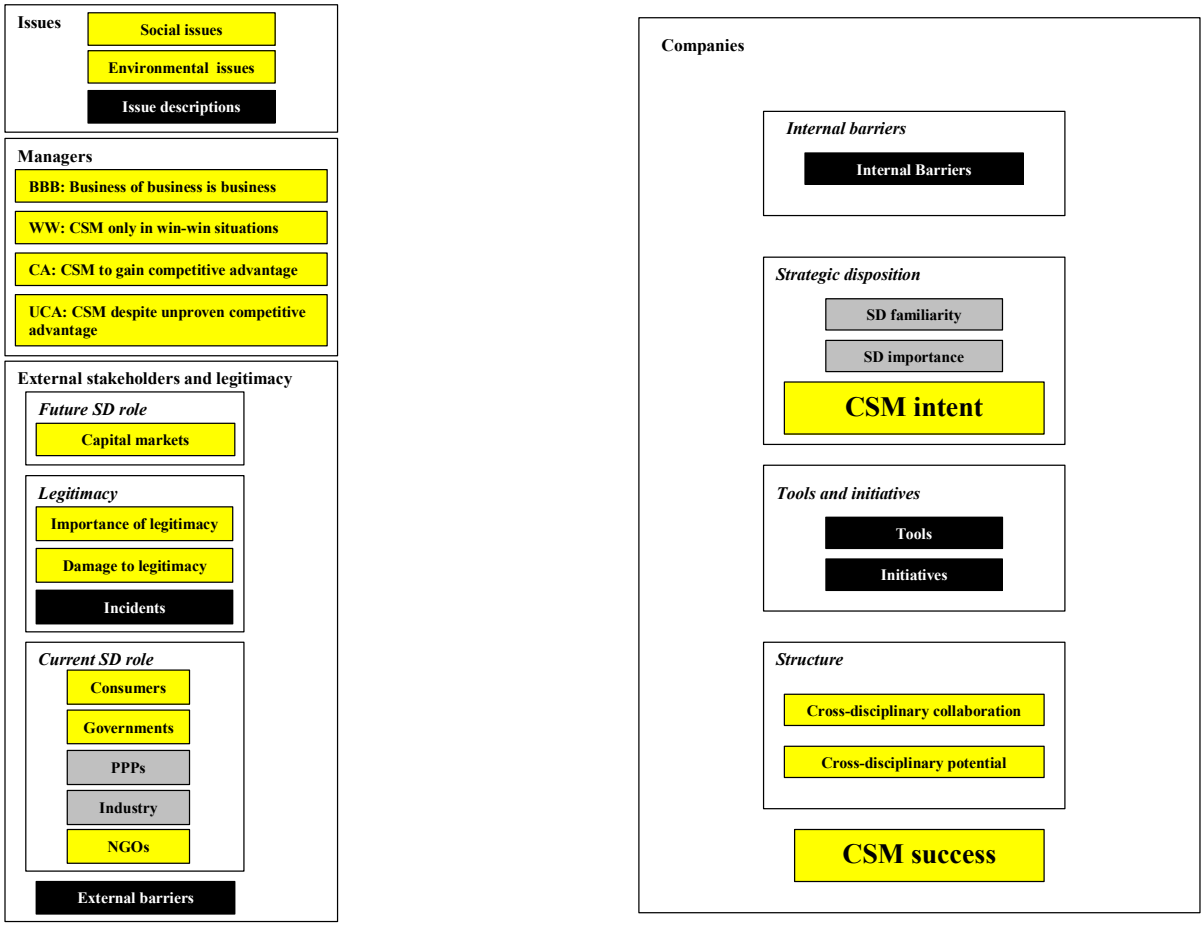

Figure 5-12: Complementarity of correlations and regressions

5.3 Synergistic fit of methods

Now that the individual methods of data collection and analysis have been presented individually, the author will elucidate their synergistic fit in more detail.

As Figure 5-13 illustrates, the use of methods has been orchestrated in a way that ensures complementarity and cross-validation of results.

Quantitative methods: The quantitative methods comprise data collection through two questionnaires that target sustainability officers and general managers respectively. They partly overlap in terms of the composition of questions, and thus data collected are able to complement and cross-validate each other. Quantitative data analysis follows a two-pronged approach:

1. χ^2- and t-tests are employed to compare means and relative frequencies within the same sector across the two management groups (general managers vs. sustainability officers) and between the two sectors (OG respondents vs. UT respondents).
2. Correlations and regressions are based on data collected only from general managers. They are both employed to examine relationships between interval variables across three samples: the two sector-specific samples and the total sample. More specifically, correlations analyze relationships between all interval variables, regressions analyze the causal effect of several interval and categorical variables on two dependent variables

(CSM intent and CSM success). Thus correlations and regressions are able to complement and cross-validate not only each other, but also the cross-sector and crossdisciplinary differences or commonalities detected through χ^2- and t-tests: Regressions in particular are designed to explain possible variation in CSM intent and CSM success through a set of independent variables. Furthermore, regressions control for the effects of demographic variables, especially countries of operations, and are thus an important means of the study's contingency approach.

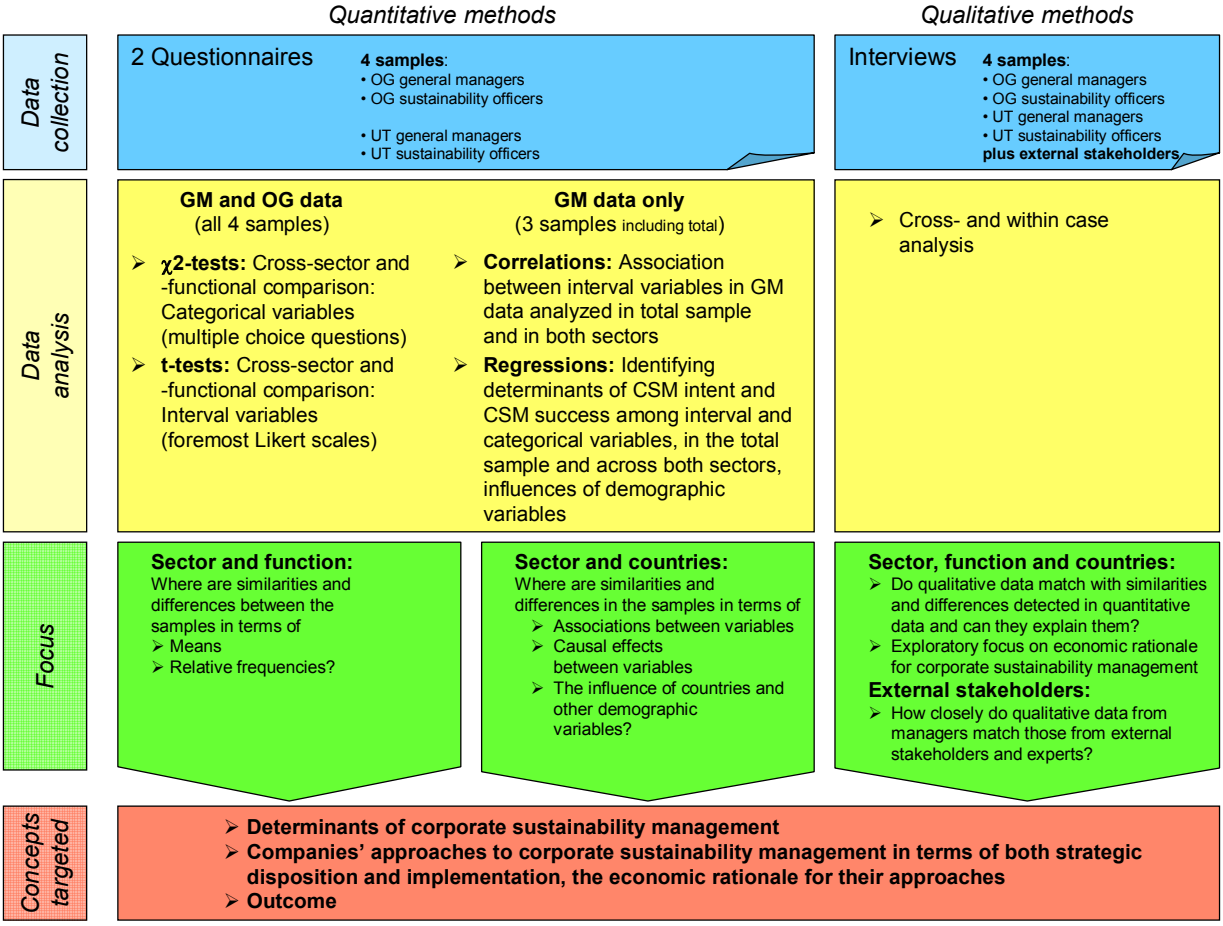

Figure 5-13: Synergistic fit of methods

Qualitative methods: Whereas the quantitative methods ensure sufficient breadth in the study, the qualitative methods facilitate a more in-depth examination of the study's key concepts, particularly the economic rationale for CSM. Interviews with sustainability officers, general managers, external stakeholders and experts are qualitatively examined through cross- and within-case analysis. The resulting data not only broadens the scope of the study but also facilitates better inference and opportunities to detect divergences in the data:

1. Qualitative data obtained from general managers and sustainability officers provide an important qualitative benchmark for quantitative data and thus facilitate the triangulation of results, also because they provide insights into the nature of the relationships detected or not detected through correlations and regressions.
2. Qualitative data obtained from external stakeholders and experts enable the researcher to cross-validate both qualitative and quantitative data collected from managers.
3. Qualitative data on the economic rationale for corporate sustainability are collected. This allows for a more exploratory approach to this key concept, deemed necessary based on the literature review.

5.4 Evaluation

The study's objective is to empirically examine the main external and internal determinants (i.e. drivers or barriers) to CSM, companies' approaches to CSM in terms of both strategic disposition and implementation, the economic rationale for their approaches and their outcome.

In the following paragraphs the author provides a brief critical assessment of the research design and the methods chosen to achieve the study's research objective.

Quality of research design

The approach adopted in this study is relatively complex to adequately capture the complexity of the research topic (Newman, Ridenour, Newman, & DeMarce Jr., 2003, p. 168) and incorporates the current state of the research field. It features a mixed method design that comprises both qualitative and quantitative methods (the latter having priority of the former), and thus ensures a wide scope of the study, better inference, and opportunities to present a greater diversity of different (possibly divergent) views (Teddlie et al., 2003, p. 16).

The approach takes a clear contingency perspective on the concept of corporate sustainability performance, the need for which was clearly highlighted through the literature review. The approach allows for a differentiated analysis across two industry sectors, two management groups and various countries. The selection of the industry sectors and mainly industrialized countries clearly ensures the relevance of this study: the sectors and countries for their economic, environmental and social significance (locally and globally), the two management groups because of their likely role as protagonists in the future of CSM – in general with sustainability officers as catalysts, general managers as "deterrers."

The contingency approach greatly increases the internal validity of the study compared to the numerous studies employing multi-industry samples. This can be expected since, as the empirical literature review revealed, corporate sustainability performance clearly features sector-specific characteristics. Hence results will be more clearly interpretable in a sector-specific context, i.e. changes in the dependent variable can be more clearly explained through the influence of independent variables, and thus the number of explanations beyond those formulated in the conceptual framework decreases (Bortz et al., 2002, p. 57). However, it has to be pointed out that the statistical validity that is seen as part of the internal validity *may* be affected, because several conditions required for the quantitative methods employed in this study are not entirely met: They comprise primarily (1) probability sampling, needed for statistical inference (Dowdy & Wearden, 1983. p. 9), and (2) interval data required for most standard statistical techniques. Although these statistical tools tend to be robust against such violations, results can be biased (Mason et al., 1999, p. 475). Against this backdrop, the author applied a comprehensive set of diagnostics and complementary means of data analysis. Moreover, he adopted a conservative approach to interpreting regression models: Only the direction of the independent variables' effects was interpreted, not the strength.

The author also states that the study is largely based on managers' perceptions, complemented with, primarily, qualitative data collected through interviews with stakeholders, and secondary data sources (corporate reports, websites, newspaper and journal articles). Hence, overall, a potential bias in qualitative data (through self-representation and social desirability) is – due to triangulation with other sources - unlikely to remain undetected. Since, in terms of quantitative data collected, the research design is limited to self-reported measures from managers only, the following aspects are to be taken into consideration:

- The indirect measurement of stakeholders' position (through managers' self-reported measures) is meaningful, as their perceived position (rather than their actual position) determines managers' decision-making ("perception is reality").

- However, the use of self-reported measures to assess company positions and situations is more problematic when assessing relationships and causal links between those variables, for example to determine whether a reported internal barrier (e.g. managers' mindset) influences companies' CSM intent or CSM success. In this situation, it is generally preferable to measure the dependent variable through a third source (e.g. a stakeholder, a rating agency). However, this approach is also associated with certain issues: First, it would further increase the complexity of the study by having to have an additional means of data collection. Second, it requires an individual company-specific assessment of the variable under consideration by the third party. This means that values may not be available for every company in the sample, which would decrease the total sample size. Third, questions about the validity and objectivity of the additional measurement naturally arise too.

The contingency approach also contributes to the external validity of this study, largely because it ensures instrumental validity, i.e. the cross-validation between the two sectors and the two management groups respectively guarantees that the survey instruments record what they should.[22] However, it has to be stressed that the sample is unlikely to be fully representative of either of the two sectors. It is obvious that only the more interested elements of the population respond to surveys of this kind. Unfortunately the multi-pronged approach to quantitative data collection necessary to obtain adequate sample sizes makes an examination of no-responses impossible.

Quality of methods

In the following paragraphs the author briefly assesses the methods employed according to their three common quality criteria, namely objectivity, reliability and validity.

Objectivity

Objectivity refers to interpersonal consensus, i.e. different researchers should be able to reach similar results if they adopt the same method (Bortz et al., 2002, p. 194, 326). This can be achieved through the exact description of the process the researcher has gone through and a certain standardization. In both respects the author has ensured the greatest possible objectivity: First, procedures have been accurately documented. Second, the author achieves a high level of standardization through the methods of data collection (questionnaires and interview guidelines) and data analysis (e.g. standard quantitative methods such as t-tests and regressions using standard software).

Reliability

Reliability essentially concerns the accuracy of the method. If it lacks accuracy, situational factors will cause measurement errors (e.g. participant bias through tiredness, guessing). A completely reliable method should yield the same results if repeated with the same respondent. Obviously this can neither be fully achieved in a semi-structured interview nor is it necessarily desirable, since e.g. the researcher may focus on a recent event or experience the interviewee reports on (Bortz et al., 2002, p. 195, 327). Again the author attempted to ensure the best possible reliability of the method for his part by using standardized methods of data collection and analysis. In particular, he ensures complete transparency of the data analysis process by providing raw data and STATA log- and do-files. Nevertheless, the reliability of quantitative data collection is affected, since the situations in which questionnaires are filled in (e.g. online at home or during IMD programs) may differ significantly.

[22] External validity is given if results can be generalized to other individuals, situations or points in time (Bortz et al., 2002, p. 57; Saunders et al., 2003, p. 102).

Validity

Validity is the most important criterion for research quality. In the context of the classical test theory, it indicates whether a test (e.g. an IQ test) really measures what it is designed to measure. It incorporates three kinds of validity: face validity, criterion validity and construct validity (Bortz et al., 2002, p. 199). The present study has a clearly explanatory focus and measures a variety of concepts (or constructs) through a limited number of items. Thus validity – unlike reliability – is not quantitatively assessed. This does not necessarily mean that the method lacks validity. Construct validity can be assumed if e.g. relationships detected through correlations and regressions fit the study's conceptual framework and qualitative findings.

The validity of qualitative methods concerns several aspects such as the authenticity and honesty of interviewees' statements and possible biases from the researcher in the course of interviewing and interpretation. Validity has been maximized in the present study through within- and cross-case analysis, comparisons with other sources (mainly internal and external company documents) and, most importantly, interpersonal consensus building: Interpersonal consensus building was achieved among the team members of the cross-industry research project referred to above, between the researcher and interviewees through dialogic validation (follow-up phone interviews and focused group discussion),[23] and by engaging external experts (Bortz et al., 2002, p. 329): Members of the project's advisory council, composed of managers and experts, critically reviewed the research results.[24]

[23] As part of the research project carried out at IMD, the author produced research reports on both sectors and a comparative report. The reports entered a comprehensive feedback process including follow-up phone interviews, email correspondence, and a two-hour group session with the sustainability officers from the participating companies.

[24] The advisory council was established to critically assess the progress of IMD's cross-industry research project, within the framework of which the current study was carried out.

6 Sector characteristics

This section elaborates on the major characteristics of both sectors without applying a specific sustainability focus. This is necessary to set the stage for a comprehensive discussion of the integration of environmental and social issues into business strategies and operations. The analysis will be brief and exhaustive by no means but it will be focus on those factors that play the most important role setting the context for CSM:[25] the key characteristics and activities of both sectors, trends, drivers and competitive forces.

6.1 Characteristics and activities of companies

Both sectors are involved in the production, distribution and supply of energy. The OG sector mainly supplies primary energy, the UT sector mainly secondary energy, namely electricity.[26] Energy – and particularly oil – is a strategic and cheap commodity:

- The strategic importance of oil and its geopolitical effects are particularly visible in US foreign policy (Barlett & Steele, 2003; Prüller, 2003). It is rising through the increasing dependency of developed countries on oil imports (Anonymous, 2001b).
- Energy is inexpensive, particularly in industrialized countries. For example, energy expenditure amounts to 2% of the household income of a high-income UK household.[27] Apart from some heavy-industry branches, the proportion of energy expenditure in production costs is similarly low.

Integrated oil and gas sector

OG companies are primarily involved in (1) global exploration and production of oil and gas (upstream business) in various regions around the globe, and (2) refining and marketing of oil products (downstream). These areas also represent the two key business units. OG companies also engage in gas distribution, power generation mainly for own use in refineries (gas & power) and chemicals. Furthermore, energy logistics is an increasingly important cross-business activity. The oil produced is mainly supplied to the transport (57%) and industrial (19%) sectors; gas serves mainly industrial purposes (44.8%) (International Energy Agency, 2003).

In contrast to the 1970s, the major OG companies no longer dominate oil production, primarily due to competition with several medium-sized private and several large national oil companies and the creation of the Organization of Petroleum Exporting Countries (OPEC) (Ketola, 1993, p. 22). OPEC has recently effectively controlled the oil price, which substantially determines OG companies' profits and hence share prices (Drack, 2003; Vorholz, 2003a). The influence of the major companies such as Shell, Total and Exxon Mobil in the downstream business is still significant. Over the last decade, the industry has consolidated through several mergers. Stronger engagement of national oil companies in downstream activities remains a major potentially disruptive factor (Ernst et al., 1999).

Electric utilities sector

UT companies are typically active in hard coal and lignite mining, power generation, electricity and gas network activities, and the marketing and sales of electricity and gas.

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[25] For a more detailed analysis, refer to Salzmann (2004).

[26] Primary energy sources can be assigned to three broad categories: renewable fuels (e.g. biomass), non-renewable fuels (e.g. fossil fuels such as oil, gas and coal, nuclear fuels) and renewable natural forces (e.g. solar heat and light, wind, geothermal heating). Secondary energy sources or carriers are derived from these primary energy sources, foremost electricity but also hydrogen and alcohol.

[27] On the other hand, it can reach up to 15% of household income in Uganda (International Energy Agency et al., 2002, p. 8).

Electricity is mainly generated through the use of coal (38.7%), gas (18.3%), nuclear fuels (17.1%) and hydropower (16.6%) It is primarily supplied to the industrial sector (41.7%). Other sectors (including agriculture, commercial & public service, and residential) account for a 56.5% share (International Energy Agency, 2003). UT companies are typically smaller and less profitable than OG companies (refer to Appendix B – Key financials of sector samples for the companies that participated in the interview phase of the project).

Compared to the clearly global nature of the OG sector, in the UT sector the business models – relating to power generation distribution and supply – clearly feature regional characteristics. Companies are more strongly dependent on the local availability of resources (e.g. coal, hydropower) and on domestic energy policies (e.g. France's preference for nuclear power generation). In Europe, for example, the sector exhibits a strategic focus on European energy markets, vertical integration (Bender, 2003; Economist Intelligence Unit, 2003b) and expansion into other OECD countries. The implementation of the liberalized EU electricity and gas markets has had – depending on the degree to which the respective domestic markets have opened – several significant effects, including rising cost pressure (through inefficiencies, overcapacities), investment risk (customers can switch suppliers more easily) (Bohne, 2003; Flauger, 2003a) and the convergence of gas and power markets (Buchan, 2001c; Commission of the European Communities, 2004). In several European countries, market concentration has increased as a consequence (Vorholz, 2003b). Future development will depend substantially on how consistently liberalization processes are driven forward.

6.2 Trends, drivers and competitive forces

In the following, the author outlines the key trends and drivers and competitive forces. Energy demand is growing, and the supply is becoming increasingly challenging. However in the short to medium term, drastic changes in the current energy mix are not be expected.

Demand and supply

Demand is coupled with economic development, population growth and, in the short term, weather conditions. In the past, growth in energy consumption has been substantial, but so far mainly limited to industrial nations. In the future, it will be mainly driven through rising demand from developing and emerging countries, particularly in Asia.

At the same time, oil reserves in developed countries are maturing. Hence substantial amounts of investment in the development of additional oil & gas fields are necessary. These developments will become increasingly difficult for two major reasons:

1. Fields are less accessible, and thus extraction and production will become more technically challenging and expensive in general (e.g. more deepwater drilling will become necessary) (Anonymous, 2003e; Morrison, 2000).
2. The host countries in which future E&P activities will take place (mainly Africa, the former Soviet Union and the Middle East) are obtaining greater bargaining power and bear more political and social risks. Hence political rivalry, domestic strife and corruption will certainly increase insurance, project finance and security costs (Anonymous, 2003g, p. 2).

Oil supply is significantly affected by short-term supply disruption and, in the long term, resource depletion. Both factors are linked by geopolitics, which makes it difficult to estimate the range of fossil fuels. New discoveries and price shifts due to supply disruptions in the Middle East and other regions can make certain reservoirs that were previously too expensive to use suddenly attractive. Various studies estimate that supply gaps, particularly for oil, will become evident between 2030 and 2050 (Puplava, 9 April 2006; RWE, 2003; Shell International Ltd, 2001).

Short-term supply disruption and resource depletion are less significant in the UT sector, since its primary energy (coal, gas and nuclear fuels) generally originates from politically more stable regions (e.g. Australia, China, South Africa) or domestic deposits. Recent blackouts, e.g. in the US and Italy, are likely to lead to a new emphasis on supply security in the short to medium term, which will compete with the main goals of liberalization (low consumer prices and economic efficiency) and environmental considerations (Anonymous, 2003g, p. 8).

Competitive forces

Competitive forces (Porter, 1980) exhibit several meaningful differences and commonalities across both sectors:

1. High capital intensity and scale economies constitute great barriers to entry of new competitors and also barriers to radical innovation. The OG sector's technological lock-in is even strengthened through existing business systems with neighboring industries (long life cycles of fossil-fuel based modes of transport) (Steger, 2004).
2. Customers can easily switch suppliers, particularly in the OG sector. Furthermore, the price elasticity in the transport sector is significant, and thus increases competition in OG downstream activities. In the UT sector, industrial customers use their bargaining power in liberalized electricity markets. In contrast, low electricity prices and the administrative effort of switching electricity suppliers provide little incentive for private households to exercise potential bargaining power (Anonymous, 2003b).
3. In the OG sector, the bargaining power of suppliers – most importantly national governments as the resource owners – is significantly higher, because companies rely on licenses from a few and mostly politically less stable countries. To share the risk of substantial upstream investments, the sector commonly relies on joint ventures (Anonymous, 2001b).
4. The current threat from substitutes is low in both sectors (Purdum, 2003). However, renewable energy sources, distributed generation and hydrogen technology constitute long-term alternatives with significant disruptive potential.

Current and future energy mix

In today's world, primary energy demand is mainly met by oil (35%), coal (23%) and natural gas (21%), which "translates" into the following fuel shares of total final consumption: Oil is clearly the most important energy source accounting for 43%, followed by natural gas (16.3%), and electricity (15.6%) (International Energy Agency, 2003).

Several scenarios aim to project the world energy mix in 2030. Results vary significantly due to different methodologies, but suggest that it will not change dramatically. Natural gas is expected to exhibit the strongest growth. The current 10% share of renewable energies will not increase substantially – in fact it may even decline.[28] Two Shell scenarios take a more long-term perspective of possible developments by 2050. They differ in terms of the most important drivers (superior end-use technology by consumers vs. resource scarcity, environment and security concerns, competitive responses and competing societal priorities) and project that renewables *could* play a substantial part as primary energy sources in the long-term future, and thus lead to the stabilization of atmospheric carbon dioxide concentrations (Shell International Ltd, 2001, p. 58).

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[28] This conclusion is reached based on a meta-analysis of several energy scenarios from the Energy Information Administration (EIA), the International Energy Agency (IEA) and EU Directorate-General for Research (RWE, 2003, p. 53)

6.3 Discussion

Analysis of the main sector characteristics brought to light several commonalities and differences, which make a sector comparison clearly worthwhile:

- There is a slight overlap in the activities of both sectors: OG companies primarily focus on the extraction and production of oil and gas, and the refining and marketing of oil. Some also engage in power generation and the marketing of gas. In contrast UT companies' extraction and production activities are limited to hard coal, lignite and gas. They clearly focus on electricity production, and the distribution (network activities) and supply of electricity and gas. They are expanding their activities globally (through acquisitions in the electricity and gas markets of other industrialized countries and international extraction activities) but their business models have more regional characteristics. There are several reasons for this: (1) Until ongoing liberalization in electricity and gas markets began, companies focused on their home markets; and (2) electricity is generated close to where it is consumed because storage and transport are comparatively expensive.
- Both sectors use capital-intensive processes to supply cheap and strategic commodities. However, on average OG companies are more resourceful than UT companies. Furthermore, the OG sector is more strongly locked into technological trajectories primarily due to the fleet inertia in the transport sector.
- Both sectors also face similar future challenges of growing energy demand and depleting fossil fuels. However, pressure on the OG sector is stronger because (1) its downstream operations span a broader scale, and (2) oil – as its key resource – will deplete most quickly of all fossil fuels.
- Additionally, competition in the downstream OG business is stronger, although liberalization of the UT sector is also leading to a significant increase in competitive pressure.
- The OG sector's upstream activities bear considerably greater political and social risks, associated with local conditions in the supplier countries and geopolitics. The bargaining power of suppliers in the OG sector, i.e. governments as the owners of oil and gas resources, is substantially higher.

7 Data collected

In the following two sections, the author briefly elaborates on the amount of qualitative and quantitative data collected in the course of this study. Overall the evidence obtained (33.25 hours of interview time and just under 200 returned questionnaires) is relatively extensive, if one considers that the study adopts a contingency approach that does not allow more easily obtainable multi-industry samples.

7.1 Qualitative data

Seven OG and six UT companies from Europe and the US responded positively when asked to participate in the study through interviews. In most cases, the author conducted at least two face-to-face interviews per company (one SO and at least one GM) and followed up by phone when necessary. The sample includes all major non-sustainability business functions (see Table 7-1). Furthermore, seven non-corporate organizations, i.e. external stakeholders such as public pressure groups, regulators and experts, also agreed to contribute to the study through interviews. The number of conducted interviews amounts to a total of 45. Interviewees mainly originated from Mid-Northern Europe, Latin Europe and Nordic countries (see Appendix A – Interview samples for details).

Sector / Management discipline	OG sector	UT sector	External stakeholders (# of interviews)
Sustainability officers	**14**	**7**	- Environmental organizations (4) - Regulators (1) - Intergovernmental organizations, e.g. UNEP, IEA (3) - Multi-industry platforms, e.g. WBCSD, WEF (2):
General managers:			
Operations including supply chain (some with responsibility in environmental, health and safety)	6	1	
Public affairs, communications	1	0	
Finance, investor relations	1	2	
Strategy	2	1	
Research & development	1	0	
Human Resources	0	1	
Subtotal for general managers	**11**	**5**	
Total	**25**	**12**	**10**

Table 7-1: Interview sample

Interviewees provided ca. 45 min for an interview on average (if one takes into account that some interviews were conducted with two interviewees), which adds up to a total of at least 33.25 hours of interview time, excluding follow-up interviews by phone.

Depending on their availability, various internal and external company documents such as analyst and annual reports as well as corporate environmental, social responsibility or sustainability reports were used for the preparation of and discussion during the interviews.

Furthermore, the author (passively) participated in a three-hour session of a global OG company at IMD, during which general managers discussed drivers and practices of CSM with one of the company's sustainability officers.

7.2 Quantitative data

The number of returned and valid questionnaires amounted to 205 in total. They comprise 13 and 55 questionnaires from UT sustainability officers and general managers respectively, and 17 and 120 questionnaires from OG sustainability officers and general managers respectively (see Figure 7-1).

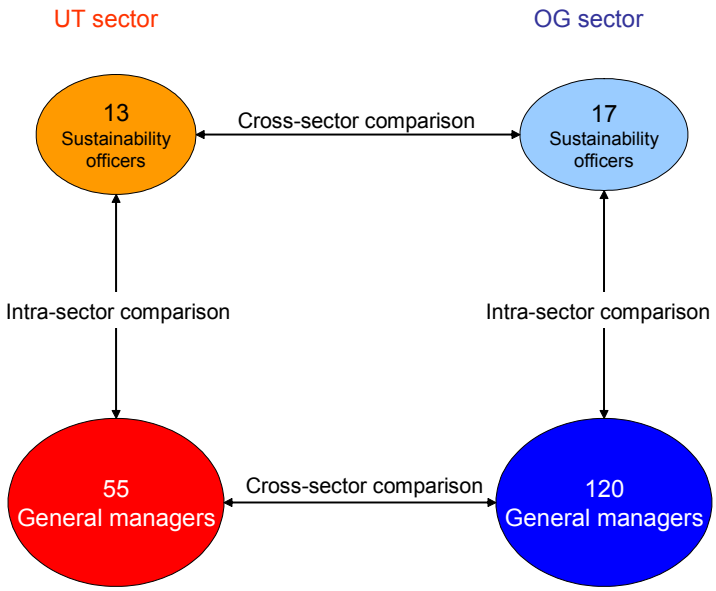

Figure 7-1: Samples – dimensions of comparison

The GM samples in both sectors are dominated by HR and corporate staff, followed by – in the OG sector – operations (27%) and marketing (14%), and – in the UT sector – finance (18%) and operations (13%). OG respondents primarily originate from middle (42%) and senior (38%) management positions. The UT sample is clearly dominated by senior managers (60%). Middle management is the second most important group at 35%. Both samples are clearly dominated by male respondents aged 35 to 50. In the OG samples, respondents who operate in North America account for the largest proportion, followed by respondents based in Mid-Northern Europe and Nordic countries (see Chart 7-1). As Chart 7-2 illustrates, the UT sample of general managers is clearly dominated by respondents who operate in Mid-Northern Europe.

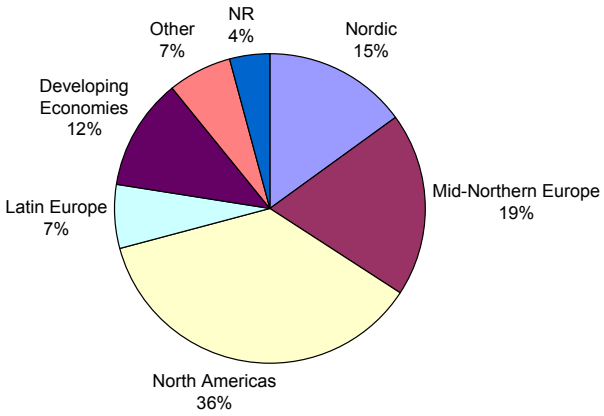

Chart 7-1: Regions of operation – OG general managers

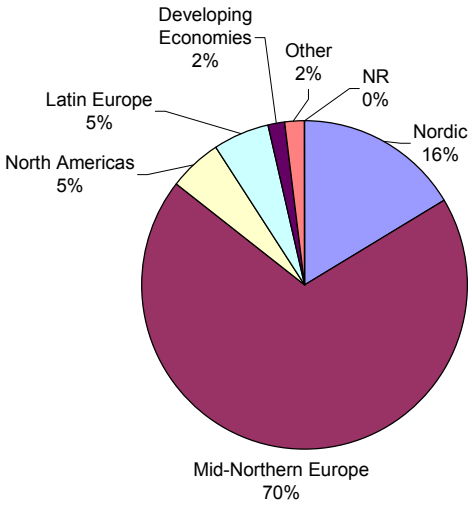

Chart 7-2: Regions of operation – UT general managers

The sample distribution of nationalities does not deviate substantially from that of the regions of operation (see Chart 7-3 and Chart 7-4).

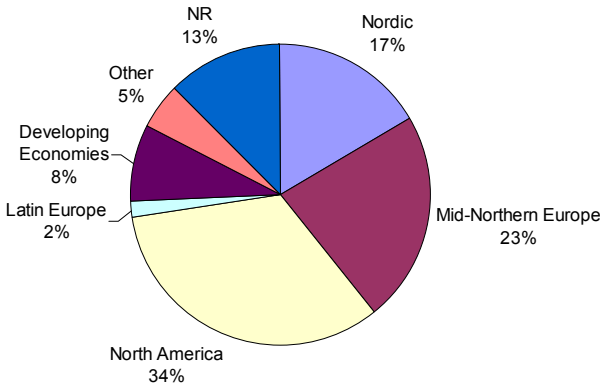

Chart 7-3: Nationalities – OG general managers

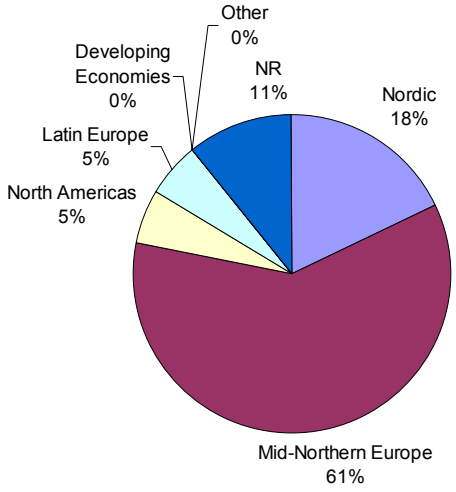

Chart 7-4: Nationalities – UT general managers

The SO questionnaire was emailed or faxed directly to all sustainability officers interviewed, with a request to forward it to other sustainability experts in their company. In both sectors, sustainability officers operate mainly in their company's environmental health & safety (EHS) department (44% in the OG, 58% in the UT sector). Sustainability (33% in the OG, 7% in the UT sector) and external affairs departments (17% in the OG, 14% in the UT sector) also appear to play a significant role. It should also be noted that 21% of UT respondents operated in functions that could not assigned to any of the departments referred to above.

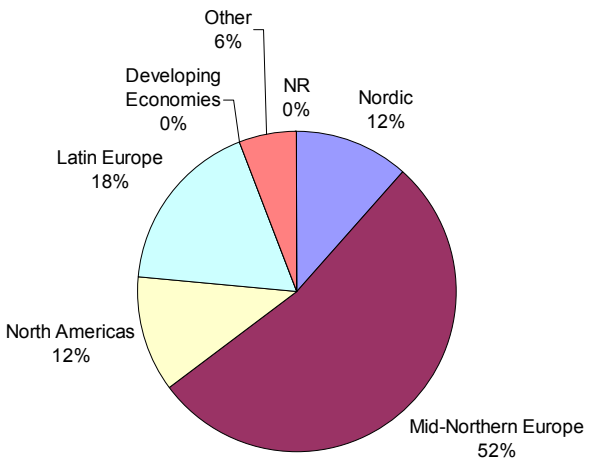

Chart 7-5: Regions of operation – OG sustainability officers

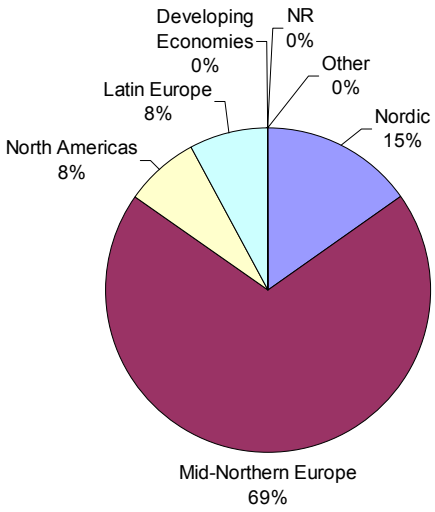

Chart 7-6: Regions of operations – UT sustainability officers

As Chart 7-5 to Chart 7-8 illustrate, that Mid-Northern European bias is substantial in the sample of sustainability officers, particularly in the UT sector. The bias has "increased" compared to the GM samples because collecting data from such a relatively small population proved to be difficult. The author had to rely on personal relationships with managers who had already participated in the interview stage. As mentioned earlier, most of them were based in Mid-Northern Europe.

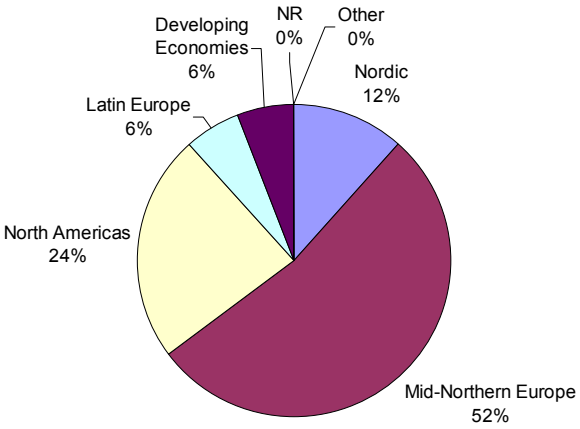

Chart 7-7: Nationalities – OG sustainability officers

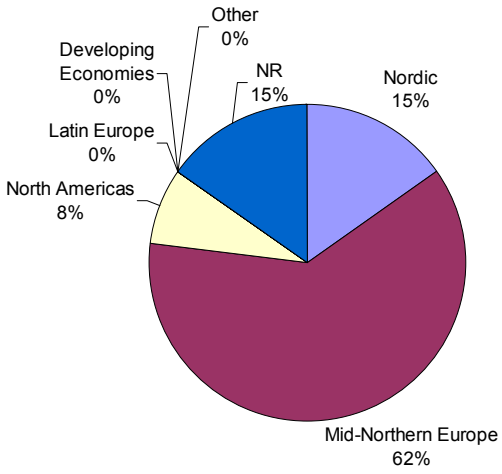

Chart 7-8: Nationalities – UT sustainability officers

Overall, the sample of sustainability officers (13 in the UT and 17 in the OG sector) is small. Nevertheless, the author decided to incorporate the data in this study for two reasons:

First, given its rather exploratory character, the study will significantly benefit from an additional benchmark, if results are interpreted carefully. Second, STATA's t-test, which is used in the study to compare the means between/among sustainability officers and general

managers does allow for small samples, as it is based on the Student's t (Mason et al., 1999, p. 353).

8 Empirical evidence

In the following section, the empirical findings will be presented and discussed. It is divided into four subsections that deal with the four individual units of analysis (see Figure 8-1). It should be noted that these four units will be consistently highlighted in the following colors: red (issues), green (external stakeholders), orange (managers) and blue (companies).

Section 8.1 examines the importance of environmental and social issues, and focuses specifically on a description of the individual problems and their relevance to the companies and sectors overall. Obviously social and environmental problems only become issues if some stakeholder's demand makes the problem relevant to corporate activities, because it holds the company publicly responsible (Wood, 1991, p. 698). Hence the role of individual stakeholders in determining the significance of the issues will be mentioned. However, the section primarily discusses the nature of different social or environmental issues, and how companies are responding to their responsibility to them rather than focusing on the importance of individual stakeholders.

Section 8.2 features a comprehensive discussion of legitimacy and the importance of stakeholders other than managers (whose role is examined separately in section 8.3), namely governments and regulators, public pressure groups and the financial community. As mentioned in the previous paragraph, some repetition through brief references to issues is unavoidable. However, the clear focus is on the stakeholder as such rather than the issue. Furthermore, the role of industry (i.e. the respondents' companies and competitors) and public-private partnerships is examined to obtain a meaningful benchmark for respondents' assessment of external stakeholder activities and to detect possible differences in the self-perception of companies (and their competitors), and in the perception of the effectiveness of public-private partnerships.

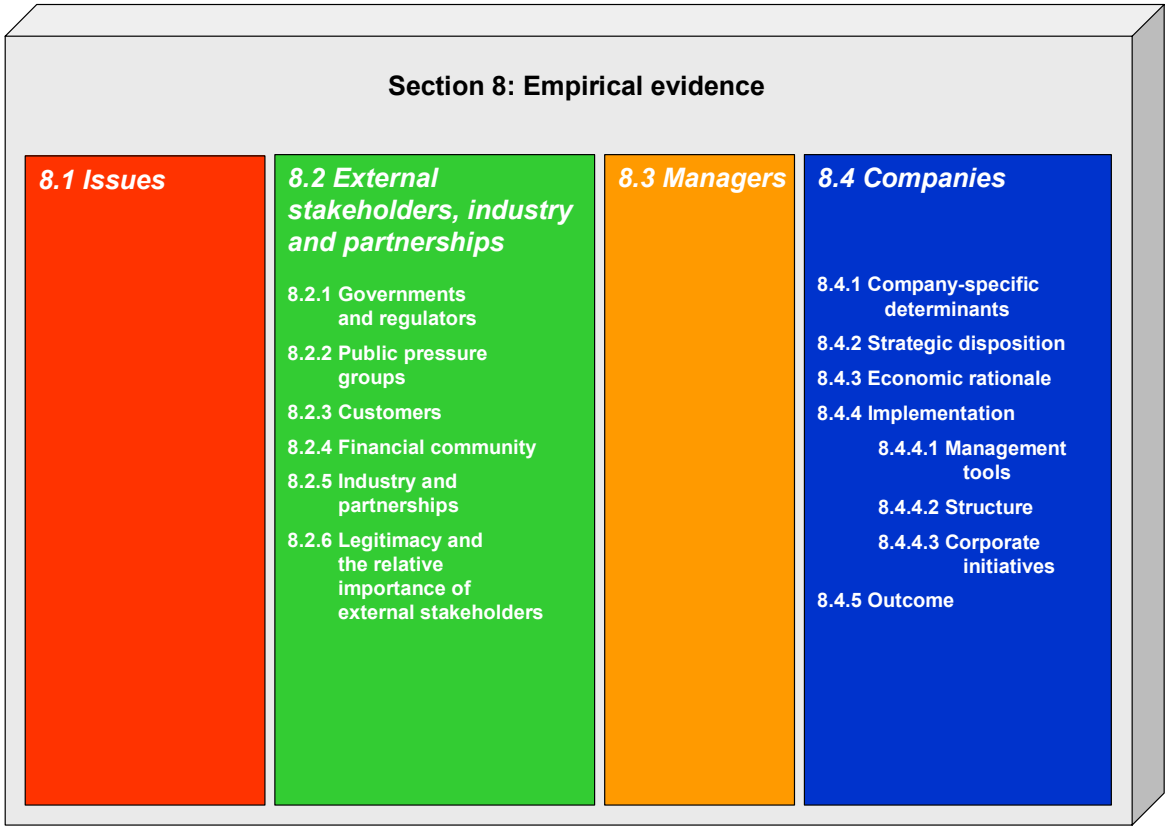

Figure 8-1: Structure of section 8

The role of managers as internal stakeholders will be assessed in section 8.3. As individuals in a corporate environment, they are able to exercise considerable managerial discretion and thus either drive or deter CSM, depending on their level of knowledge and expertise as well as their personal attitudes. Hence this is an area of particular interest in this study.

Section 8.4 deals with companies as the final unit of analysis. It comprises a discussion of internal and company-specific barriers (e.g. opposition from functions, corporate culture) and compares them with the significance of external barriers (e.g. lack of interest from customers), companies' strategic disposition to CSM (e.g. how much should environmental and social criteria be taken into consideration?) and their ways of operationalizing it (e.g. tools, initiatives).

As a rule the sections and subsections in Figure 8-1 above feature three subsections each, which comprise (1) qualitative analysis and basic statistics, (2) advanced statistics, and (3) discussion. The only exception is section 8.4.3 Economic rationale, for which no advanced statistics are available due to the necessarily more exploratory and qualitative approach to the business case for sustainability.

Qualitative analysis and basic statistics

Subsections titled "Qualitative analysis and basic statistics" contain reports on the findings from the interviews, which are then put into the context provided by basic quantitative data analysis. These statistics include relative frequencies (reported in pie charts) as well as χ^2-and t-tests.

Depending on the length of the section and the complexity of the results, the author provides brief conclusions to summarize key findings and interpretations.

Advanced statistics

Subsections with the heading "Advanced statistics" feature the results of the correlation and/or regression analysis. Various figures will be provided to present the correlation analysis results in a clear format. It should be noted that only correlations that are statistically significant at a 5% level are included. Associations with lower significance levels may be reported from time to time. It is possible that correlations and regressions that are based on the total and the OG sample might yield similar results due to the preponderance of OG respondents in the total sample.[29]

Correlations describe the associations between two concepts, e.g. issue significance and managers' attitudes. It is worthwhile reporting on them in the two sections that deal with these concepts respectively – essentially twice in the course of this study, since a holistic interpretation requires the consideration of all associations that one variable exhibits with the remaining variables tested. This rationale is followed in this study. However, to avoid unnecessary redundancies, every correlation is only discussed in detail once, namely the first time it is reported. Thus most subsections that present the study's correlation results feature a brief iteration of results already interpreted in detail in a previous section, and a more detailed discussion of results that are "new" in the study, i.e. results of correlations that have not been mentioned in any of the previous sections.

Given the exploratory nature of this study it should be not surprising if some expanded regression models are not valid, or include coefficients whose p-values are below the regular 0.05 or 0.10 levels. This is precisely why the author provides reduced models in addition. As a rule, the discussion of the influence of demographic variables primarily focuses on the effect of the industry sectors and regions of operations. Other statistically significant demographic variables will not be discussed in detail, since they are primarily used to control for possible individual biases in the personal attitudes of respondents, which have already been found in earlier empirical studies. It should be noted that in the reduced and expanded models significance levels of 5% and 10% are indicated in bold and italic, respectively. Generally only either the reduced or the expanded model will be shown and interpreted in the text. The "missing" one will be provided in Appendix F – Regression models. Regression diagnostics on the summary models (see Appendix G – Regression diagnostics) indicate that assumptions underlying multiple regression analysis are reasonably met.

As in the subsections on "qualitative analysis and basic statistics," the author provides brief conclusions to summarize key findings and interpretations if the scope and complexity of the results make them necessary.

Discussion

Discussion sections represent a synthesis of results and interpretations from the previous sections ("Qualitative analysis and basic statistics" and "Advanced statistics"), i.e. to what extent they converge or diverge, and complement each other.

They discuss (1) the importance of the respective concept examined, e.g. issues, to CSM, (2) its relationships with other concepts examined in this study (its determinants and effects), and (3) its contingency character, i.e. to what extent the concept features different characteristics across the two industry sectors, management disciplines and different regions of operations. The author will compare the findings with those of other studies and put them into broader perspective. He will also discuss the limitations of the study and provide suggestions for further research.

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[29] There are more than twice as many OG as UT respondents.

8.1 Issues

According to the conceptual framework presented in section 4, issues are significant motivating factors for CSM, since companies are publicly responsible for environmental and social problems caused by their activities (Preston et al., 1975; Wood, 1991, p. 697).

In this section, the author will:

- report on the issues mentioned by the respondents to this survey
- describe the characteristics of the most important single environmental and social issues in both sectors in more detail (cause, related stakeholders and corporate response)
- assess their overall importance and effects on companies' approaches to CSM.

8.1.1 Qualitative analysis and basic statistics

Figure 8-2 and Figure 8-3 include all the different environmental and social issues that were mentioned in the interviews. There are a substantial number, particularly in the OG sector largely due to its global scale of activities and its operations in developing countries – compared to the UT sector. Issues vary not only across different locations of corporate activities but also across different kinds of activities themselves. This is visible particularly in the OG sector, since it is highly vertically integrated.

Overall, sustainability officers interviewed exhibited greater knowledge about the entire range of issues across the value chain. This is to be expected, because they have several responsibilities including a corporate review and advisory role which requires them to deal with various organizational units and issues. In contrast, general managers' awareness tends to be limited to issues that are more short term and directly associated with their responsibility.

It is obvious that extraction activities and large hydropower projects are under more scrutiny due to their size and greater environmental and social significance compared to e.g. downstream operations.

In the following sections 8.1.1.1 and 8.1.1.2, the most important social and environmental issues of both sectors are described in more detail. The author will also briefly mention how companies responded to them.

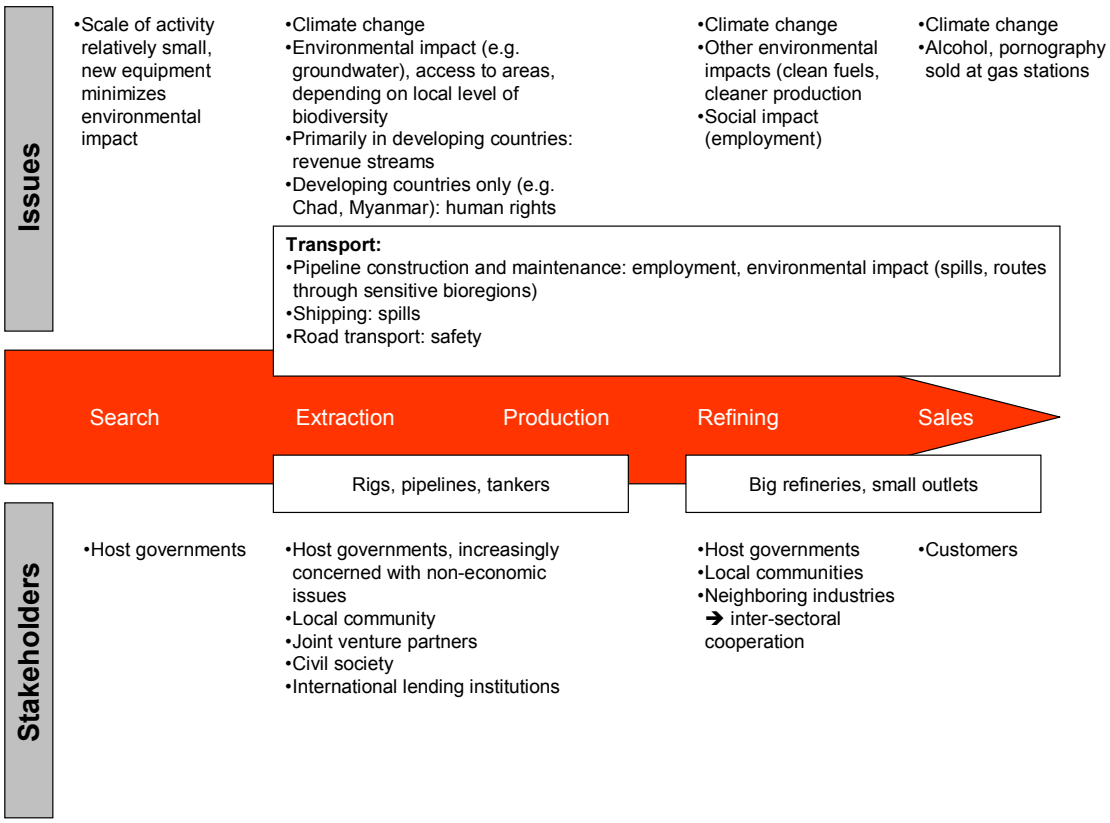


Figure 8-2: Issues and stakeholders across the value chain (OG) – based on interviews and corporate reports/websites

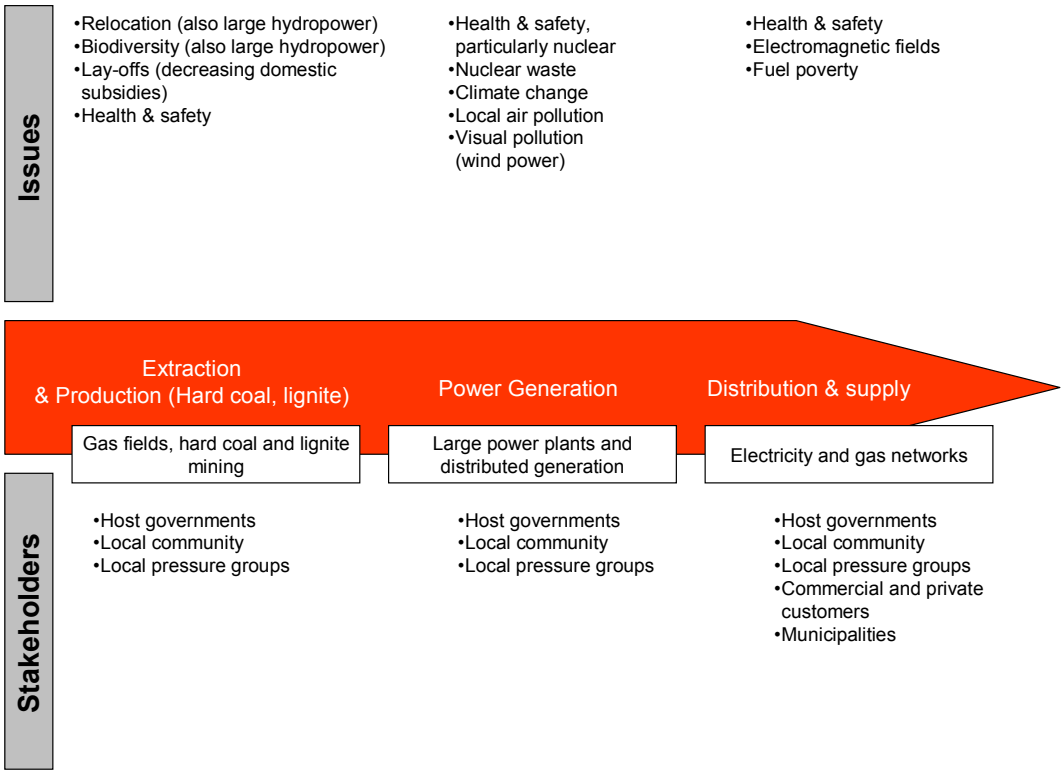


Figure 8-3: Issues and stakeholders across the value chain (UT) – based on interviews and corporate reports/websites

8.1.1.1 Social and ethical issues

The issues are systemized according to two categories: (1) short-term operational issues and (2) long-term strategic issues.

Operational issues

The OG sector faces several social and ethical issues associated with its extraction and production activities in developing countries. Onshore operations are more relevant in this respect due to their greater visibility. The following issues were brought up by the interviewees:

- **Benefits for local communities at productions sites**: The lack of local infrastructure around production sites calls for a fair allocation of oil & gas revenues between national (host) governments and the local communities. People migrate to sites in the hope of employment and higher standards of living, which puts additional stress on local facilities. Changing employment levels are also reported to cause significant social problems when a project switches from construction to maintenance mode, which can require a workforce reduction of up to 95%. Today sustainability leaders carry out full impact assessments, involve communities in the project planning and establish necessary local infrastructures for e.g. education, health (also to combat epidemics such as malaria and HIV in e.g. Africa), governance and income generation (Bamber, 2002; Gavin, 2003).
- **Human rights violations** (Dias, 2003): Human rights organizations repeatedly criticized the way local workforces suffer under totalitarian political regimes (e.g. Myanmar, Libya, Angola, etc.) through e.g. local contractors hired (including local police) to ensure security on site. There were also accusations of forced labor. Companies reacted by becoming increasingly involved with the corresponding authorities, e.g. Statoil engaged in the training of Venezuelan judges on human rights (Murray, 2002), and management's awareness of such issues was increased through training programs (Anonymous, 2002a).
- **Corruption** (linked to fair allocation of revenues referred to above): Companies were asked to be transparent about payments to national and regional authorities to reduce bribery. BP took the lead in 2001 when it announced that it would publish all the payments made to Angola, whose government promptly threatened to cancel BP's contract (Fritz, 2003). Since then corruption continues to be a significant issue in the oil industry (Anonymous, 2004b; Schmitt & Hennessy, 2004).

Those issues often occur simultaneously, since they are prone to emerge in poor, corrupt and least developed countries, in Africa in particular (e.g. Chad, Cameroon), and tend to be accompanied by significant environmental problems (Horta & Djiraibe, 2002). They are primarily scrutinized by international lending institutions[30] and NGOs such as Amnesty International and Transparency International, and are relevant due to their effects on OG companies' reputation and chiefly the local, and increasingly, "global" license to operate (Marsden, 2000 p. 15; Wheeler et al., 2003 p. 9). At the end of June 2004, the US supreme court ruled that perpetrators of human rights offenses, i.e. potentially also OG companies, could be held liable, if offenses were widely accepted as violations of international law.[31] The significance of social and ethical issues was recognized by most interviewees who also considered social issues "more difficult to grasp" than environmental problems, since they

[30] The World Bank's Operational Policies and Directives take account of various issues of sustainable development such as poverty, AIDS, environment and globalization.

[31] Relevant cases have been brought against Unocal, ChevronTexaco and other major oil companies (Anonymous, 2004c).

require different management and reporting practices (e.g. SA 8000),[32] which are as yet unfamiliar to chiefly laggard companies.

The UT sector faces two social challenges that are more typical for its regional and eurocentric business models:

- **Downsizing:** The deregulation of markets has significantly increased competitive pressure, to which companies are reacting with layoffs. A gradual phasing out of subsidies to domestic mining activities has been associated with shut downs and has had to be managed in a socially acceptable manner.
- **Relocation of residents:** Surface mining and large hydropower projects require relocation of residents and have been settled largely successfully through dialogues with residents and citizens' initiatives in Europe. In developing countries, dams are still being criticized by NGOs for their unwanted social and environmental effects (Khagram, 2003; Parker, 2001; Suzman, 1998).

Both issues have a certain impact on reputation, and the formal (regulations) and informal (buy-in from workforce and residents) license to operate but are clearly less important than the kinds of social issues faced by OG companies.

Strategic issues

There is one key strategic social issue, namely the North-South energy divide. It is caused through the lack of access to energy of populations in developing countries. People in rural areas, in particular, spend a disproportionately high share of their income and time on gaining access to energy. These resources are then not available for child care, education, income generation and hence economic development (International Energy Agency et al., 2002, p. 6).

Although this problem has been recognized by the sector (also by most interviewees), it remains clearly unresolved due to the lack of external pressure and financial opportunities (Andersson et al., 2000 p. 565; Prahalad & Hart, 2002). Residents lack the necessary purchasing power that would justify more substantial investments. The costs of decentralized photovoltaic systems or grid extensions to remote communities (where population density and demand are generally low, but concentrated at peak times) are relatively high.

To partly resolve this issue of energy poverty, OG companies have established local energy infrastructures around their facilities and carried out pilot projects of rural electrification (e.g. through solar systems). Some have entered the utility business in developing countries (e.g. BG Group) but focus on urban areas only. Apart from pilot projects, UT companies also refrain from serious engagement in rural areas.

Conclusion

The kinds of key social and ethical issues largely differ between the two sectors. Hence it is not possible to make a direct comparison of the individual issues across the sector – as provided for the environmental issues in the next section – apart from the strategic issue of the North-South energy divide.

The great divergence between the sectors is due to the location of the activities concerned. The UT sector has a more regional business model. In the case of the companies surveyed this means a Eurocentric perception of issues, i.e. issues are less severe (due to comparatively high standards of living) and more strongly regulated than in developing countries. This also means that the level of managerial uncertainty is lower. Furthermore, the extraction of primary

[32] SA 8000 is a standard for socially responsible employment practices and features nine different areas including child labor, forced labor and discrimination.

energy sources (e.g. coal) by UT companies takes place in countries (e.g. China, Australia, South Africa) that on average have less severe social problems than less developed countries in Africa (e.g. Chad, Cameroon, Nigeria) or Asia (e.g. Myanmar).

Finally the two sectors recognize their only shared issue of the North-South energy divide. Their responses are very similar and largely limited to pilot projects, clearly because of the lack of external pressure and financial opportunities.

8.1.1.2 Environmental issues

Interviewees primarily pointed to the significance of several environmental issues, namely climate change, local air pollution, biodiversity and landscape protection, and – in some countries – nuclear power, which could also be seen as health & safety issue. Issues will be described in more detail in the following text. Again, the author differentiates between operational and strategic issues.

Operational issues

Biodiversity and local environmental deterioration

The issue of biodiversity and local environmental deterioration is primarily associated with extraction and production activities that require access to areas with high levels of biodiversity, and that emit harmful substances into the environment, primarily water and soil. It is dependent on the local infrastructure (e.g. in Europe most pipelines are laid underground), landscape (surface mining) and level of biodiversity, and thus local stakeholders (regulators, neighbors) and some global NGOs are the main pressure groups. In some cases (e.g. in terms of surface mining activities in Germany) citizen groups are perceived as having a stronger influence than national and global NGOs.

In the OG sector, biodiversity can mainly be affected through oil spills and major extraction and construction activities (platforms, pipelines) in developing countries, which require access to remote areas with high levels of biodiversity. In the UT sector, surface mining activities and large hydropower projects can have significant environmental impacts. Since surface mining activities are strongly regulated in developed countries and provide much-needed employment, external pressure is mainly associated with large hydropower projects in developing and emerging economies (Kynge, 2002; Parker, 2001).

Although the safety of nuclear power generation and the unresolved issue of waste disposal have triggered opposition from civil society in some European countries – of which several, such as Germany and Belgium, have legislated to phase out nuclear energy (Dombey, 2002) – overall the significance of biodiversity and local environmental deterioration is less strong in the UT sector. This is because it is mainly active in Europe, where relatively high environmental, health and safety standards are already complied with and levels of biodiversity are lower than in developing countries. In the OG sector economic implications are more significant, particularly because local environmental effects in developing countries are strongly scrutinized by NGOs on a global scale and linked to the social issues described in the previous section (e.g. human rights, infrastructures, benefit of local communities). Hence they are more strongly associated with companies' (formal and informal) license to operate, brand value and reputation (Cooper, 2003; Hoyos & McNulty, 2003; White, 1996).

Local air pollution

Local air pollution is caused through NO_x and SO_2 emissions that result from the combustion of fossil fuels and lead to smog, acidification and eutrophication. In the OG sector, it is associated with operations (production and refining) and, most importantly, with product use in the mobility, industrial and residential sectors. Local air pollution has become a severe environmental and health problem in urban areas of developing countries, and is thus under

more scrutiny from regulators than climate change is. In OECD countries, the importance of local air pollution has clearly decreased. Companies reacted to increasing regulatory and public pressure in the previous two decades and agreed to phase out lead and to reduce the sulfur content in motor fuels. This required major investments in new technologies (Anonymous, 1998; Smith, 1998). In the future, the production of increasingly cleaner fuels will remain costly because it is considerably energy- and CO_2-intensive. On the other hand, reputation and brand value are expected to benefit from further developments because they demonstrate environmental leadership (2003d; Ristau, 2004).

In the UT sector, the significance of local air pollution has clearly decreased and appears to be lower than in the OG sector. Companies made significant investments in end-of-the-pipe and integrated technologies to reduce emissions – as in the OG sector because of hardening external pressure (e.g. EU large combustion plant directive, domestic emission limits). However, in several European countries, waste-fuel-fired power plants may pose a significant challenge in the future, since emission standards will be more difficult to meet.

Strategic issues

Climate change, which is caused by the emission of greenhouse gases and is likely to have regional and global environmental effects (e.g. rising sea levels, shifting climate zones), was perceived as the most significant issue in both sectors. In the OG sector greenhouse gas emissions are primarily related to product use, i.e. burning of fossil fuels in the mobility, industrial and residential sectors. However, greenhouse gas emissions from operations are also seen to play a significant role in areas with little energy-intensive industry and high shares of renewable energy (e.g. Nordic countries).

The Kyoto Protocol, which – after its ratification through Russia – binds industrialized countries to commitments to reduce greenhouse gas emissions, has had a notable influence on national regulations, particularly in Europe. Several national governments in Europe (e.g. the Netherlands, the UK and Norway) have increased regulatory pressure through eco-taxes and a bundle of policy measures targeted at end users in the mobility, industrial and residential sectors: The issue of climate change in the OG sector is mainly pushed by public pressure groups such as Greenpeace and Friends of the Earth. As a reaction, leading European companies such as Shell and BP have established internal emission trading systems and are participating in the UK's voluntary emission trading system (Nicholls, 2003b). Companies with less CO_2-intensive product mixes, e.g. BG Group (more natural gas, less oil), consider climate change more of an opportunity than a threat.

Compared with OG companies, UT firms' greenhouse gas emissions are clearly associated with their own operations, i.e. power generation from fossil fuels. In fact, UT firms are among the greatest single industrial CO_2 emitters in Europe and are thus more suitable targets for national and European legislators than the upstream oil & gas activities.[33] In conclusion, most UT companies surveyed are subject to stronger, more short-term and primarily regulatory pressure in Europe due to the coming CO_2 emission trading system (Leyva & Lekander, 2003, p. 122).[34] Most managers across both sectors acknowledge that the price of greenhouse gas emissions (set by eco-taxes and emission allowances) will increase over time. The Carbon Disclosure Project, a group of institutional investors scrutinizing the corporate sector in terms

[33] As statistics from the US Energy Information Agency also illustrate, the entire US industrial sector emitted 1.6 billion metric tons of CO_2 in 2001, whereas the electric power sector on its own accounted for 2.2 billion metric tons of CO_2 emitted (www.eia.doe.gov/oiaf/1605/ggrpt/cdemissions_tbls.html on 5 May 2004)

[34] Oil refineries are also affected by the EU emission trading system.

of its CO_2 portfolio, is considered an additional driver to emissions reduction (Nicholls, 2003a).

Overall, OG managers, and sustainability officers in particular, consider climate change a significant threat to their companies' brand value and reputation (Hoyos et al., 2003; Merolli, 2003). However, the license to operate is only believed to be endangered in the mid to long term (Mansley, 2002). All in all UT, managers are more concerned, particularly due to the forthcoming EU emissions trading system and the greater CO_2 intensiveness of the sector (Gassman, 2004; Preuß & Gassman, 2003; Whittaker & Kiernan, 2003). Management attention is greater because climate change features a greater sense of urgency and greater financial opportunities or threats in the short term (Andersson et al., 2000, p. 565).

Conclusion

Whereas local air pollution, biodiversity and local environmental deterioration appear to affect OG companies more strongly than UT companies, regulatory pressure on climate change primarily targets the UT sector in the shorter term. In contrast, pressure from civil society on climate change clearly focuses on the OG sector. It is impossible to seriously compare the importance of environmental issues between the two sectors at such an aggregated level on only the qualitative evidence collected. However, one can draw two conclusions:

3. Relatively short-term regulatory pressure on the UT sector regarding climate change is hardening and largely compensates for the lower visibility of issues and companies in the UT sector in Europe, which has mostly kept companies from the stronger scrutiny of civil society.
4. In the OG sector environmental effects are more diverse and relate to activities across the entire value chain, which are carried out on a global scale. In the UT sector they are less diffuse and thus more easily controllable, as they are mainly associated with greenhouse gases emitted from power plants that are mostly operated in developed countries. These plants are operated in industrialized countries with high environmental standards and thus present very suitable targets for corresponding environmental policy instruments.

8.1.1.3 The relative importance of environmental and social issues

In the following section, the author will assess the importance of environmental and social issues in relation to each other, across both sectors. To do so, he will elaborate on:

- respondents' awareness of issues, i.e. their ability to name and describe the most important ones
- respondents' perception of the significance of issues.

Issue awareness

When asked to specify environmental and social issues that affect their companies "much" or "very much," a substantial share of general managers in both sectors did not respond (see Chart 8-1 and Chart 8-2), which points to a relatively low level of issue awareness. Furthermore, data indicate a somewhat narrow, environmentally dominated view: Social issues take only a 12% and 17% share and are thus clearly less frequently named than environmental issues, which account overall for 42% and 33% in the OG and UT sector respectively. This view could have been expected for several reasons:

1. Compared to environmental issues, social issues such as human rights, corruption and benefits of local communities have only become important more recently due to NGO activities (Lamont & Michael, 2003; Murray, 2002). They are more elusive and difficult to

handle, since they require a new and higher level of corporate involvement with governments and communities (Gavin, 2003).

2. Most respondents are based in Europe and the US, where they are confronted with higher regulatory standards and less severe social problems than their counterparts in developing countries. Hence they are less familiar with those issues.

The higher proportion of "social issues" in the UT sector is unexpected, since – as outlined in the previous section – social issues affect OG companies more strongly. However, results should be relativized, because most of the social problems described (e.g. recruitment, diversity, layoffs and energy prices) point to respondents' eurocentric perception of corporate sustainability and thus also partly reflect the strong European bias in the UT sample.

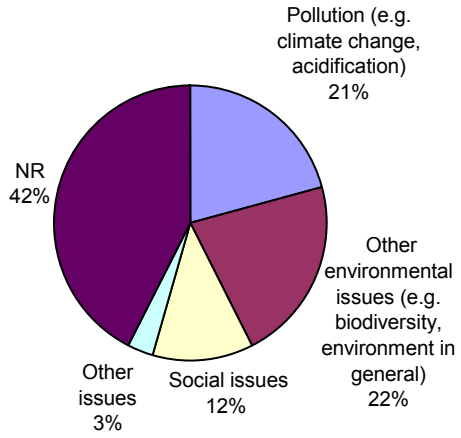


Chart 8-1: Issues – open-ended question (General managers – OG)

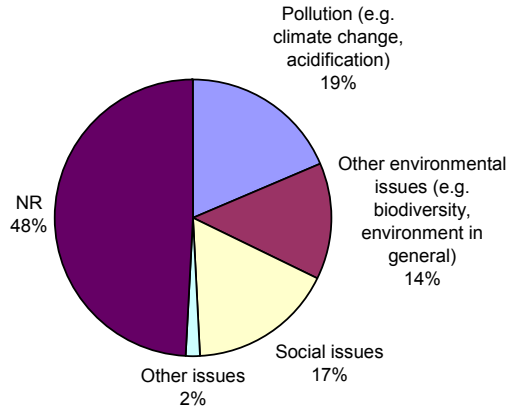


Chart 8-2: Issues – open-ended question (General managers – UT)

Results based on data obtained from sustainability officers (see Chart 8-3 and Chart 8-4) should be treated with reservation due to the small samples. Both charts show a strong focus on environmental issues (energy consumption and climate change as well as pollution and waste management) which account for 82% and 79% of the most important issues mentioned in the OG and UT sectors, respectively. The fact that climate change is more frequently named in the OG than in the UT sector shows that it "competes" with the issue of nuclear waste in utilities. Health & safety as well as social and ethical issues are equally less important in the OG and UT sectors, in which they each account for 6% and 7%, respectively.

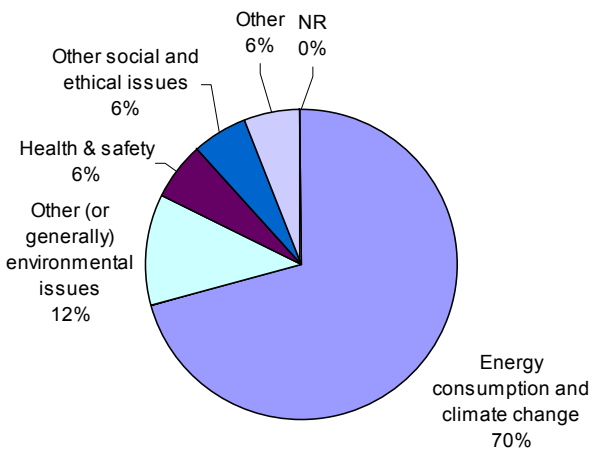


Chart 8-3: Most important issues (Sustainability officers – OG)

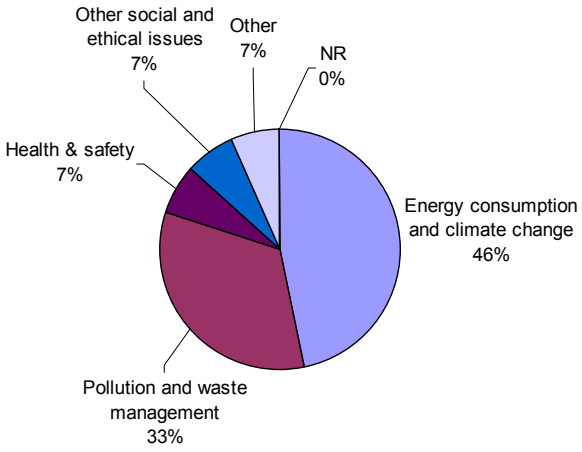
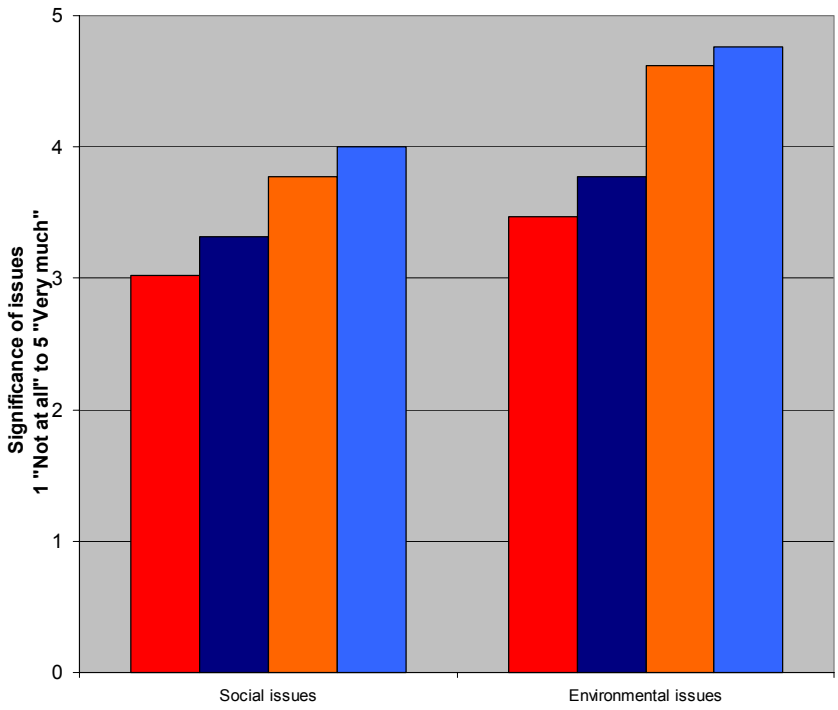


Chart 8-4: Most important issues (Sustainability officers – UT)

Issue significance

As Chart 8-5 shows, ratings of the significance of social and environmental issues also confirm the dominance of the environmental over the social dimension for all four samples. The cross-disciplinary differences in the significance of social and environmental issues are statistically significant in the OG and UT sectors. These results clearly illustrate the greater awareness of sustainability officers, and point to their special expertise and role as advisors and catalysts in their companies. This is likely to apply in particular to the complex and only more recently emerging social issues whose sound assessment requires more experienced and well-trained personnel (see section 8.1.1.1).



Social issues

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.02	1.13	55
OG GM	3.32	0.99	118
UT SO	3.77	0.73	13
OG SO	4.00	0.94	17
Total	3.33	1.04	203

Environmental issues

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.47	1.30	55
OG GM	3.77	1.22	118
UT SO	4.62	0.65	13
OG SO	4.76	0.44	17
Total	3.83	1.23	203

Chart 8-5: Significance of environmental and social issues (General managers and sustainability officers)

The t-tests reveal only one notable cross-sector mean difference: UT general managers consider *social* issues less significant than general managers from the OG sector; this difference is statistically significant at a 10% level. This finding is in parallel with sustainability officers' perception of the most important environmental and social issues and qualitative evidence presented in the previous sections 8.1.1.1 Social and ethical issues and 8.1.1.2 Environmental issues. It can be explained through a less global, more eurocentric business model in the UT sector, in which social issues are limited to layoffs and relocation due to surface mining activities. In contrast, OG companies face considerable social challenges in developing countries which are under intense scrutiny from public pressure groups globally (Garcia et al., 2003, p. 47), and have significant financial downside potential.

Although only one mean difference between the sectors was statistically significant, one can confidently diagnose a general lower issue significance in the UT sector in the data from both general managers and sustainability officers (see cross-sector mean difference displayed in Chart 8-5). This indicates that issues in the UT sector are less severe: The UT sector mainly operates in Europe, where social issues (downsizing, relocation due to surface mining) are either minor or well managed. Moreover, apart from a relatively high profile of nuclear power in some countries (e.g. Germany), environmental issues are also either less important (local air pollution) or not locally visible (climate change).

The issue significance is also influenced by factors that relate to the motivating principle of legitimacy. Compared to the OG sector, issue significance may be further reduced through the lower organizational visibility of UT companies: Typically they are smaller than OG companies, with fewer resources; their brands are also less visible and vulnerable (Bowen, 2000, p. 100; Steger, 2003, p. 106). Hence, the same issue, e.g. climate change, may provoke different (sector-specific) reactions from stakeholders (see sections 8.1.1.2 and 8.2).

Conclusion

It is not surprising that sustainability officers, as experts and catalysts in the domain of CSM in their companies, consider both environmental and social issues more significant than

general mangers in both sectors. Furthermore, it could also be expected that environmental issues would be considered more significant than social issues, because companies have come a long way since the beginnings of environmental management in the 1980s. It is apparent that this "traditional" focus on the environmental dimension predominates more clearly in the UT sector because of its regional focus on Europe.

However, responses regarding issue significance need to be put into perspective: *In particular general managers'* perceptions of issue significance are unlikely to reflect a comprehensive understanding of the issues under consideration. This can be clearly seen from the high number of managers who are not able (or willing) to specify the most important issues of their company. It can be attributed to the fact that environmental and social issues currently have a notable but rather low relevance to companies' core business:

As the author will discuss further in section 8.2 External stakeholders, industry and partnerships, outside pressure from stakeholders is rather limited, and so financial threats and opportunities associated with issues are low:

- Issues such as human rights and local air pollution (short-term operational issues) are relevant to the core business, but can be addressed rather easily through incremental innovations in companies' operations and processes. Hence their financial significance is limited and will continue to be so.
- Long-term strategic issues (e.g. climate change) are also relevant to companies' core business. Their financial significance is also limited but will increase over time. They are likely, alongside other factors such as resource depletion, geopolitics, to trigger distinct transitions in current business models (Shell International Ltd, 2001).

8.1.2 Advanced statistics

8.1.2.1 Correlations

The following correlation and regression analyses aim to shed more light on the motivating effects of the significance of both environmental and social issues. Figure 8-4 and Figure 8-5 display all correlations detected in the total and the two sector-specific samples between environmental and social issue significance respectively and other variables at a 5% level of significance. They will be discussed in detail in the following paragraphs.

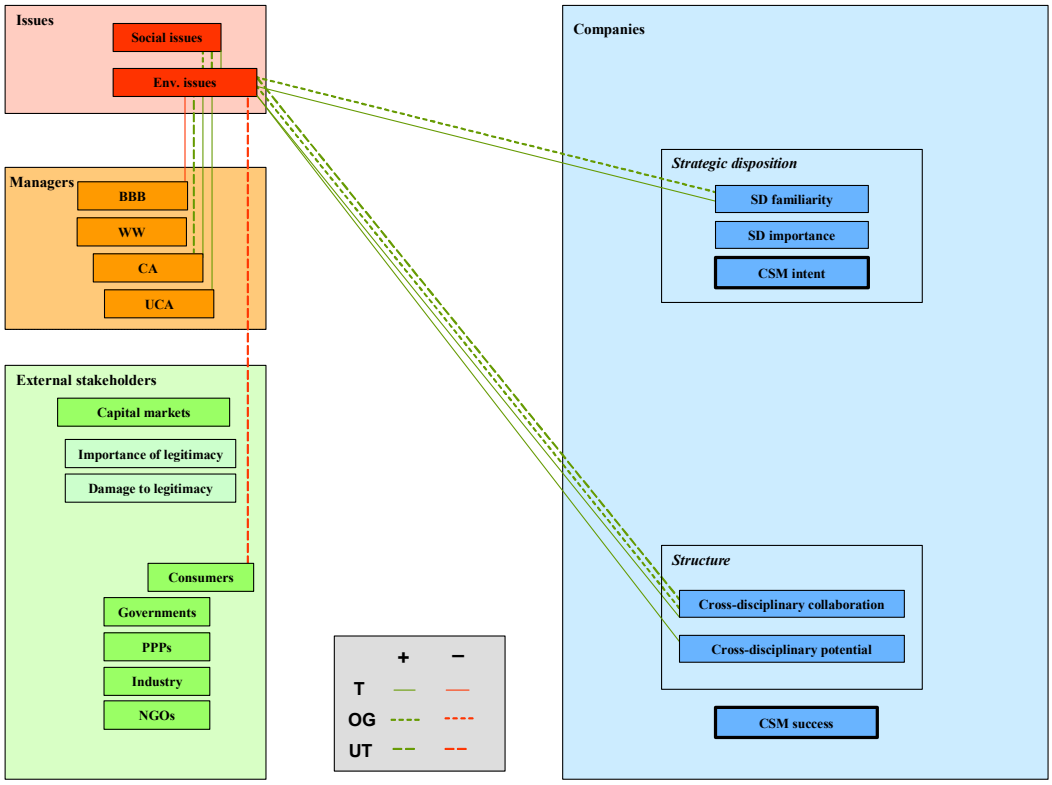


Figure 8-4: Correlations – Environmental issue significance

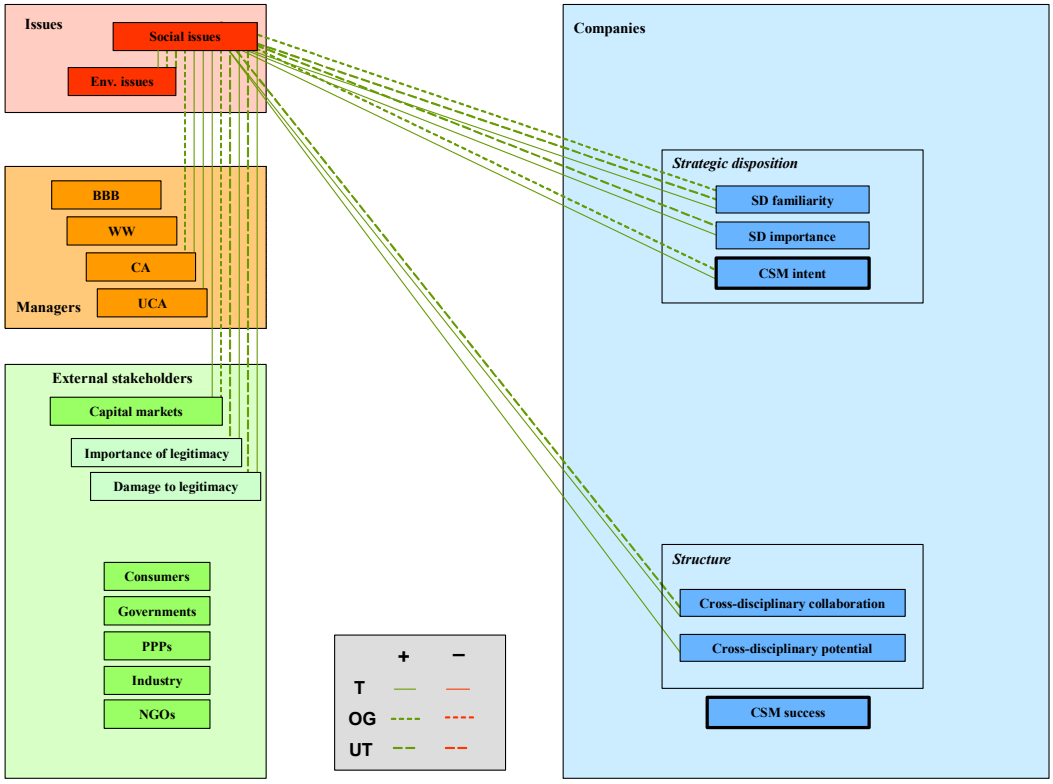


Figure 8-5: Correlations – Social issue significance

Issue significance

The positive link between the significance of social and environmental issues suggests that more proactive respondents exhibit generally greater awareness of any kind of issue that affects their business unit or function. This is plausible because proactive respondents supposedly exhibit certain cognitive maps (defined as a representation of concepts and beliefs held by the individual) that differentiate their understanding about cause-effect relationships and interpretation of issues from those of less reactive managers (Dutton et al., 1983, p. 311).

Managers' attitudes

This interpretation of proactive managers' more sophisticated cognitive maps is also in line with evidence on the link between issue significance and managers' attitudes: More proactive managers consider environmental and social issues more significant:

- The significance of environmental issues is negatively related to a stronger reactive BBB ("The business of business is business") attitude. This link also exists for social issue significance but lacks statistical significance, presumably – as qualitative analysis also revealed – because respondents are less familiar with social than with environmental issues. Hence they rate the significance of social issues less consistently, which appears to confound the positive correlation. The fact that the two more proactive attitudes (CA, UCA) are significantly linked to both environmental *and social issue* significance suggests that particularly reactive managers are largely unfamiliar with social issues.
- The CA ("CSM to gain long-term competitive advantage") attitude is positively linked to the significance of social and environmental issues in the total and OG sample. Judging only from the correlation coefficients, these links may also exist in the UT data. However, significance levels are lower, most likely for the following reasons: First the UT sample is smaller, second, the links exhibit greater variation because UT respondents have a less strong CA attitude and/or are less familiar with environmental and, in particular, social issues.
- The UCA ("CSM even if long-term competitive advantage is unproven") attitude is positively associated with both environmental and social issue significance, but only in the total sample. The correlations probably lack statistical significance in the sector-specific samples because they were confounded by social desirability bias, which probably affected the very "progressive" UCA attitudes more strongly than the other attitudes.
- In contrast, issue significance is unrelated to the WW ("CSM if there are win-win situations") attitude. This can most likely be attributed to the operationalization of WW attitude which appears to have appealed to both proactive and reactive respondents equally (see section 8.3).

External stakeholders and legitimacy

Capital markets

It is somewhat surprising that the significance of social rather than environmental issues is related to a more proactive future role of capital markets – particularly surprising in the UT sample, even if it is only statistically significant at a 10% level. In the past, social issues have hardly been relevant to the financial community. However, recent developments may indicate a slight change in stance. The potential impacts of social and political risks associated with the OG sector's extraction and production activities will be increasingly scrutinized by financial institutions: More than 20 private banks have adopted the Equator principles for determining, assessing and managing social (and environmental) risk associated with project financing in

emerging markets.[35] Furthermore, social issues have provoked several shareholder resolutions filed against major OG companies: E.g. in May 2004 a shareholder resolution seeking improved communication between Unocal's board of directors and shareholders about the company's natural gas project in Myanmar and accusations of "slave labor" and other human rights violations was supported by 20% of the shareholders – capturing "10% more affirmative votes than a typical social-issue resolution" (Parker, 2004).

Nevertheless, it may be unrealistic to make out a significant link between *social* issues and the future role of capital markets based on the correlations found in both sectors. The financial implications associated with environmental issues such as climate change, tanker accidents or nuclear incidents are at least as significant as those related to social issues, and thus also scrutinized by the financial community. Since the corresponding link between *environmental* issues and the SD role of capital markets is missing from the data, the correlation between the *social* issue significance and capital markets' future role more likely suggests that more proactive respondents/companies are more aware of both social issues and recent developments in the financial sector.

Governments and consumers

In the UT sector environmental issue significance is negatively related to a more proactive role of consumers and governments, even if the latter correlation is only significant at a 10% level. This suggests that respondents from laggard companies with little issue awareness also consider consumers and governments more proactive, i.e. they perceive greater demand for CSM from them. The fact that both correlations are weak and not statistically significant in the OG data suggests that both stakeholders hardly influence the significance of issues in the OG sector. This also matches with qualitative and quantitative evidence presented in section 8.2.

Public pressure groups

It is peculiar that social and environmental issue significance and the SD role of public pressure groups are unrelated: Correlation coefficients in all three samples lack statistical significance, most of them are close to zero. At first sight this appears to be a mismatch of findings in terms of the OG sector in particular, since – as interviews revealed (see section 8.2.2.1) – public pressure groups represent the most important source of outside pressure on OG companies. However, this missing link between NGOs' SD role and issue significance may point to the fact that NGOs actually represent catalysts for actions of companies' primary stakeholders, defined as those stakeholders "without whose participation companies cannot survive," i.e. inter alia shareholders, employees, customers, community residents and regulators (Hillman et al., 2001, p. 126). Thus NGOs' activities are only effective if primary stakeholders change their demands for CSM, i.e. NGOs are only able to press on certain issues such as human rights or climate change if primary stakeholders react to NGOs' campaigns, e.g. if the financial community acts upon climate change risks (e.g. through the Carbon Disclosure Project, shareholder resolutions), if legislators provide a legislative basis for introducing lawsuits against human rights violations in developing countries (Alden, 2002; Anonymous, 2004c).

Industry and public-private partnerships

Correlations between social and environmental issue significance and the role of industry and public-private partnerships (PPPs) are not detected. This is presumably because possible links are confounded by the fact that issue significance is assessed in relation to the respondents'

[35] www.equator-principles.com on 15 June 2004

business unit or function, whereas the role of industry and PPPs focuses on a much more general and aggregated level.

Importance of and damage to legitimacy

Both the importance of and damage to legitimacy are positively linked to social issue significance. This indicates that a greater importance of the informal license to operate, e.g. brand value and reputation, increases the significance of issues, as it raises the financial stakes.

It is surprising that the link between legitimacy and issue significance exists only in the social not in the environmental issue dimension. Most respondents operate in industrialized countries, in which local environmental and social issues are of minor importance. It is puzzling that social issues (such as human rights, energy poverty) are linked to legitimacy whereas environmental issues, which comprise climate change as one of the most significant single issues (according to the interviewees), are not. One can draw two conclusions:

1. General managers who responded to the questionnaire – in contrast to the interviewees – appear to be still largely unaware of the significance of climate change to companies' brand value and reputation.
2. Sustainability leaders consider social issues more significant, attach greater importance to legitimacy, and report greater damage to legitimacy, either because they are more willing to acknowledge damage and/or because they have more often been subject to incidents that damaged their legitimacy (Vogl, 2003).

It is surprising that quantitative OG data do not reveal any statistically significant linkage between issue significance and the two legitimacy-related variables, whereas interviews suggest that some social issues such as human rights in developing countries and public pressure on climate change have sensitized OG companies to the vulnerability of legitimacy. The author offers the following explanations:

- The missing link between issue significance and the importance of legitimacy shows that OG respondents' perceptions of the financial premium added to issue significance through (informal) legitimacy differ significantly. It is possible that a third latent variable such as corporate culture and stakeholders' demands for the granting of legitimacy, which could both differ more widely across the regions of operations, has dulled the expected relationship.
- The missing link between damage to legitimacy and issue significance could be attributed to response bias and a selective occurrence of incidents (only some companies may have been affected). Additionally one should take into account that the most "prominent" incidents in the OG sector such as the grounding of the Exxon Valdez in Prince William Sound (1989), human rights abuses in Ogoniland, Nigeria (1994) and Brent Spar (1995) occurred at times the questionnaire did not cover.[36]

Strategic disposition

Positive correlations between issue significance on the one hand and SD familiarity, SD importance and CSM intent clearly suggest that CSM is driven by issues. Overall social issues are more clearly linked to companies' strategic disposition than environmental issues. This outcome is in line with the associations reported above that linked social rather than environmental issue significance to legitimacy and the future SD role of capital markets, and

[36] It only focuses on incidents over the past three years, i.e. on the period between roughly 1999 and 2002.

thus supports the conclusion that sustainability leaders have gone beyond a narrow environmental approach to CSM.

The clear link between strategic disposition and social rather than environmental issues is particularly visible in the OG data, which exhibit very weak and statistically not significant correlations between environmental issue significance and both SD importance and CSM intent. These results augment findings from the interviews and suggest that although environmental issues are considered important in the OG sector – in fact slightly more important than in the UT sector – social issues threatening the license to operate in developing countries are the main drivers of CSM. The relatively weaker link between strategic disposition and environmental issues also suggests that climate change hardly drives CSM intent in the OG sector. This is plausible because primarily sustainability leaders have – as indicated by most interviewees – acknowledged climate change as a significant threat to the sector. However, as the author will also discuss in more detail in section 8.4.2 Strategic disposition, corporate responses are limited to large-scale incremental and largely efficiency-based or small-scale pilot projects. Thus climate change is integrated into business strategies and operations only to a limited extent. The strong link between strategic disposition and social rather environmental issues also illustrates that primarily sustainability leaders who are primarily concerned with social issues in developing countries and their potential effects on the license to operate and grow participated in the survey. One can reasonably assume that laggard companies are still primarily driven by environmental issues.

Since interviews point to a minor role of social issues in the UT sector, correlations between companies' strategic disposition and social issue significance in UT data are somewhat unexpected and possibly caused by outliers and social desirability bias. They could also indicate that sustainability leaders in the UT sector who exhibit a greater strategic disposition to CSM also take social issues (e.g. relocation due to large hydropower projects, energy poverty) more strongly into account (see e.g. social strategies described in WBCSD, 2002, p. 21). The only clear difference to the OG sector is the moderately positive and statistically significant (at a 10% level) correlation between environmental issue significance and CSM intent, which is also the only association (between issue significance and strategic disposition) whose coefficient indicates a stronger correlation with environmental rather than social issue significance.

This link is in parallel with qualitative evidence on the relatively greater importance of environmental issues in the UT sector (see section 8.1.1.2) and indicates that the UT sector is driven by environmental challenges – as pointed out earlier – due to its current strategic focus on Europe and developed countries, selective external pressure regarding nuclear power generation, and greater concern about forthcoming regulatory pressure on climate change. As the interviews also revealed, climate change is recognized more as a short-term issue directly associated with UT firms' production activities and their current license to operate, whereas OG companies are more affected in the long term at the product use phase.

Structure

Evidence also points to a strong link between issue significance and the level of cross-disciplinary collaboration. If one takes into account the positive link between issue significance and managers' proactive attitudes, this is very plausible, since general managers' collaboration with sustainability officers or departments naturally increases familiarity with issues through e.g. existing review and advisory mechanisms, and alters cognitive maps (Dutton et al., 1983). In this respect differences between the sectors are marginal, since the missing correlation with social issue significance in the OG data is statistically significant at a 10% level. The positive link between issue significance and the level of cross-disciplinary collaboration could also indicate that greater issue significance has led to the creation of more

evolved cross-disciplinary structures, obviously because issue significance increases strategic disposition, which in turn leads to the implementation of adequate structures.

Greater cross-disciplinary potential is linked to greater issue awareness, which indicates that respondents from leading companies exhibit greater issue awareness and assess the potential of more extensive cross-disciplinary collaboration more positively, obviously due to positive experiences with cross-disciplinary collaboration in the past.[37] Although all coefficients are positive in both sectors, there is one notable difference: Correlation coefficients in the UT sector indicate a stronger association between cross-disciplinary potential and issue significance, particularly in terms of environmental issue significance. The fact that these associations are stronger in the UT sector could suggest that UT general managers are close to the start and thus still relatively steep part of the learning curve: The greater respondents' issue awareness is, the more positively they assess cross-disciplinary potential. In the OG sector high issue awareness may – in contrast – be *less strongly* associated with greater cross-disciplinary potential because some of the sustainability leader respondents may already consider most of the potential to have been exploited. The stronger link between cross-disciplinary potential and environmental issue significance in particular aligns with the dominant role of environmental issues in the UT sector, discussed earlier in section 8.1.1.2.

CSM success

Finally social issue significance is positively linked to CSM success. The association is statistically significant at a 10% level in the total sample, which suggests that it is subject to notable variation. Nevertheless it is highly plausible: Greater issue significance reflects greater external pressure associated with the issue, and is positively linked to strategic disposition, which leads to a faster and more effective implementation of corporate environmental and social initiatives.

It is important to note that social rather environmental issue significance is related to CSM success. This result suggests that leading companies reporting greater CSM success are characterized by a heightened awareness of the social dimension of CSM. Obviously most companies in both sectors have come an equally long way in recognizing environmental issues, so that today stronger emphasis on the social dimension of CSM discriminates the leaders from the laggards.

Conclusion

The evidence presented suggests that companies with more proactive managers and more elaborate corporate structures, which facilitate cross-disciplinary collaboration, exhibit greater issue awareness. Greater issue awareness is also clearly linked to companies' greater strategic disposition to CSM. Some nuances in the dominating (social or environmental) issue dimension are notable across the two sectors. Companies' CSM intent is linked to social issue significance in the OG sector, to environmental issues in the UT sector.

A comparison of Figure 8-4 and Figure 8-5 reveals that the significance of social rather than environmental issues is linked to variables that relate to external stakeholders and legitimacy. Overall this result is puzzling, since environmental issues, particularly climate change, are at least as relevant to companies' brand value and reputation as social issues. This applies to the UT sector in particular, in which social issues are of minor overall importance.

Hence it is suggested that the positive linkage between issue significance and both the importance of and the damage to legitimacy – detected in the total and the UT sample –

[37] Both variables, the level of cross-disciplinary collaboration and the potential for more extensive collaboration to contribute to more sustainable business practices, are indeed positively related (see section 8.4.4.2).

suggests that companies attach more significance to issues, the more important they consider the informal license to operate. This suggests that companies are going beyond a mere compliance-oriented approach to CSM and increasingly aim to protect or build up an informal kind of legitimacy through greater goodwill from non-regulatory stakeholders. In the liberalizing European energy markets, UT companies may also perceive damage to brand value and reputation more clearly. Recent experiences support this finding, since corporate social responsibility was found to support the building of brands (Gray, 2003) in the UK electricity market.

The link between social rather than environmental issue significance and both of the legitimacy-related variables suggests primarily that sustainability leaders have gone beyond a mere environmental focus and become more aware of the importance of social issues (e.g. relocation, energy poverty).

8.1.2.2 Regressions

The following regression models analyze the effect of environmental and social issues on companies' intention to integrate environmental and social criteria into business strategies and operations (CSM intent).

	T model		OG model		UT model	
Number of obs	166		112		54	
F	10.72		12.59		5.10	
Prob > F	0.0000		0.0000		0.0095	
R-squared	0.2103		0.2592		0.1668	
Adj R-squared	0.1906		0.2386		0.1341	
Root MSE	.7538		.71368		.78195	
Coefficients						
	Social issues	**.2330794**	Social issues	**.2776461**	Env. issues	**.1775457**
	UT sector	**-.5179783**				
	North America	**-.6256973**	North America	**-.6771252**		
	Develop. Econ.	**-.4383872**	Develop. Econ.	**-.4397351**	Nordic	**.7283435**
	Constant	**3.385708**	Constant	**3.25639**	Constant	**2.790949**

Regression Table 8-1: CSM intent – Issues (Reduced cluster models)

The OG model suggests that the OG sector's CSM intent is driven by social issues, and moderated by individual regions of operation. Companies operating in North America and developing economies feature lower levels of CSM intent than those operating in the remaining regions, due to less societal and regulatory pressure (Skjaerseth et al., 2001; Souza Porto & Freitas, 2003) and presumably corporate cultures (Kolk et al., 2001). The fact that social rather environmental issues influence CSM intent in the OG sector – although respondents considered environmental issues more significant than social ones – suggests the following: Financial threats and opportunities associated with environmental issues are probably fairly homogeneously assessed across the sector. In contrast, only the leading companies with greater CSM intent noted the financial significance of social issues.

In contrast, in the UT sector, CSM intent is positively affected by the significance of environmental issues and is higher in Nordic countries. The positive bias of Nordic regions can be attributed to several factors such as higher levels of environmental awareness and more efficient environmental governance (Midittun & Kamfjord, 1999, p. 875).

The T model shows the effect of issue significance on CSM intent in the total sample. The results are remarkable insofar as they point to the role of social rather than environmental issues in driving corporate sustainability in the energy sector as a whole. They most likely also reflect the preponderance of OG respondents in the total sample. The statistically significant negative effect of the UT sector dummy variable reveals the leading position of

OG companies over utilities. Possible reasons for this, such as lower organizational visibility, external pressure and greater internal deficits, will be discussed in later sections. The T model also shows a negative effect in two regions of operations. The interpretation is identical to that for the OG model.

8.1.3 Discussion

Importance of issues and the principle of managerial discretion

Both qualitative and quantitative methods point to the significance of issues (Wood, 1991, p. 697) in the area of CSM, as suggested in the study's conceptual framework for corporate sustainability performance. Qualitative data in particular reveal a great number of different issues. Their relevance differs, and only about a handful of key issues really trigger meaningful corporate responses that are aimed to resolve them.

However, incremental modifications of processes and operations suffice to address all social and environmental issues that are currently associated with perceivable financial risks and opportunities. This little relevance to current business models also explains managers' low level of issue awareness. Nevertheless, two long-term strategic issues – the North-South energy divide (once current growth markets in Asia are served) and, above all, climate change – show significantly greater relevance for companies, as the financial stakes are substantial: Both issues require distinct changes to current business models from an organizational and a technological point of view (lower carbon intensity, distributed generation, etc.).

Determinants and effects of issue significance

The author has been able to link issue significance to the principles of legitimacy (i.e. to greater external demands for CSM, greater importance of and damage to legitimacy) and managerial discretion (i.e. managers' more proactive attitudes), as well as to more advanced approaches to CSM. In particular, a positive causal effect on companies' willingness to integrate social and environmental issues into strategies and operations (CSM intent) has been established. Thus findings are in line with those of Henriques and Sadorsky (1996, p. 392), Andersson and Bateman (2000, p. 656) and Bansal and Roth (2000, p. 729) who linked the relevance of environmental issues to corporate environmental responsiveness.

The study also reveals several issue drivers, i.e. factors that determine the significance of issues. They comprise:

1. The kind of corporate activity that determines the absolute social and environmental effects of corporate behavior: E.g. the more carbon-intensive the fuel or product mix is, the more significant the corporate risk associated with climate change.
2. The location of the activity. The location is most significant, since it determines whether and to what extent the same corporate activity is perceived as legitimate. The same environmental or social issue may provoke more or less greater demands from stakeholders to resolve it, depending on various factors such as local regulations and societal values: E.g. The same amount of CO_2 emissions bears greater risks associated with climate change in Europe than in the US due to different levels of societal and regulatory pressure. The same level of community involvement is perceived as adequate in industrialized countries but considered inadequate in developing countries due to different needs of the local population. The same amount of pollution (e.g. a minor oil spill) may cause different levels of public outrage depending on the local level of biodiversity and the sensory visibility of the effect (Bowen, 2000, p. 100).
3. A company's visibility is a significant moderating factor. Size, consumer name recognition, and its attitude (proactive-cooperative vs. reactive-confrontational) to the issue under consideration additionally play an influential role.

Figure 8-6 aims to illustrate the determinants of issue significance incorporating findings from Bansal and Roth (2000) and Bowen (2000). The former identified several attributes of "issue salience" as determinants of environmental responsiveness. The latter developed and tested a typology of environmental visibility as a trigger of organizational response, which included the concepts of issue visibility and organizational visibility.

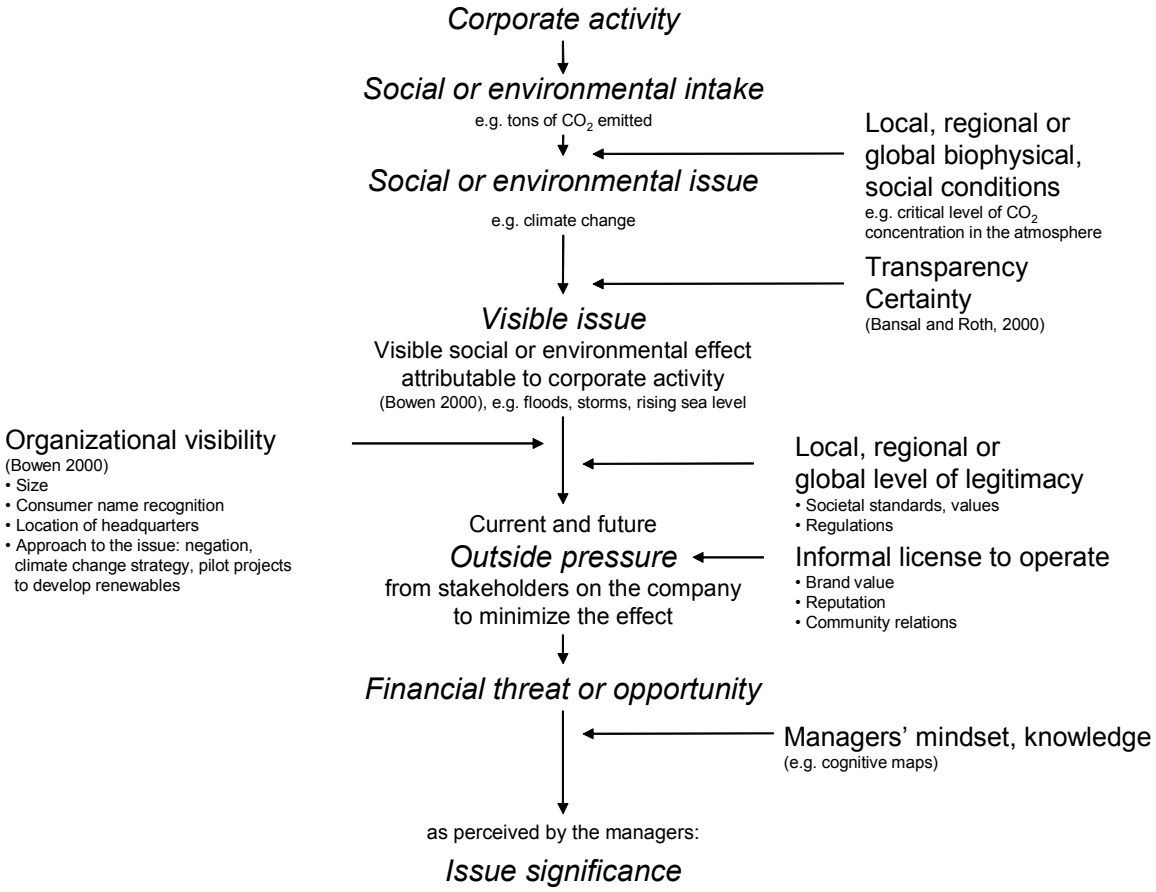


Figure 8-6: Determinants of issue significance

As depicted in the figure, a certain primary or secondary corporate activity (or a lack of such activity, e.g. lack of community involvement) is associated with some social or environmental intake through the business environment, which causes an issue. The severity of the issue depends on local, regional or global biophysical and social conditions. However, the entire scope of the issues is not necessarily visible. Visibility differs depending on the transparency (how easily attributable to the corporate activity?) and the certainty (how certain and measurable is the effect?) of the issue caused by the intake. In the case of climate change, the transparency is relatively high in some countries (e.g. internal or external accounting and trading systems for CO_2 emissions) and the certainty is limited (effects are complex, global and long term).

The visible issue then triggers current and future outside pressure from stakeholders on companies to resolve the issue. The determinants of outside pressure will be discussed in more detail in section 8.2 External stakeholders, industry and partnerships. Inter alia it depends on the organizational visibility of the company or business unit (Bowen, 2000, p. 100), the local, regional or global limit of legitimacy that corresponds to the issue under consideration and the importance to the company of the informal license to operate. The limit of legitimacy refers to the degree of issue visibility and organizational visibility at which stakeholders attempt to amend or revoke companies' current license to operate (Davis, 1973, p. 314). It is determined by several factors such as societal standards, values and regulations. Managers' perception of

the legitimacy and strength of the outside pressure depends on their individual mindset and knowledge, e.g. their cognitive map (Dutton et al., 1983). Thus, issue significance is determined by individual managers' perception of short- or long-term financial threat or opportunities caused by outside pressure on a particular issue.

Considering the various factors that influence issue significance, it is clear that issues represent the root of the contingency nature of CSM. In this context, the study also reveals how important the differentiation between social and environmental kinds of issues is: Both issue dimensions do not exhibit the same relationships with other variables. This means in particular that variations in companies' CSM intent can be better explained, the finer the differentiation is. In this context, the author proposes that any additional differentiation could shed further light on the strengths of public responsibility as an organizing principle of corporate sustainability performance.

Contingency perspective on issue significance

The evidence also shows that the contingency approach chosen in this study is worthwhile. Issue significance, and its motivating effect on CSM, differs between the two sectors, management groups and several regions of operations, which can be explained through the influence of the determinants displayed in Figure 8-6: E.g. the sectors differ in terms of the kinds and locations of corporate activities, the organizational visibility of the companies and the local and regional limits of legitimacy; the management groups differ in terms of their mindset and knowledge; and the regions feature specific levels of legitimacy, biophysical and social conditions as well as levels of issue transparency and certainty.

Both qualitative and quantitative methods showed that the UT sector is more strongly influenced by environmental issues, the OG by social issues. Thus the results reflect the OG sector's growing awareness of operational risks associated with extraction and production activities in developing countries and the UT sector's current strategic focus on developed countries and greater concern about increasing regulatory pressure on climate change. They also show that – in tendency – the more urgent and locally relevant issues are more likely to be taken up by management (Andersson et al., 2000, p. 656): The OG sector's social issues in developing countries are obviously local (or regional); climate change is a global issue but the coming EU CO_2 emissions trading system will indeed have a very local impact on power plants in the UT sector.

Regressions also show that the energy sector as a whole is driven by social rather than environmental issues. However, it would certainly be rash to diagnose a paradigm shift in this respect, largely because the sample is biased towards sustainability leaders. The surprisingly dominant role of social issues over environmental issues should rather be seen as a sign of the renunciation of the traditional narrow environmental focus among sustainability leaders.

The data also exhibit differences in sustainability officers' and general managers' perceptions of social and environmental issue significance. This finding points to the importance of management development, proactive corporate cultures and more intensive collaboration between the two management disciplines surveyed. The motivating effect of public responsibility is very complex through the great number of highly fragmented issues. Adequate corporate responses are more likely to be achieved if managers, and general managers in particular (as the decision-makers in their business units and functions), have a thorough understanding of the social and environmental issues their company faces and the financial risks and opportunities associated with them.

8.2 External stakeholders, industry and partnerships

The present section aims to provide an overview of the stakeholders' importance to CSM rather than an issue-specific discussion presented in the previous sections:

- In sections 8.2.1 to 8.2.5 the author first describes the individual roles (demand for CSM, activities) taken by external stakeholders (governments and regulators, public pressure groups, customers and the financial community), the industry as a whole and public-private partnerships.
- Section 8.2.6 deals with
  - legitimacy, more specifically its importance and its vulnerability through conflicts with stakeholders (section 8.2.6.1).
  - the relative importance of external stakeholders (section 8.2.6.2).

Finally, the author synthesizes and discusses the findings from quantitative and qualitative methods in the sections referred to above (section 8.2.7).

8.2.1 Governments and regulators

8.2.1.1 Qualitative analysis and basic statistics

Interviewees from the UT sectors see national and European governments and regulators as the most powerful external pressure groups in terms of corporate sustainability. This is not because they are most demanding but because they are in the strongest position to change or revoke companies' current licenses to operate through higher chiefly environmental standards. In the past domestic emission standards and the EU large combustion plant directive effectively reduced air pollution (Economist Intelligence Unit, 2003a). Nowadays mostly utilities with a CO_2-intensive fuel mix for their power plants are strongly driven by the European CO_2 emission trading system which will become mandatory after 2008. The EU has also set an indicative target for electricity sourced from renewable energies of 12.5% by 2012.

In contrast, governments in industrialized countries constitute a less powerful pressure group in the OG sector because, as elaborated in the quote below and section 8.1 Issues in more detail, they cannot easily regulate those activities that are associated with the sector's major issues. This is because the activities take place in developing countries (social impact of upstream activities) and in the use phase of the product (local air pollution and, above all, climate change through use of fossil fuels). Interviewees also reported that governments in developed countries are clearly more concerned with social and environmental performance than developing countries are. The latter are primarily concerned with oil and gas revenues, even if they become increasingly aware of environmental and social issues over time. In developed countries regulatory pressure on OG companies is limited to raising standards of fuel quality, i.e. the reduction of lead and sulfur content to combat local air pollution. In Europe, individual member states have introduced eco-taxes on fuels. Furthermore, refineries will be subject to the forthcoming EU emission trading system (Anonymous, 2004d), but the corresponding pressure is substantially lower than in the UT sector due to the lower carbon intensity (see section 8.1.1.2 Environmental issues).

An interviewee from the European Commission acknowledged the positive environmental performance of the energy sector as a whole, particularly in terms of air emissions. A clear differentiation between the two subsectors was made in terms of policy mixes used:

> The OG sector can only be indirectly regulated at the use phase of its products. This is also where the major environmental impact occurs [in Europe]. One [the regulator] has to target billions of consumers rather than a couple of companies

and faces lack of political acceptance and alternatives (e.g. public transport) as major challenges (European Commission, DG Energy and Transport).

The lower importance of governments and regulators in the OG sector is also indicated by the quantitative data, since both OG general managers and sustainability officers rated governments' SD role lower than their counterparts in the UT sector. Due to the limited size of the two sustainability officer samples, cross-sector variation is only statistically significant in the data obtained from general managers. Cross-disciplinary differences in the ratings between sustainability officers and general managers are small and not statistically significant, which gives additional assurance to the results.

Governments' SD role (1 = "Least proactive" to 5 = "Most proactive")

General managers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	51	3.176471	.0998268	.7129062	2.975962 3.376979
OG	116	2.706897	.0648112	.6980375	2.578518 2.835275
Sustainability officers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	13	3	.2264554	.8164966	2.506596 3.493404
OG	17	2.823529	.1764706	.7276069	2.449428 3.19763

Table 8-1: Summary statistics – governments' SD role

The data presented illustrate that role of governments varies between the two sectors due to the *different locus* of the major environmental and social impact *geographically* and *within the value chain.*

The UT sector can be more directly and more conveniently regulated (as easier targets than individual consumers and households) and it is more strongly concerned with the formal license to operate, i.e. with current and future regulatory pressure. The OG sector's formal license to operate is not under great threat: Policy instruments targeting the use of its product, i.e. fossil fuels, in developed countries are not necessarily popular and politically accepted. Furthermore, regulatory measures on the environmental and social effects of upstream activities in developing countries are largely absent, because governments demand a steady flow of oil and gas revenues rather than sound environmental management and community involvement.

8.2.1.2 Advanced statistics

Figure 8-7 displays the correlations that the data exhibit between governments' SD role and other variables. In the following paragraphs, the author will discuss the results in more detail.

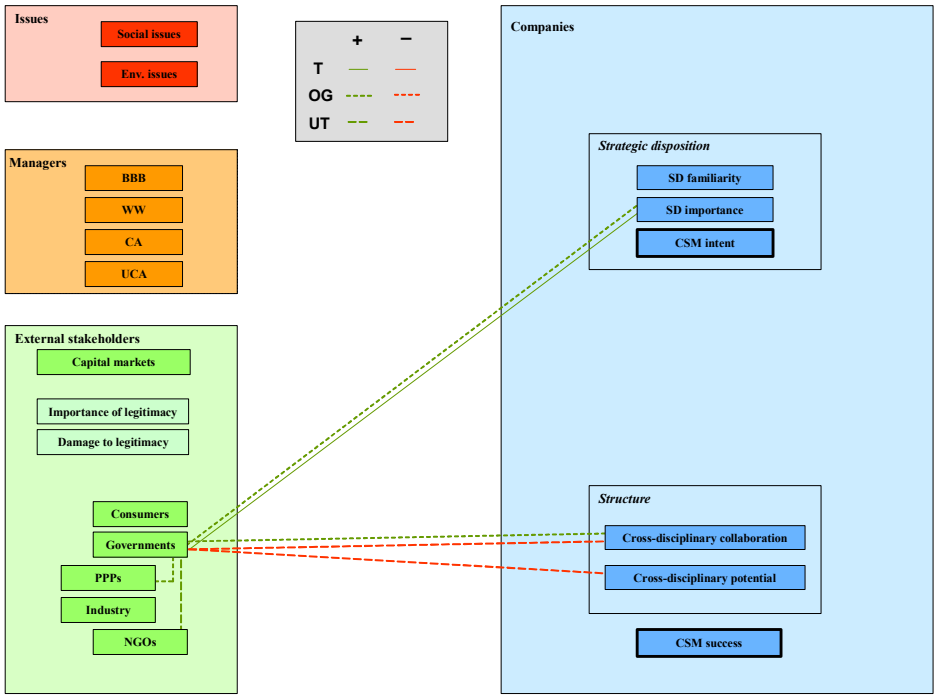


Figure 8-7: Correlations – governments' SD role

Issue significance

There is a linkage between environmental issue significance and governments' SD role, which is negative in the UT data, but it is only statistically significant at just above the 10% level (hence not included in the figure above). One can assume that the relationship would attain more adequate significance levels in a larger sample. Hence the author cautiously suggests that more proactive individuals (and companies) consider governments' demand for CSM less strong. They appear to be more aware of the issues and more strongly acknowledge the need for corporate responses than their reactive counterparts who consequently perceive governmental initiatives as more demanding.

The fact that this link exists with environmental rather than social issue significance indicates that primarily environmental regulations (chiefly the EU emission trading system) are relevant to companies and thus supports the findings presented above. The missing link between issue significance and governments' SD role in the OG data is also in parallel with the qualitative data, which indicated that governments and regulators play a relatively minor role as external pressure groups in the OG sector.

External stakeholders and legitimacy

Public pressure groups

Respondents in the UT sector who consider governments' SD role proactive are also likely to consider the SD role of public pressure groups proactive. This suggest that the activities of NGOs and the reactions of governments are less strongly linked in the OG than in the UT sector: This is plausible since NGO campaigns on OG companies focus mostly on social and environmental issues in developing countries and on climate change, and trigger little direct regulatory pressure from host and home governments. In the UT sector, campaigns on climate change and nuclear power have in fact led to notable changes in European, national and local regulations (e.g. nuclear phase out, emission trading).

Public-private partnerships

Furthermore, respondents in the OG sector reporting a more proactive SD role of governments also consider PPPs more proactive. This presumably points to the involvement of governments in these partnerships. In developing countries, the exploration and development of oil & gas fields and the construction of pipelines has traditionally occurred through PPPs, through which the public sector is able to transfer risk to the private sector, which contributes both capital and know-how.

Strategic disposition

Relationships between governments' SD role and companies' strategic disposition, which would have been expected in the UT sector based on the qualitative data presented above, are not found. There are several explanations: First, the sample is too small and biased. Second, relationships are subdued by some third variable such as a reactive mindset or other internal barriers. Third, the relationship between governments' role and strategic disposition hardly exists. In fact the third interpretation is very plausible, since governments provide relatively little strategic guidance to companies' strategic disposition, apart from the legislated phasing out of nuclear power in some countries and emission trading systems. Thus the missing link between governments' demand for CSM and strategic disposition suggests that both measures have little strategic implications for the UT sector and require no radical changes in business models.

It is puzzling that the OG sector exhibits the only statistically significant sector-specific link between governments' SD role and strategic disposition to CSM, namely the *future* importance of sustainable development to the companies (SD importance). The association may be spurious but could also suggest that OG companies experiencing greater demand for CSM from governments attach greater importance to the concept of sustainable development in the future. This could point to an increasing demand from host governments in developing countries for the resolution of local social and environmental issues, which is in line with findings from the interviews.

Overall data hint at an insignificant to weak role of governments in providing long-term strategic guidance: There is no link between their SD role and CSM intent. Furthermore, greater SD familiarity is negatively related to governments' SD role (at a 10% significance level in the total sample), i.e. the more familiar companies are with the concept of sustainable development, the less demanding they perceive governments in terms of CSM.

Structure

Correlations also indicate that respondents' perceptions of governments' SD role are related to corporate structures. However, they reveal a significant difference between the two sectors:

- In the UT sector, closer cross-disciplinary collaboration and greater cross-disciplinary potential are associated with a less proactive SD role of governments, i.e. weaker demand for CSM from governments. If one assumes that closer cross-disciplinary collaboration and greater cross-disciplinary potential are a proxy measure for respondents' higher levels of awareness as well as companies' higher level of implementing CSM, these linkages suggest that leading companies perceive regulatory pressure less strongly than laggards do.
- In the OG sector, respondents who work more closely with sustainability officers consider governments' role more proactive. If one followed the interpretation suggested for the UT data, this would mean that respondents and/or companies that are higher on the CSM learning curve feel governmental pressure more strongly. This would contradict the fact that leading OG companies often "overcomply" (e.g. voluntary emission trading systems at BP and Shell, community involvement in developing countries), and are subject to little

external pressure from regulations compared to UT companies. To this extent, the results are puzzling but there is one explanation: Since cross-disciplinary collaboration is significantly higher (see section 8.4.4.2) and current regulatory pressure is low in the OG sector, respondents from sustainability leaders that exhibit close cross-disciplinary collaboration may perceive greater demand for CSM from governments in the future, presumably from host governments in particular which, as the interviews revealed, are becoming increasingly concerned with social and environmental issues.

Conclusion

Correlations reveal few statistically significant associations between governments' SD roles and other variables. There are surprisingly few in the UT data in particular, since governments and regulators were identified as the most powerful external pressure group in the UT sector.

Overall, this suggests governments play a minor role in leading the corporate sustainability agenda and – in the case of UT companies – that there are significant internal barriers such as a lack of structures and reactive mindsets. E.g. several regulatory measures, most prominently the coming EU emissions trading system, are not reflected in companies' strategic disposition. The results also suggest that the level of cross-disciplinary collaboration influences general managers' perception of governments' demand for CSM.

8.2.2 Public pressure groups

8.2.2.1 Qualitative analysis and basic statistics

Public pressure groups or non-governmental organizations (NGOs) focus in particular on the environmental and/or social effects of corporate activities in developing countries and companies' strong focus on non-renewable primary energy sources (Luhmann, Müller, Nitsch, & Ziesing, 2002). Moreover, they criticize governments' fossil-fuel-based policies and lobby for the internalization of external costs and the reorganization of subsidies to offset the competitive disadvantages of renewable energies.

The allocation of subsidies between non-renewable and renewable energy sources is a field of considerable complexity and controversial discussion. In general, it is difficult to draw meaningful conclusions, primarily due to the variety of implicit subsidies: E.g. one may argue that a significant proportion of the US defense budget to secure oil and gas fields in the Middle East implicitly subsidizes fossil fuels (2001a). A Greenpeace study concluded that direct subsidies for renewable energies and conservation in Western Europe between 1990 and 1995 amounted to less than one-third of the amount provided to fossil and nuclear energy (Ruigrok & Oosterhuis, 1997).

In addition to their boycott and protest campaigns, NGOs have filed shareholder resolutions against several major OG companies, which are finding more and more support, particularly from the socially responsible investment community (Merolli, 2002; St. Clair, 2004). Hence, as OG interviewees also indicated, NGOs are the most important source of external pressure in terms of corporate sustainability in the OG sector.

In contrast, UT companies are organizationally less visible and less profitable. Furthermore, their extraction activities take place in emerging or developed economies, where they provide much-needed employment and affect areas with relatively low levels of biodiversity. Hence, NGO pressure on utilities is less strong and confrontational, and focuses on single issues such as e.g. nuclear transport, surface mining and the construction of plants. In fact, as one interviewee indicated, local pressure groups (e.g. citizens groups) often play a greater role than global NGOs with much more resources. However, interviews with large environmental organizations also suggest that climate change and grid access for electricity from renewable

sources may become significant issues that NGOs will increasingly take up against the major European electric utilities.

Public pressure groups' SD role (1 = "Least proactive" to 5 = "Most proactive")

General managers						
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf.	Interval
UT	48	3.375	.1099041	.7614376	3.153902	3.596098
OG	115	3.347826	.072066	.7728221	3.205064	3.490588
Sustainability officers						
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf.	Interval
UT	13	3.307692	.2370928	.8548504	2.791111	3.824273
OG	17	3.411765	.1928658	.7952062	3.002907	3.820622

Table 8-2: Summary statistics – public pressure groups' SD role

Mean differences in the SD role of NGOs between all four groups of respondents are marginal and not statistically significant (see Table 8-2). Although one may have expected a more proactive NGO role in the quantitative OG data based on the interviews, missing differences are not necessarily inconsistent with the finding that NGOs present a more important pressure group in the OG than in the UT sector. The SD role of NGOs only operationalizes their demand for CSM rather than their power or intention to affect companies' legitimacy. Thus the insignificant differences between the two sectors suggest that NGOs' agendas on different operational issues, but chiefly on a more rapid introduction of renewable energies, are perceived as equally demanding across both sectors. In fact the more important role of NGOs as an external pressure group in the OG sector is revealed through the relatively greater number of NGO campaigns OG companies have been subject to (see section 8.2.6.2 The relative importance of external stakeholders).

8.2.2.2 Advanced statistics

The present section features a discussion of correlations detected between the SD role of NGOs and other variables. As Figure 8-8 illustrates, their number is rather limited.

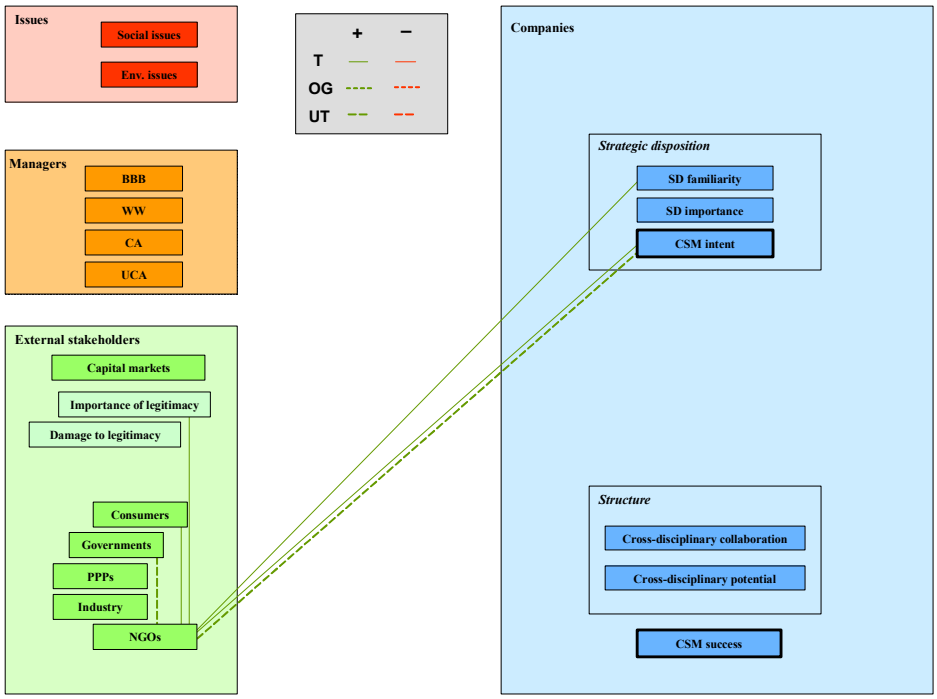


Figure 8-8: Correlations – public pressure groups' SD role

Issues

Issue significance and the SD role of NGOs are unrelated, presumably because NGOs essentially act as catalysts for companies' primary stakeholders such as customers, governments and the financial community (as discussed in detail in section 8.1.2.1).

Managers' attitudes

Associations between NGOs' SD role and managers' attitudes are limited to a positive link with the CA ("CSM to gain long-term competitive advantage") statement, which is, however, only statistically significant at a 10% level in the total and OG sample. This indicates that more proactive attitudes are also associated with greater awareness of NGOs' demands for CSM. The fact that the corresponding UT coefficient indicates a similar relationship in terms of direction and strength but fails to attain statistical significance can be attributed to the smaller sample size and/or a less strongly developed CA attitude in the UT sector.

External stakeholders and legitimacy

The relationship between the role of governments and NGOs reveals a more direct link between NGO campaigns (including those of citizens groups) and reactions from governments (e.g. climate change, phasing out of nuclear power generation) in the UT sector (see section 8.2.1.2 for a more detailed discussion).

Moreover, the positive correlation between NGOs' role and, on the one hand, the importance of legitimacy and, on the other hand, consumers' SD role points to the effects of NGO campaigns on consumer awareness and behavior, and the moderating factor of organizational visibility. The more important companies consider legitimacy to be (due to greater consumer

name recognition, level of downstream competition, switching cost of customers etc.),[38] the more sensitive they are to the demands of NGOs and consumers for CSM.

It is somewhat puzzling that NGOs' SD role is linked to importance of legitimacy, but not to the damage to legitimacy. This could suggest that companies are particularly aware of NGOs' activities if their informal license to operate is important to them. The lack of association with the actual damage to their legitimacy allows two interpretations: (1) the correlation is confounded by respondents' unwillingness to acknowledge the true level of damage; and (2) companies have been alerted by incidents that their peers have encountered, not necessarily ones they themselves have experienced.

Strategic disposition

Furthermore, correlations confirm the significant role of NGOs in driving corporate sustainability through various campaigns such as consumer boycotts, lobbying and shareholder resolutions. A more proactive SD role of NGOs is related to companies' greater familiarity with the concept of sustainable development (SD familiarity) and intention to integrate social and environmental criteria into business strategies and operations (CSM intent). The missing link with SD importance is likely to be caused by a social desirability bias, which may have affected results more strongly due to the smaller (3-point) Likert scale with which SD importance is measured.

It is surprising that the OG data do not – in contrast to the UT data – exhibit a statistically significant link between NGOs' SD role and strategic disposition. This indicates that the association between the two variables exhibits greater variation in the OG than in the UT data, presumably because NGOs' influence differs more widely in the OG sector. This is because OG companies are more globally active, and both issues and companies are more visible. Hence the sector is under scrutiny from a greater number of NGOs with different agendas on a greater number of issues. Furthermore, OG respondents' perception of NGOs' influence could exhibit greater variation because most of them operate in Europe and North America, and are not as close to most of the issues of their sector (e.g. in developing countries such as human rights, corruption) as UT respondents.

Conclusion

Overall the correlations detected point to a significant effect of NGO activities on companies' strategic disposition. They also reveal that NGOs mainly act as catalysts for change by targeting companies' primary stakeholders (consumers and governments) through boycott campaigns and lobbying.

8.2.3 Customers

8.2.3.1 Qualitative analysis and basic statistics

Alongside shareholders, customers play the most deterrent role in both sectors. OG interviewees acknowledged that NGO boycott campaigns (most prominently the "Stop Esso" and "Brent Spar" campaigns in the UK and Germany, respectively) had noticeable effects on their companies. Nevertheless, effective campaigns are seen as exceptions to the rule, insofar as their effect is selective and limited to consumers with greater environmental awareness. All in all, consumers' strong preference for cheap and convenient energy and their lack of environmental awareness and behavior are considered two of the most significant external barriers to corporate sustainability. Interviewees from the UT sector drew a similarly negative picture of the current and future role of its customers. Most corporate customers, particularly

[38] Refer to Bowen (2000, p. 100) for additional determinants of organizational visibility.

if their production process are highly energy-intensive, tend to be even less environmentally conscious than private customers (Platts, 2002).[39]

Cross-disciplinary differences in consumers' SD role are not statistically significant. However, it is notable that sustainability officers from both sectors assessed the consumers' role more negatively than general managers did. This could indicate that sustainability officers are more critical about the predominantly deterrent part that consumers are also likely to play in the medium to long term, which also reflects their – as catalysts – more strategic perspective of CSM.

Consumers' SD role (1 = "Least proactive" to 5 = "Most proactive")

General managers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	49	2.285714	.1336306	.9354143	2.017032 2.554397
OG	115	1.895652	.0724149	.7765637	1.752199 2.039106
Sustainability officers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	13	2	.2531848	.9128709	1.448358 2.551642
OG	17	1.705882	.1663781	.6859943	1.353177 2.058588

Table 8-3: Summary statistics – consumers' SD role

Whereas interviews do not point to any significant difference in consumers' SD role between sectors, the quantitative data reveal a more positive role of consumers in the UT than in the OG sector: The difference is visible in the data obtained from both sustainability officers and general managers, but is only statistically significant in the GM sample (at the 10% level). The mean differences are somewhat surprising and could reveal that UT managers perceive greater demand for CSM from customers because their companies' approach to CSM leaves a greater "supply gap" than that of OG companies.[40] Alternatively, the significant mean difference could point to a more proactive role of customers in the UT sector, which is, however, difficult to diagnose: Consumers are largely ignorant of environmental and social issues. However, there are some nuances:

- Kalkman and Peters (2002) tested several electricity brand concepts in the UK, Germany and Spain, and found that environmental friendliness was a significant component of the concept that received higher consumer ratings. However, the extent to which these ratings reflect actual purchasing behavior is clearly questionable. Furthermore, green electricity suppliers were among the few new companies that managed to survive in Germany's liberalized market due to higher customer loyalty and price premiums (Flauger, 2003b). Some US states require electric utilities to phase in electricity from local renewable resources (Peltier, 2003). Finally, several big US companies such as General Motors, IBM and DuPont have formed a partnership, the Green Power Market Development Group of the World Resources Institute (WRI), to build corporate demand for green power.
- In the OG sector both private and non-private customers tend to be largely ignorant of the environmental properties of fuels, which clearly affects the marketability of environmentally friendly products: Biodiesel is recognized for its drivability, fuel consumption benefits and environmental credentials only by a clear minority of consumers (Anonymous, 2004e; Siehoff, 2004). Furthermore, when OG companies introduced cleaner fuels in several markets such as the Netherlands, Germany and Argentina, products were mostly positioned primarily through high performance attributes to

[39] There are exceptions such as the Green Power Market Development Group, a coalition of the World Resources Institute and 12 US corporation (including Alcoa Inc., General Motors, IBM and DuPont), who announced the purchase of 97 Megawatts of green power in 2000 (www.newsroom.wri.org/newsrelease on 01/10/2003).

[40] A more advanced approach to CSM in the OG sector is diagnosed comprehensively in section 8.4.

legitimate a price premium (Anonymous, 2000; Klähn, 2000). However, customers can more easily switch suppliers in the OG than in the UT sector, and several boycott campaigns on Shell (and its decision to sink the Brent Spar) and Exxon Mobil (and its climate change position) did have significant impacts.

It remains difficult to reach a definite conclusion about the main reason consumers are more proactive in the UT sector, although it appears that demand for CSM is less persistent and more ad-hoc in the OG sector, i.e. largely unrelated to the product as such and observable in the form of boycott campaigns.

8.2.3.2 Advanced statistics

Figure 8-9 displays all correlations detected between consumers' SD role and other variables. They will be discussed in more detail in the following paragraphs

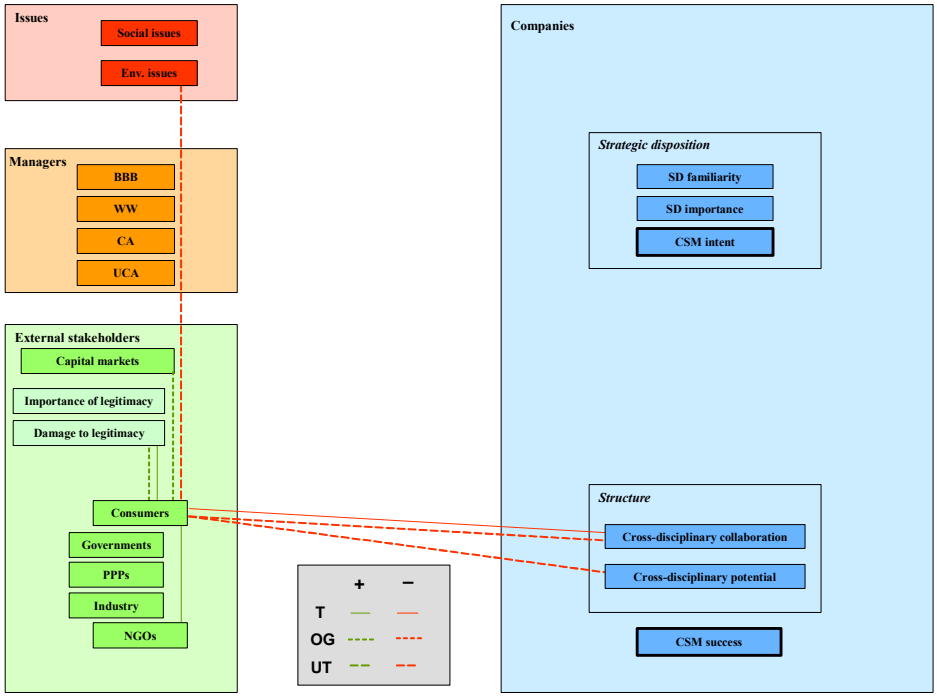


Figure 8-9: Correlations – consumers' SD role

Issues

The negative correlation between issue significance and consumers' SD role indicates that sustainability leaders in the UT sector exhibit greater issue awareness and perceive less strong demand for CSM from consumers. In contrast, issue awareness and consumers' SD role are unrelated in the OG sector, which indicates that both sustainability leaders and laggards consider consumers insignificant and reactive stakeholders (refer also to section 8.1.2.1 for a more detailed discussion).

External stakeholders and legitimacy

The positive link between consumers' and NGOs' SD role reflects the effect of NGO campaigns at triggering consumer boycotts or other changes in consumer behavior (see also section 8.2.2.2).

The positive link between consumers' current SD role on the one hand and, on the one hand, capital markets' future SD role and, on the other hand, the damage to legitimacy incurred clearly points to the effect of high profile consumer boycotts. These boycotts result in the loss of reputation and brand value, and in corresponding reactions of capital markets. E.g. Shell's share price was affected by the botched disposal of the Brent Spar platform and accusations of

human rights violations in Nigeria – but only to a limited extent (Caulkin, 1997). Nevertheless, this case illustrates a notable triangulating effect of consumer boycotts and capital markets' demand for CSM, which could become stronger if capital markets become more sensitive to CSM. It is not surprising that the UT data lack this specific association: Consumer boycotts are a rather inconvenient option because switching to a competitor is too cost- and time-intensive.

Structure

Consumers' SD role is negatively linked to both cross-disciplinary collaboration and potential. If one again assumes (see section 8.2.1.2) that both variables indicate a more advanced implementation of CSM and greater awareness of issues and stakeholders' demands, the negative relationship is plausible: Respondents from leading companies who are also more familiar with issues and stakeholders through more extensive cross-disciplinary collaboration perceive less strong demand for CSM from consumers than laggards. It should be noted that the corresponding relationships are weak and not statistically significant in the OG sector, which suggests that general managers' perception of the consumers' predominantly deterrent role is independent of their levels of awareness and their companies' level of CSM implementation. This additionally supports evidence presented above, which suggested that customers play a consistently more deterrent role in the OG sector.

Conclusion

In conclusion, the evidence clearly supports the findings presented in the previous section about the predominantly deterrent role of consumers as an external pressure group. This is particularly visible through the lack of correlations between consumers' SD role and strategic disposition. The data also exhibit sector-specific nuances:

- Overall consumers in the UT sector appear to play a more proactive role. Pressure from environmentally friendly consumers is more persistent and related to the process of power generation, i.e. the question of whether the electricity purchased is generated from renewable or non-renewable energy sources.
- In the OG sector, consumers' switching costs are lower (e.g. one just needs to drive to another gas station). Thus boycott campaigns appear to have a significant but only brief effect. They constitute a short-term reaction of customers to corporate activities rather than to the environmental properties of the product.

8.2.4 Financial community

8.2.4.1 Qualitative analysis and basic statistics

Interviewees from both sectors considered the financial community – in addition to consumers – the stakeholder that plays the most passive or even counterproductive part in terms of corporate sustainability due to its focus on short-term profitability. Despite recent trends in the US toward more scrutiny of issues such as accounting practices and climate change risks (Bayon, 2002), European shareholders (and insurance companies in particular) are considered more progressive players than their Anglo-Saxon counterparts (Kantaria, 2002). The following significant nuances mentioned by several sustainability officers interviewed could point to a more proactive role of the financial community in the future (e.g. Innovest, 2002b):

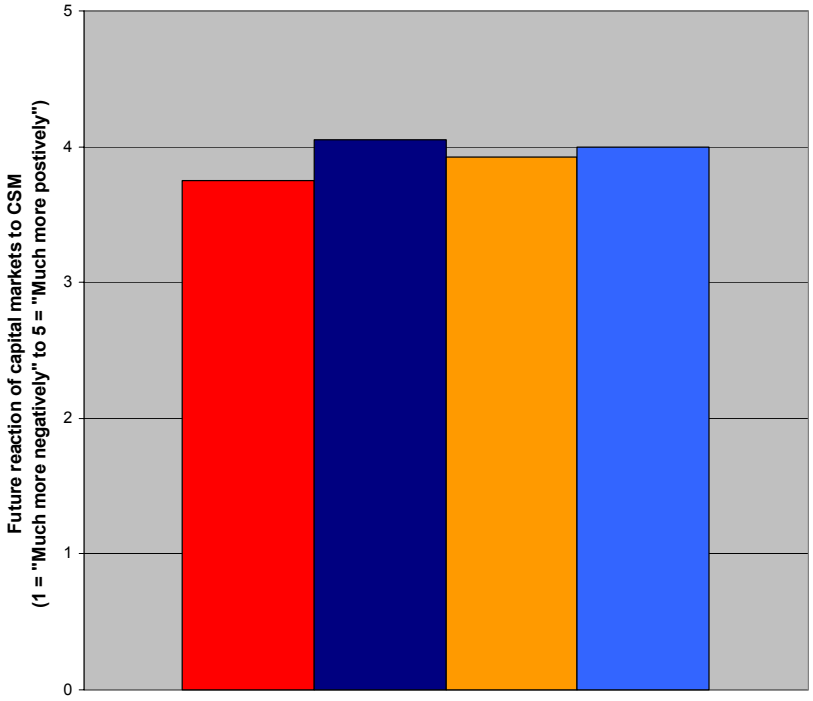
- International lending institutions such as the World Bank play an increasingly significant role in setting standards for corporate activities in developing countries, e.g. in terms of ensuring a fair allocation of oil revenues and preventing human rights violations (Beattie, 2002).
- The scrutiny of capital markets and socially responsible investors differs from NGOs' pressure in terms of both quality (more conceptual) and intensity (more consistent).

Companies react on a more conceptual and strategic basis, also because shareholders are – unlike NGOs – primary stakeholders:

> Our climate policy is more the consequence of the influence of capital markets' than NGO campaigns (OG2, SO)

- Private banks and insurance companies are becoming increasingly important stakeholders in terms of environmental and social issues, as the motivation of the Carbon Disclosure Project (Nicholls, 2003a) and the adoption of the Equator Principles through various banks illustrate.[41]
- Finally, companies are recognizing the increasing importance of sustainability stock indices and pressure from institutional investors such as pension funds.

This more proactive trend is also reflected in the quantitative data presented in Chart 8-6. Respondents from all four samples expect a more positive reaction from capital markets to improved corporate social and environmental performance in the next five years. The only statistically significant difference between the four groups of respondents is found between the general managers of both sectors: OG general managers expect a more positive reaction than their counterparts from the UT sector.



Capital markets

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.75	0.73	55
OG GM	4.05	0.64	117
UT SO	3.92	0.64	13
OG SO	4.00	0.50	17
Total	3.96	0.66	202

Chart 8-6: Capital markets' future SD role and summary statistics

There are two possible and complementary explanations:

1. OG companies have come under more pressure from shareholders and investors, most prominently due to (1) a clear general trend toward a greater number of social and environmental shareholder resolutions that are also increasingly more strongly

[41] The Carbon Disclosure Project is a group of institutional investors that scrutinizes the corporate sector in terms of its CO_2 portfolio. The Equator Principles raise the standards of banks' social and environmental risk management in emerging countries.

supported,[42] and (2) the Equator Principles. It is difficult to determine precisely the actual effect of these two drivers on corporate practices. After all, shareholder resolutions are generally voted down and the Equator Principles need to be properly implemented. However, they seemed to have significantly changed general managers' perceptions in the OG sector, as the differences in the data might indicate.

2. The mean difference could be attributed to OG general managers' more proactive attitudes.

Interviewees from the UT sector reported that shareholders are aware of relatively high environmental standards in OECD countries (and Europe in particular), and are mainly concerned about adequate provisions for operational accidents and transparency in the "Post-Enron Era."

> Sustainability plays a very minor role for investors. Environmental performance matters in terms of risk and liabilities attached to assets that are to be disposed. They are additionally concerned with insurance coverage of nuclear liabilities (OG5, finance).

Since most UT firms are among the greatest CO_2 emitters in their country of operation, they are particularly concerned about the coming emissions trading systems and increasing interest in the carbon intensity of their fuel mix from investors and rating agencies: Standard & Poor's has recently published a study suggesting that the credit rating of European energy companies, particularly those featuring a relatively carbon-intensive energy mix may suffer due to the coming EU emissions trading (Flauger, 2003c). The fact that general managers in the UT sector nevertheless expect a less (but still) positive future role of capital markets than their counterparts in the OG sector, suggests the following: Current positive trends in the financial sector are less visible in the UT sector, whereas shareholder resolutions, which are frequently introduced in the OG sector, tend to increase awareness more effectively, since they are more confrontational and often taken up by the media.

In conclusion, a more proactive role of the financial community is expected in both sectors. More positive expectations in the OG sector reflect a generally stronger and visible interest of more socially responsible and increasingly "mainstream" shareholders in the major OG companies, presumably also because they have been very profitable over the last few years. Despite these more recent and partly promising trends that are relevant to both sectors, it should be noted that the financial community clearly is a deterrent to CSM for two reasons. First, it narrowly focuses on short-term financial targets. Second, it is primarily concerned with downside risk rather than upside potential, i.e. it is more likely to punish laggards and unsustainable business practices than to reward leaders (Frooman, 1997).

8.2.4.2 Advanced statistics

In the following paragraphs, the author will discuss correlations between the future SD role of capital markets and other variables (Figure 8-10).

[42] Between January and June 2002, 17 out of 100 proposals across various industries received more than 15% of the votes. Support for proposals on greenhouse gas emissions almost doubled from 9.3 to 18.3% (www.socialfunds.com on 3 July 2002).

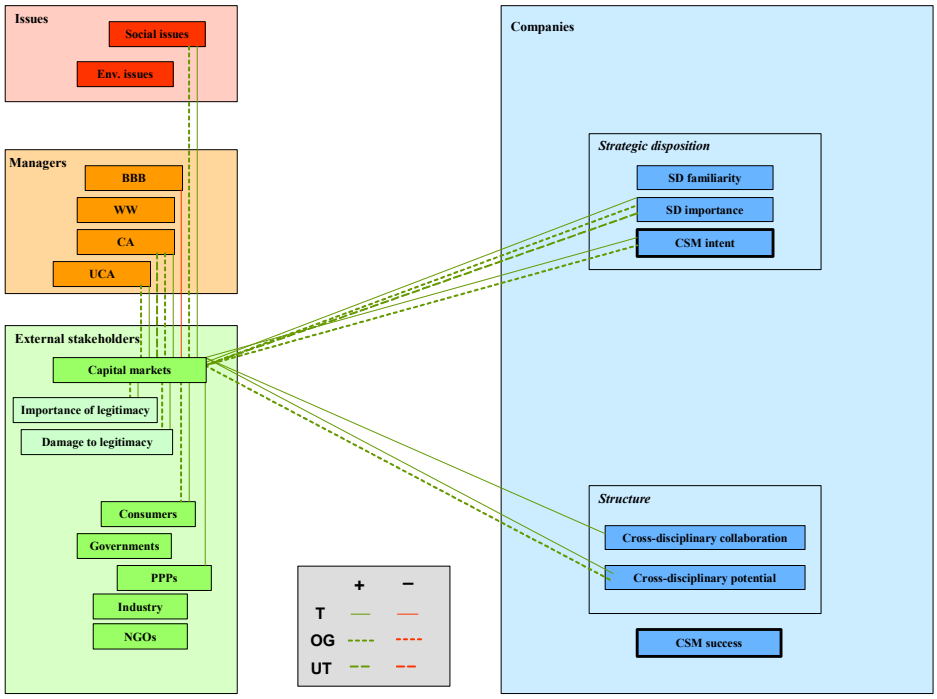


Figure 8-10: Correlations – capital markets' future SD role

Issues

Social issue significance and capital markets' SD role are positively related, which suggests that respondents from leading companies are more aware of both social issues and recent developments in the financial sector than laggards (as discussed in detail in section 8.1.2.1).

Managers' attitudes

Strong proactive attitudes (CA "CSM to gain long-term competitive advantage" and UCA "CSM despite unproven long-term competitive advantage") are related to a more proactive future SD role of capital markets: a strongly reactive BBB attitude ("The business of business is business") is linked to a less proactive future SD role of capital markets. In contrast, the WW attitude ("CSM if there are win-win situations") lacks a statistically significant link, presumably because – as also suggested above in section 8.1.2.1 – both proactive and reactive respondents could equally strongly relate to the statement provided. Overall these results clearly suggest that more proactive respondents have more positive expectations of the future SD role of capital markets, presumably for two complementary reasons: (1) respondents with a proactive mindset are more aware of recent positive trends described above; and (2) the association may have been partly caused by "wishful thinking" of proactive respondents: They more clearly see a need for change and thus hope for a more proactive role of capital markets in the future.

The only significant difference between the two sectors lies in the weakly positive and statistically not significant relationship between capital markets' SD role and the UCA attitude ("CSM even if competitive advantage unproven") in the UT sector. The corresponding link in the OG sector is moderately positive and statistically significant, which suggests that proactive attitudes are more consistently and strongly developed in OG companies.

External stakeholders and legitimacy

Consumers' SD role

Capital markets and consumers' SD role positively correlate. This suggests that high profile consumer boycotts (e.g. in Germany due to the Brent Spar crisis), and the subsequent loss of reputation and brand value, have led to corresponding capital market reactions (as discussed in detail in section 8.2.3.2) in the OG sector, and are likely to do so in the future.[43]

Importance of and damage to legitimacy

Furthermore, there are two positive correlations with the importance of legitimacy and the damage to legitimacy. The first association shows that companies are concerned with their legitimacy because they expect capital markets to act more proactively in the future. The second association suggest that they have "learned this lesson" in the past from NGO campaigns and consumer boycotts and capital markets' reaction to them. The greater the damage to their legitimacy, the more proactive companies expect capital markets to be in the future. In the OG sector this appears to reflect reality reasonably well: Reactions of capital markets to damaged legitimacy – except for severe environmental incidents – have not been too drastic but notable.[44] However, they could become more extreme due to the possibly more proactive role of capital markets in the future.

It should be noted that the corresponding associations have similar strength and the same direction in the UT sample, but are not statistically significant, presumably due to constraints in the degrees of freedom a greater variation in the association. Nevertheless, results could point to the increasing importance of legitimacy in Europe's liberalized electricity markets, which may become more and more relevant to more proactive capital markets in the future. It could also indicate, in the wake of the Enron crisis, companies' increased sensitivity to issues relating to corporate governance and business ethics, which can significantly affect legitimacy and share prices, and are thus increasingly scrutinized by capital markets.

Public-private partnerships

There is one remaining correlation between capital markets' SD role and a more proactive role of public-private partnerships. This could indicate that companies that are higher on the CSM curve (1) have recognized the potential of public-private partnerships to resolve issues such as the North-South energy divide or the fair allocation of oil revenues in developing countries; and (2) expect greater demand for CSM from capital markets in the future.

Strategic disposition

A more proactive future SD role of capital markets also positively correlates with companies' strategic disposition. Whereas it is linked to OG companies' *current* SD familiarity and CSM intent, it is only linked to UT companies' *future* SD importance. This corroborates evidence presented above on the stronger role of capital markets in the OG sector.

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[43] As a result of Greenpeace UK's Stop Esso campaign, the number of consumers unwilling to buy petrol from Esso due to its approach to climate change increased substantially. Consistently over 5% of the population bought into the campaign (Gueterbock, 2004, p. 267).

[44] Whereas Exxon's share price did not immediately react significantly to the Exxon Valdez spill in 1989 (Kearns, 1989), the verdict of a federal court exposing it to up to US$ 15 billion punitive damages in 1994 led to a 4% drop (Waters, 1994). Shell's share price was affected by the botched disposal of the Brent Spar platform and accusations of human rights violations in Nigeria – but only to a limited extent (Caulkin, 1997). The Canadian Talisman Energy moved out of Myanmar following protests from human rights organizations and subsequent losses in share price. Its CEO said "he could not justify letting 12% of his company's production dent the share price so badly (Anonymous, 2002b)

Structure

The positive correlation between capital markets' SD role and cross-disciplinary collaboration shows that leading companies that have implemented CSM more comprehensively consider the future role of capital markets more positively. The same conclusion can be drawn from the positive link with cross-disciplinary potential if one assumes that greater potential indicates higher levels of respondents' awareness (which should be prevalent in leading companies) rather than low levels of implementation, which would be associated with unexploited potential (see section 8.4.4.2). The correlation is moderately positive in both sectors but not statistically significant in the UT data, presumably due to the smaller size and/or greater variation in the link.

Conclusion

In conclusion, the relationships found link several expected characteristics of companies that are more advanced in CSM. Alongside expectations about capital markets' greater demand for CSM in the future, these characteristics include: Greater strategic disposition, more intensive cross-disciplinary collaboration, more proactive attitudes of managers and greater issue awareness and greater potential of public-private partnerships.

Most importantly the data point to a notable positive influence of capital markets' expected greater demand for CSM on companies' strategic disposition. They also reveal perceptions of a less important future role of capital markets in the UT sector, probably also because general managers are largely unaware of existing trends. It is important not to overestimate the proactive role of capital markets. Their current role is clearly disruptive rather than constructive, hence perceptions of their *future* role may be biased.

8.2.5 Industry and partnerships

8.2.5.1 Qualitative analysis and basic statistics

The role of industry in contributing to sustainable development is determined by various companies, sustainability leaders and laggards, which compete against each other across the value chain. In general, competition on environmental and social issues is low but has been increasing, particularly in the OG sector: As the interviews suggest, a good corporate record is increasingly linked to an improved license to operate and grow, which shortens the "time to market" and increases employee satisfaction (Banerjee, 2003; Suggett, 2000). Competitors can also play an important role in partly determining the environmental and social performance of upstream joint ventures. Interviewees reported that a joint venture's performance either converges at the level of the more proactive partners or the laggards, depending on the relative power and corporate sustainability agendas of the companies involved.

Both OG general managers and sustainability officers consider their industry's SD role more proactive than their counterparts in the UT sector. Although these variations may partly reflect the OG sector's more advanced approach to CSM (as described in section 8.4 in particular), they are not very meaningful for the following reasons: First, neither of the differences is statistically significant. Second, it remains unclear whether managers' assessment included laggard companies in other regions of operation. This applies to UT respondents in particular, since the sector's approach is clearly more regional and Eurocentric than that of the OG sector.

Industry's SD role (1 = "Least proactive" to 5 = "Most proactive")

General managers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	51	2.607843	.0973308	.6950808	2.412349 2.803338
OG	117	2.675214	.0651791	.7050197	2.546118 2.804309
Sustainability officers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	13	2.846154	.1538462	.5547002	2.510952 3.181356
OG	17	3	.1485221	.6123724	2.685147 3.314853

Table 8-4: Summary statistics – industry's SD role

In both sectors sustainability officers assess the industry's SD role more positively than general managers do. In the OG sector this cross-disciplinary difference is statistically significant. The result corresponds with sustainability officers' higher ratings for their companies' SD familiarity (see section 8.4.2 Strategic disposition). It is a little surprising, since one may have expected SOs to have a more critical, i.e. demanding, assessment of the industry's role due to their role as change agents in their companies and their greater awareness of strategic issues (climate change and the energy divide) and responses required in the short and long term. There are several explanations for a more positive assessment: (1) They are more aware of existing best practices throughout the industry. (2) They are more calculatedly optimistic as change agents in their companies. (3) Although they report on several internal barriers such as mindset, lack of knowledge, etc. (see section 8.4.1 Company-specific determinants), they may still be largely unfamiliar with the even more troublesome situation at the operational level – with the "very bottom management" as one interviewee phrased it. (4) Sustainability officers overstate organizational alignment in their company and the sector because they are more strongly concerned with CSM at the strategic level (e.g. strategy formulation). Qualitative evidence obtained from a two-hour session that an OG sustainability officer held at IMD with a general management audience primarily supports the first explanation: General managers' lower awareness of best practices *even* within their *own* company is plausible in large organizations, particularly if activities – as in the OG sector – are scattered around the globe.

Public-private partnerships' SD role (1 = "Least proactive" to 5 = "Most proactive")

General managers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	47	2.55319	.1045165	.7165288	2.342811 2.763572
OG	111	2.75675	.058951	.6210873	2.63993 2.873584
Sustainability officers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	12	2.5	.288675	1	1.86463 3.13537
OG	17	2.764706	.182495	.752447	2.377833 3.151578

Table 8-5: Summary statistics – public-private partnerships' SD role

In the interviews public-private partnerships were mentioned in the context of corporate activities in the developing world. They are thus more relevant to OG companies that engage in education and youth development, healthcare (infrastructure, HIV/AIDS awareness programs) and water and sanitation programs (ExxonMobil, 2003, p. 14-21; The Shell Petroleum Development Company of Nigeria Ltd., 2003, pp. 15-2). Leading UT companies that operate in developing countries carry out similar activities (WBCSD, 2002, p. 21). Nevertheless public-private partnerships are considered less effective in this study's UT sample, most likely due to its bias towards companies that mainly operate in developed countries.

This finding is supported by quantitative data indicating that both OG general managers and sustainability officers assess the SD role of public-private partnerships more positively than their counterparts in the UT sector (see Table 8-5). The cross-sector difference in the

perceptions of the general managers is statistically significant. Cross-disciplinary differences between the perceptions of general managers and sustainability officers are marginal and clearly not statistically significant, which gives additional assurance on the cross-sector variation.

8.2.5.2 Advanced statistics

The following paragraphs feature a discussion of the correlations between the SD roles of both industry and public-private partnerships and other variables (see Figure 8-11 and Figure 8-12).

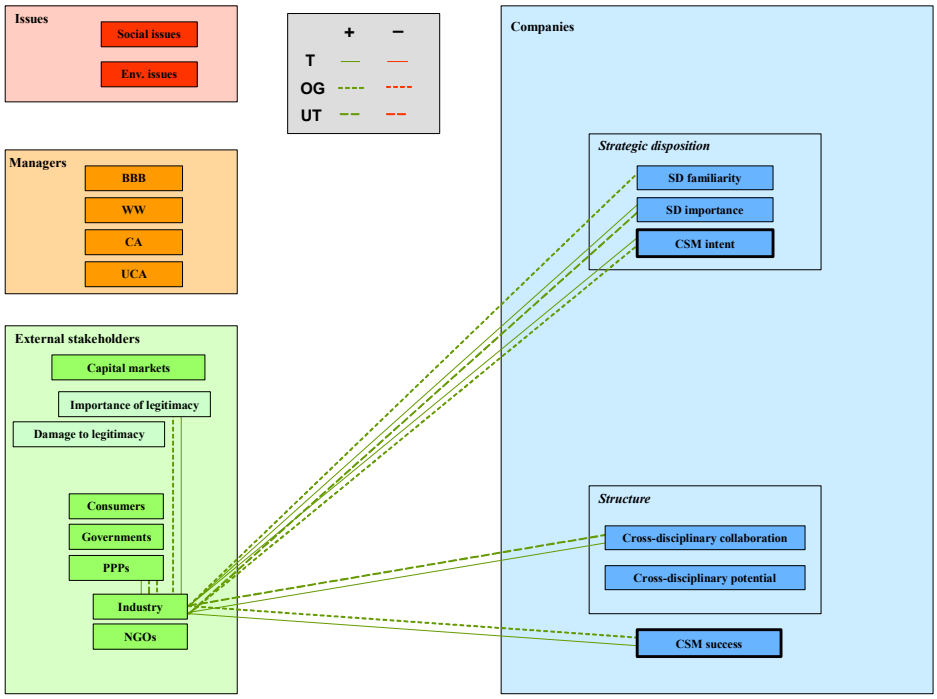

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Figure 8-11: Correlations – industry's SD role

Correlations between the industry's SD role and other variables

Managers' attitudes

The industry's SD role is positively linked to the CA ("CSM to gain long-term competitive advantage") attitude in the OG data (at a 10% significance level). This could indicate that more proactive OG respondents are more optimistic about their sector's performance, although they tend to be more aware of unresolved environmental and social issues, because they are also more aware of best practices in their own company and throughout the entire sector. It could also point to calculated optimism or "wishful thinking" of individuals who see the need for a more distinct shift in corporate activities.

The corresponding UT coefficient is close to zero and statistically not significant, which suggests that (1) proactive attitudes are less developed in the UT sector, and/or (2) the industry's SD role is assessed more heterogeneously, presumably since respondents are less aware of existing initiatives throughout their industry and/or sector performance is indeed more heterogeneous (e.g. through differences in fuel mixes or the level of market liberalization).

External stakeholders and legitimacy

The correlation between the industry's SD role and the importance of legitimacy is weak and not statistically significant in the UT sector, whereas in the OG sector it is statistically significant and positive, i.e. the more important OG respondents consider legitimacy to be, the more positively they assess the SD role of industry.

This points to a significant cross-sector difference: The motivating effect of legitimacy is weaker and less consistent in the UT sector because industry performance and/or the importance of legitimacy is less homogenous than in the OG sector (see section 8.2.6.1, for a more comprehensive discussion of the role of legitimacy). Thus UT data again indicate that UT companies are at different stages in the process of liberalization. However, it is likely that legitimacy will become more important with ongoing liberalization processes.

The positive link between the industry's SD role and public-private partnerships (PPPs) supports qualitative evidence presented earlier on the effectiveness of public-private partnerships at assisting the sectors to resolve primarily social and health issues in developing countries and to support pilot electrification projects.[45]

Strategic disposition

Correlations also show that respondents who indicated greater SD familiarity, greater SD importance and greater CSM intent also assessed their industry's SD role more positively. This suggests that sustainability leader respondents have a more positive perception of the entire sector's performance. They appear to have a more optimistic mindset – presumably due to greater awareness of current initiatives and best practices – rather than a critical attitude towards laggard companies, which would have been reflected in negative correlations between the industry's SD role and companies' strategic disposition.

It should be noted that the linkage between the industry's SD role and CSM-related variables (e.g. CSM intent, CSM success) is weaker in the UT than in the OG sector. Thus the data indicate that (1) UT respondents are less optimistic about their sector's performance, presumably because their own companies are relatively inexperienced, i.e. still at the lower end of the CSM learning curve, and (2) the perception of the industry's SD role is less homogenous for reasons referred to above.

Structure

Data also exhibit a positive link with cross-disciplinary collaboration. This result is in line with findings presented in the previous paragraph: Cross-disciplinary collaboration tends to increase respondents' awareness of corporate activities and thus positively influences their view of the overall performance of the industry. Furthermore, correlations between the industry's SD role and cross-disciplinary potential yield different results across the two sectors: In the UT sector the relationship is moderately positive but only statistically significant at a 10% level.

In the OG sector it is very weak (in fact slightly negative) and clearly not statistically significant. This suggests that OG respondents' assessment of cross-disciplinary potential may be moderated more strongly through other company-specific factors such as corporate cultures and structures, and the current level of collaboration, i.e. respondents who work relatively closely with sustainability experts may consider the still unexploited potential minor. Thus respondents with higher levels of awareness of corporate activities do not necessarily assess

[45] E.g. the South African utility Eskom has launched a comprehensive HIV/AIDS program and played a key role in establishing the South African Business Coalition against HIV/AIDS (Holliday et al., 2002, p. 122). Shell and Eskom formed a joint venture project to install home solar systems in South Africa (WBCSD, 2002, p. 39)

cross-disciplinary potential more positively. This is not implausible, since OG companies tend to be larger and thus more complex organizations, and are thus likely to exhibit greater variation in corporate culture, structure, etc.

Correlations between the SD role of public-private partnerships and other variables

Figure 8-12 displays correlations between the role of PPPs in contributing to sustainable development and other variables. They will be discussed in the following paragraphs.

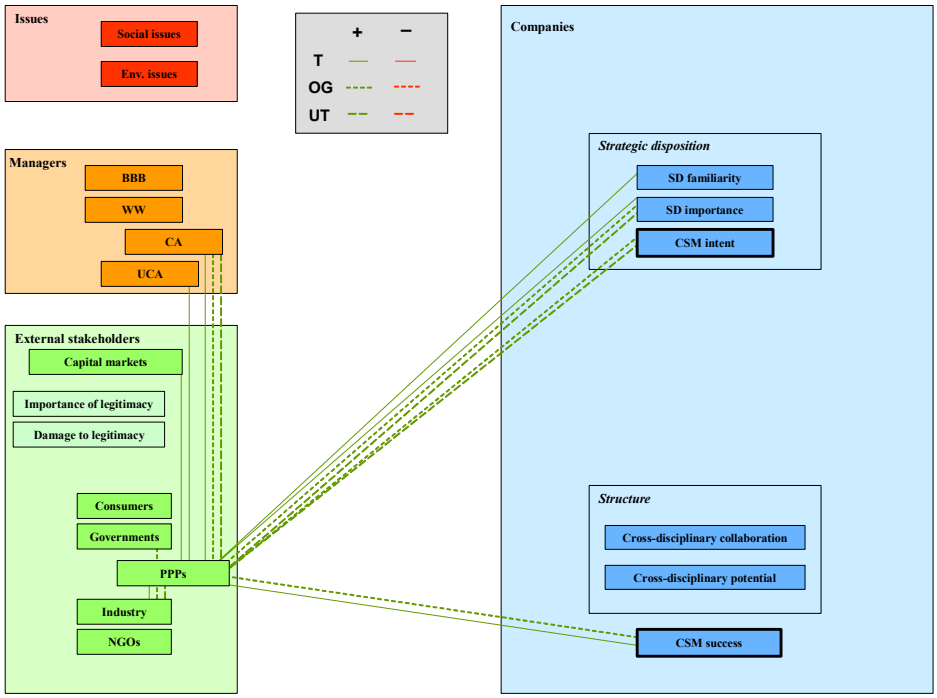


Figure 8-12: Correlations – public-private partnerships' SD role

Managers' attitudes

A positive link between PPPs and the two proactive attitudes (CA:"CSM to gain long-term competitive advantage" and UCA "CSM despite unproven competitive advantage") of managers suggests that more proactive managers are more aware of possible contributions of partnerships with public agencies to more sustainable business practices.

External stakeholders and legitimacy

Positive links between PPPs' SD role and (1) that of governments and industry and (2) the future role of capital markets, point to the use of public-private partnerships in leading companies. Leaders are likely to be more aware of greater contributions from governments and industry that both participate in the partnerships and expect capital markets to take on a more proactive SD role in the future.

Strategic disposition and CSM success

Correlations also show a clear positive link between PPPs' SD role and both strategic disposition and CSM success. Compared to the associations detected with the industry's SD role, there are fewer cross-sector differences. In the UT data the correlation between PPPs' SD role and both CSM intent and CSM success are positive but only the former is also statistically significant (even if only at a 10% level).

Thus the results point to the perception in leading companies of the greater effectiveness of PPPs, particularly in the OG sector. This is plausible, since UT companies surveyed in this study rely less strongly on public agencies because their core activities are located in developed countries (70% of UT general managers operate in Mid-Northern Europe). An

additional factor could be the fact that OG companies engage more strategically in partnerships because they have to extract and produce oil and gas where the deposits are located, i.e. often in rural areas with little infrastructure. In contrast, UT firms that operate in developing countries still focus primarily on urban areas, where partnerships for health, education and community development are less needed. Through its electrification program launched in 1991, Eskom has raised the electrification rate in urban areas in South Africa to 90%. In rural areas only 40% of the homes are electrified (WBCSD, 2002, p. 39).

Conclusions

It is not surprising that there are some parallels with the associations detected for the role of industry, since industry is involved in PPPs. Overall results indicate that sustainability leaders in the OG sector in particular assess their sector's SD role more positively than laggards, and exhibit greater awareness of the effectiveness of PPPs, obviously because they more strongly rely on them to resolve local social issues in developing countries. Overall this points to a more advanced and *confident* approach to CSM in the OG compared to the UT sector, which can be partly attributed to the importance of legitimacy and its greater motivating role in the OG sector. This also most likely reflects OG companies' greater organizational visibility.

8.2.6 Legitimacy and the relative importance of external stakeholders

In the present section, the author will elaborate on the role of legitimacy as such, operationalized as brand value and reputation, in the area of CSM (see section 8.2.6.1). He will also compare the relative importance of the external stakeholders as pressure groups (see section 8.2.6.2).

8.2.6.1 The role of legitimacy

8.2.6.1.1 Qualitative analysis and basic statistics

The interviews indicate that both the informal and formal kinds of legitimacy have a clear effect on CSM. Interviewees mostly referred to two concepts, the (informal or formal) license to operate (or grow) and reputation, and reported that their companies have reacted to changing demands from stakeholders.

Thus different institutional environments and societal values determine the limits of legitimacy – i.e. the visible significance of an issue – at which stakeholders react to amend or revoke companies' current licenses to operate. Limits of legitimacy can be local, regional, national or even global. For example, the US and Europe vary in terms of societal pressure to combat climate change (Browne, 1997; Sharma et al., 1999, p. 91; Skjaerseth et al., 2001):

> Originally our actions were based on expert analysis, less on public perceptions. However, there has been a change in opinion, primarily due to reputational damage we incurred in Europe. This is also one reason why our sustainability report was originally planned as a European Report (OG1, upstream EHS).

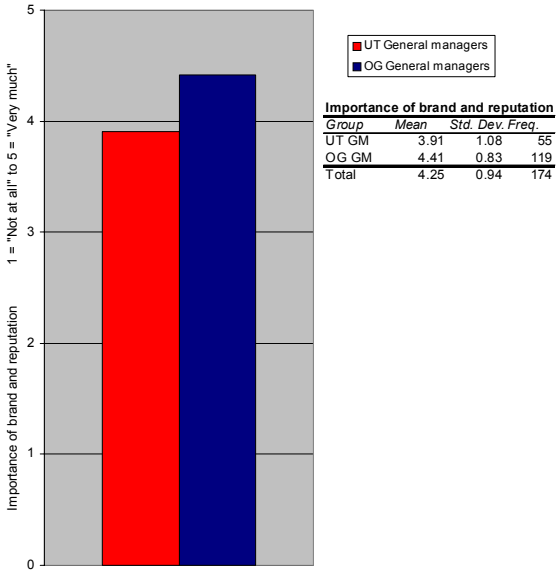
Furthermore, regulatory standards on local social and environmental issues vary widely between developing and developed countries (Souza Porto et al., 2003). Lower standards are often overcompensated for by greater scrutiny from public pressure groups, and so the OG sector in particular has become more sensitive to social and environmental issues in developing countries (Gavin, 2003).

Whereas most interviewees are familiar with the potential effects of short-term operational issues (e.g. health & safety) on brand value and reputation, legitimacy concerns about long-term strategic challenges such as climate change tend to be limited to sustainability officers and managers operating in pilot business units:

> Strategic transition to renewables will be an iterative process between the different stakeholders. There will be more and more pressure. The European Commission is doing a very good job at the moment (OG4, renewables business unit).

It is obvious that the significance of legitimacy is greater in the OG sector (see Chart 8-7), since OG companies operate in more competitive downstream markets and have greater organizational visibility (Bowen, 2000). According to the principle of "countervailing power," OG companies' size, profitability and relatively low level of regulation attracts opposition from public pressure groups. Furthermore, name recognition by consumers is considerably higher than in the UT sector (Kalkman et al., 2002), and thus OG companies are more vulnerable to incidents that may damage legitimacy, e.g. boycott or media campaigns (Steger, 2003, p. 106). Interview data reveal two additional factors that moderate company- or plant-specific risks associated with legitimacy:

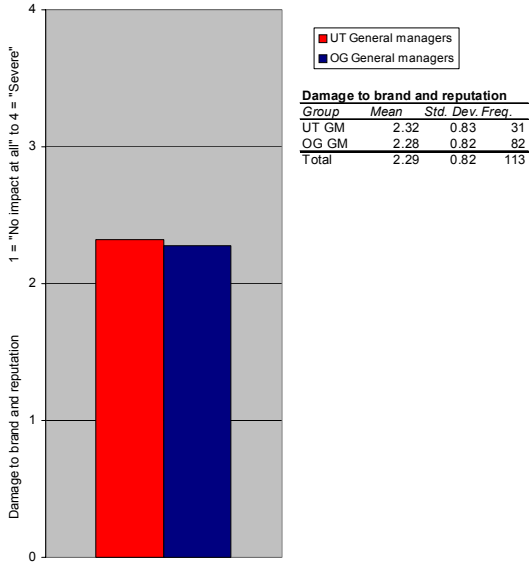
- Location and profile of headquarters and facilities: As one interviewee claimed, Nordic players may be under less scrutiny globally, due to "spill over" from the good environmental and ethical records of their home countries. Furthermore, facilities providing much-needed employment are under less external pressure.
- Corporate reputation: Companies differ in terms of their corporate identity, their approach to external stakeholders and the image and visibility of the top executives (Anonymous, 2003f; Browne, 1997).



Importance of brand and reputation

Group	Mean	Std. Dev.	Freq.
UT GM	3.91	1.08	55
OG GM	4.41	0.83	119
Total	4.25	0.94	174

Chart 8-7: Importance of legitimacy



Damage to brand and reputation

Group	Mean	Std. Dev.	Freq.
UT GM	2.32	0.83	31
OG GM	2.28	0.82	82
Total	2.29	0.82	113

Chart 8-8: Damage to legitimacy in the past three years

Whereas the cross-sector difference in the importance of legitimacy is statistically significant, the difference in terms of actual damage to legitimacy (see also Chart 8-8), i.e. loss of legitimacy, are not. This is unexpected, because of the OG sector's greater issue and organizational visibility, and can be attributed to the following reasons: First, the sensitivity of the question makes it prone to substantial bias: 31% of OG and 44% of UT managers did not respond, and only 7% and 6% respectively reported "severe" damage to legitimacy. Second, the most "prominent" incidents in the OG sector occurred in a period the questionnaire did not cover.

Even if one takes into account that respondents from both sectors are likely to downplay the severity of damage to legitimacy, data indicate that the effect of incidents has been rather weak overall, presumably because boycott campaigns, shareholder resolutions on environmental and social issues, and protests against nuclear power are limited to certain countries and exert brief and selective rather than persistent pressure on companies. Thus general managers may also lack awareness of such incidents.

In conclusion, companies have recognized the financial premium associated with informal kinds of legitimacy or license to operate, which enable the company to create a steady flow of revenues, since operations can continue uninterruptedly (e.g. no strikes, no occupation of facilities, no scandals and crises to manage) and efficiently (motivated personnel), and products are consistently demanded by customers (e.g. no boycotts). Overall data presented suggest that the informal license to operate is a particularly important driver of CSM in the OG sector because of several factors such as the visibility of some issues (e.g. social conflicts) and greater organizational visibility of companies as well as stronger downstream competition.

Whereas interview data, from sustainability officers in particular, point to a significant impact of NGO and boycott campaigns in the OG sector, survey data from general managers reveal little effect of incidents that damaged legitimacy. If one takes into account possible bias from respondents, this suggests that incidents have been rather selective and too insignificant to draw notable attention from general managers. This could additionally point to (1) a strongly reactive mindset of general managers who are focused on their every-day activities in their business function and unit, and (2) a failure to communicate the significance of incidents across business units and functions.

8.2.6.1.2 Advanced statistics

8.2.6.1.2.1 Correlations

Importance of legitimacy

In the following paragraphs the author will present and discuss correlations between the importance of legitimacy and other variables (see Figure 8-13).

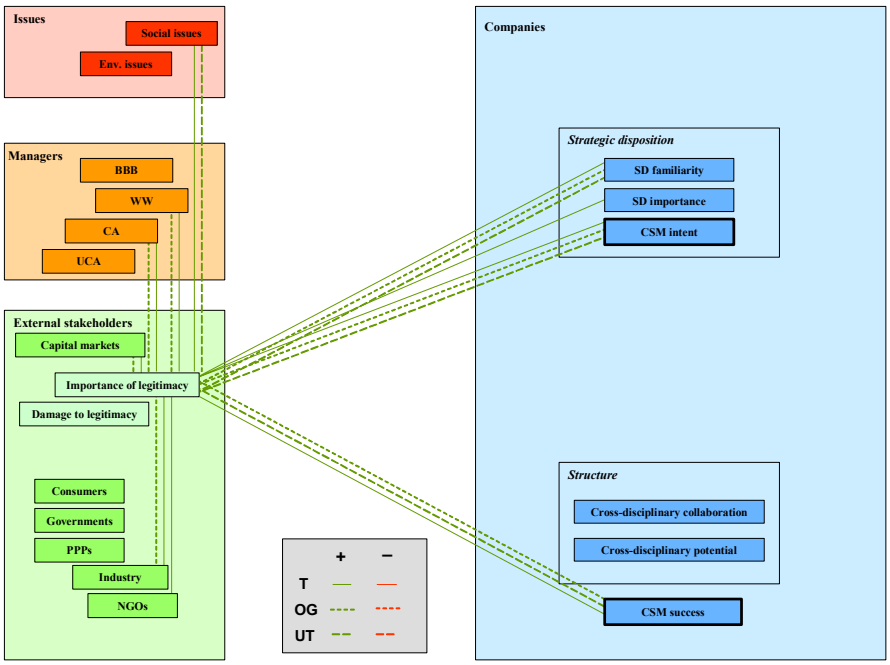


Figure 8-13: Correlations – importance of legitimacy

Issues

Social issue significance and legitimacy are related, which indicates that sustainability leaders exhibit greater awareness of social issues and attach greater importance to legitimacy (as discussed in detail already in section 8.1.2.1).

Managers' attitudes

The importance of legitimacy is related to the personal attitudes of respondents, more specifically to the CA attitude (CSM to gain long-term competitive advantage) and WW attitude (CSM only in win-win situations); the corresponding correlations also exist in the UT sector but their significance levels are just above 10%. The links indicate that proactive managers are more strongly concerned with their companies' legitimacy.

External stakeholders and legitimacy

Furthermore, the importance of legitimacy positively correlates with the SD roles of capital markets, industry and NGOs. This indicates that:

- Industry, more specifically the OG sector, is driven by the importance of legitimacy as a motivating factor of CSM (as discussed in more detail in section 8.2.5 Industry and partnerships).
- Companies' sensitivity to the importance of legitimacy, which is determined through several factors such as corporate culture (Steger, 1998a; 2003, p. 241) and organizational visibility (Bowen, 2000, p. 100); it is increased through greater demand for CSM from public pressure groups (see section 8.2.2).
- Companies are concerned with retaining and increasing their legitimacy because they expect capital markets to act more proactively in the future (see also section 8.2.4 Financial community on p. 104)

There is no statistically significant link between the importance of legitimacy and damages to legitimacy. Although companies that attach greater importance to legitimacy could report greater damage, because stakes are higher if an incident occurs, a link should not be strongly expected, because the damage is at least as strongly determined by the nature of the incident as by the level of legitimacy at stake.

The missing link between the importance of legitimacy and consumers' SD role points to the fact that consumers are hardly relevant to companies' legitimacy, except through boycotts that are often triggered by NGO campaigns. This is confirmed by a statistically significant linkage between consumers' SD role and actual damage to legitimacy (see Figure 8-14), and fits evidence obtained from the interviews: Overall the consumers' role is deterrent, but selective pressure due to consumer boycotts constitutes a substantial legitimacy risk.

Strategic disposition and CSM success

The data also exhibit a clear link between the importance of legitimacy and the strategic disposition to CSM – consistently across both sectors – and thus clearly support findings from the interviews about the motivating effect of legitimacy. The positive link with CSM success suggests that greater strategic disposition leads to the implementation of CSM measures that effectively contribute to CSM success. This is highly plausible since companies' initiatives need to be successful to retain and expand companies' informal license to operate.

Structure

The data do not show any link between the importance of legitimacy and cross-disciplinary collaboration. The fact that the importance of legitimacy is linked to strategic disposition but not to current structures – all coefficients are positive but close to zero – as one dimension of CSM implementation suggests that the association is subdued by some third variable such as

internal drivers or barriers (e.g. corporate culture) or the different scales (categorical and pseudo-continuous) used to measure both variables.

Damage to legitimacy

In the following paragraphs the author will present and discuss correlations between damage to legitimacy in the past three years and other variables (see Figure 8-14).

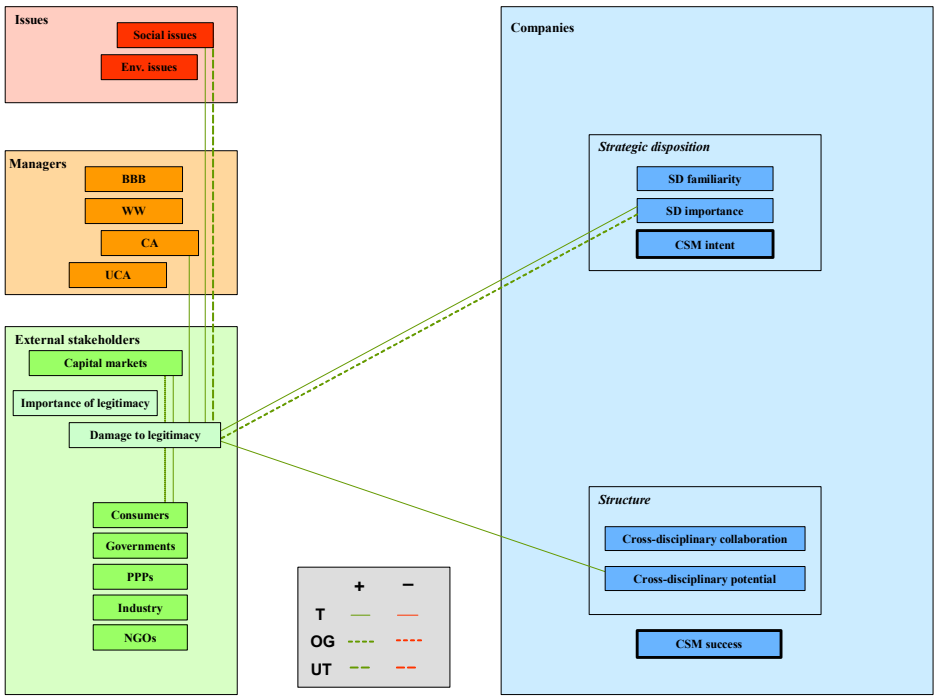


Figure 8-14: Correlations – damage to legitimacy

Issues

Social issue significance and damage to legitimacy are positively related. This suggests that companies that have incurred greater damage to legitimacy report greater issue significance (see section 8.1.1.3 The relative importance of environmental and social issues for a more detailed and sector-specific discussion).

Managers' attitudes

More proactive managers also report greater damage to legitimacy. The correlation coefficients between all four attitudes and damage to legitimacy support this finding, although only one link with the CA attitude (CSM to gain long-term competitive advantage) is statistically significant. Relationships between the variables could be recursive: Proactive managers could be more willing to acknowledge greater damage to legitimacy, and greater damage to legitimacy may also have changed managers' attitudes.

External stakeholders and legitimacy

Damage to legitimacy positively correlates with capital markets' future SD role, obviously since incidents have triggered reactions from capital markets and are expected to do so in the future (see also section 8.2.4 Financial community).

It is also positively related to consumers' SD role, which points to significant effects of consumer boycotts and protests (see also section 8.2.3 Customers).

Strategic disposition

Damage to legitimacy is also linked to companies' strategic disposition, but less clearly than the importance of legitimacy, as the lower number of statistically significant links shows. Furthermore, data reveal two differences between the sectors: In contrast to the OG sample, in the UT sample damage to legitimacy is linked to neither (1) SD importance, nor (2) CSM intent.[46]

These results are in parallel with findings from the interviews, which suggest that OG companies react to decreasing legitimacy by increasingly integrating environmental and social issues into operations – particularly in developing countries (e.g. community involvement). The missing link in the UT data clearly suggests that damage to legitimacy in the UT sector has been marginal and has thus not triggered any significant changes in their strategic disposition and activities.

Structure

There is a statistically significant link to both cross-disciplinary collaboration and potential:

- The link with cross-disciplinary collaboration is statistically significant and positive in the UT sector, in the OG sector it is negative: Even if the OG coefficient lacks statistical significance, this difference is quite insightful, since it again indicates that both sectors are at different stages of the CSM learning curve: The positive link in the UT data suggests that more advanced UT companies featuring stronger cross-disciplinary structures have become more aware of damage to their legitimacy. The negative link in the OG data, although statistically not significant, could indicate that more advanced companies were in fact subject to less damage to brand value and reputation. This is not implausible, although it can be argued that companies that are sustainability leaders are the preferred targets of NGO campaigns, since they are suspected of greenwashing (Kolk et al., 2001, p. 507; Vogl, 2003).
- The positive link with cross-disciplinary potential is line with correlations presented above (with strategic disposition, issue awareness, attitudes, etc.) and could indicate a relationship that is characterized by a feedback loop: (1) Respondents who are more experienced through closer collaboration with sustainability experts are more aware of or willing to acknowledge damage to legitimacy in the past. (2) More advanced companies incurred more damage to legitimacy in the past and reacted with greater strategic disposition and thus more evolved corporate structures.

Differences in correlations

There are several differences between the correlations detected between other variables and, on the one hand, the importance of legitimacy and, on the other hand, damage to legitimacy. They will be discussed in more detail in the following paragraphs.

It is notable that in contrast to the importance of legitimacy, the damage to legitimacy lacks links with several variables:

1. There is *no* statistically significant link to NGOs' SD role. This suggests that (1) the correlation is affected by respondents' unwillingness to acknowledge the true level of damage, and/or (2) that companies have also been alerted by incidents that their peers experienced, not necessarily themselves.

[46] In the OG sector the link is moderately strong and positive (almost statistically significant at a 5% level), in the UT sector close to zero (in fact negative) and statistically not significant

2. There is *no* link to the industry's SD role. This suggests that incidents that damage legitimacy are either limited to a few companies or assessed differently across several companies.
3. There is *no* link to CSM success. This is a bit unexpected, because – as interview data also suggest – incidents that damage legitimacy can cause substantial impetus for organizational changes and thus affect the effectiveness of corporate environmental and social initiatives. The link may be missing for several reasons: (1) Social desirability bias. (2) Learning effects: Companies that were not directly subject to incidents incorporated organizational changes nevertheless as a reaction to incidents their peers experienced. (3) Lower importance of legitimacy: Damage to legitimacy only has a "sustainable" effect on companies if legitimacy is important to the company and perceived to be at risk in the long term rather than the short term. (4) Internal barriers that prevent possible significant changes that could have contributed to CSM success.

Furthermore, damage to legitimacy has some associations with variables that the importance of legitimacy lacks:

1. It is linked to consumers' SD role. This is plausible, since consumers play a predominantly deterrent role but occasionally react to NGO or media campaigns, mainly through consumer boycotts.
2. It is linked to cross-disciplinary collaboration and potential. This could point to a general manager mindset that is more strongly geared toward risk reduction (as outlined in more detail in section 8.4.3 Economic rationale) – hence the greater awareness of damage incurred – than toward the general motivating factor of legitimacy.

Conclusion

In conclusion, evidence presented points to legitimacy as a significant driver of CSM, particularly in the OG sector, which reflects the latter's greater organizational visibility and more competitive downstream markets. The concept of legitimacy is linked to issue significance, managers' attitudes, strategic disposition and CSM success.

The importance of legitimacy is determined by the current and future SD roles of NGOs and capital markets, respectively; the damage to legitimacy occurs through incidents related to the current and future SD roles of consumers and capital markets, respectively. These relationships reveal NGOs' role in catalyzing reactions from consumers and capital markets.

Although the operationalization of legitimacy chosen for this study ("brand value and reputation") is not really compatible with the role of governments and regulators, since it focuses on the informal rather than formal license to operate, the lack of associations between the importance of and damage to legitimacy and governments' SD role is meaningful, since it points to a lack of guidance and external pressure from regulators and legislators. Conflicts with authorities, as little as they are indicated, appear to have minor relevance to companies' brand value and reputation. This finding is in line with companies' incremental approaches to CSM that are perfectly sufficient to meet regulatory standards, and the role of NGOs as those stakeholders ("watchdogs") that most strongly affect the informal dimension of legitimacy.

Finally, damage to legitimacy is less clearly linked to CSM than the importance of legitimacy. There are several complementary reasons for this: (1) Social desirability bias prevented respondents from indicating the true level of damage. (2) Companies may learn from the damage to the legitimacy of their peers, which would mask a possible association. (3) Today the leading companies above all are profoundly aware of their organizational visibility and exposure, which thus "suffice" as motivation for CSM. (4) Damage to legitimacy is a less relevant motivating factor if legitimacy as such is less important. This could partly apply to

the UT sector, in which reputation and brand value are lower but are becoming increasingly important due to ongoing market liberalization.

8.2.6.1.2.2 Regressions

Regression models provided below in Regression Table 8-2 show that the importance of legitimacy has a statistically significant positive effect on CSM intent in all three models, whereas the damage to legitimacy does not attain statistical significance in any of the models.

	T model	OG model	UT model
Number of obs	108	78	30
F	5.59	6.26	1.07
Prob > F	0.0000	0.0000	0.4170
R-squared	0.3113	0.3850	0.2533
Adj R-squared	0.2556	0.3235	0.0157
Root MSE	.71263	.68055	.82117
Independent variables		**Coefficients**	
Importance of legitimacy	**.349672**	**.3834678**	**.3261286**
Damage to legitimacy	.0518231	.0986357	-.0420575
UT sector	-.1614597		
Nordic	.0733383	-.2120864	.5931272
North America	**-.6135013**	**-.7786374**	.0393686
Latin Europe	-.082756	-.2913629	.4183617
Developing economies	**-.5847856**	**-.7015981**	-.5395808
Other regions	.2721515	.2305751	.1342905
Constant	**2.39373**	**2.277337**	**2.403296**

Regression Table 8-2: CSM intent – Importance of and damage to legitimacy (Expanded submodels)

Hence they support findings from the correlation analysis on the relatively greater significance of the importance of legitimacy over the damage to legitimacy.

It is also important to note that the regression models are in parallel with interview data, since they show two statistically significant region effects. Compared to their counterparts operating in Mid-Northern Europe, general managers in North America and developing economies report lower levels of CSM intent, presumably due to lower societal and regulatory pressure (Skjaerseth et al., 2001; Souza Porto et al., 2003) and internal barriers such as corporate cultures (e.g. Kolk et al., 2001).

8.2.6.2 The relative importance of external stakeholders

8.2.6.2.1 Qualitative analysis and basic statistics

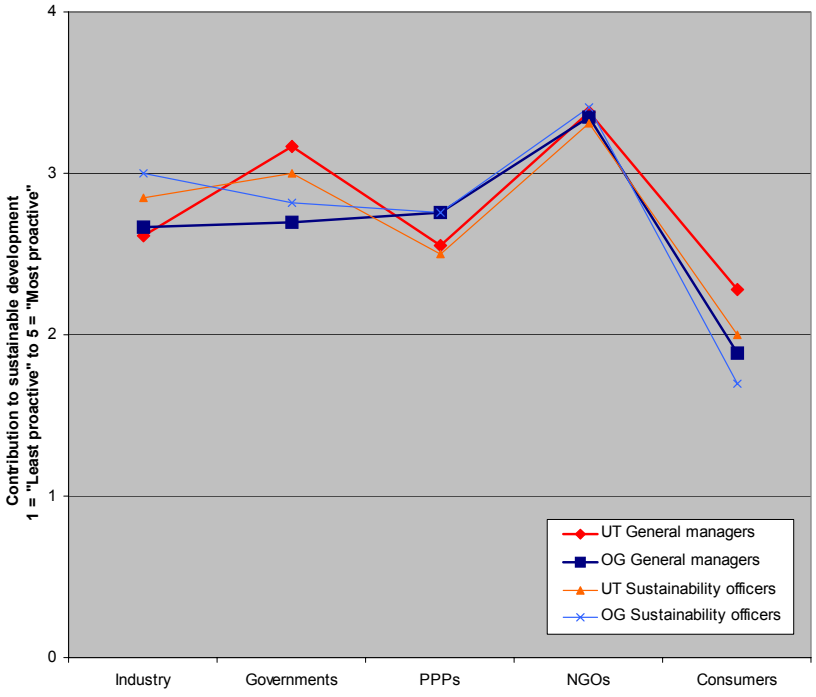
In the following paragraphs, the author will compare to what extent external stakeholder contribute to CSM. He will assess:

- their demands for CSM, i.e. their SD roles
- their influence through incidents that affect companies' legitimacy, and
- their importance as external barriers to CSM.

SD roles of external stakeholders, industry and public-private partnerships

As Chart 8-9 shows, there are few notable cross-disciplinary differences in general managers' and sustainability officers' perceptions of external stakeholders' SD role (which have been discussed in the previous section). Overall results are relatively congruent in both sectors, which gives reasonable assurance on the individual ratings. The less proactive SD role of governments compared to public pressure groups in the UT sector does not contradict findings from the interviews that pointed to governments as the most influential external pressure group. Public pressure groups certainly exhibit greater demand for CSM from UT companies than governments do (as illustrated in the chart below), but they have exerted less strong and more selective pressure on them (in terms of nuclear transport and large hydropower projects

in developing countries) than governments and regulators, which for their part are more influential, because their policy instruments directly target the firms (Khagram, 2003).



Consumers

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	2.29	0.94	49
OG GM	1.90	0.78	115
UT SO	2.00	0.91	13
OG SO	1.71	0.69	17
Total	1.98	0.84	194

Governments

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.18	0.71	51
OG GM	2.71	0.70	116
UT SO	3.00	0.82	13
OG SO	2.82	0.73	17
Total	2.86	0.74	197

PPPs

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	2.55	0.72	47
OG GM	2.76	0.62	111
UT SO	2.50	1.00	12
OG SO	2.76	0.75	17
Total	2.69	0.69	187

Industry

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	2.61	0.70	51
OG GM	2.68	0.71	117
UT SO	2.85	0.55	13
OG SO	3.00	0.61	17
Total	2.70	0.69	198

NGOs

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.38	0.76	48
OG GM	3.35	0.77	115
UT SO	3.31	0.85	13
OG SO	3.41	0.80	17
Total	3.36	0.77	193

Chart 8-9: Contribution of different groups to sustainable development (General managers – OG)

Furthermore, the chart illustrates that respondents from all four samples consider NGOs the most proactive and consumers the least proactive group. These results are not unexpected and reflect (1) the increasingly prominent part public pressure groups are playing globally in scrutinizing the environmental and social performance of companies and (2) consumers' lack of environmental awareness and behavior as well as their strong preference for cheap and convenient energy (Mathieu, 2002, p. 91). Obviously this does not rule out the selective impact of boycott campaigns, which have had significant effects on the OG sector in the past.

In the OG sector, industry, governments and public-private partnerships play roughly the same less to fairly proactive SD role, whereas in the UT sector, governments are rated higher and PPPs lower than industry, apparently because UT companies are more strongly and directly regulated in their main markets (mainly Europe) and rely less strongly on PPPs than OG companies for upstream activities in developing countries. Although respondents' (self-) assessment of the industry's role is prone to social desirability bias, results suggest that OG general managers and sustainability officers consider their industry – in contrast to UT respondents – respectively roughly equally or more proactive than governments. This finding is in line with OG companies' activities in developing countries (e.g. community involvement, fair allocation of oil revenue, etc.) which have moved corporate social and environmental performance clearly beyond compliance.[47]

[47] There are various examples of companies' approaches to community involvement to improve healthcare, education, economic development (ExxonMobil, 2003). In 2003 Shell established a new Sustainable Community Development Strategy that places greater emphasis on partnerships with communities, governments and other organizations (The Shell Petroleum Development Company of Nigeria Ltd., 2003, p. 16)

Incidents that damaged legitimacy

Chart 8-10 and Chart 8-11 illustrate how often incongruences in the "supply" of and "demand" for CSM have led to significant conflicts with the corresponding stakeholder.

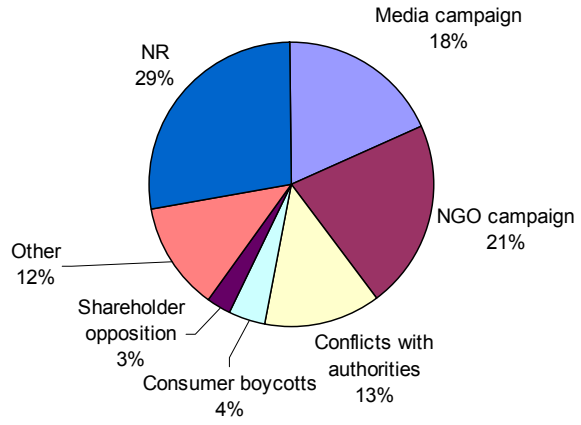


Chart 8-10: Incidents damaging brand value and reputation (General managers – OG)

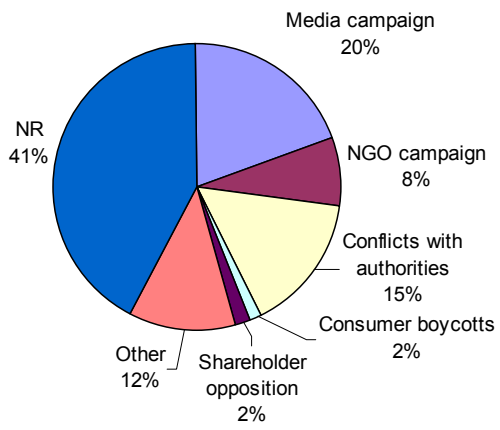


Chart 8-11: Incidents damaging brand value and reputation (Sustainability officers – UT)

They show two clearly visible cross-sector differences: The UT data exhibit a smaller proportion of NGO campaigns and a greater share of no-responses. Both differences are statistically significant. The relatively greater number of no-responses may partly reflect less proactive attitudes and lower levels of awareness of UT respondents who are less able and/or willing to respond. However, it also supports the finding about the generally lower organizational and issue visibility of UT compared to the strongly scrutinized major OG companies (e.g. Hoyos et al., 2003; Merolli, 2002; Prüller, 2003; St. Clair, 2004). It appears that relatively weak regulatory pressure on the OG sector is compensated for by more scrutiny from civil society, which influences companies' approach to CSM (Whetten et al., 2002, p. 402).

External barriers to CSM

Chart 8-12 to Chart 8-15 display the relative frequencies of barriers to CSM reported by sustainability officers and general managers, respectively. In the SO data, customers and investors take significant shares as external barriers amounting to 10% and 11% in the OG and UT sectors, respectively. In the GM data, proportions are largely similar: Excluding the number of no-responses included in the charts, customers and investors take 12% and 10% in the OG sector, and 22% and 8% in UT sector.

The proportions of regulations also play a notable role in the charts, which could indicate that companies surveyed are indeed sustainability leaders that feel impeded in their beyond-compliance activities through inappropriate legislation (e.g. inadequate subsidies; low regulatory standards through which compliance-oriented competitors gain a competitive advantage, e.g. corruption). However, it is just as likely that companies feel overregulated and thus prevented from engaging in CSM in a more flexible way, which would point again to a rather reactive and conservative mindset of respondents.

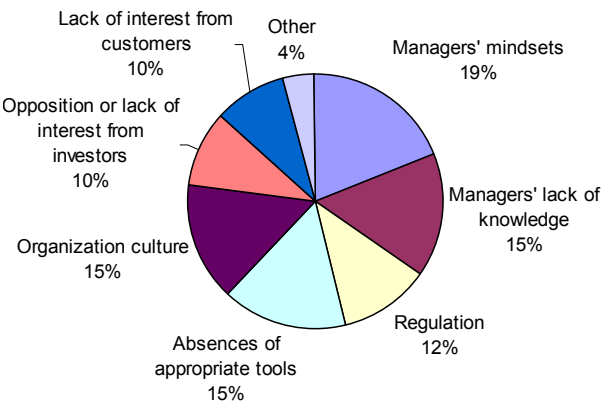


Chart 8-12: Barriers (Sustainability officers – OG)

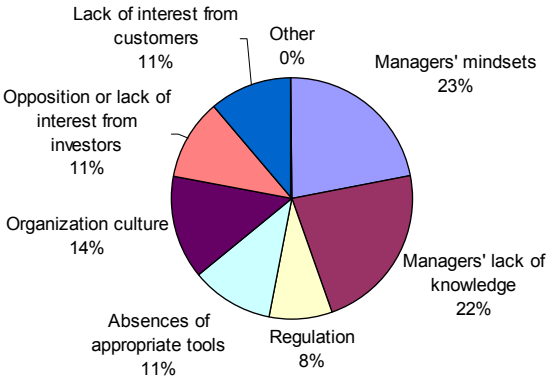


Chart 8-13: Barriers (Sustainability officers – UT)

There are no statistically significant cross-sector or cross-disciplinary differences. However, the greater proportion of "Lack of interest from customers" in the data obtained from UT general mangers (see Chart 8-15) deserves some attention, since it contradicts the findings presented in section 8.2.3 Customers, which pointed to a more proactive role of consumers in the UT than in the OG sector. The author suggests that the relatively greater proportion of "Lack of interest from customers" in Chart 8-15 should not be overinterpreted for several reasons: (1) The cross-sector difference is not statistically significant. (2) It is possible that general managers from the UT sector are more likely to blame external barriers than to acknowledge internal failings, which could point to a more reactive mindset. (3) Findings on the more proactive role of customers in the UT sector referred to above are limited to *consumers*. The contradictory result about the greater importance of customers as external barriers also includes industrial and commercial customers, which could have distorted the proportions.

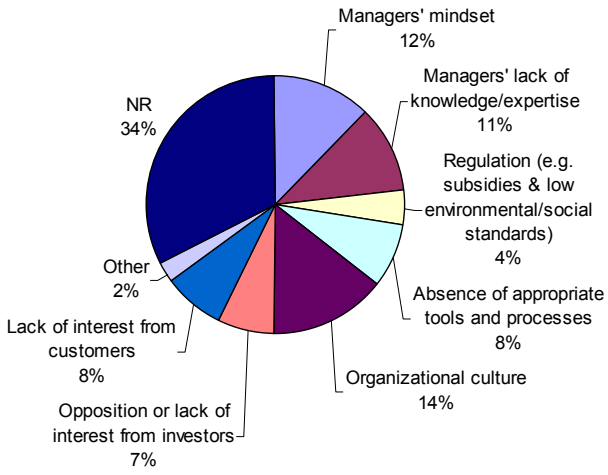


Chart 8-14: Barriers (General managers – OG)

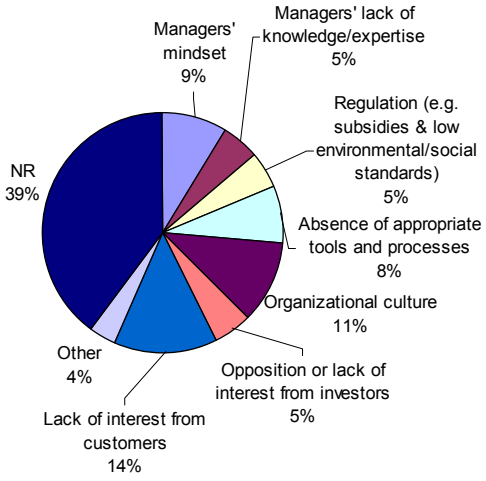


Chart 8-15: Barriers (General managers – UT)

Finally it is also important to note that the significance of individual stakeholders, including joint venture partners, depends on the kind of corporate activity, which can also change according to the life cycle phase of a project:

> The most significant stakeholders are governments, partners and the local population (fishermen, onshore facilities). It would not be fair to rank them in terms of importance, since this depends on the business environment and life cycle phase of the individual project. Once drilling is initiated, partners become more important (OG6, E&P North Sea).

Conclusion

Data reveal that external stakeholders vary in terms of their demands for CSM within the same sector. As qualitative data revealed above, this variation originates from stakeholders' different perceptions of the visible issue and organizational visibility as well as their different limits of legitimacy. These three factors obviously also cause cross-sector variation in the demand of the same pressure group.

The rankings for the CSM demand level of NGOs, governments and consumers are identical across both sectors: NGOs are considered most demanding, followed by governments and consumers. However, it is evident that UT companies – as easier targets – are not only more strongly regulated than the OG sector. UT companies also consider governments more demanding, and their SD role is consistently considered more proactive than that of the industry. In the OG data, it is evident that the present study's sample of companies that are likely sustainability leaders hardly feels driven by governments, and even that their current approach to CSM leads to overcompliance.

Results also show that this relative lack of regulatory pressure on the OG sector is compensated for through stronger scrutiny from public pressure groups. The OG sector is also more often subject to incidents that damage brand value and reputation, which can be attributed to both higher issue and organizational visibility (Bowen, 2000). Finally, quantitative data are also in line with qualitative findings presented above, which point to the significant role of customers and capital markets as external barriers to CSM.

8.2.6.2.2 Advanced statistics

8.2.6.2.2.1 Correlations

In the following the author presents a comparison of the correlations detected between the SD roles of the four external stakeholders – capital markets, governments, public pressure groups and consumers – and other variables respectively (i.e. a comparison of Figure 8-7 to Figure 8-10) to shed additional light on the relative importance of those pressure groups.

Issues

Only capital markets and consumers are linked to issue significance. It is notable that both are – in contrast to NGOs – primary transactional stakeholders. Furthermore both are – in contrast to governments – able to react quickly to social and environmental issues, and both are linked to the importance of and/or the damage to legitimacy, i.e. "brand value and reputation."

This suggests that they are able to drive CSM at the market rather than the regulatory level, i.e. they affect companies' informal rather than formal license to operate. This is also where NGOs come into play since they tend to trigger reactions from both capital markets and consumers through their campaigning activities.

Managers' attitudes

Apart from the *future* SD role of capital markets, only the *current* SD role of public pressure groups (NGOs) is linked to managers' proactive attitudes. If one assumes that more proactive respondents are more farsighted and aware of current and future developments (Dutton et al., 1983), the lack of links with the remaining external pressure groups is quite telling: Apparently these groups, namely governments and consumers, play such a marginal role that even more proactive respondents do not perceive any stronger involvement from them.

Strategic disposition

Capital markets' SD role shows the clearest link to strategic disposition, followed by the SD role of public pressure groups, governments and consumers. The key importance of capital markets is somewhat surprising and should be relativized because it concerns a potential future situation. Since capital markets play a predominantly deterrent role today, the clear link could also simply reveal more proactive managers' "hope" for a continuation of recent trends (as described in section 8.2.4 Financial community) toward a more responsible role for capital markets. This interpretation is also supported by a positive correlation between capital markets' future SD role and proactive attitudes, particularly because no other external stakeholder exhibits a statistically significant link to managers' attitudes.

The clear link between capital markets and strategic disposition may also reflect companies' strong general focus on delivering shareholder value. It certainly implies that CSM – provided it is increasingly demanded from capital markets in the future – will have to be based on a sound business case. This requirement would obviously be less strong if CSM was more strongly driven by governments and regulators.

The fact that NGOs' SD role is more clearly linked to strategic disposition than governments' role is clearly points to a lack of strategic guidance from governments, which also illustrates that the significance of the EU emissions trading system is rather limited, since its objectives can be achieved rather easily through incremental innovations (e.g. investments in energy efficiency). Consumers' SD role is unrelated to companies' strategic disposition, which points to their predominantly deterrent attitudes. Their selective short-term pressure through consumer boycotts should not be ignored but clearly has no strategic implications.

Structure

The SD role of capital markets, governments and consumers are – unlike that of NGOs – linked to cross-disciplinary collaboration and potential. If one assumes that cross-disciplinary collaboration and potential operationalize greater experience with and awareness of issues and the corresponding demands of external pressure groups, the missing link with NGOs' SD role shows that managers' perceptions of NGOs' activities are independent of changing levels of awareness.

Again this result separates NGOs as secondary contextual stakeholders from primary transactional stakeholders, which react to NGO activities with changes in their transactions (e.g. new regulations, taxes; boycotts, selling shares). It is important to note that cross-disciplinary collaboration and potential are linked to the roles of transactional stakeholders because it shows that companies with more evolved CSM structures and respondents with higher levels of awareness, respectively, are more sensitive to stakeholders that affect companies more directly than NGOs as contextual stakeholders.

Conclusion

Strategic disposition to CSM and more proactive attitudes are primarily linked to the SD roles of capital markets and NGOs. This points to a significant potential effect of capital markets that has yet to be realized; a lack of strategic guidance from governments, which react to demands from civil society in the short term because they rely on political success (Steger, 1998a, p. 589); and a predominantly deterrent role of consumers.

The relatively great importance of NGOs as external stakeholders is meaningful since they provide the context in which the companies' primary transactional stakeholders – mainly consumers and capital markets – act in the short term. This also means that the main concern of most companies is the short-term risk of losing the informal (i.e. brand value and reputation) rather than the formal (e.g. changing regulatory regimes) license to operate through emerging social and environmental issues.

Finally, the SD roles of primary stakeholders are positively associated with more developed corporate structures and greater issue significance. This points to (1) a link between the two motivating principles of (1) legitimacy (i.e. pressure from transactional stakeholders) and (2) public responsibility (i.e. responsibility for the social and environmental effects of corporate activities), and the importance of corporate structures that facilitate cross-disciplinary collaboration because they significantly determine managers' perceptions of stakeholders' demand for CSM.

8.2.6.2.2.2 Regressions

In the following section, regression models are used to assess the relative influence of external stakeholders on CSM. Submodels first assess the effects of several sets of variables on CSM intent separately. They respectively examine the effects of:

- External stakeholders' SD roles, i.e. their individual demands for CSM (Regression Table 8-3)
- Incidents that have damaged legitimacy in the past three years (Regression Table 8-4).
- External barriers to corporate sustainability. Here the effects on both CSM intent and success are investigated (Regression Table 8-5 and Regression Table 8-6).

The cluster model on CSM intent (Regression Table 8-7) incorporates the effects of all variables tested previously in the separate submodels.

Submodel – SD roles of stakeholders

As the regression models in the table below illustrate, a more proactive current role of NGOs and a more proactive future role of capital markets have a statistically significant effect on CSM intent. These results are in line with findings from the correlation analysis presented in the previous section.

	T model	OG model	UT model
Number of obs	149	103	46
F	3.55	4.09	2.03
Prob > F	0.0003	0.0002	0.0641
R-squared	0.2047	0.2836	0.3368
Adj R-squared	0.1470	0.2143	0.1709
Root MSE	.77625	.73096	.77921
Independent variables	**Coefficients**		
Future SD role - **Capital markets**	**.206493**	**.3582275**	-.0359029
Current SD role - **Consumers**	-.0403777	-.1579707	.0443107
Current SD role - **Governments**	.0207638	-.0094584	.0474479
Current SD role - **NGOs**	**.2061017**	.0348867	**.5241982**
UT sector	**-.4283364**		
Nordic	-.0025701	**-.4943823**	.4810275
North America	**-.6232768**	**-.8792507**	-.1331178
Latin Europe	-.0101307	-.4143929	1.037493
Develop. Economies	-.2847854	*-.5651934*	-.840563
Other regions	.1123592	-.1691712	.1953399
Constant	**2.636266**	**3.157**	*1.612106*

Regression Table 8-3: CSM intent – SD role of external stakeholders (Expanded submodels)

The sector-specific models are somewhat puzzling: The statistically significant effect of capital markets rather than NGOs in the OG model is unexpected, particularly since qualitative data point to a strong effect of NGO activities. As already suggested above in terms of correlation results, this missing link is probably due to greater variations in NGOs' influence in the OG sector. In contrast to UT respondents, OG managers' assessment of NGOs' influence appears to exhibit greater variation for the following reasons:

1. Compared to the UT sector, a greater number of NGOs scrutinize a greater range of corporate activities in the OG sector in terms of a greater number of issues in a greater variety of countries. This means that NGOs' demands can vary significantly.
2. Most of the OG respondents operate in Europe and North America, whereas most NGO activities focus on issues in developing countries. Thus respondents' perceptions of NGOs' demands are likely to exhibit greater variation, since they are less close to the issue. UT respondents tend to be closer to the issues.

Thus it is plausible that capital markets are linked to CSM intent in the OG sector. The position of capital markets, e.g. on climate change, is more coherent than the position of NGOs. This allows for a more conceptual response. In addition it is plausible that OG companies align their approach to CSM to shareholders as one of their most important transactional stakeholders.

The fact that CSM intent is driven by NGOs rather than governments in the UT sector is also in line with findings presented above suggesting that governments' initiatives clearly lack strategic guidance. Capital markets may play an insignificant role in the UT sector because general managers are less familiar with an increasingly proactive role of the financial community and/or less focused on the demands from capital markets since companies are or have been state-owned and strongly regulated as former natural monopolists.

Finally the statistically significant sector and region effects should be noted. They indicate less CSM intent in the UT sector. The negative sector effect is most likely due to lower issue and organizational visibility in the UT sector, which moderates outside pressure, but could also hint at internal deficits such as corporate cultures and managers' mindset, which prevent

greater CSM intent. The negative effect of regions of operations in North America, developing countries (statistically significant at a 10% level in the OG data) and Nordic countries (in the OG model only) similarly indicate less internal capabilities and lower organizational visibility of business units or companies operating in these regions. These country effects are in line with findings from the interview data presented above.

Submodel – Incidents

The following regression models show which kinds of incidents that damage legitimacy can be linked to companies' CSM intent. They reveal a negative effect of conflicts with authorities, which is statistically significant in the total and the OG sample (in the latter at a 10% level).

	T	OG	UT
Number of obs	101	75	26
F	2.70	2.59	0.55
Prob > F	0.0039	0.0088	0.8313
R-squared	0.2689	0.3113	0.2671
Adj R-squared	0.1692	0.1911	0.2215
Root MSE	.77238	.75877	.9537
Independent variables		**Coefficients**	
Media campaigns	-.2414118	-.1205565	-.8457848
NGO campaigns	-.0055816	-.0095522	-.4383139
Conflicts authorities	**-.4425226**	*-.3952947*	-.5263879
Boycott campaigns	-.2656037	-.0756823	-.1806032
Shareholder oppositions	-.2176631	-.2669499	-.5
Other incidents	.0692916	.1557093	-.3598355
UT sector	*-.3661229*		
Nordic	-.0068062	-.288386	.5558602
North America	**-.8038528**	**-.9698099**	(dropped)
Latin Europe	-.0664533	-.3068663	.3810829
Developing Economies	**-.6769614**	**-.8062312**	-.9383139
Other regions	.1133928	-.0258236	1.179232
Constant	**4.464038**	**4.534238**	**4.464702**

Regression Table 8-4: CSM intent - incidents that damaged legitimacy(Expanded submodels)

Judging from the signs of the coefficients, the models would appear to indicate the likelihood of incidents as a function of CSM intent. Thus the results are somewhat plausible, since they show that laggard companies featuring less CSM intent have had more conflicts with authorities. The UT correlation coefficient suggests that this link exists in both sectors, but fails to become statistically significant in the UT data due to constraints in the degrees of freedom.

The fact that the effect of NGO campaigns is not statistically significant in the OG model indicates that OG companies are targeted by NGOs independently of their level of CSM intent. This result is conceivable. In fact, it has be argued that leading companies have been by NGO campaigns at least as often as laggards (Vogl, 2003). At first sight the insignificant effect of shareholder resolutions also contradicts findings about the key importance of capital markets presented above. This putative inconsistency can be attributed, alongside response bias, to the fact that the variable under consideration refers to specific incidents in the past, whereas findings about the role of capital markets above refer to a possible future and more persistent influence.

Overall regression models above indicate that companies that are more advanced in terms of CSM, i.e. exhibit greater CSM intent, are less frequently subject to incidents that damage legitimacy. Furthermore, they show sector and country effects that are very similar to those detected in the previous models. Hence their interpretation will not be iterated here.

Submodel – External barriers

The following regression models examine the effect of three external barriers, namely lack of interest from customer, regulation and opposition or lack of interest from customers on both CSM success and CSM intent. The high number of invalid regression models is most likely

due to constraints in the degrees of freedom, since the number of cases that could be drawn on for the models was limited due to a great share of no-responses (see Chart 8-14 and Chart 8-15).

	T model	OG model	UT model
Number of obs	76	Not valid	Not valid
F	3.54		
Prob > F	0.0341		
R-squared	0.0884		
Adj R-squared	0.0634		
Root MSE	.80991		
Coefficients			
Customers	**.4481358**		
Investors	*-.4471797*		
Constant	**3.531549**		

Regression Table 8-5: CSM intent – external barriers (Reduced submodels)

The effect of regulation (e.g. inadequate subsidies, low environmental/social standards) as a barrier is omitted from both models due to lack of statistical significance. The valid T model shows a negative effect of opposition from investors, which can be interpreted in two ways:

1. The financial community and capital markets in particular constitute a significant barrier to greater CSM intent, i.e. they negatively affect companies' willingness to incorporate social and environmental criteria into business strategies and operations today as also concluded in section 8.2.4 Financial community. This interpretation is *not* contradictory to the positive effect of capital markets' SD role on CSM intent because that variables refers to a future situation.
2. Laggard companies with less CSM intent consider investors a barrier to CSM because they are largely unaware of recent trends pointing to more proactive involvement of capital markets in the future.

The positive correlation coefficient for the lack of interest from customers in Regression Table 8-5 suggests that sustainability leaders with greater CSM intent tend to criticize the environmental ignorance of their customers more often than laggards do.

	T model	OG model	UT model
Number of obs	Not valid	52	Not valid
F		3.92	
Prob > F		0.0532	
R-squared		0.0727	
Adj R-squared		0.0542	
Root MSE		.77105	
Coefficients			
Investors		*-.4774436*	
Constant		**3.263158**	

Regression Table 8-6: CSM success – external barriers (Reduced submodels)

The negative influence of investors on CSM success most likely occurs in extraction and production projects whose substantial upfront costs require joint ventures: As interviewees repeatedly reported, laggard companies, particularly the state-owned oil firms of host governments in developing countries, impinge on the overall social and environmental characteristics of projects.

Cluster model – External stakeholders

The following cluster model only includes a subset of the variables that were statistically significant in the three submodels above. This suggests that the effects of the omitted variables have been picked up by the variables that remain in the cluster model.

	T model		OG model		UT model	
Number of obs	101		111		54	
F	10.95		13.92		7.26	
Prob > F	0.0000		0.0000		0.0017	
R-squared	0.3133		0.2807		0.2217	
Adj R-squared	0.2847		0.2605		0.1912	
Root MSE	.71667		.70042		.75574	
Coefficients						
	Import. legitimacy	.3413822	Import. legitimacy	.3064229	Import. legitimacy	.2776573
	Conflicts authorities	-.3628666	Capital markets	.2639094		
	North America	-.5478015	North America	- .4122189	Nordic	.7382502
	Develop. Econ.	-.5300627				
	Constant	2.656458	Constant	1.584652	Constant	2.323933

Regression Table 8-7: CSM intent – all variables relating to influence from external stakeholders (Reduced cluster models)

The models indicate that OG and UT companies that attach greater importance to legitimacy also report greater CSM intent. This finding is very plausible since it points – as both qualitative and quantitative evidence presented above – to the importance of the informal license to operate and grow in driving CSM. It is particularly meaningful in terms of the UT sector, since it reveals that governments – despite having been identified as the most important (even if not the most demanding) external pressure group – do not drive CSM intent. This points to a void of strategic guidance from regulators and legislators that is filled by public pressure groups. Furthermore, all three models show statistically significant region effects that support qualitative and quantitative findings presented above. They could point to variation in both internal (e.g. corporate cultures) and external factors (e.g. societal pressure) across countries. The T model additionally features three statistically significant independent variables: The negative coefficient for conflicts with authorities suggests that companies that report conflicts with authorities have less CSM intent.

The sector-specific models differ in more than the demographic variables included: In contrast to the UT model, the OG model additionally indicates a positive effect of proactive capital markets in the future on CSM intent. This does not necessarily mean that future pressure from capital markets will be stronger in the OG sector. Greater interest from the financial sector in the CO_2 portfolios of companies concerns UT companies at least as much as OG companies. However, the insignificant effect of capital markets in the UT data clearly indicates managers' lower levels of awareness, presumably because the interest of socially responsible and increasingly "mainstream" shareholders has concentrated on the OG sector.

8.2.7 Discussion

Importance of external stakeholders and the principle of legitimacy

According to the principle of legitimacy, society can amend or revoke companies' charter to exist (i.e. license to operate) if they do not use their power in a way that it considers responsible (Davis, 1973, p. 314). As the present study reveals, in line with others (e.g. Andersson et al., 2000; Buysse et al., 2003; Henriques et al., 1996), these possible revocations amendments constitute an important driver of CSM.

Both qualitative and quantitative methods show that stakeholders' demands for CSM and the importance of informal legitimacy are positively linked to companies' approach to CSM (strategic disposition, structure and success), issue significance (as already illustrated in section 8.1 Issues) and proactive managers' attitudes. This also means that:

1. Stakeholder demands are issue-related.
2. Managers' perceptions of stakeholder demands depends on their personal attitudes, which again points to the importance of the individual manager and the need to influence his or her knowledge and mindset through training and other management tools.
3. Informal legitimacy granted by primarily non-regulatory stakeholders such as customers, investors and NGOs as the main catalysts is a significant motivating factor for CSM. Companies that are more aware and concerned with the financial premium associated with that factor report greater issue significance and greater strategic disposition to CSM.

The study additionally shows that external stakeholders differ in terms of the pressure they exert. Their individual demands for CSM vary:

- Governments and regulators provide little long-term strategic guidance to companies. Essentially they respond to public pressure because they rely on political success (Steger, 1998a, p. 589).
- Apart from a small niche segment, customers (consumers and corporate customers) play a deterrent role due to their strong preference for cheap and convenient energy. Nevertheless, some ad hoc reactions are possible (e.g. consumer protests and boycotts). They are often triggered by NGO campaigns.
- The financial community's typical focus on short-term profits is associated with significant disinterest and resistance to CSM. However, several trends point to a less deterrent and potentially promoting part in the future (e.g. increasing attention to climate change risks): Inter alia, capital markets have shown significant ad hoc reactions to NGO campaigns and consumer boycotts.
- Public pressure groups clearly play the role of catalysts, i.e. they are contextual stakeholders (Steger, 2003, p. 102). Their demands for CSM are very high, sometimes even naive. Their activities provide a context within which companies' primary or transactional stakeholders exercise a certain discretion by either supporting NGOs' demands or not: In several cases NGO campaigns have been found to trigger an increase in outside pressure on companies from governments and regulators, customers/consumers and the financial community.

Obviously those individual demands for CSM exhibit sector- and region-specific variations that will be expanded in more detail below. However, overall the demand for CSM from external stakeholders and the corresponding outside pressure is rather low. This is also a major explanatory factor for the rather incremental approach to CSM diagnosed in section 8.4 Companies.

Determinants of outside pressure

The study also sheds light on the determinants of outside pressure (see Figure 8-15). Overall outside pressure on a specific issue results from individual stakeholders' demands for CSM and their respective power to amend or revoke companies' current license to operate. Stakeholders' individual demand for CSM depends on three factors that were identified through the qualitative analysis (see also section 8.1.3):

1. The visible issue (e.g. social conflicts due to a lack of community involvement in developing countries, loss of biodiversity due to an oil spill) – see Figure 8-6 for the determinants of issue visibility.

2. Organizational visibility (Bowen, 2000): Organizational visibility is determined through company size, consumer name recognition, the location and profile of headquarters and facilities, the corporate attitude and reputation (Is the company responsive or "stubborn"?) and profitability. A large and very profitable company is a better and more legitimate target than a firm that may have to lay off part of its workforce in its struggle to survive.
3. The local, regional or global limits of legitimacy: They are issue-specific and determine at what level of issue visibility and organizational visibility stakeholders attempt to amend or revoke companies' current license to operate (Davis, 1973, p. 314). They are contingent upon regulatory and non-regulatory standards. E.g. in terms of climate change, European societies have adopted a more precautionary stance than the US.

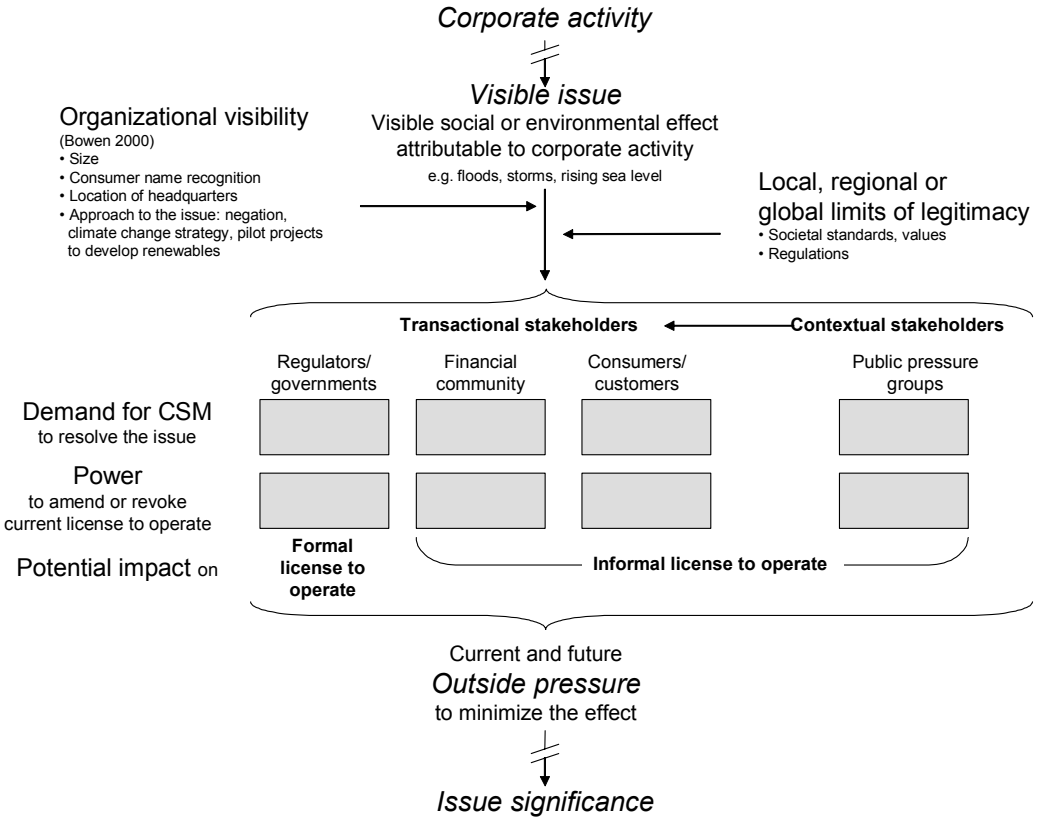


Figure 8-15: Determinants of outside pressure

Different individual demand levels for CSM to resolve the issue under consideration result from the fact that the visibility of the issue, of the company and the limits of legitimacy often vary for the different pressure groups. In addition, the power to amend and revoke the current license to operate moderates the outside pressure originating from an individual group of stakeholders.

The power of regulators and governments is relatively high if they are able to revoke the *formal* license to operate easily. This depends on the following factors:

- The location of the key social or environmental intake geographically: It is difficult for governments in industrialized countries to influence corporate activities in developing countries.
- The location of the key social or environmental intake within the value chain: Companies are more opportune targets of policy instruments than consumers and households for reasons of political acceptance.

- The certainty and the transparency of the issue: It is difficult to legitimate regulation if the issue under consideration is neither directly attributable to the company nor clearly measurable.
- The general bargaining power of governments as suppliers, i.e. the owners of the primary energy source (e.g. oil deposits). In both sectors this kind of bargaining power is not overwhelmingly high. If one compares it between the two sectors, it is greater in the OG sector, in which companies face high switching and opportunity costs if an upstream permit is revoked or lost to a competitor. However, it should be noted that this potentially strong position of governments is at least partly weakened by their reliance on steady oil revenues, particularly in the case of developing countries. Governments' bargaining power over UT companies is lower, as firms are able to source from a variety of countries and domestic deposits.

The power of the remaining stakeholders is high if they are able to revoke companies' *informal* license to operate easily. The determinants of their bargaining power comprise:

- The vulnerability of reputation, brands and profits, particularly in the short term, which is determined through organizational visibility and the level of downstream competition within the sectors. It in turn is influenced by the existence of substitutes (Do competitors and competitive products exist?) and the bargaining power of customers (How costly and time-intensive is switching to a competitor, how large are the purchase volumes?). Companies' vulnerability can be exploited through various activities such as NGO or media campaigns, consumer boycotts, occupation of facilities (as has occurred in developing countries).
- The location of the key social or environmental intake does not matter. Boycotts and NGO campaigns are largely independent of national borders through modern media and the internet in particular.
- Certainty and transparency of the issue are also significant but less important factors. However, sound argumentation and evidence is particularly important for NGOs to ensure long-term credibility (e.g. Greenpeace's Brent Spar campaign) (Steger et al., 1997).

The relative importance of the formal and informal license to operate depends on the balance between regulatory and non-regulatory stakeholders' power. Results about the minor significance of governments and regulators as outside pressure groups in *both* sectors show that companies' formal license to operate is not challenged at the regulatory level today. In comparison, the informal license to operate is more strongly threatened, even if only through selective, ad hoc reactions from consumers and capital markets to NGO campaigns. The author suggests that ongoing processes of globalization and liberalization could increase the importance of the informal license to operate in the future, because (1) domestic regulation will become more and more inadequate for targeting transnational, global corporate activities, and (2) international regulations can only be introduced through time-intensive consensus-building (e.g. Kyoto Protocol). Furthermore, some aspects of companies' informal license to operate will likely be "internalized" by regulators and thus incorporated into the formal license to operate (e.g. the introduction of mandatory emission trading schemes after leading companies had already established internal systems). This development mostly likely puts leading companies at an advantage over laggards.

Nevertheless, it should be noted that there is no general first-mover advantage. The determinants of companies' license to operate as listed above have a connotation that strongly emphasizes the minimization of downside potential by companies, i.e. the avoidance of damage to the current informal license to operate through boycotts, NGO campaigns, etc. This reflects that the upside potential of expanding the license to operate through more

environmentally benign products (e.g. biodiesel, electricity from renewable primary energy sources) and operations is indeed marginal. Stakeholders are more likely to selectively punish failures and weaknesses than to reward first movers.

Finally the author diagnoses two limitations in the methodology: Quantitative methods only measured individual stakeholders' demand for CSM, not their power. It is likely that a combination of both measures as independent variables could significantly improve the explanatory power of the principle of legitimacy. Furthermore, quantitative methods only measured individual demands for CSM at an overall, not an issue-specific, level. Since demands for CSM were found to be issue-specific, the explanatory power of the variables most likely suffered.

Contingency perspective on the role of outside pressure

The study's contingency approach provided several sector- and region-specific findings. Cross-sector variation in the demands of external stakeholders can be attributed to differences in the way these groups perceive the visible issue (issue visibility), the companies (organizational visibility) and the respective limits of legitimacy.

The UT sector is driven by the motivation to retain and expand its *formal* license to operate. Its main issue can be "conveniently" regulated, since it is associated with the production and not – as in the OG sector – with the use phase of its product. However, it is important to note that governments' demand for CSM does not influence companies' CSM intent, *despite* the UT sector's focus on the formal license to operate, i.e. the relatively great bargaining power of governments and regulators. This clearly points to a lack of strategic guidance and long-term outside pressure on their part. Advanced statistics have shown that the informal license to operate also represents a relevant driver of CSM in the sector. This may reflect growing awareness of brand value and reputation in Europe's liberalizing energy markets, in which capital markets are also expected to exert more outside pressure on companies in terms of climate change risk.

The OG sector features a greater importance of the informal license to operate due to greater organizational visibility, greater downstream competition (e.g. lower switching costs of customers, liberalized markets), and the fact that their main issues are difficult to regulate due to their location (geographically and within the value chain). They are more strongly driven by NGOs and capital markets, which compensates for a relative lack of regulatory pressure. Consumers can exert significant ad hoc pressure through boycotts but overall their role is less proactive than in the UT sector.

There are no significant cross-disciplinary variations in the perceptions of external stakeholders' demand for CSM, which gives additional assurance on the results presented in the previous two paragraphs. However, both qualitative and quantitative data reveal some notable differences between several regions. E.g. the US and developing countries have higher limits of legitimacy: The US in particular is less concerned with climate change mainly because of certain societal values (e.g. less risk averse); developing countries largely ignore social and environmental risks and are mainly interested in steady revenues.

8.3 Managers

In the present section the author aims to shed light on the importance of managers as internal determinants of CSM, i.e. the significance of managerial discretion as a motivating principle (Wood, 1991). The section features an analysis of managers' mindset, experience and knowledge and how they influence managers' awareness and perception of issues, external pressure groups, the importance of legitimacy and their companies' approach to CSM.

8.3.1 Qualitative analysis and basic statistics

It is difficult to draw any serious general sector-specific conclusions on managers' attitudes and knowledge based on the interviews because the data are largely case-specific. The following quotes are indicative of relatively high levels of awareness and expertise which are not representative of the entire sample, but tend to be found more often among respondents from the OG sector:

> In the short term, sustainability (e.g. a strong environmental policy) costs money. Hence, one trades off short-term and possible long-term costs (i.e. avoiding problems and bad press associated with them). Thus sustainability is about gaining long-term competitive advantage (OG1, supply chain).

> The main elements of corporate sustainability are environmental and safety risks. It is difficult to move away from efficiency and investor return. Opportunities are more elusive, but we would like to become better at identifying them (OG6, E&P).

As a sustainability officer from a leading OG company also noted, it is unlikely that general managers fully understand the dynamics of today's energy systems which are driven by long-term depletion, short-term supply risks and climate change.[48] Qualitative data suggest that individual resistance to corporate sustainability management appears to be contingent on several factors:

1. Level of process orientation: More process-oriented managers (e.g. in the UT sector and the OG downstream business units: gas & power, refining and marketing) have a tendency to "sweat" their assets (Berg & Moors, 2002).
2. Level of competition: Managers in the downstream OG business face a more competitive environment (lower margins in a typical commodity business) than their counterparts in the upstream business. In the UT sector, market liberalization has also led to rising cost pressure (through inefficiencies, overcapacities) and investment risk (customers can switch suppliers more easily).
3. Issue visibility: Managers in the UT sector and OG downstream business units operate mainly in developed countries (power plants and refineries), in which social issues are negligible and environmental standards are high.
4. Management level: Lower management levels are reported to exhibit greater resistance.

   > The greatest challenge is the very bottom, "first line" management on the site due to mindset – people are ten years or less away from retirement – and lack of education (OG4, SO).

5. Business functions: Some functions (e.g. finance) resist more strongly than others (e.g. R&D), which reflects their different roles and responsibilities. Finance officers have to deal with "hard-nosed" short-term profit oriented financial analysts; R&D managers are paid to have a more long-term perspective on the business. However, interviewees also reported that an individual's strong attitude is able to "dominate" those generic levels of resistance.

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[48] A recent Shell scenario concludes that price increases due to internalized emission costs would not be a sufficient driver for a fuel change, since it would only bring electricity prices in 2010 up to 1980s level. As far as this goes, the depletion effect and geopolitics as additional drivers may eventually trigger a possibly unsmooth transition period (Shell International Ltd, 2001, p. 40).

It is difficult to generalize on a more or less proactive role of business functions. It often depends more on the individual, not on the function: In our case, the CFO was one of the biggest supporters (OG7, SO).

What matters a lot in terms of decision-making is: Who is in the room (OG2, GM).

6. Company-specific factors such as corporate culture:

   Our company has an open corporate culture, which is based on its core values and encourages proactive behavior: For example, a personal assistant's initiative led to the introduction of a waste separation and recycling scheme at our corporate headquarters (OG2, SO).

It is not possible to draw any sector-specific conclusions on qualitative data only. This void is filled through the quantitative data, which suggest that mindset and knowledge generate more individual resistance in the UT than in the OG sector: UT sustainability officers consider mindset and lack of knowledge more important than OG sustainability officers (see Chart 8-16 and Chart 8-17), even if this difference is not statistically significant.

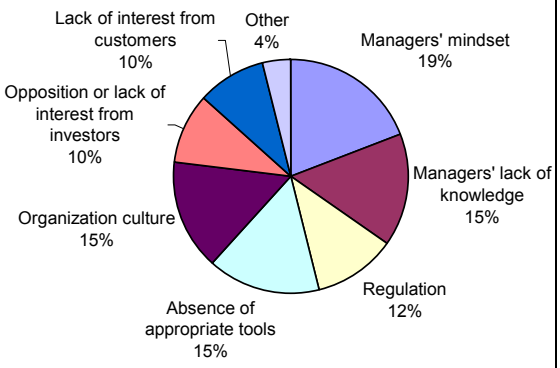


Chart 8-16: Barriers (Sustainability officers – OG)

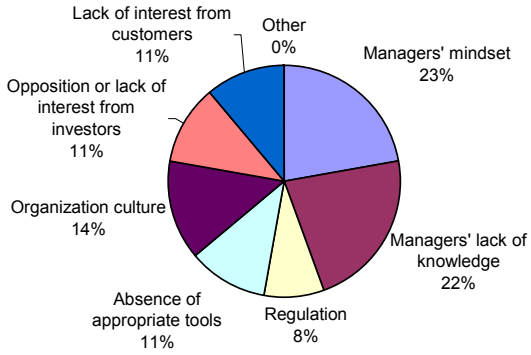


Chart 8-17: Barriers (Sustainability officers – UT)

In contrast, UT general managers less frequently consider managers' mindset and lack of knowledge and expertise an important barrier to CSM (see Chart 8-18 and Chart 8-19). The difference in terms of managers' mindset is statistically significant. This suggests that UT general managers are largely unaware of their own shortcomings and constitute a more important barrier in their sector. The only statistically significant cross-disciplinary difference additionally supports this conclusion: UT sustainability officers more frequently report managers' mindset as barriers than "their" general managers do. Their assessment should be more "trustworthy" because they are more likely to have a better overview of the strength of resistance within their company due to their role as advisors and change agents.

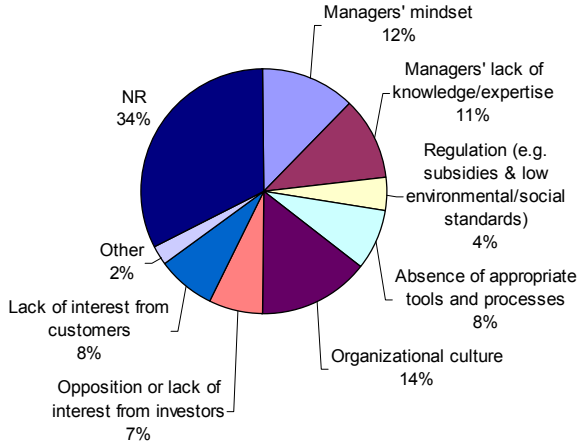


Chart 8-18: Barriers (General managers – OG)

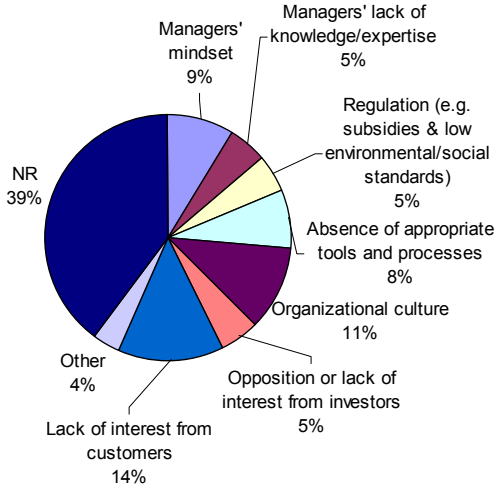


Chart 8-19: Barriers (General managers – UT)

Initial evidence hints at greater individual resistance and less proactive attitudes of managers in the UT sector. The greater proportion of top management commitment and leadership (see Chart 8-20 and Chart 8-21) as a promoting factor of CSM in the UT sector only contradicts this finding at first sight. If one takes into account the relatively prominent role of top managers (such as John Browne of BP and – until recently – Philip Watts of Shell) in the OG sector, it is more likely that the greater proportion in the UT sector indicates less organizational alignment (which is diagnosed more comprehensively in section 8.4.4 Implementation) and hence greater reliance on top management support.

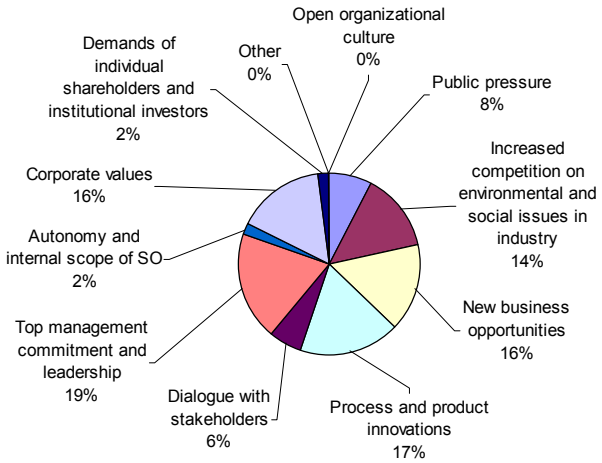


Chart 8-20: Promoting factors (Sustainability officers – OG)

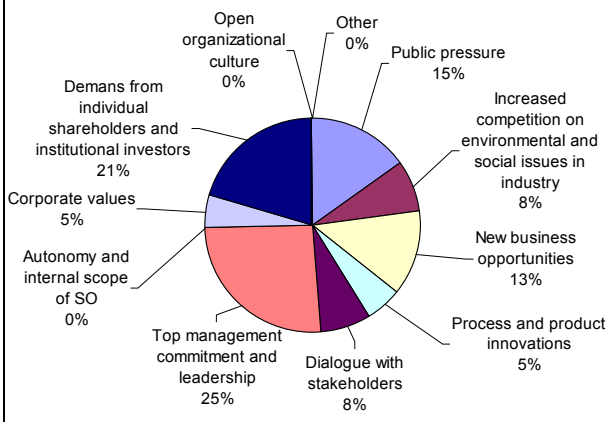
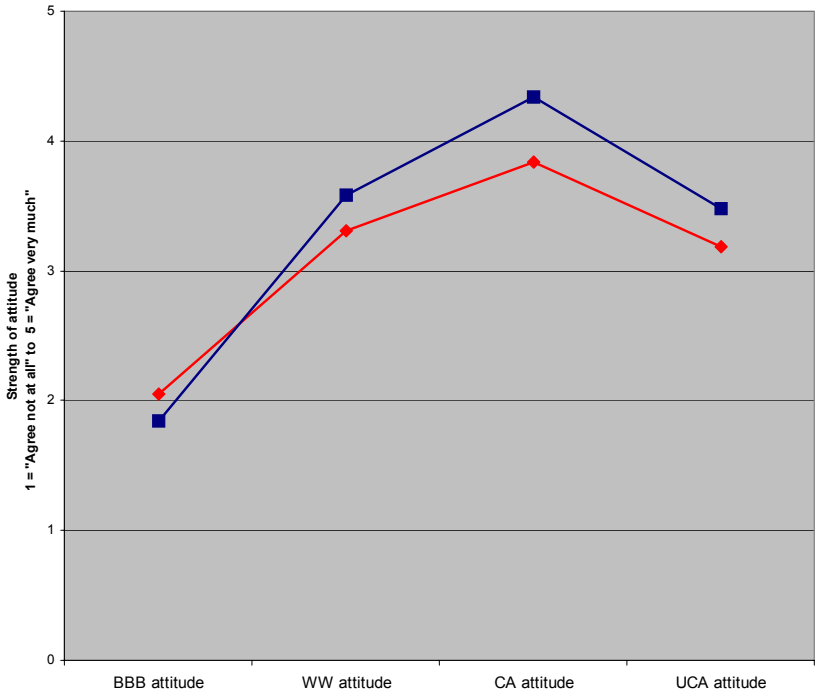


Chart 8-21: Promoting factors (Sustainability officer – UT)

The most conclusive and strongest evidence for generally more reactive attitudes of managers in the UT sector is generated through respondents' different levels of agreement with statements that describe the role of business in society; these are the BBB attitude ("The business of business is business"), the WW attitude ("CSM only if there are win-win situations"), the CA attitude ("CSM to gain long-term competitive advantage") and the UCA attitude ("CSM despite unproven long-term competitive advantage").



BBB attitude

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	2.06	0.96	54
OG GM	1.84	0.91	118
Total	1.91	0.93	172

WW attitude

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.31	1.22	55
OG GM	3.58	1.30	119
Total	3.49	1.28	174

CA attitude

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.84	0.76	55
OG GM	4.34	0.81	119
Total	4.18	0.82	174

UCA attitude

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.18	1.04	55
OG GM	3.48	1.01	119
Total	3.39	1.02	174

Chart 8-22: Personal attitudes towards corporate sustainability (General managers)

Chart 8-22 shows that the CA attitude is the strongest, followed by the WW, UCA and BBB attitude in both sectors. The chart also illustrates that proactive attitudes (WW, CA and UCA) are stronger, and the reactive BBB attitude weaker, in the OG sector than in the UT sector. Most importantly the differences in the CA and UCA are statistically significant.

This more proactive stance of OG respondents can be attributed to greater issue significance (and awareness), greater organizational visibility and outside pressure (see sections 8.1 Issues and 8.2 External stakeholders, industry and partnerships) and fewer internal deficits such as corporate cultures (see section 8.4 Companies).

8.3.2 Advanced statistics

8.3.2.1 Correlations

Figure 8-16 to Figure 8-19 show the correlations detected between the four attitudes and other variables respectively. They will be discussed in more detail in the following paragraphs.

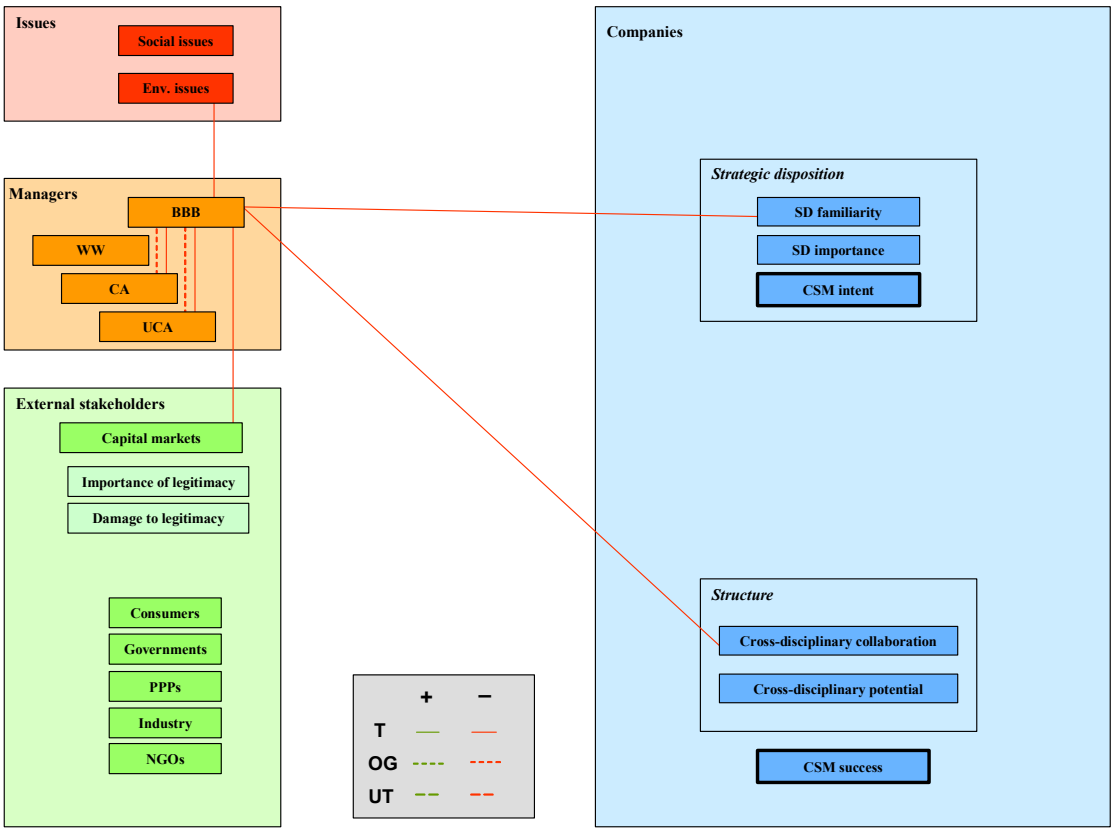


Figure 8-16: Correlations – BBB (“business of business is business”) attitude

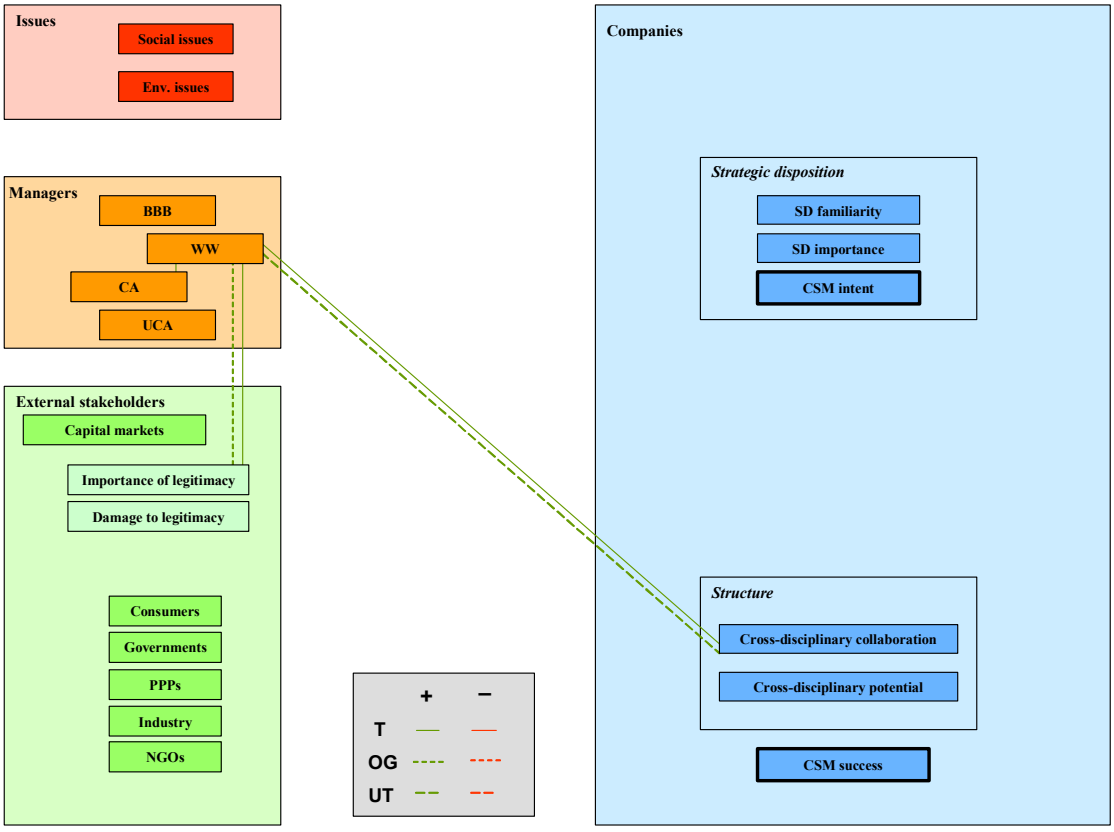


Figure 8-17: Correlations – WW (”CSM if there are win-win situations”) attitude

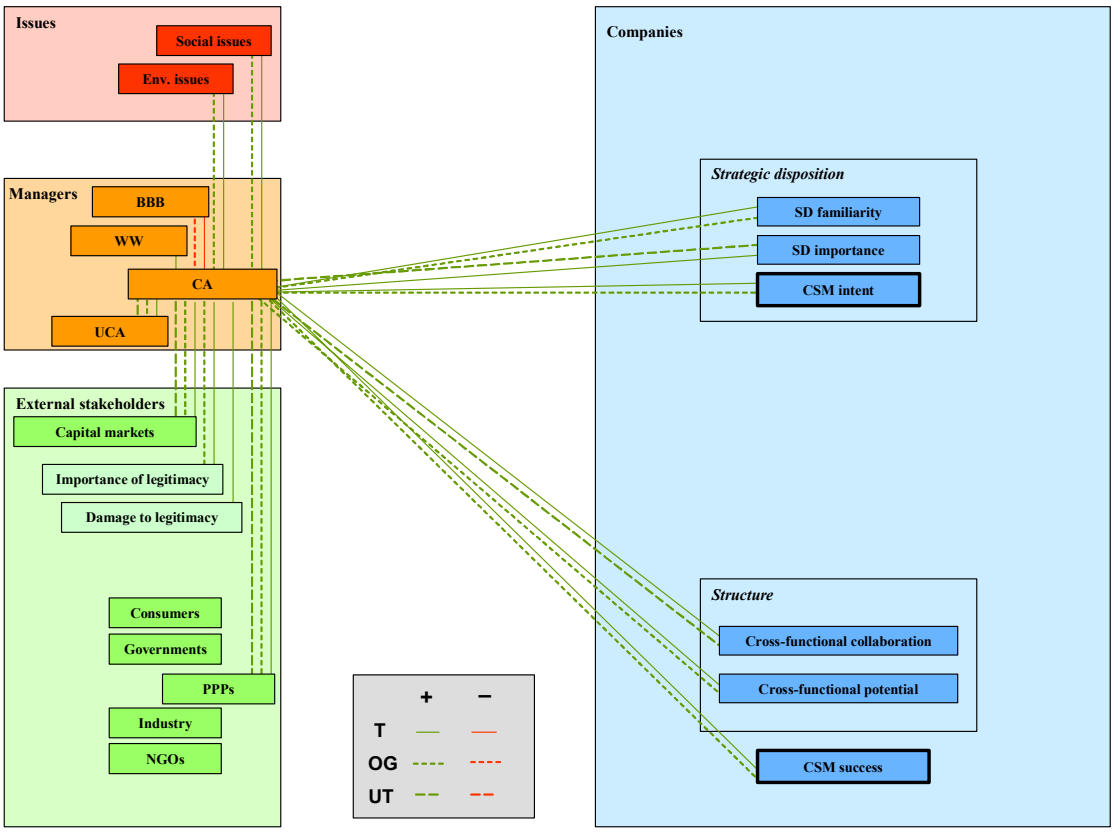


Figure 8-18: Correlations – CA ("CSM to gain long-term competitive advantage") attitude

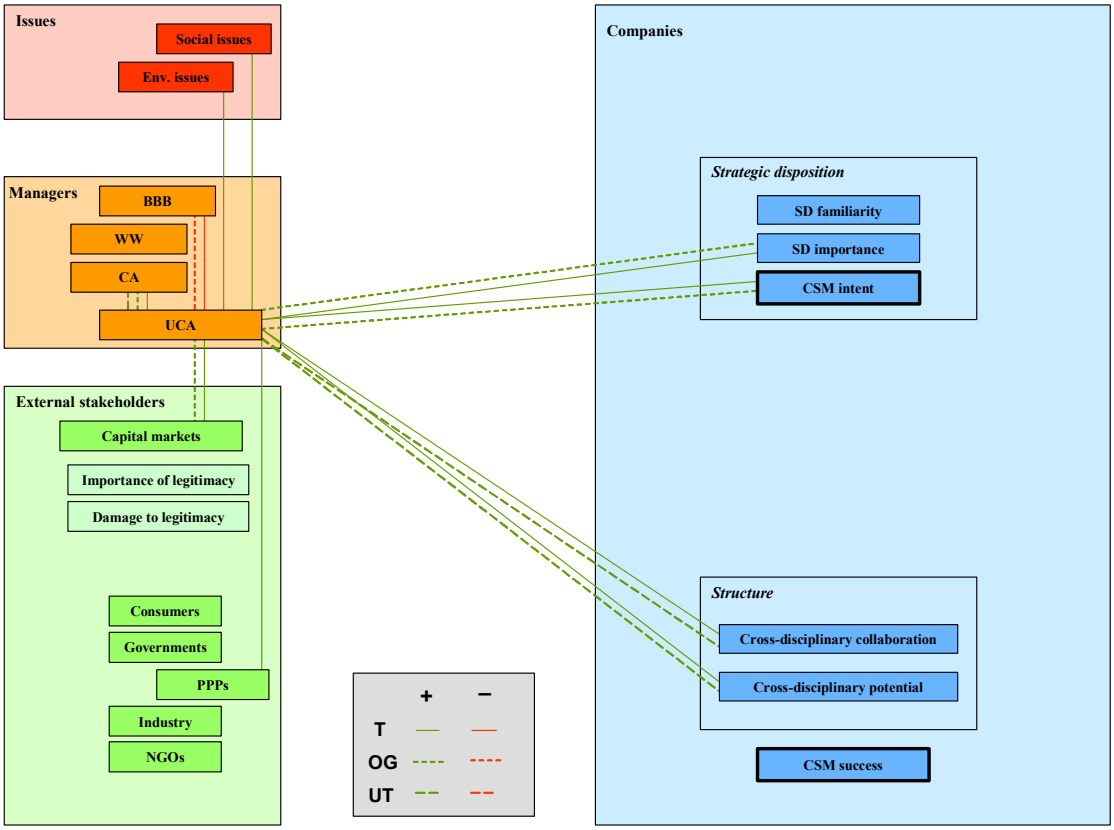


Figure 8-19: Correlations – UCA ("CSM despite unproven competitive advantage") attitude

Issues

The figures show that more proactive managers consider social and environmental issues more significant, more reactive respondents consider them less significant. As already discussed above, this is because managers with more proactive attitudes have different beliefs and concepts, more proactive cognitive maps, and a more comprehensive understanding of cause-effect relationships than respondents with a more reactive mindset (Dutton et al., 1983, p. 311).

Managers' attitudes

As one would expect, results show that the two more proactive attitudes (CA "CSM to gain competitive advantage", UCA "CSM despite unproven competitive advantage") negatively correlate with the reactive BBB (Business of business is business) attitude. The fact that the WW attitude is only positively associated with the CA attitude provides some evidence that the former may be slightly on the proactive rather than the reactive side of the continuum provided by the four attitudes.

SD roles of external stakeholders, industry and public-private partnerships

Results reveal that proactive respondents have more positive expectations of the *future* SD role of capital markets, and consider the *current* SD role of NGOs more proactive.[49] This suggests that proactive managers are more aware of current and possible future demands from external pressure groups and/or are biased in the sense that they wish for more proactive engagement from capital markets in the future (for a more detailed and sector-specific discussion refer to section 8.2.4 Financial community and section 8.2.2 Public pressure groups).

Moreover, proactive attitudes are linked to a more proactive SD role of industry and public-private partnerships, which indicates that proactive managers are (1) more optimistic about the SD role of the sector as a whole and of PPPs due to their greater awareness of current sector-specific initiatives and best practices; and/or (2) positively biased ("wishful thinking") due to their greater awareness of issues that remain unresolved despite current activities in the sector (see section 8.2.5 Industry and partnerships).

Legitimacy

Proactive managers also exhibit greater sensitivity to companies' legitimacy (see also section 8.2.6.1 The role of legitimacy). In contrast to the three more proactive attitudes, the BBB attitude does not exhibit a statistically significant link with either the importance of or the damage to legitimacy. Nevertheless, the sign of the coefficients also indicates that reactive respondents consider legitimacy less important, and report less damage to it.

Overall these results indicate that more proactive managers – due to greater knowledge, expertise and more "activist" personal values – more strongly recognize the financial stakes associated with informal legitimacy.

Strategic disposition

Overall data exhibit a clear positive link between proactive managers' attitudes and greater strategic disposition. The author suggests that the detected link between personal attitudes and strategic disposition may be synergistic: Proactive managers drive corporate sustainability within the organization (from the bottom up) – as postulated by the motivating principle of managerial discretion (Wood, 1991). Conversely, companies' more accentuated approach to

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[49] The correlations between the CA attitude and NGOs' SD role is statistically significant at a just above 5% level in the total, at a just above 10% level in the OG sample.

CSM may attract more proactive employees and strengthen proactive attitudes of their employees (from the top down) (Anonymous, 2004a, p. 2; Dechant et al., 1994, p. 8)

A strong BBB attitude is negatively related to SD familiarity, SD importance and CSM intent in both sectors. The correlation with SD familiarity is statistically significant. The WW does not exhibit any statistically significant association with strategic disposition in either of the two sectors. This results corresponds with conclusions drawn already in previous sections that both proactive and reactive respondents are equally strongly related to the attitude described.[50]

The CA attitude is most clearly linked to strategic disposition: It is positively related to SD familiarity, CSM intent (both at a 5% significance level) and SD importance (at a 10% significance level) in the OG sector, in the UT sector only to SD importance. The UT coefficients for the remaining variables SD familiarity and CSM intent are also positive but lack statistical significance, which could be caused by the relatively smaller sample size compared to the OG sector. However, the fact that the correlation between the CA attitude and CSM intent are roughly twice as strong in the OG as in the UT sample provides reasonable evidence for a more strongly developed proactive attitude.

Correlations detected between the UCA attitude and strategic disposition additionally support this conclusion: Whereas the associations between the attitude and both SD importance and CSM intent are positive and statistically significant in the OG sample, UT data do not yield any statistically significant results.

Overall attitudes are more strongly linked to strategic disposition in the OG sector. This fits with evidence presented above on OG managers' greater issue awareness and concerns about their companies' legitimacy. However, as the author will also demonstrate in section 8.4 Companies, OG managers are not only more proactive because of stronger external drivers: The more advanced approach of OG companies to the implementation of CSM is also a significant determining factor.

Structure

Data also point to a significant relationship between managers' proactive attitudes and both closer cross-disciplinary collaboration and greater cross-disciplinary potential. Overall cross-sector differences in the strengths and statistical significance of coefficients are minor and will not be discussed in detail.

Coefficients describing the association between the BBB attitude and both cross-disciplinary collaboration and potential are negative in the three samples. One of the six correlations, namely the one with cross-disciplinary collaboration in the total sample is statistically significant.

The WW attitude is positively related to closer collaboration, correlations being statistically significant in the total and UT samples. This result clearly indicates that consultation with and coaching through sustainability experts raises managers' awareness of the win-win potential associated with CSM. The CA and UCA attitude are positively associated with both cross-disciplinary collaboration and potential.

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[50] Thus existing opposed relationships cancel each other out. In some cases this overlap causes notable discontinuity in the correlation coefficients across all four attitudes, particularly in the UT sector. E.g. the correlation coefficients between the four attitudes and NGOs' contribution to sustainable development are as follows (from the least to the most proactive attitude): 0.0887 (business of business is business), -0.1134 (win-win), 0.1498 (competitive advantage) and 0.1237 (unproven competitive advantage). Correlation coefficients with consumers' and governments' roles behave in a similar way.

One can conclude that correlations establish a clear link between managers' proactive attitudes and a higher level of implementation of CSM. This is to be expected, since more intensive cross-disciplinary collaboration in any form (e.g. direct individual consultation with sustainability experts, business teams) increases managers' awareness of issues and external pressure groups, changes their cognitive maps and thus contributes to more proactive attitudes in the long rather than short term. The positive link between proactive attitudes and cross-disciplinary potential also indicates that proactive managers are more inclined to collaborate and consider cross-disciplinary collaboration more worthwhile.

CSM success

Finally, proactive attitudes are positively associated with CSM success. This link is visible in the statistically significant positive correlation between the CA attitude and CSM success. Possible associations with the remaining attitudes are most likely confounded by social desirability bias which affected the UCA attitude in particular[51] and little discriminatory potential of the WW statement (both proactive and reactive respondents relate to it equally).

Overall the attitude-CSM success relationship points to the meaningfulness of managerial discretion: It indicates that a significant potential of CSM is exploited more effectively by proactive managers (Wood, 1991, p. 696).

Conclusion

In conclusion, the findings strongly suggest that proactive managers are more familiar with existing issues and current and future demands from external stakeholders. They also report greater strategic disposition and more advanced implementation of CSM in their companies. Correlation coefficients do not differ substantially between the sectors. However, although results across both sectors are not entirely comparable due to the smaller UT sample, overall data indicate that proactive attitudes are more strongly developed in the OG sector.

8.3.2.2 Regressions

This section features regression models that examine the effect of the four attitudes (BBB, WW, CA and UCA) on CSM intent and success, respectively (see Regression Table 8-8). The author notes that the effect of "managers' mindset" and "lack of knowledge and expertise" as barriers to CSM will be included in regression analysis in section 8.4.2.2.2, because they fit those models better in terms of their operationalization (all variables in those models are operationalized as barriers to CSM) and measurement (all variables are nominal).

Regression models support both qualitative and quantitative evidence presented above on the positive link between manages' proactive attitudes and CSM: They show significant positive effects of the CA attitude on CSM intent and CSM success.

The fact that the effects of the WW attitude and UCA attitude are not statistically significant is not surprising in the light of the correlations results presented earlier, which showed that social desirability bias and, in the case of the WW attitude, little discriminatory potential, confounded possible associations. The influence of the BBB attitude is weak and not statistically significant in any of the models, also presumably to due social desirability bias.

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[51] A more detailed examination of the correlation coefficients reveals an unexpected discontinuity in both samples, similar to that visible in the coefficients of the WW attitude. In many cases, the coefficients indicate a less proactive attitude than the coefficients of the CA attitude, which indicates a strong social desirability bias for this attitude. E.g. In the OG sample, the correlation coefficients between the four attitudes and the importance of social issues are as follows (from the least to the most proactive attitude): -0.0538 (business of business is business), 0.0249 (win-win), 0.2564 (competitive advantage) and 0.1443 (unproven competitive advantage). A similar pattern is observable for correlation coefficients with the role of public-private partnerships. The same applies to the UT sample.

	T model	OG model	UT model
Number of obs	165	112	53
F	5.18	6.13	0.93
Prob > F	0.0000	0.0000	0.5083
R-squared	0.2518	0.3510	0.1631
Adj R-squared	0.2032	0.2937	-0.0120
Root MSE	.75002	.68733	.85097
Independent variables		**Coefficients**	
BBB attitude: Business of business is business	-.0021984	.0537984	-.0233499
WW attitude: CSM only in win-win situations	.044665	.0290978	.0357694
CA attitude: CSM to gain competitive advantage	**.3394197**	**.4166961**	.1763691
UCA attitude: CSM despite unproven competitive advantage	.021804	.0387211	.0068478
UT sector	**-.3536869**		
Nordic	.0903376	*-.4197257*	**.7463102**
North America	**-.5552745**	**-.7551018**	-.231956
Latin Europe	.0178057	-.2288685	.4355066
Developing economies	-.2761702	*-.47343*	-.4212515
Other regions	.181467	-.0890881	.3858773
Constant	**2.382804**	**2.156873**	**2.627776**

Regression Table 8-8: CSM intent – managers' personal attitudes (Expanded cluster models)

It should be noted that the effect of the CA attitude is only significant in one of the sector-specific models. However, the size of the corresponding coefficient in the UT models also provides some evidence for the existence of this effect in the UT sector, which may not be statistically significant because of the limited sample size and/or because the underlying attitude is less developed and so dominated by corporate or sector-specific factors (i.e. lack of open corporate cultures, current or former state ownership, strongly regulated business environment).

	T model	OG model	UT model
Number of obs	164	110	54
F	1.52	1.71	0.36
Prob > F	0.1369	0.0973	0.9479
R-squared	0.0904	0.1331	0.0686
Adj R-squared	0.0309	0.0551	-0.1219
Root MSE	.74957	.75332	.75963
Independent variables		**Coefficients**	
BBB attitude: Business of business is business	.0699032	.0924386	.0801434
WW attitude: CSM only in win-win situations	.0076743	-.0374301	.0683858
CA attitude: CSM to gain competitive advantage	**.1726002**	*.203433*	.0759947
UCA attitude: CSM despite unproven competitive advantage	.0162969	-.0160763	.0682392
UT sector	**-.3094356**		
Nordic	-.19871	**-.5040395**	.0840831
North America	**-.3799544**	**-.6086083**	.2749738
Latin Europe	-.1066371	-.3413017	.1920724
Developing economies	-.2649101	*-.4774114*	-.3097819
Other regions	-.2171363	-.4391145	-.2373941
Constant	**2.78972**	**3.085305**	**2.367402**

Regression Table 8-9: CSM success – managers' personal attitudes (Expanded cluster models)

Finally the effects of several dummy variables are statistically significant and indicate that sector and region effects (North America and Nordic) moderate the relationship between the dependent and independent variables. The negative dummy for the UT sector points to lower levels of CSM intent and CSM success in UT companies, which can be attributed to both external factors discussed above and internal barriers that will be discussed in more detail in section 8.4 Companies. Most region effects have also been detected in previous models. They can be attributed to differences in issue significance, outside pressure but also internal company-related deficits (e.g. inadequate corporate cultures).

8.3.3 Discussion

Importance of managers' attitudes and the principle of managerial discretion

Qualitative and quantitative evidence support the hypothesis underlying the study's conceptual framework about the significance of managerial discretion to CSM. Proactive attitudes have been linked to greater issue significance, greater awareness of demands from stakeholders (namely capital markets and NGOs) and greater importance of legitimacy. Moreover they have been found to be related to more advanced approaches to CSM, which is in parallel with findings from several authors (Andersson et al., 2000, p. 565; Bansal et al., 2000, p. 731; Bichta, 2003, p. 17; Sturdivant et al., 1977; Winn, 1995, p. 151).

Quantitative data on managers' attitudes was inter alia collected through a set of four statements, to which respondents were asked to indicate their level of agreement or disagreement. Results pointed to surprisingly proactive attitudes: Respondents showed the strongest adherence to a statement that promoted CSM as a means of gaining long-term advantage. This calls for a clear word of caution, since the data are obviously affected by social desirability bias:

- As the author will illustrate in section 8.4.3 Economic rationale in particular, precisely the inherently uncertain nature of long-term competitive advantage, i.e. lack of easily visible *short-term* competitive advantage, constitutes one of the key barriers to CSM.
- Quantitative evidence presented in section 8.4.1 Company-specific determinants reveals managers' mindset as a significant internal barrier to CSM in the UT sector.
- Furthermore, sections 8.4.4.2 Structure and 8.4.4.3 Corporate initiatives point to a rather reactive managers' mindset and low level of awareness.

Determinants of managers' attitudes

The principle of managerial discretion states that managers "constantly make decisions and choices, […] some minor and others of great consequences" (Wood, 1991, p. 699). As outlined earlier, these decisions and actions are based on the meaning the managers' environment and stimuli have for them (Bortz et al., 2002, p. 304) – stimuli such as a visible issue, outside pressure from stakeholders regarding that issue, incentives or disincentives from within their companies that provide managers with a set of choices.

For example, if managers perceive an issue as significant, they will respond in a certain way (e.g. gathering additional information, which may change cognitive maps and increase the willingness to integrate the issue into decision-making); if they consider it insignificant, they will respond differently. This link is reflected in the results of the study's advanced statistics: More proactive managers not only perceive the stimuli (e.g. issue, outside pressure) as greater but also report greater strategic disposition to CSM, more advanced implementation and greater CSM success.

Mainly *qualitative* data point to several factors that moderate – alongside the industry sector – the effect of external and internal (company-specific) stimuli. They comprise:

- Management level and age: Both factors are likely to interact so that older top managers are unlikely to display the same attitude as older managers at the bottom level: Interviews pointed to reactive attitudes of older managers at the *bottom* level. Simerly (2003, p. 357) found a positive link between *top* managers' tenure (linked with age) and corporate social performance, which he attributed to external pressure (in the chemicals and petroleum industry) that had sensitized top managers over time. Thus the discriminating factors appear to be knowledge and expertise, as well as contact with external stakeholders.

- Business function (e.g. finance vs. R&D) and business unit (e.g. upstream vs. downstream): Both factors determine contact with external stakeholders, the issues that are visible, and other parameters that affect individuals' decision-making: the level of competition and corresponding cost and time pressure.
- Corporate culture and structure, e.g. level of cross-disciplinary collaboration between sustainability experts and general managers (Winn, 1995, p. 148).
- Region of operation: The region of operation affects managers' personal attitudes through different issues and socio-political influences such as regulation and public pressure (Winn, 1995, p. 148).

It is also likely that other typical demographic variables such as gender and nationality determine respondents' personal attitudes (e.g. Marz et al., 2003; Sturdivant et al., 1977) but qualitative methods in this study did not reveal that.

It should be noted that the factors listed above have been identified through largely qualitative methods. Thus quantitative data would be desirable to cross-validate the findings and obtain more generalizable results. Unfortunately a profound quantitative analysis in this respect would have gone far beyond the limits of this study.

Contingency perspective on managers' attitudes

The study's contingency perspective revealed several differences in managers' attitudes, which can be attributed to the determinants listed above.

- Overall UT respondents exhibit less proactive attitudes, obviously due to less visible issues, less outside pressure and organizational visibility but also – as section 8.4.1 Company-specific determinants will show – due to internal deficits.
- The existence of internal deficits in the UT sector is also reflected in different perceptions of the main barriers to CSM between general managers and sustainability officers. The study reveals that general managers are largely unaware of their lack of knowledge and expertise, and their reactive mindset.
- Finally regression analysis pointed to several significant region effects. They most likely reflect differences in outside pressure (i.e. local issue visibility, limits of legitimacy and organizational visibility), but also regional variation in the internal capabilities of companies.

8.4 Companies

In the present section, the author will examine the fourth and final unit of analysis, namely companies. The analysis includes:

- Internal and especially company-specific determinants of CSM and their relative importance in comparison to external determinants (section 8.4.1 Company-specific determinants).
- Companies' strategic disposition to CSM, i.e. companies' willingness to and approach to responding to the challenge of recognized environmental and social issues (section 8.4.2 Strategic disposition) and an overall assessment of CSM determinants.
- The business case for sustainability and companies' approaches to integrating environmental and social issues into decision-making based on economic rationale (section 8.4.3 Economic rationale).
- The implementation of CSM, i.e. management tools and structures used to ensure organizational alignment, and initiatives carried out to resolve environmental issues (section 8.4.4 Implementation).

- The outcome of CSM and an overall assessment of its determinants (section 8.4.5 Outcome).

8.4.1 Company-specific determinants

In the present section, the author aims to round out evidence presented so far on the determinants of CSM that relate to the principles of public responsibility (issues), legitimacy (stakeholders) and managerial discretion (manager' mindsets and attitudes):

- He will discuss the influence of company-specific determinants of CSM (promoting factors and barriers), which, based on the principle of corporate discretion, provide managers with a company-specific set of choices and thus affect their individual decision-making.
- Furthermore, he will assess the relative importance of corporate discretionary barriers compared with managerial discretionary barriers, and the relative importance of these internal barriers compared with external ones.

8.4.1.1 Qualitative analysis and basic statistics

Promoting factors

It is not possible to single out one or two salient key factors promoting CSM in the OG sector – based on the relative frequencies displayed in Chart 8-23. In the UT sector top management commitment and demand from shareholders/investors take a significant lead over the remaining items (see Chart 8-24). The greater share of top management commitment is unlikely to indicate stronger top management in the UT sector but is rather due to UT respondents' stronger preconceptions about the *obvious* key role of top managers.

The more significant promoting role of shareholders and investors – compared to the OG sector – could partly reflect sampling error, since the financial community was found to have a stronger role in the OG sector above (see section 8.2.4 Financial community). It could also reflect a more externally motivated and thus more compliance-oriented approach to CSM in the UT sector.

Additional circumstantial evidence supports this finding: First, UT data exhibit a greater share of public pressure (8% in the OG, 15% in the UT sector) and a lower share of competition on issues (14% in the OG, 8% in the UT sector). Second, overall UT sustainability officers tend to report external promoting factors more often than their counterparts in the OG sector: External factors (public pressure, competition on issues and demands from capital markets) account for 44% in the UT, for 24% in the OG sample.

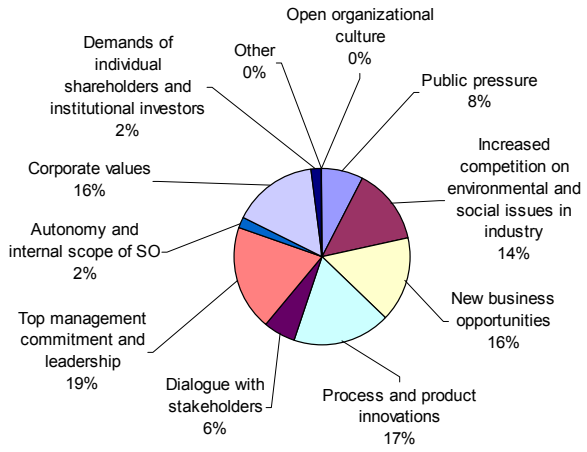


Chart 8-23: Promoting factors (Sustainability officers – OG)

Chart 8-24: Promoting factors (Sustainability officer – UT)

It should be noted that cross-sector differences are not statistically significant due to the limited sample sizes. Nevertheless, they hint at a more reactive approach to CSM in the UT sector, which can be attributed to both external factors as described in the previous sections 8.1 Issues and 8.2 External stakeholders, industry and partnerships and most likely internal deficits that will be discussed further below.

Two findings are surprising, although they should not be overinterpreted, given the limited sample size:

- Open organizational culture takes a 0% share in both sectors. This result suggests that proactive corporate cultures are lacking and is in line with both qualitative and quantitative evidence collected from general managers (particularly regression results presented in section 8.4.1.2).
- The autonomy and internal scope of the sustainability/environmental officer appears to be an insignificant factor. This strongly suggests that other internal factors such as top management commitment and corporate values are more crucial than the individual role of the officer. In addition it may point to the fact that the individual rather than the role matters.

As the charts above show, internal drivers are reported more frequently than external drivers, if one assumes that business opportunities and stakeholder dialogue require both internal and external factors to coincide: Internal drivers account for 76% and 56% in the OG and UT sectors respectively.[52] This points to rather little outside pressure on companies to engage in CSM more strongly, a conclusion that would be in parallel with companies' largely incremental approach to CSM, which is described in more detail in sections 8.4.2 Strategic disposition and 8.4.4.3 Corporate initiatives: Apparently incremental innovations are adequate to satisfy the key demands from external stakeholders. Thus it is also very telling that UT respondents more frequently report external drivers although – as the sections on Issues (8.1) and External stakeholders, industry and partnerships (8.2) revealed – they are under less outside pressure. This mismatch points to a rather compliance-oriented and reactive approach in the UT sector, which could be attributed to lower issue and organizational visibility and a lower importance of the informal license to operate, i.e. brand value and reputation.

[52] If stakeholder dialogue and business opportunities are accounted for as internal drivers.

Barriers

If one additionally assumes that respondents tend to overstate external barriers to blame outside factors rather than to acknowledge corporate or individual faults, both sustainability officers' and general managers' perceptions of barriers to CSM are clearly meaningful: Respondents from both sectors more often report internal barriers (managers' mindset, lack of knowledge, organizational culture and a lack of appropriate tools and processes) than external barriers (regulation, opposition or lack of interest from investors and lack of interest from customers).

Sustainability officers

Chart 8-25 and Chart 8-26 display the relative frequencies of barriers as indicated by sustainability officers. Although χ^2-tests do not detect any statistically significant cross-sector difference due to the limited sample sizes, results are indicative insofar as internal barriers account for 64% overall in the OG sector, composed of 34% relating to managerial discretionary factors (mindset and lack of knowledge) and 30% to actual corporate discretionary factors (organizational culture and lack of appropriate tools). In the UT sector internal barriers take a higher 70% share that allots a 45% share to managerial discretionary factors and 25% to corporate discretionary factors.

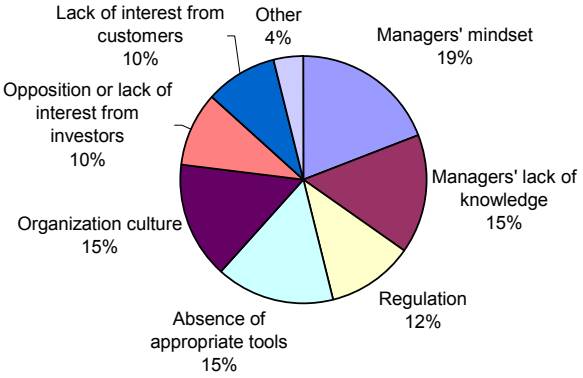


Chart 8-25: Barriers (Sustainability officers – OG)

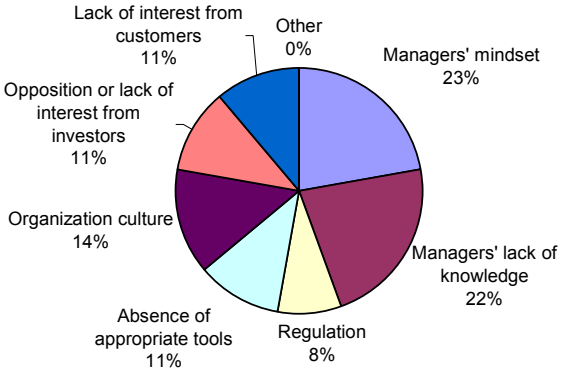


Chart 8-26: Barriers (Sustainability officers – UT)

The importance of internal barriers is also confirmed by the sustainability officers interviewed who criticize

- *managers'* lack of awareness and knowledge, short time horizon and narrow mindset based on technology and engineering (see section 8.3 Managers for more details), but also
- *companies'* "exaggerated" focus on production targets and financial performance, lack of management commitment, inadequate corporate cultures and structures, opposition from line management, lack of tools and operationalization of CSM, i.e. a failure to explain what CSM means for the individual business unit, function or employee.

Interviews also point to differences in corporate cultures, which can be attributed to variations in corporate history, e.g. former state ownership (in the case of UT firms), internal capabilities and structures (Kolk et al., 2001, p. 505) and national cultures (Skjaerseth et al., 2001). The influence of national cultures is particularly visible in OG companies' positions on climate change: European companies first adopted a more proactive approach to climate changes,

which is still reflected in different connotations of their public statements (see e.g. Browne, 1997; Dahan, 2001).

> Overall US-based companies tend to focus on technology and engineering, they are too immature to understand soft issues ("cowboy mentality") and political risks (OG7, SO).

General managers

The greater share of internal barriers detected in the quantitative data from sustainability officers is mirrored in corresponding perceptions of general managers (see Chart 8-27 and Chart 8-28): Internal barriers account for 45% in the OG (compared to a 19% share of external barriers) and 33% in the UT sector (compared to a 24% share of external barriers). However the sector-specific proportions between managerial discretionary barriers and corporate discretionary barriers somewhat invert those of sustainability officers: Barriers relating to managerial discretionary factors are reported more often in the OG (23%) than in the UT sector (14%). As outlined in section 8.3 Managers, this suggests that UT general managers appear to be less aware of their shortcomings, namely their mindset and lack of knowledge and expertise.

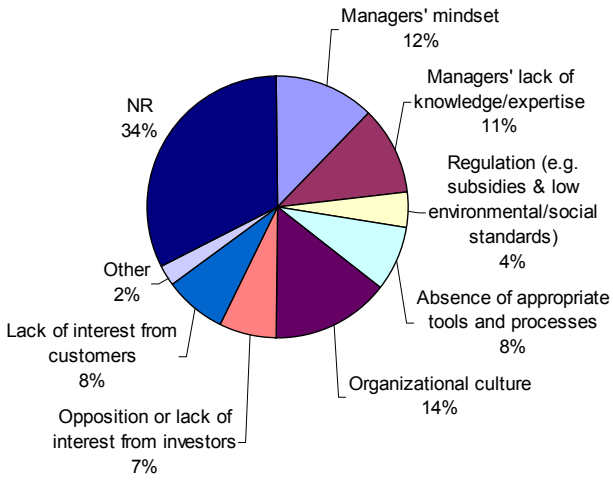


Chart 8-27: Barriers (General managers – OG)

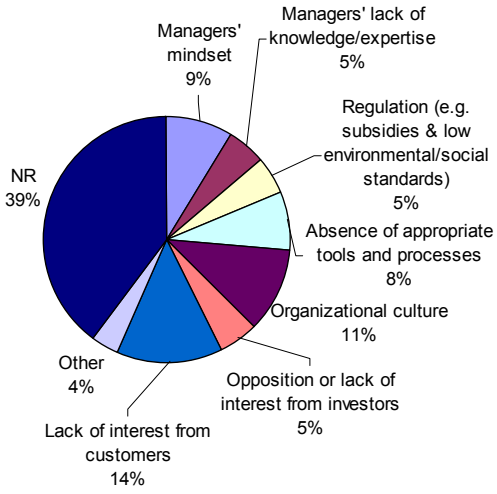


Chart 8-28: Barriers (General managers – UT)

It is difficult to reach a final conclusion on the relative importance of *individual* internal, i.e. managerial discretionary and corporate discretionary barriers based on qualitative evidence and the basic statistics. Particularly in the pie charts there are no proportions that would consistently point to one or two more important factors.

However, if one categorizes them into soft factors (managers' mindset, lack of knowledge and corporate culture) and hard factors (lack of adequate processes and tools), the former clearly dominate the latter in numbers. The greater importance of soft factors is not implausible, because the environmental and social issues are very complex and difficult to capture and resolve through mere "hard technicalities," i.e. in extreme terms standardized tools and processes, which the interviews with sustainability officers, in particular, also revealed.

It should be noted that several interviewees also consider a lack of tools and processes a significant barrier to CSM. It is possible that this perception partly reflects managers'

adherence to "technical procedures and standardization" that remove potential uncertainties. One can expect that portfolios of tools (described in more detail in section 8.4.4.1 Management tools) will be expanded and refined in the future, and thus will be increasingly able to fulfill this desired purpose. However, the author argues that they will still not be able to adequately capture the complexity that is inherent in environmental and social issues and their integration into decision-making. Hence soft factors will remain important.

Conclusion

Descriptive statistics presented above point to several conclusions.

1. Internal drivers and barriers are more important to CSM than external drivers and barriers.
2. "Soft" internal barriers (e.g. culture, mindset) are more significant than hard internal barriers (e.g. tools).
3. Managerial discretionary factors such as managers' mindset and lack of knowledge and expertise are at least as important barriers as corporate discretionary factors (corporate culture and lack of appropriate tools).

Regression results presented in the next section are largely in line with these findings.

The UT sector appears to feature a more basic and compliance-based approach to CSM, which is also characterized through greater internal deficits. This result is in parallel with findings about

- less proactive managers (section 8.3 Managers)
- lower issue significance as diagnosed in section 8.1 Issues
- weaker demand from external stakeholders as described in section 8.2 External stakeholders, industry and partnerships.

Furthermore, interviews suggest that internal deficits, such as slow, bureaucratic structures and "closed" rather than open corporate cultures may be due to former or current state ownership, and a greater importance of the formal rather than the informal license to operate.

8.4.1.2 Advanced statistics

The following regression models shed more light on the relative importance of internal barriers (also in comparison to external barriers) in determining CSM intent and CSM success.

CSM intent

Whereas the expanded UT and OG models in Regression Table 8-10 are either invalid or not very meaningful, the T model shows that managers' lack of knowledge and expertise and organizational culture have, as internal barriers, a statistically significant and negative effect on CSM intent.

Alongside "other barriers" whose effect will not be discussed in more detail, two external barriers, namely the lack of interest from investors and customers, influence companies' CSM intent at a statistically significant level. Obviously the signs of their coefficients are identical to those in the regression model that examined the effect of external barriers on CSM only (see Regression Table 8-5 and Regression Table 8-6). They suggest that (1) sustainability leaders with greater CSM intent rather than laggards apparently consider customer behavior a significant deterring factor for CSM, and (2) investors constitute a significant barrier to greater CSM intent, mainly in the view of laggard companies, presumably because they are largely unaware of recent trends.

	T model	OG model	UT model
Number of obs	76	53	23
F	2.45	1.95	1.36
Prob > F	0.0084	0.0534	0.3190
R-squared	0.3595	0.3944	0.6195
Adj R-squared	0.2125	0.1926	0.1628
Root MSE	.74265	.7727	.72308
Independent variables		**Coefficients**	
Managers' **mindset**	.3023782	.401663	.1706313
Managers' lack of **knowledge** and expertise	*-.3394067*	-.3016703	-.6624577
Lack of appropriate **tools** and processes	.0690948	-.0207926	-.0104848
Corporate culture	**-.4865689**	-.3946652	*-.7700676*
Regulation (e.g. subsidies, low standards)	.0537136	-.0573084	.2921082
Opposition or lack of interest from **investors**	*-.403575*	-.2906728	*-.9269448*
Lack of interest from **customers**	*.3824812*	.409117	.7717024
Other barriers	*.5686706*	.6293585	1.132074
UT sector	**-.6198976**		
Nordic	.2548329	-.5662781	.7935175
North America	-.4919454	**-1.110623**	-.4918264
Latin Europe	-.0767419	-.5610937	-1.263529
Developing economies	-.2027633	-.7262077	.4103157
Other regions	-.0053231	-.5128962	(dropped)
Constant	**4.030497**	**4.477314**	**3.359752**

Regression Table 8-10: CSM intent – barriers (Expanded submodels)

In contrast to the expanded models above, the three reduced models in Regression Table 8-11 provide clear evidence for the relatively greater importance of internal over external barriers. None of the external barriers attain significance at a 5% level when added.

	T model		OG model		UT model	
Number of obs	76		53		23	
F	11.14		8.31		3.56	
Prob > F	0.0013		0.0058		0.0730	
R-squared	0.1308		0.1401		0.1451	
Adj R-squared	0.1190		0.1232		0.1044	
Root MSE	.78548		.80522		.74789	
Coefficients						
	Corporate culture	**-.6015246**	Corporate culture	**-.6385714**	Corporate culture	*-.6031746*
	Constant	**3.871795**	Constant	**3.96**	Constant	**3.714286**

Regression Table 8-11: CSM intent – barriers (Reduced submodels)

Furthermore, results are congruent with conclusions presented in the previous section on the key importance of soft rather than hard internal factors: They reveal statistically significant effects for corporate cultures and lack of knowledge and expertise, whereas the lack of tools and processes features coefficients that are close to zero and do not reach adequate significance levels in any of the models.

CSM success

In contrast to the expanded models on CSM intent, those on CSM success feature probabilities of a greater F-statistic that are somewhat unsatisfactory (see Regression Table A 15 in the Appendix F – Regression models). Since the number of observations on which the models are based is almost identical to the number in the models on CSM intent, the reason for the lower probabilities is a lower ability of the independent variables to explain variation in the dependent variable rather than constraints in the degrees of freedom. This could suggest that respondents' assessment of CSM success varies more greatly than that of CSM intent, presumably since the former's operationalization does not account for the three-dimensionality (economic, environmental and social outcome) of the underlying concept.

The reduced models shown in Regression Table 8-12 below consistently reveal organizational culture as a significant barrier to CSM success. Furthermore, as the T model indicates, companies in the energy industry as a whole, which achieved greater CSM success, feel held

back through inadequate regulation.[53] This could hint at two weak spots in the regulatory environment of leading companies:

1. Lack of environmental, social and ethical (e.g. corruption) standards in developing countries, which may put sustainability leaders at a competitive disadvantage in the short term: E.g. obviously a comprehensive stakeholder dialogue requires a significant amount of resources (in terms of time and money). However, interviewees also mention that they improve the license to operate and grow in the long term. This obviously applies to OG companies in particular because they are more active in developing countries.
2. Lack of market incentives for renewable energies (e.g. direct or indirect subsidies for fossil fuels).

	T model	OG model	UT model
Number of obs	75	52	23
F	6.35	6.23	4.98
Prob > F	0.0029	0.0039	0.0176
R-squared	0.1263	0.1701	0.2656
Adj R-squared	.70708	.72227	.57777
Root MSE			
Coefficients			
	Corporate culture -.5174538	Corporate culture -.571134	Corporate culture -.5196078
	Regulations *.3722594*	Investors -.5225331	Mindset -.5882353
	Constant 3.290985	Constant 3.593814	Constant 3.382353

Regression Table 8-12: CSM success - barriers (Reduced submodels)

The OG model also points to a negative link between CSM success and opposition or lack of interest from investors, which is similar to the one found in the models above on CSM intent (see Regression Table 8-10). Thus interpretations are congruent:

1. Investors negatively affect the success of CSM, which most likely refers to sustainability laggards whose less proactive approach critically impinges on the social and environmental characteristics of upstream joint ventures in the OG sector.
2. Laggards that are less successful at CSM tend to consider investors as external barriers more often because they are less aware of recent developments (e.g. Equator Principles, the World Bank's Prototype Carbon Fund).

The reduced UT model provides strong evidence for the importance of internal (mindset and culture) rather than external barriers in the UT sector. This finding matches interview data that also suggest that UT companies lack internal capabilities due to state ownership and little external pressure in the past.

In contrast to the reduced models on CSM intent, two out of three reduced models on CSM success (Regression Table 8-12) comprise both internal (corporate culture) and external barriers (regulation and opposition from investors). This impedes a definite conclusion on the relatively greater importance of internal over external barriers. Hence the author ran additional regression models to examine their effects on CSM intent and CSM success separately (see Regression Table A 9: to Regression Table A 14 in Appendix F – Regression models). The models do not yield any meaningful additional findings about the statistical significance and signs of correlation coefficients. However, the model parameters support the findings based on qualitative analysis and basic statistics above about the key importance of internal deficits rather than external barriers: The parameters (foremost Prob > F and adjusted-R^2) of most

[53] Despite a 10% level of significance, Regulation was included in the model to illustrate this point.

expanded and all reduced models that only included internal barriers are superior to those of the "competing" models.

Conclusion

Results of the regression models are in parallel with qualitative and quantitative evidence presented in the previous section: They show that both CSM intent and CSM success are negatively affected by

1. internal rather than external barriers and
2. more specifically by soft internal barriers (inadequate corporate culture) rather than hard internal barriers (lack of tools and processes).

8.4.1.3 Discussion

Importance of company-specific determinants and the principle of corporate discretion

Both qualitative and quantitative methods point to a significant role of corporate discretionary factors in determining CSM. Results are thus in line with those of previous studies (Henriques et al., 1996; Lawrence et al., 1995; Swinth et al., 1995; Winn, 1995).

The importance of corporate discretionary determinants has been assessed in several ways (see Figure 8-20):

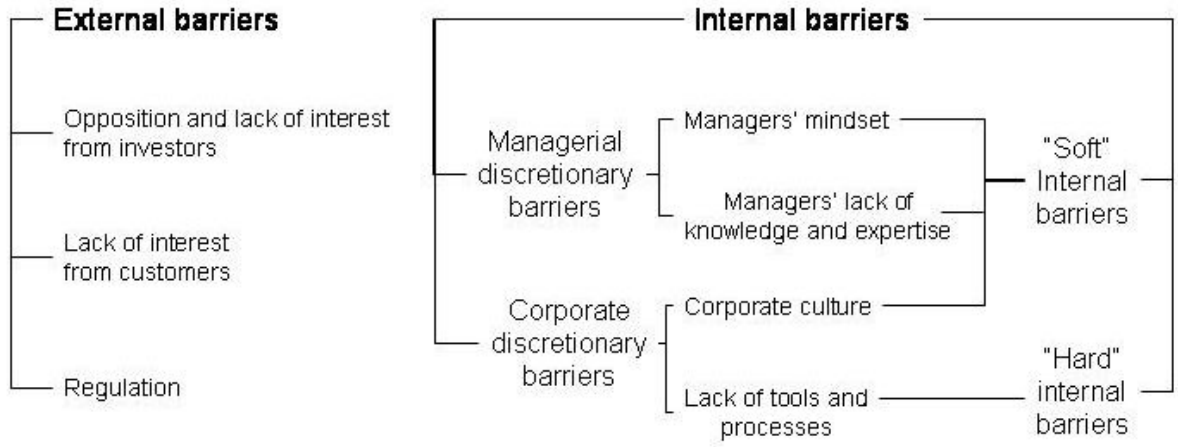


Figure 8-20: Systemization of barriers to CSM

- Their importance jointly with managerial discretionary factors, i.e. the importance of internal organizational determinants relative to external determinants
- The importance of soft internal barriers relative to hard internal barriers
- Their importance relative to that of managerial discretionary factors.

Internal vs. external drivers

Quantitative methods reveal a greater importance of internal compared to external determinants, i.e. drivers and barriers, of CSM. At first sight this result is puzzling. Other empirical studies do not provide any meaningful benchmark for this result:

- Skjaerseth and Skodvin (2001) concluded that political contexts have influenced the corporate climate change strategies of Shell and Exxon more strongly than company-specific factors. They considered the most important factors determining climate change

strategies to be societal demands for environmental protection through consumer behavior, government supply of environmental policy (policy mix), and the institutional linkage between the demand for climate change actions and corporate reactions (exclusive confrontational vs. inclusive and collaborative approaches). However, it is most likely that their findings only apply to a well-defined and strategic issue such as climate change, which on a global scale is still in a politicization phase and will only affect companies substantially in the long term. Today most significant outside demands for CSM do not require a radical change of business model, i.e. modifications of processes and products to minimize environmental and social effects could very well originate from internal driving forces.

- Winn analyzed the adoption of environmental policies in four US companies at the beginning of the 1990s. She pointed to several internal and external determinants including society, the organization and individuals. She also strongly emphasized the importance of internal factors such as history of social responsibility, hierarchical organizational design and, above all, key individuals (personal values, issue awareness) in driving environmental responsiveness (Winn, 1995, p. 144).
- Other studies (Bansal et al., 2000; Henriques et al., 1996; Rhee & Su-Yol, 2003; Rojsek, 2001) also discuss possible external and internal *determinants* of environmental or social responsiveness but do not provide any additional insights into the relative importance of internal vs. external *barriers*.

It should be noted that evidence on the importance of internal drivers is only based on the small samples drawn from sustainability officers and thus results should be handled with due caution. Nevertheless, they are insightful and in parallel with qualitative data that point to a rather incremental approach to CSM (see e.g. sections 8.4.2 Strategic disposition and 8.4.3 Economic rationale): Since outside pressure is relatively weak, companies are able to respond on a "business-as-usual" basis.

Internal vs. external barriers

Quantitative methods (regression models in particular) provide sound evidence for the greater significance of internal (rather than external) barriers in terms of both CSM intent and CSM success. This may have been expected in terms of CSM success – because CSM success is more strongly internally determined through companies' strategic disposition and approach to implementing CSM. It may be somewhat surprising at first sight with respect to the impact on CSM intent, particularly since several interviewees blamed external barriers such as ignorant customers, investors and capital markets for little corporate engagement in the area of CSM.

However, the greater importance of internal barriers is in line with the greater importance of internal (rather than external) drivers discussed above, and the corresponding conclusion: The results point to a relatively "feeble" and incremental approach to CSM in general: Innovations to processes and products are mostly minor and incremental. Hence the effects of external barriers (e.g. lack of interest from customers and investors as well as inadequate legislation) are negligible.

The greater importance of both internal drivers and barriers also points to significant but unexploited potential for CSM: Removing the internal barriers will most likely lead to more proactive approaches to CSM in the future.

Soft vs. hard internal barriers

Quantitative methods also provide additional insights into the relative importance of soft internal (e.g. mindset, knowledge and culture) vs. hard internal factors. Hard internal factors such as a lack of tools and processes appear to be less strong barriers to CSM due to the "soft" and complex nature of corporate sustainability, which makes it rather inaccessible for such

inflexible resources. In highly complex (and hence uncertain) situations, soft factors such as corporate culture and managers' mindset are more important factors, since managers have to fall back on them when making decisions (Badaracco & Webb, 1995; James Jr., 2000; Tinsley, 2002; Trevino, 1999).

This does not mean that tools are irrelevant. In fact empirical studies suggest that certain tools are highly effective: Scenario-based planning played a substantial role in influencing Shell's position on climate change (Kolk et al., 2001, p. 506; Skjaerseth et al., 2001, p. 53). Incentive systems positively affect environmental responsiveness because they create an environment in which managers are better informed and more inclined to adopt opportunity-rather than threat-driven approaches (Sharma et al., 1999). Results provided in section 8.4.4.1 Management tools support this conclusion, as they show that specific tools are in demand and influence the success of corporate social and environmental initiatives.

Managerial vs. corporate discretionary barriers

Overall evidence points to a greater importance of corporate discretionary than managerial discretionary barriers. However, this conclusion is only based on a few regression models and thus should not be overinterpreted. The results are plausible because companies define the space (i.e. a set of choices) through, e.g. corporate cultures and structures, in which the individual manager can then exercise his or her own discretionary power, based on his or her more or less proactive attitudes (Wood, 1991, p. 699).

It is also telling that in the UT sector CSM success is affected by both managerial discretionary barriers (managers' mindset) and corporate discretionary barriers (corporate culture). This hints at the following conclusions: (1) UT managers exhibit stronger reactive attitudes than OG managers, which is in parallel with evidence provided in section 8.3 Managers). (2) Their individual attitudes have a stronger effect, since corporate discretionary factors (e.g. corporate cultures, tools and processes) are less developed.

Determinants of corporate discretionary factors

It is obvious that corporate discretionary factors are influenced by the same determinants that also impact on managers' attitudes: The more companies are affected by certain issues and stakeholders, the more they are inclined to respond through a process of strategy formulation (such as Shell and BP in terms of climate change in Europe), and through the creation of tools and structures (e.g. incentive systems). Of course, leadership (e.g. BP's John Browne's 1997 Stanford speech on climate change) also plays a key role.

Qualitative methods in this study additionally point to three factors that moderate the development of organizational capabilities determining corporate discretionary effects. They comprise:

- State ownership: State ownership is reported to be associated with more bureaucratic structures and cultures, and thus likely to be linked to a more reactive and compliance-oriented approach to CSM.
- The license to operate: A generally greater importance of the *informal* license to operate, e.g. brand value and reputation, calls for a more proactive approach to CSM and corresponding capabilities, since the risk of short-term reaction through customers and capital markets is higher.
- National roots: The national roots (location of corporate headquarters) also influence corporate attitudes towards certain issues such as climate change, since they determine the dominant socio-political and cultural paradigms (Hofstede, 1994).

Contingency perspective on corporate discretionary determinants

The study also reveals some differences between the two sectors and some regions of operations:

- As mentioned briefly above, the UT sector exhibits more internal deficits and thus a rather compliance-oriented and reactive approach, which could be attributed to lower issue and organizational visibility, a lower importance of the informal license to operate and, in some cases, state ownership.
- Region effects can be diagnosed on the basis of qualitative and quantitative data, which point to a negative bias of North American regions of operation compared to Mid-Northern European regions. This appears to reflect a less strong societal demand for CSM.

8.4.2 Strategic disposition

In the present section the author will elaborate on how strongly companies in both sectors adhere to CSM at a strategic level, i.e. how they react to the issues recognized from a strategic point of view.

In section 8.4.2.1 he will assess their strategic disposition based on quantitative data on the concepts of SD familiarity, SD importance and CSM intent, which are then put into perspective through qualitative data obtained from the interviews as well as secondary qualitative data (company documents, newspaper and journal articles).

In section 8.4.2.2, he will assess the determinants of companies' strategic disposition in more detail, as well as the effects of strategic disposition to CSM on implementation and outcome.

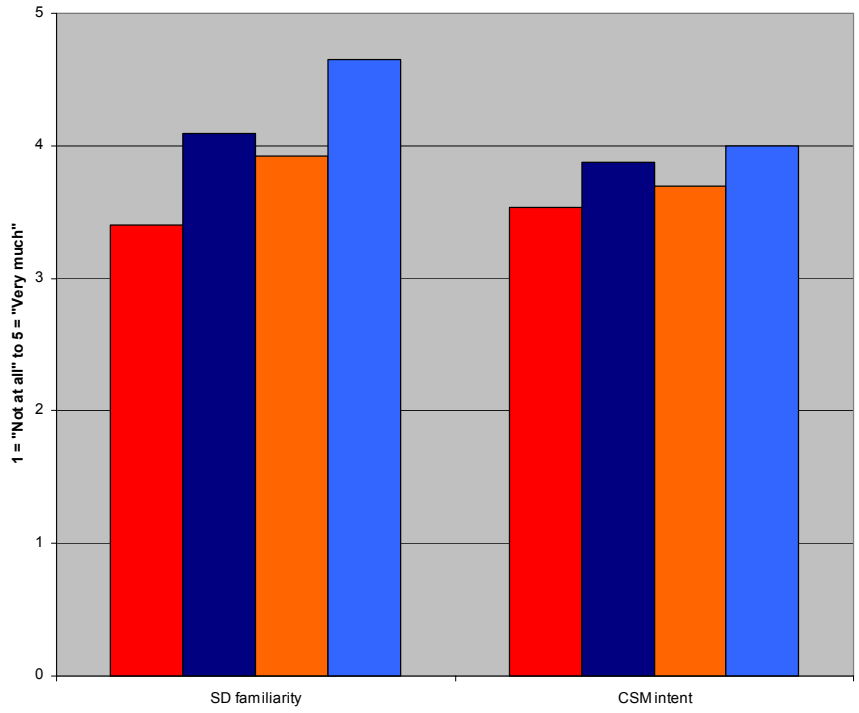
8.4.2.1 Qualitative analysis and basic statistics

Quantitative data

SD familiarity and CSM intent

Chart 8-29 displays the means of SD familiarity and CSM intent obtained from the four different samples. The cross-sector difference clearly points to a greater strategic disposition to CSM in the OG sector, with the following being statistically significant:

- OG general managers report greater SD familiarity and CSM intent than UT general managers.
- OG sustainability officers also report greater SD familiarity than UT sustainability officers (being statistically significant at a 10% level).



SD familiarity

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.40	1.13	55
OG GM	4.09	0.98	118
UT SO	3.92	0.76	13
OG SO	4.65	0.61	17
Total	3.94	1.05	203

CSM intent

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	3.54	0.84	54
OG GM	3.87	0.81	118
UT SO	3.69	0.48	13
OG SO	4.00	0.61	17
Total	3.78	0.80	202

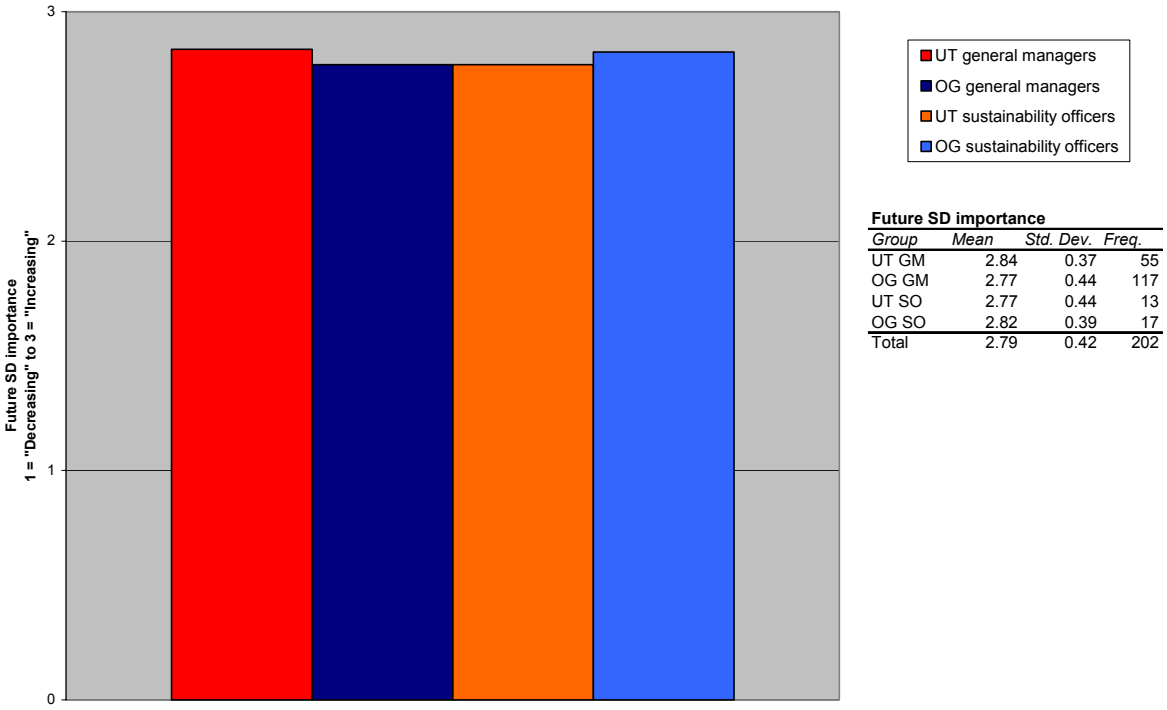
Chart 8-29: SD familiarity and CSM intent

The greater CSM intent in the OG sector can be confidently attributed to stronger drivers (issues, outside pressure, proactive managers) and less internal deficits (e.g. lack of corporate culture) compared to the UT sector – as the author diagnosed in the previous sections 8.1 Issues, 8.2 External stakeholders, industry and partnerships, 8.3 Managers and 8.4.1 Company-specific determinants. More details are also provided in the subsequent section 8.4.2.2 Advanced statistics.

Further data exhibit several cross-disciplinary differences: In both sectors sustainability officers report higher levels of SD familiarity and CSM intent than general managers. The mean differences in SD familiarity are – despite the small samples – statistically significant in both sectors. These results match findings reported in section 8.2.5 Industry and partnerships which showed that sustainability officers consider their industry more proactive than general managers do. Thus the same alternative interpretations are valid, e.g. calculated optimism of catalysts and, above all, greater awareness of existing best practices.

SD importance

Inter- and intra-sector mean differences in SD importance are marginal (see Chart 8-30). Obviously this is partly because the underlying scale has only 3 points and is thus less capable of measuring nuances in perception than the 5-point-Likert scales used to assess SD familiarity and CSM intent.



Future SD importance

Group	*Mean*	*Std. Dev.*	*Freq.*
UT GM	2.84	0.37	55
OG GM	2.77	0.44	117
UT SO	2.77	0.44	13
OG SO	2.82	0.39	17
Total	2.79	0.42	202

Chart 8-30: Future SD importance

Results are prone to social desirability bias, but the small cross-disciplinary variation would also tend to indicate that the importance of sustainable development to companies in the future has been recognized not only by sustainability officers but also by general managers.

Qualitative benchmark

Values on SD familiarity and CSM intent range from 3.5 to 4.5, meaning roughly between "more or less" and "very much." Obviously those attributes are not very indicative. In the following the author aims to cut through potential social desirability bias by briefly describing companies' actual strategic approach to CSM:

All in all corporate visions in both sectors are clearly based on the profitable extraction, production and use of fossil fuel respectively. This is also clearly reflected in the main issues discussed and the corresponding CSM focus (see Table 8-6).

Parameters of companies' strategic disposition to CSM	OG sector	UT sector
Current main drivers	- Geopolitics - Resource depletion - Rapidly growing demand in Asia	- Growing energy demand - Liberalization and privatization ➔ process efficiency (Asmus, 2002; Birnbaum et al., 2002).
Corporate vision	- Economic growth and welfare improvements through profitable extraction, production and use of fossil fuels	
Strategic objectives	- Profitable growth - Competitiveness	- Profitable growth - Competitiveness - Diversification (geographically and in terms of fuel mix) to ensure supply security
Issues discussed	- Social issues in developing countries - Local environmental impacts (e.g. oil spills) - Climate change	- Local environmental impacts - Climate change
CSM focus	- Mainly: Efficient, environmentally and socially responsible extraction and production of oil & gas, reduction of gas flaring (Kolk & Pinske, 2004, p. 309) - Leaders: Committed approach to developing renewable energies (Gehlen South, 2000, p. 5).[54] - Laggards: "Wait and see" position (Buchan, 2001b; Salzmann, 2004, p. 137)[55]	- Mainly: Efficient and thus less carbon-intensive generation of electricity, fuel switching (Kolk et al., 2004, p. 309) - Use of renewable energy technology, depending on local geophysical conditions and business environments (e.g. subsidies) (Donnerbauer, 2003; Marsh, 2003)
Example of main activities (see section 8.4.4.3 Corporate initiatives)	- Community involvement - Spill prevention - CO_2 emission reduction: corporate target setting, internal emissions trading systems (Shell and BP)	- CO_2 emission reduction - Community involvement

Table 8-6: Parameters of strategic disposition to CSM – based on interviews and analysis of corporate reports/websites

Climate change is addressed on an incremental level through internal process improvements to raise energy efficiency (Kolk et al., 2004, p. 312) in particular and through renewable energy technologies that are gradually developed in niche markets. In the UT sector, the role of nuclear power as a possible carbon neutral alternative to fossil fuels is uncertain (e.g. Sweden has abandoned the phasing out agreed upon as early as 1980)[56] and country-specific (France vs. Germany).[57]

The following quotes from both sectors illustrate how uncertain companies are about their engagement in renewables and other alternatives to address climate change as the most important strategic issue:

> We intend to be in oil and gas for a very long time. The big transition takes place from oil to gas. There is no plan for renewables, no 50 years scenario. Renewables constitute a business development option: There is no strategic commitment to them, more a "see what you can learn" attitude (OG3, SO).
>
> Gas will be the "fuel of choice" until 2020. It is legitimate to watch developments (renewables, hydrogen) for another 5 years and invest in the efficiency of gas, and CO_2 capture and storage as mid-term solutions (OG4, SO).

---

[54] Shell Hydrogen is mainly working in joint ventures with neighboriing industries, focusing on fuel infrastructure and reformer technologies. Shell Renewables is incorporating a range of activities in solar, biomass, forestry, and rural electrification. BP Solar has reported profits since 2000 (Gehlen South, 2000).

[55] see also e.g. www.shell.com: Our strategy – strategic direction, or www.bp.com/investor_centre/fin_oper (27/03/2003).

[56] Lofstedt (2001)

[57] Pro-arguments used are climate neutrality and supply security, which have to compete with high costs of disposal and safety (2003a; Bauquis, 2003; Herbst, 2003)

> At the end of the day, it's all about social (i.e. the consumers') choice, OECD countries could go off fossil fuels in 5-10 years time, but our main challenge is the energy demand of the developing countries; facilitating their development is also about sustainable development (OG2, SO).

> At the moment, there is little potential for commercially viable radical innovations, apart from fuel cells and maybe superconductivity. In the future, generation will be more decentralized and based on natural gas (UT1, SO).

The strategic uncertainty is lower in the UT sector, since two of the strategic issues that OG companies face – resource depletion and geopolitics – are less severe due to a more diversified fuel mix and a geographical focus on Europe and the US.

The North-South energy divide as the second major strategic issues does hardly play any role, since it does not concern both sectors' key markets that are Europe, North-America and Asia.[58]

> Our expertise is to produce large amounts of electricity; we need clients who are able to pay for that (UT2, SO).

In addition to the greater significance of issues and outside pressure as well as more proactive attitudes of managers in the OG sector referred to above, there is another significant difference between the two sectors which supports quantitative data above suggesting that strategic disposition to CSM is greater in the OG sector: the greater importance of the informal license to operate. In the past the OG sector acted less strategically aggressively in environmental than in general business terms (Ketola, 1993, p. 32). However, this situation appears to be changing gradually. Companies have increasingly recognized the competitive advantage that can be gained from CSM through its positive effect on companies' informal license to operate. BP's "beyond petroleum" rebranding effort is probably the most obvious "proof" of this development: However, it has been widely criticized by both NGOs and peers for "greenwashing" (Buchan, 2001a). Sustainability officers interviewed in this study claimed the an improved informal license to operate accelerates licensing procedures and construction processes, and thus decreases the "time to market" (see section 8.4.3 Economic rationale for a more detailed business case). Furthermore, the greater strategic disposition to corporate sustainability in the OG sector is also reflected in the higher profile of statements from top executives on CSM (Anonymous, 2003f; Browne, 1997; Dahan, 2001).

In comparison, the competitive aspect of CSM is smaller in the UT sector. However, it can be expected to increase in Europe's liberalized electricity and gas markets, since corporate social and environmental records will become more relevant, as they support the building of brands (Gray, 2003).

Conclusion

Companies in both sectors have a clearly incremental rather than a radical approach to CSM, i.e. they generally respond to social and environmental issues on a "business-as-usual" level. Traditional business models are not seriously questioned because they are clearly the most profitable ones under the current market regimes. However, they are more "responsibly

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[58] There are a few exceptions:

E.g. the E7 – an initiative of nine leading electric utilities from G7 countries, formed in the wake of the 1992 Rio Summit – has established a Fund for Sustainable Energy Development in developing and emerging countries to implement renewable energy, rural electrification and greenhouse gas reducing projects. Shell and Eskom have formed a joint venture bringing solar to 50,000 homes in rural areas of the Eastern Cape (www.shell.com – News & Library 22/11/2000: International award for Shell-Eskom's South African rural electrification project).

interpreted" than in the past. This also includes the development of radical innovations in niche markets. Hence if respondents indicate a great strategic disposition of their companies in this study, they actually refer to a *very responsible* interpretation of their sector's *traditional* business model.

Quantitative data also show that companies' strategic disposition is greater in the OG than in the UT sector, which reflects greater driving forces and lower internal barriers in the OG sector diagnosed beforehand. Sustainability officers indicate a greater strategic disposition than general managers do and thus confirm their role as catalysts and reviewers.

Finally, qualitative data reveal a high degree of uncertainty about future developments (e.g. how and when to combat climate change through a transition to renewable energies), particularly in the OG sector, which clearly reflects the complex dynamics of the global energy systems that are driven and hindered by geopolitics, resource depletion, growing energy demand and technological trajectories.

8.4.2.2 Advanced statistics

8.4.2.2.1 Correlations

In the present section, the author reports on correlations detected between the three variables that operationalize strategic disposition – SD familiarity, SD importance and CSM intent – and the remaining variables (see Figure 8-21 to Figure 8-23).

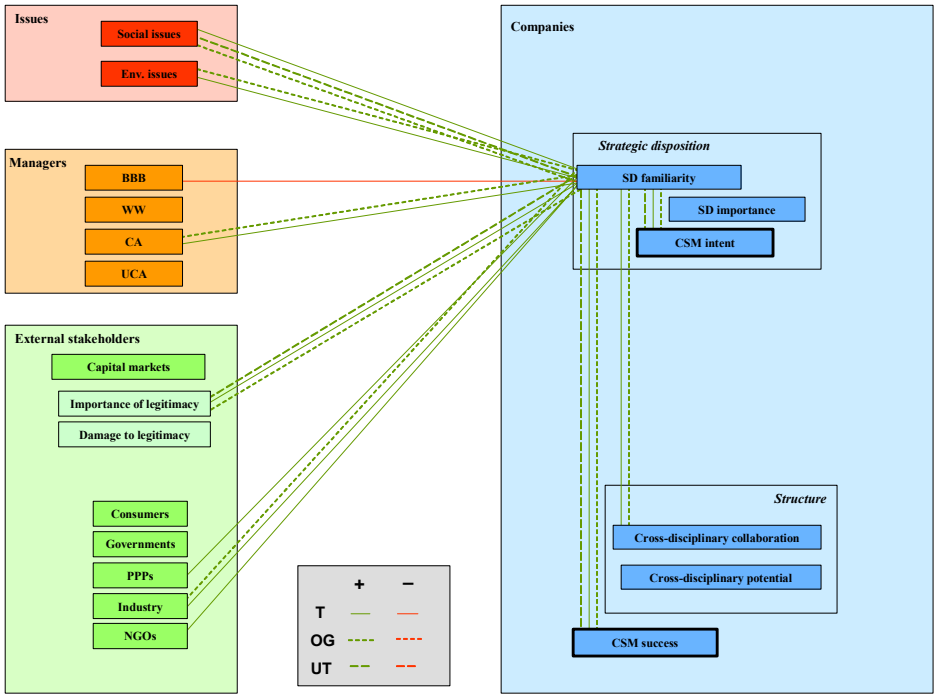


Figure 8-21: Correlations – SD familiarity

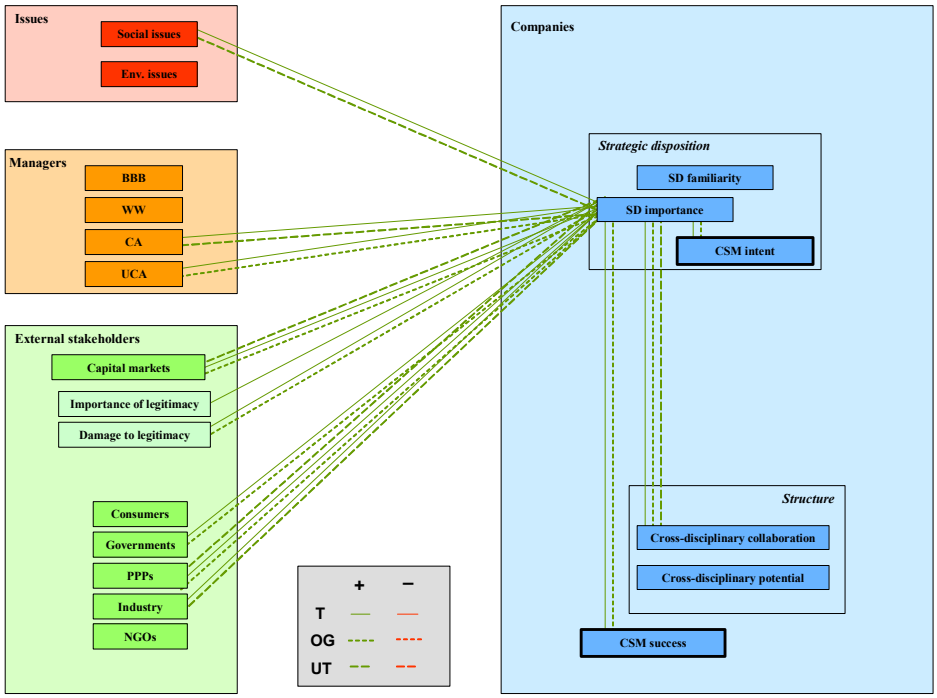


Figure 8-22: Correlations – Future SD importance

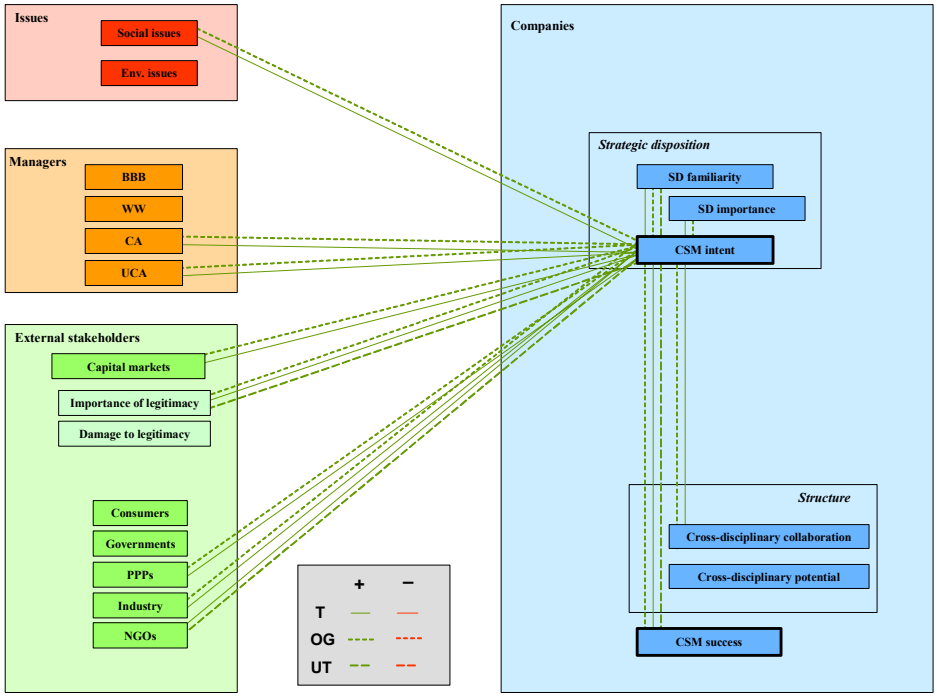


Figure 8-23: Correlations – CSM intent

Correlations between strategic disposition on the one hand and issues, managers' attitudes and external stakeholders on the other have already been discussed in detail in the previous sections. Hence results and interpretation are briefly summarized in the following table:

Tested variables	Detected link	Brief interpretation	Reference to sector-specific interpretation
Issue significance	Positive	Issue significance drives strategic disposition to CSM.	Section 8.1 Issues
Managers' attitudes	- Positive (for proactive attitudes) - Negative (for reactive attitudes)	Proactive (negative) attitudes of managers positively (negatively) affect companies' strategic disposition. Conversely, companies with greater strategic disposition may also attract managers with stronger proactive attitudes.	Section 8.3 Managers
Capital markets' future SD role	Positive	A more proactive SD role of capital markets drives strategic disposition – more clearly in the OG than in the UT sector.	Section 8.2.4 Financial community
NGOs' current SD role	Positive	A more proactive SD role of NGOs drives strategic disposition – more clearly in the OG than in the UT sector.	Section 8.2.2 Public pressure groups
Consumers' current SD role	Insignificant	The predominantly ignorant attitude of consumers makes their role at determining strategic disposition insignificant.	Section 8.2.3 Customers
Governments' current SD role	Insignificant	The SD role of governments is only weakly linked to strategic disposition which points to a lack of long-term strategic guidance from legislators.	Section 8.2.1 Governments and regulators
Importance of legitimacy	Positive	Greater current importance of and past damage to legitimacy, i.e. the informal license to operate, lead to greater strategic disposition.	Section 8.2.6.1 The role of legitimacy
Damage to legitimacy	Positive	Greater current importance of and past damage to legitimacy, i.e. the informal license to operate, lead to greater strategic disposition.	Section 8.2.6.1 The role of legitimacy
Industry's current SD role	Positive	Greater strategic disposition is associated with a more positive perception of the SD role of industry.	Section 8.2.5 Industry and partnerships
Public-private partnerships' current SD role	Positive	Greater strategic disposition is associated with a more positive perception of the SD role of public-private partnerships and industry.	Section 8.2.5 Industry and partnerships

Figure 8-24: Correlations with strategic disposition

The following correlations have not been previously mentioned, and thus will be discussed in detail.

Strategic disposition

Correlation coefficients between the three variables that describe companies' strategic disposition are all positive, as one would expect. Only the link between SD familiarity and SD importance is weak and lacks statistical significance, particularly in the UT sample. This indicates that managers who report high levels of SD familiarity in their companies do not necessarily expect an increase in the importance of sustainable development in the future, which points to a significant degree of skepticism about the future of CSM.

Nevertheless, links between SD familiarity and CSM intent and SD importance and CSM intent on the other reveal that companies are reacting to current and possible future trends: Companies that exhibit greater SD familiarity (i.e. awareness of issues, external pressure, etc.) and expect an increase in pressure tend to integrate social and environmental criteria more comprehensively into their business strategies and operations. The link between SD importance and CSM intent is weaker and not statistically significant in the UT sector, which points to a relatively lower importance of CSM on the UT companies' agenda.

Structure

Cross-disciplinary collaboration

Figure 8-21 to Figure 8-23 also show a significant link between the strategic disposition and cross-disciplinary collaboration. The correlation between CSM intent and cross-disciplinary collaboration is weak and statistically insignificant in the UT sector. This is in parallel with evidence presented earlier in terms of internal barriers, which suggested that CSM is less deeply implemented in UT companies.

Cross-disciplinary potential

In contrast to cross-disciplinary collaboration, cross-disciplinary potential is largely unrelated to strategic disposition. This could be attributed to a significant variation in the way respondents assess this potential, caused by differences in managers' awareness and mindset,

and differences in corporate culture, structure, and the current level of collaboration. These factors are likely to introduce greater variation in the assessment of the potential than in the "assessment" of the level of collaboration (see also section 8.4.4.2 Structure).

A more detailed comparison of the correlation coefficients and their (lack of) statistical significance reveals that SD importance, rather than SD familiarity and CSM intent, are linked with cross-disciplinary potential, which suggests that companies that expect CSM to play an important role in the future also put greater hope in more intensive cross-disciplinary collaboration.

CSM success

Finally there is clear link between the strategic disposition and the success of corporate environmental and social initiatives (CSM success). This is highly plausible, since a more advanced and committed approach to CSM is most likely associated with greater effectiveness of corporate initiatives (Perceval, 2003; Rowlands, 2000; Steger, 1998b). It is also in line with the association of a more advanced approach with greater issue awareness; more proactive attitudes of managers and greater awareness of outside pressure; the importance of retaining and improving legitimacy; and closer cross-disciplinary collaboration, as the other correlations revealed.

Conclusion

Correlations show that strategic disposition is driven by issue significance, greater CSM demand from capital markets and NGOs, greater importance of and damage to legitimacy, and more proactive attitudes of managers. Thus they clearly point to those factors that lead to lower strategic disposition in the UT sector. They also indicate that companies with greater strategic disposition have more positive perceptions of their industry's contribution to sustainable development and are more inclined to rely on public-private partnerships.

Results also point to notable skepticism about the greater importance of sustainable development, i.e. a greater need for CSM, in the future. They thus corroborate evidence presented earlier on a rather reactive mindset of general managers and currently limited demands from stakeholders, which can be met through a "watery" approach to CSM. However correlations also illustrate that companies that are more familiar with the concept of sustainable development and its current and future implications exhibit greater intention to respond to the issues they recognized. This clearly shows that companies are on an learning curve in terms of CSM.

Greater strategic disposition is also associated with greater cross-disciplinary collaboration and CSM success, which demonstrates that a more strategic and distinct approach to CSM leads to a stronger and more effective (hence successful) implementation.

Overall the UT sector attaches less importance to the concept of sustainable development and exhibits fewer links between strategic disposition and cross-disciplinary collaboration. This points to its lower position on the CSM learning curve, which also reflects the sector's configuration of drivers and barriers referred to above.

8.4.2.2.2 Regressions

In the present section the author comprehensively assesses the internal and external determinants of CSM intent by examining their joint effects in summary models (see Regression Table 8-13) rather than their separate effects through the various submodels and cluster models presented throughout the study.

	T model		OG model		UT model	
Number of obs	76		52		51	
F	11.24		10.56		6.51	
Prob > F	0.0000		0.0000		0.0003	
R-squared	0.4056		0.4838		0.3058	
Adj R-squared	0.64519		0.62268		0.71312	
Root MSE						
Coefficients						
			Social issues	**.2570981**	Environmental issues	**.1857644**
	Imp. legitimacy	**.2749165**	Imp. legitimacy	**.3261695**	Imp. legitimacy	**.2055168**
	Customers	**.3238749**				
	CA attitude	**.3955331**	CA attitude	**.308352**		
			Knowledge	**-.406914**		
	Corporate culture	**-.437983**	Corporate culture	**-.470526**		
	North America	*-.316520*			Nordic	**.5611539**
					Female	**.6565826**
	Constant	**1.051468**	Constant	.4479149	Constant	**1.862531**

Regression Table 8-13: CSM intent – Summary models

The three summary models explain between 36% and 53% of the variation in CSM intent. Various variables that have been included in the individual submodels and cluster models are omitted from the summary model because their effect lacked statistical significance. This happened for two reasons: (1) Their effect was picked up by a variable that is included in the summary model. E.g. it is very probable that any effect of stakeholder-related variables is reflected in the influence of the importance of legitimacy, which is significant in all three summary models. (2) Constraints in the degrees of freedom prevented more variables from becoming statistically significant. This applies particularly to the UT model due to the limited sample size.

The OG model features coefficients from *all four* clusters that were individually tested throughout the study: Issues, external stakeholders (legitimacy), managers and companies. This is an important finding in itself, since it indicates that none of the organizing principles hypothesized to determine CSM intent based on the study's conceptual framework – i.e. public responsibility, legitimacy, managerial and corporate discretion – dominates the remaining ones.

The coefficients indicate that:

1. CSM intent is driven by the importance of legitimacy in both sectors. This clearly corresponds to the evidence presented earlier in section 8.2 External stakeholders, industry and partnerships, which suggested that external stakeholders are an essential driver of CSM since they determine companies' informal license to operate. CSM is hindered by lack of interest from customers: The positive coefficient suggests that companies with greater CSM intent tend to consider customers' ignorance of CSM a greater barrier than laggards with lower CSM intent (see section 8.2.3 Customers). It should be noted that the individual influence of other external stakeholders' demands (i.e. the SD roles of public pressure groups, regulators, governments, capital markets and customers) and incidents that damaged companies' legitimacy in the past are omitted from all three models, since they do not attain statistical significance. Their effect appears to be picked up by the importance of legitimacy.
2. CSM intent is driven by proactive managers who consider CSM a means of generating long-term competitive advantage (CA attitude). It is plausible that individuals who – ceteris paribus – exhibit more proactive attitudes are more likely to exercise managerial discretion (Wood, 1991, p. 698). The CA attitude is missing in the UT summary model (as

it was in the cluster model presented in section 8.3 Managers), presumably due to constraints in the degrees of freedom and/or because proactive attitudes are less developed or dominated by internal barriers (e.g. corporate culture) in the UT sector.

3. CSM intent is driven by the significance of social and environmental issues in the OG and UT sectors, respectively. As already discussed in section 8.1 Issues, this indicates that leading companies in the OG sector concentrate more strongly on social issues in developing countries due to their relevance to companies' informal license to operate. UT companies' focus on environmental issues points to their geographical focus on developed countries, in which social issues are negligible and pressure on climate change stronger. As discussed in section 8.1 Issues, issue significance already takes into account external demands from stakeholders on that particular issue. Thus the effect of the importance of legitimacy alongside issue significance in both sector-specific models suggests that CSM intent is additionally moderated by the importance of the informal license to operate. This suggests that the informal downside potential (e.g. consumer boycott) and the upside potential (e.g. good community relations, goodwill from society speeds up licensing procedures) are significant determinants of CSM, also because the informal license to operate can be more quickly revoked than the formal license to operate (which mostly relies on slower legislative modifications).
4. CSM intent is hindered by corporate discretionary barriers, namely corporate culture and lack of managers' knowledge and expertise. In contrast to the OG model, the UT model does *not* comprise any internal barriers. This does not mean that they do not exist. On the contrary, the data presented in section 8.4.1 Company-specific determinants illustrate that internal barriers are greater in the UT sector. Hence it is most likely that corporate discretionary barriers fail to attain statistical significance due to constraints in the degrees of freedom.

The models also point to several influences of demographic variables: In the energy sector as a whole, respondents who operate in North America report less CSM intent than their counterparts in other regions of operation. This appears to reflect lower levels of societal pressure in North America (Skjaerseth et al., 2001) and differences in corporate characteristics such as top management commitment (Sharma et al., 1999) and level of centralization (Ketola, 1993; Kolk et al., 2001).

The UT model shows positive effects of Nordic regions of operation and female gender. It is likely that the region effect reflects stronger regulatory pressure (Midittun et al., 1999) and the relatively strong use of renewable energy in Nordic countries, which requires companies to take environmental issues into account more. The gender effect could indicate a stronger social-desirability bias of female respondents.

8.4.2.3 Discussion

Strategic disposition put into perspective

Qualitative primary and secondary data have provided an important means of putting the abstract quantitative data on companies' strategic disposition into perspective. They show that companies in both sectors have a clearly incremental approach to CSM.

As one would expect from sectors that are resource-intensive and produce commodities – as e.g. also the chemical sector, CSM is clearly process-driven (rather than market driven), triggered by regulatory and NGOs' outside pressure (rather than green pull from consumers), and leads to competitive advantages by reducing cost through process improvements such as pollution control, energy efficiency and waste disposal (Holliday, 2001; Stead & Stead, 1995, p. 44; Tapon et al., 1995). Long-range visions for corporate sustainability that require strong (also moral) leadership, are shared by management and workforce, and could generate

significant internal pressure and enthusiasm (Hart, 1995, p. 102; Ketola, 1993, p. 32) are clearly missing. As the author demonstrated in 8.2 External stakeholders, industry and partnerships, this situation reflects the widespread ignorance of the primary transactional stakeholders (customers, investors, etc.) in both sectors.

However, the author also notes that companies have moved beyond a purely PR-based, "greenwashing" approach to CSM. Particularly the leaders in both sectors have systematically implemented new structures and processes (as explained in more detail in section 8.4.4 Implementation). OG firms in particular have changed business practices, to improve their informal license to operate in developing countries.

Strategic responses to the major *strategic issues* (North-South energy divide and, especially, climate change) include – based on Ansoff's systemization of response strategies (Ansoff, 1975):

1. Environmental and self-awareness: In particular companies that are sustainability leaders have recognized the major issues through their relationship to the external environment and internal configurations (e.g. scenario building).
2. Flexibility: Internal emissions trading systems and diversification (e.g. renewable energy technology) enhance future potential rather than create tangible changes in profits and growth.

Direct responses (the third and strongest response category), which would avert the threat through external action (strategic planning & implementation) and internal contingency planning, are essentially lacking. However, one could argue that the creation of independent business units for renewable energy technologies and services and a corresponding strategic commitment by sustainability leaders, particularly in the OG sector, constitute direct responses (Ansoff, 1975, p. 26). But this view could be overoptimistic, as strategic planning largely revolves around fossil-fuel based energy, and renewables activities are still largely pilot projects.

It remains to be seen when and how the major long-term issues of climate change and energy divide will be more comprehensively addressed. The timing will depend on a variety of interdependent factors that drive the global energy system. The challenges will be significant, since distinct responses to both issues require new technologies and business models that companies are still largely unfamiliar with. They are tested in pilot projects and gradually developed in niche markets, since they (1) rely on partnerships with "neighboring" industry sectors (e.g. automotive, technology) to switch technological trajectories, particularly in the OG sector; and (2) lack a stronger and competitive business case in today's business environments, as the author will discuss in more detail in the next section 8.4.3 Economic rationale.

Determinants and effects of strategic disposition

Evidence obtained from correlation and regression analysis provides the following significant insights into the determinants and the effects of companies' strategic disposition to CSM.

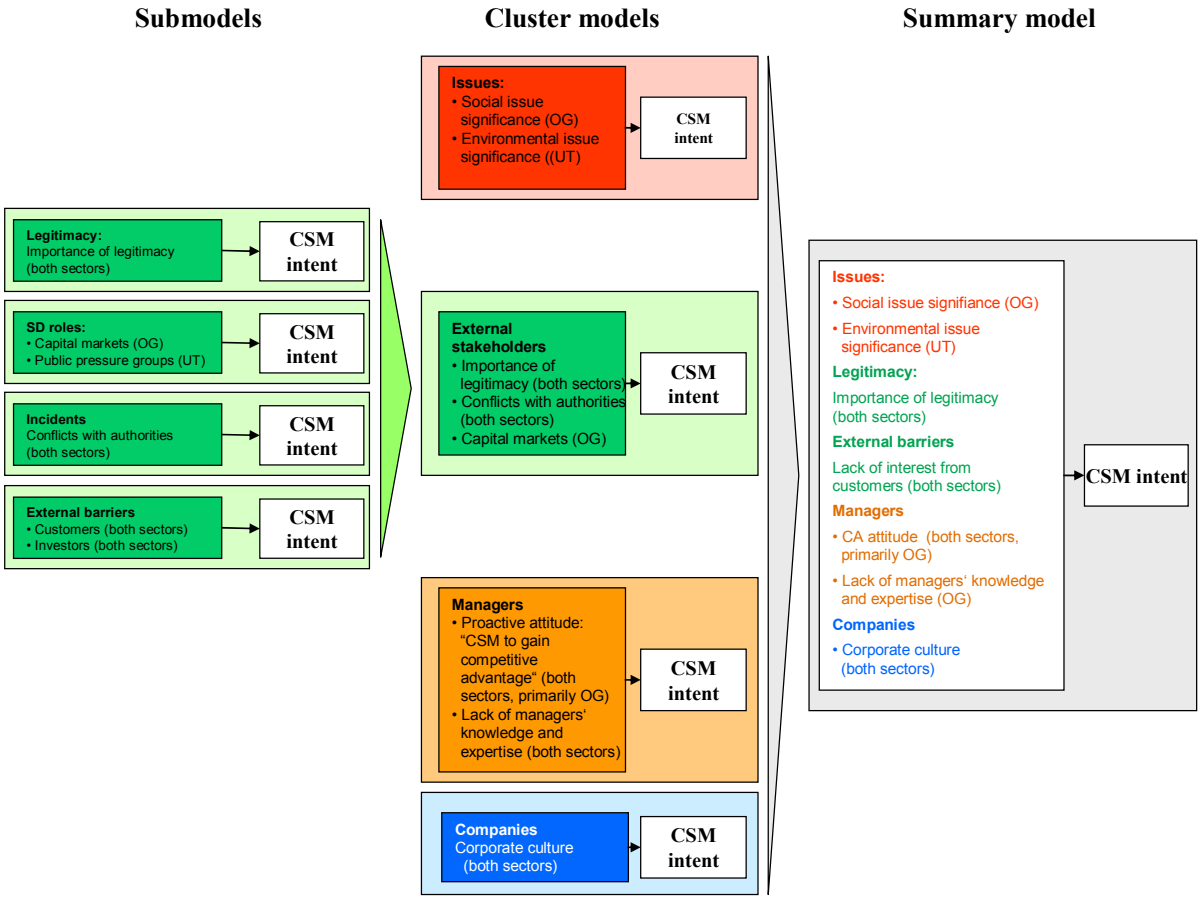


Figure 8-25: Determinants of CSM intent

The summary model suggests that companies' intention to integrate issues into operations is determined by their perception of the financial threat or opportunities associated with the issues they face. The greater the threat or opportunity, the greater the CSM intent, which is additionally moderated by corporate culture, managers' attitudes and knowledge, and two legitimacy-related variables. The effect of the importance of legitimacy shows that companies are more inclined to respond to issues if they have recognized the importance of the informal license to operate, most likely because:

1. The informal license to operate can be more quickly revoked than the formal one. This means that they are more likely to respond if the threat or opportunity is more immediate.
2. The formal license to operate is not seriously challenged. This result is particularly plausible if one takes into account complementary evidence about the insignificant role of governments and regulators in driving CSM.

The influence of largely ignorant customers reflects the demotivating effect of being largely unable to leverage more responsible business practices into greater sales. It should be noted that this influence is only perceived by companies' with higher CSM intent.

Strategic disposition is jointly determined by four factors: issues, external stakeholders, managers and company-specific characteristics (see Figure 8-25). Thus the evidence is in line with that of other studies also pointing to the significance of some of the four determinants referred to above (Banerjee et al., 2003; Bansal et al., 2000; Greening et al., 1994; Henriques

et al., 1995; Henriques et al., 1996; Lawrence et al., 1995; Sharma et al., 1994; Skjaerseth et al., 2001; Winn, 1995). However, this study's results also go beyond those of most previous studies. They show that:

1. A differentiation between managerial discretion (i.e. individuals' attitudes and knowledge) and corporate discretion (i.e. corporate culture) is valid, since, as hypothesized in the conceptual framework, corporate discretionary factors determine the space in which individuals may or may not exercise their discretionary power.
2. The four motivating principles featured in the study's conceptual framework have such a clear individual effect on companies' strategic disposition that they do not dominate each other: At least one variable from each of the four principles remains in the final summary model without being picked up by a "competing" one. This means variation in companies' strategic disposition can be comprehensively explained through a holistic assessment of differences in issue significance, the importance of the informal license to operate, managers' attitudes and knowledge, and corporate culture.
3. The influence of the four determinants of CSM is moderated by sector (Banerjee et al., 2003; Henriques et al., 1996) and region effects (Skjaerseth et al., 2001).

It should be noted that the regression analysis was not designed to assess whether one determinant of CSM intent is more important than another, because the author chose a rather conservative approach to interpreting regression results to counteract possible biases (as outlined in section 5 Method). However, based on the qualitative and quantitative analysis undertaken in section 8.4.1 Company-specific determinants, one could cautiously conclude that internal drivers of CSM are at least as important as external ones, if one takes into account that current approaches are largely characterized by a more responsible interpretation of "business-as-usual."

Correlations above also show the effects of strategic disposition on implementation and outcome: Greater strategic disposition leads to (1) a higher level of organizational alignment, indicated through more intensive collaboration between sustainability experts and general managers, and (2) greater CSM success. This is highly plausible, since the recognition of issues and top management's decision to integrate them into business strategies and operations triggers a process of organizational redirection that becomes visible in changes in companies' business principles, corporate values, visions, structures (e.g. cross-disciplinary task forces), and allocation of resources. These changes contribute to CSM success (Doz et al., 1988; Steger, 1998b, p. 99).

Contingency perspective on strategic disposition

The study's contingency approach provides several sector-, discipline- and region-specific findings.

Qualitative analysis and basic statistics reveal lower strategic disposition in the UT sector, which can be clearly explained with the sector-specific influence of the determinants identified through the regression models: UT companies generally not only face weaker drivers (lower issue significance, lower importance of the informal license to operate and less proactive managers) but also stronger internal barriers to CSM (less open corporate cultures).

The only statistically significant cross-disciplinary variation, namely the greater SD familiarity reported by sustainability officers compared to general managers, can be mainly attributed to general managers' lower awareness of existing best practices in generally large and complex organizations and the (possibly calculated) optimism sustainability officers exhibit as catalysts in their companies.

Region effects found in regression models are likely to be caused by differences in societal and regulatory pressure (e.g. US vs. European stance on climate change) and organizational settings (Ketola, 1993; Kolk et al., 2001; Sharma et al., 1994; Skjaerseth et al., 2001).

8.4.3 Economic rationale

In the present section the author will describe how companies approach the economic rationale for CSM, which relates to both their strategic disposition, i.e. their willingness to integrate issues into strategies, and their implementation of CSM. The section includes a discussion of

- the importance and elements of the business case, i.e. what economic arguments (value drivers) for CSM managers consider most compelling (section 8.4.3.1)
- the tools, structures and processes that are used to integrate environmental and social issues into business strategies and operations (section. 8.4.3.2).
- how systematically and comprehensively the business case is, could and should be built (section 8.4.3.3).

Evidence provided will be based on qualitative analysis and basic statistics. Advanced statistics are not used because relevant data obtained from sustainability officers lacked an adequate number of observations.

8.4.3.1 Importance and elements of the business case

Elements of the business case

Overall interviewees easily relate to the concept of the business case for sustainability and the value drivers. This applies to sustainability officers in particular because they strongly rely on a sound economic rationale for corporate sustainability initiatives due to their role as change agents in their company. They indicate that the identification of the most important value drivers is, unlike the quantification of the economic potential itself, relatively easy (Salzmann, 2004, p. 136):

> A first guess about the most important value drivers usually takes you pretty far. You do not need to crunch numbers to identify them (OG2, SO).

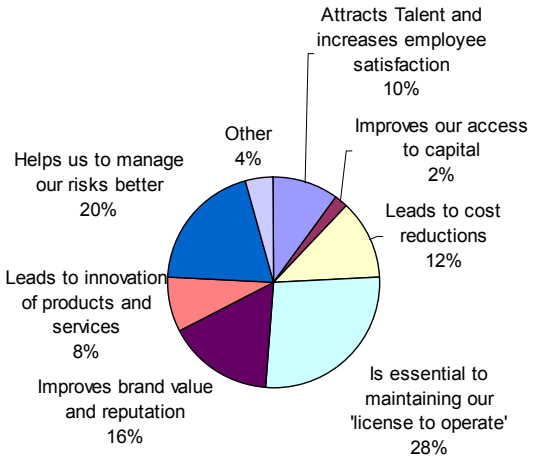


Chart 8-31: Value drivers (OG sustainability officers)

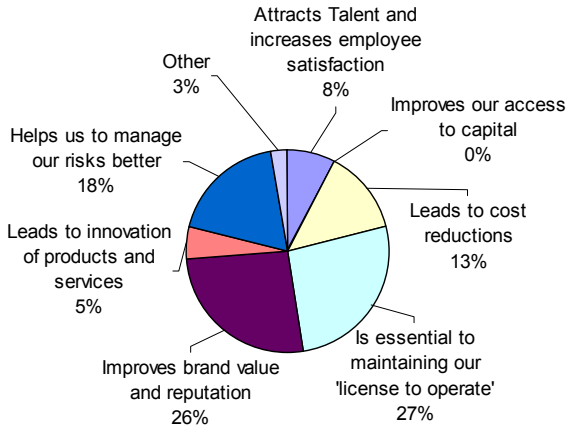


Chart 8-32: Value drivers (UT sustainability officers)

As Chart 8-31 and Chart 8-32 indicate, sustainability officers' understanding of the business case for sustainability goes beyond a mere "cost reduction focus." Three value constructs, namely the license to operate, brand value and reputation, and risk management, appear to be the most compelling elements of the business case for sustainability. The innovation of products and processes plays a marginal role as a value driver accounting for only a 5% and 8% share, respectively.

The proportions in the charts are clearly mirrored in and explained through the statements of the interviewees. They clearly differentiate between a "robust" and "elusive" part of the business case for sustainability depending on the value drivers used, and report a significant focus on risks rather than opportunities:

> The business case on environmental, health and safety performance has almost no limits, it's a "no-brainer". Investments are built around that. More radical innovations are the tricky part. They are pushed only by enthusiasts in R&D and environmental affairs rather than top management (OG3, strategy).
>
> Risk reduction is the major issue and value driver. X [UT company] has so far solely identified opportunities through measures of risk reduction., but we have recognized this shortcoming and are currently looking for ways of improvement (UT4, SO).

This differentiation between a robust, short-term and risk-based (essentially pragmatic) business case and an elusive, long-term and opportunity-based one can be attributed to several systemic and organizational factors:

1. General managers' expertise and responsibilities: Sustainability officers consider risk reduction a more powerful argument for corporate sustainability (than opportunities for strategic innovation), since it is much more strongly related to general managers' daily work (hence much more tangible for them) than radical innovation such as the development of renewable energies.
2. Markets and regulation: Due to current market and regulatory frameworks (see stakeholders' demands for CSM discussed in section 8.2), the business case for radical and long-term innovation in particular is marginal. Hence significant paradigm shifts do not take place. To obtain buy-in from general managers and top management, it is obvious to build the business case on a more solid value proposition, which under the current business environment favors the "incremental approach," i.e. more efficient and (socially and environmentally) responsible fossil fuel production (Salzmann, 2003a, p. 135).
3. Technology: All sustainability officers and most key decision-makers recognize the strategic risks and opportunities (climate change, North-South energy divide) and the eventual need for a radical innovation of technologies and business models. Nevertheless, uncertainty is substantial, in particular in the OG sector, which is strongly locked into technological trajectories (through high fleet inertia) with the mobility sector.
4. Complexity (time and scope of CSM): The more long term the perspective and the broader the scope of an initiative (i.e. level of aggregation, number of issues to be addressed), the more complex is the building of a business case, as it relies on more data (which need to be compatible for aggregation) and is subject to more contingencies (How do issues develop? How is initiative implemented across different business units?). In addition the business case for long-term activities is further marginalized, since future cash flows are strongly discounted (Schaltegger & Figge, 1998, p. 7). As the quote above illustrates, it is easy to build a business case for short-term and ad hoc initiatives that improve efficiency or health & safety performance. A risk focus, i.e. the seizing of opportunities through risk

reduction, is also less complex and resource intensive than an active search for opportunities, which requires more "out-of-the box" thinking.

Cross-sector differences

The quantitative data show only one notable difference between the two sectors, which is also statistically significant: Compared to OG sustainability officers, UT sustainability officers more frequently consider brand value and reputation one of the three most important arguments when promoting the concept of sustainable development.

At first sight this result is not fully in line with GM data presented in section 8.2.6.1, according to which OG general managers consider brand value and reputation more important than UT general managers do. However, this supposed contradiction can be explained and solved as follows:

- The higher importance indicated by OG general managers– compared to their counterparts in the UT sector – appears to adequately reflect the higher visibility of their companies and brands.
- The fact that UT sustainability officers concentrate their responses more strongly on brand value and reputation (in addition to risk management and the license to operate) illustrates that they are less aware of the potential of other value drivers such as employee satisfaction, innovation and improved access to capital. Their counterparts in the OG sector appear to have a wider and more holistic perspective on the business case: Their portfolio of value drivers is more balanced, which points – in parallel with evidence presented earlier – to a more advanced and sophisticated approach to CSM.

This interpretation is also supported by qualitative data, which suggest that value constructs appear to be the current key elements of the business case in the OG sector. Beyond the traditional focus on efficiency, health & safety (to cut costs), the informal license to operate (or grow) in developing countries is considered particularly important: The aim is to improve it through environmental and social initiatives (e.g. community development, fair allocation of oil revenue through revenue management) and stakeholder dialogue, because it improves access to capital from private banks and international financial institutions such as the World Bank), accelerates licensing procedures and shortens the time to market.

In the UT sector the importance of value constructs is lower, most likely because the competition on such concepts is less strong. Time will tell whether market liberalization in Europe will bring them – brand value and reputation in particular – more into focus, since CSM may be increasingly recognized as a means to gain competitive advantage, provided that regulations will spur competition through e.g. appropriately priced network access (Gray, 2003; Tack, 1999, p. 51).

8.4.3.2 Issue integration

Having discussed the elements of the business case in the previous section, the author now deals with the tools, structures and processes used to integrate issues into corporate decision-making based on sound economic rationale. The level of detail is, however, limited for three reasons:

1. Given the substantial breadth of the study, the interview time was insufficient to obtain more detailed qualitative data.
2. Interviewees were somewhat reluctant to provide deeper insights into processes and systems used to integrate issues, as they are considered proprietary information.
3. Lack of complementary quantitative data.

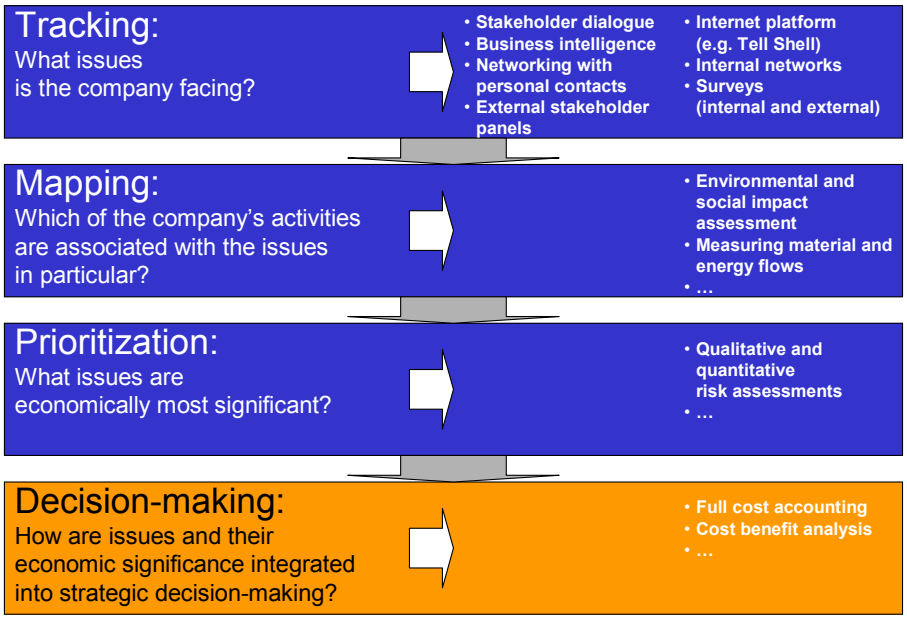


Figure 8-26: Processes of issue integration (Salzmann, 2003b, p. 15)

Figure 8-26 features the categories developed to systemize these processes and tools, along with several examples. It remains difficult to accurately assess how well equipped companies are with processes and tools to detect, assess and integrate issues into decision-making. However, given the systematic factors of marginality and complexity, which make these tasks rather difficult, it is safe to assume that laggard companies in particular tend to lack the necessary technical and human capacity to systematically take account of their social and environmental issues.

Depending on the complexity and the importance of the issue, various organizational units are involved in the process of issue integration (Salzmann, 2003a, p. 14). Most importantly, they include:

- The corporate sustainability function: It usually tracks issues at the corporate level, also based on data collected from business units, and reviews business plans in terms of whether they sufficiently take into account social and environmental risks (in some companies they even have the authority to reject inadequate plans).
- The corporate strategy team: It coordinates input from corporate staff and prioritizes strategic (including important social and environmental) issues to incorporate them into strategic decision-making.
- Issue teams: Their composition varies depending on the importance of the issue. For very important issues, they tend to be "more comprehensive, cross-functional and cross-business and senior" (p. 15). They are considered effective means of assessing clearly definable issues, developing strategies and application tools, and building internal consensus for issue integration.
- Corporate sustainability committees: They are composed of top management, corporate sustainability staff, and key heads from functions and business units. They take key strategic decisions on corporate sustainability.

As the somewhat broad roles and responsibility of units reveal, the following processes of issue integration should not be seen as isolated steps, but ideally as parts of a fluid, iterative and multi-unit procedure.

Issue tracking

Tools to track issues and detect emerging ones differ depending on the nature of the issue (global, regional or local). They comprise inter alia direct representation at the federal, state and local levels of government (business intelligence); coordination with other companies through trade associations, improvement of media relations; and issue advertising (Arrington et al., 1984; Heugens, 2002). Personal contacts and networks in industry associations and platforms as well as stakeholder dialogues are considered most effective at the corporate level. At the project level, environmental and social impact assessment additionally play an important role.

Issue mapping

Once issues are detected, their relevance to the individual company, project or business unit needs to be assessed. Corporate social and environmental effects are examined to facilitate a meaningful prioritization (What are our main social and environmental effects and where do they occur?) Obviously the more corporate activities are involved, the more important issue mapping becomes, because it facilitates informed and thus more confident decision-making (Sharma et al., 1999, p. 94). Thus data management tools (e.g. environmental accounting to track material and waste flows) and impact assessments are essential to facilitate internal and external benchmarking and prioritize areas of action (e.g. country, region or a particular corporate activity). Interviewees also pointed to the role of *local* management's awareness, buy-in and expertise because they are most familiar with the actual situation.

In some cases it is difficult to clearly differentiate between issue tracking and mapping: E.g. although environmental and social impact assessments are generally undertaken to map issues (that are already on a company's "radar screen"), their use can also result in the detection of new and emerging issues.

Issue prioritization

Again interview data point to the importance of experienced and well-trained staff, particularly if the issues are of strategic importance. In both sectors, companies use risk management procedures to prioritize issues. Ideally they comprise bottom-up and top-down procedures:

- Business units and country managers naturally focus on more short-term and local issues. They submit risk reports to the corporate function.
- Corporate sustainability experts take a more holistic and long-term approach and assesses potential cross impacts.

The tools as such comprise both qualitative and quantitative (risk score, financial figures) assessments and take different parameters – such as probability of occurrence, possible consequences, degree of control – into account. They yield risk priority lists at the corporate level but also for individual countries and projects (Salzmann, 2003a, p. 18).

Integration into decision-making

Once issues are found to be of significant importance they need to be integrated into decision-making. Interview data suggest this final step remains the most important challenge. The following factors are most significant:

- **Presenting the business case to managers:** Managers are presented with the economic rationale for integrating the issues under consideration, e.g. face to face by the

sustainability officer or through successful case studies that are published internally and externally. Such presentations comprise (1) an ex-ante and universally quantifiable business case for improvements in environmental, health & safety performance, (2) ex-post and case-study-based evidence of the positive effects of corporate activities on value constructs such as brand value, reputation and the license to operate. They do not necessarily present a quantified business case, but may also be designed to make employees feel good about their (environmentally and socially responsible) employer.

- **Top management commitment, corporate values and policies:** They provide an organizational context that facilitates issue integration in the decision-making of individuals (e.g. Bichta, 2003, p. 16).
- **Other management tools:** Management tools such as metrics (e.g. global community spending, emission to air), targets (e.g. relative emission reduction by x%), modifications to investment appraisals and accounting procedures (e.g. to account for carbon costs), scenario analysis and backcasting directly relate to one or several specific issues.
- **Management structures:** Cross-functional and cross-business teams comprise executive managers from a diverse range of business units and/or functions, and thus facilitate not only consensus-building but also issue prioritization through cross-impact assessment.

Overall, companies appear to be at different stages of the learning curve. Whereas leaders have metrics, targets and incentive systems in place (e.g. remuneration contingent upon the group's balanced scoreboard which also incorporates environmental and social criteria), laggards have less systematic frameworks:

> Sustainability is "hardwired" into its systems and processes (e.g. new business proposal must take account of environmental and social issues, carbon cost accounting, etc.) and "softwired" into the hearts and minds of our people (awareness, excitement and knowledge) (OG2, SO).
>
> There is no formal procedure so far. Targets are set, approaches (e.g. coal vs. gas-fired power plant) to achieve targets are discussed with business units (UT1, SO).
>
> Overall, there is little framework, we are concentrating on the hot topics (OG3, SO).

8.4.3.3 Building and quantifying the business case

Although several companies stress the potential to create economic value by internalizing issues (e.g. enhancing the license to operate or to grow, being a preferred partner for host governments, reputation, innovation, etc.) in their public documents, interviews suggest that only very few companies have attempted to systematically map out their business case for sustainability, i.e. to link corporate response to certain environmental and social issues and the different value drivers and value constructs (as depicted in Figure 8-27), either at the corporate level, or even the project level (Corbett & Wassenhove, 1993 p. 118; Epstein et al., 2001 p. 588; Wheeler, G, & P, 2000 p. 291). This profit-oriented but yet intuitive integration of issues into corporate activities is lacking in laggard companies in particular, and thus can be confidently considered a significant stumbling block to corporate sustainability management. There are several reasons for this missing link:

1. High level of complexity and uncertainty: Figure 8-27 is a very simplified depiction of the real situation, since issues are numerous and highly fragmented. In some cases such as an emissions reduction scheme (e.g. reduce flaring), it is quite straightforward to link an initiative to cost reductions. In other cases such as community involvement, the net economic effects and thus the business logic may be highly dependent on local

and regional conditions. It also appears that laggard companies in particular lack motivation, resources and systems for tracking their issues and correspondingly their social and environmental initiatives.

2. Marginality of economic value created through CSM activities: As outlined above, the expectations of external stakeholders for CSM are so moderate that they can be met (or even exceeded) through an incremental approach to CSM (Steger, 2004, p. 72). The incremental approach is dominated by initiatives such as efficiency improvements whose business logic is self-evident and marginal. The economic potential of radical innovations to business models (e.g. renewable energies) is even less significant, as their development in niche markets and pilot projects suggests. Hence companies avoid the effort of modeling causal relationships between their social and environmental initiatives and financial performance.

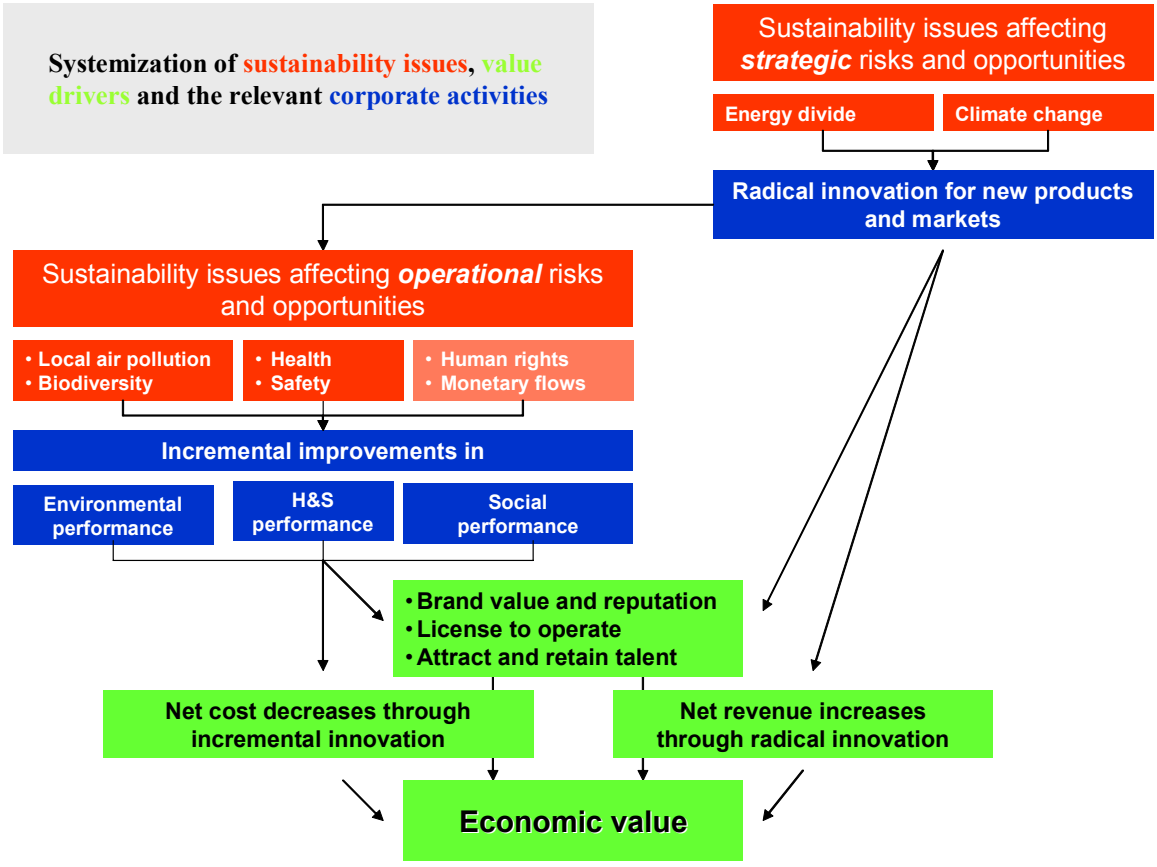


Figure 8-27: Mapping the business case for sustainability (Salzmann, 2003b, p. 11)

Obviously these barriers to establishing a sound business logic also apply to the quantification of the business case. The ex-ante quantification of the business case for a "small" and well-defined corporate environmental or occupational health-related activity is relatively feasible. However, large projects or group activities are impossible to assess.

> It works for lost workdays (insurance figures) and emissions trading (penalty cost, average trading costs). We have tried, but it is difficult for the soft issues (OG5, SO).
>
> Building a quantified business case for sustainability is not possible. We have generated quantitative case-based, ex-post evidence, which is not generally applicable. With the exception of carbon cost accounting, one has to "jump"

> between corporate strategy and individual case studies. So, we are looking for additional tools (UT3, SO).

Interviews suggest that decisions are primarily taken based on projects and issues whose relevance is assessed through risk assessment procedures described above. As the second quote above illustrates, most companies perceive their current methodologies for quantifying the business case as insufficient. This is not surprising if one takes into account the diagnosed lack of causal modeling: Quantification and necessary methodologies are only meaningful if they can be based on business logic that postulated a causal link between a social or environmental initiative and changes in economic performance.

It is important to note, however, that neither sustainability officers nor general managers called for an ex ante quantification in all situations. Interviewees often argued that the business case for more efficient and safer processes is obvious and does not necessarily require quantification – investments are already built around environmental, health and safety issues. A plausible business logic without exact quantification was claimed to convince bystanders in the company, provided that positive moderating factors such as a proactive organizational culture exist:

> Business plans and projects to increase environmental and social performance should be based on an "earnest logic," quantification is not necessary, even if – obviously – a RoI figure would be the most compelling (OG5, finance).

However, this claim raises two important questions:

1. How convincing is business logic (without quantification) in times of financial pressure or after changes in strategy or management?
2. How compelling can business logic be, if external pressure on companies and hence financial threats and opportunities are marginal?

In light of the two questions above, it is obvious that quantification remains on companies' agenda: One of the leading OG companies is currently developing methodologies to quantify the economic potential of certain corporate activities. It focuses on value constructs such as the formal and informal license to operate and employee satisfaction. However, it would be unrealistic to expect tools that go far beyond a project- and issue-based quantification of the business case, i.e. for example

- a quantified link between CSM and employee satisfaction (e.g. through multivariate analyses of employee surveys) and resulting financial effects
- case-based evidence for economic gains of obtaining permits faster and minimizing disruptions of operations in developing countries through comprehensive stakeholder dialogues, community involvement and sound environmental management.

8.4.3.4 Discussion

Focus on operational risks rather than strategic opportunities

Overall evidence reveals a clear dilemma in the business case for sustainability, which can be briefly depicted as follows:

1. Cost reductions can be rather easily achieved through *incremental* innovations. They are easy to quantify and provide a robust business case for improvements in environmental, health and safety performance. However, corporate initiatives in this area only resolve some of the environmental and social issues both sectors face.
2. Value constructs such as brand value, reputation and employee satisfaction are currently considered the most important value drivers (constructs) but are intangible. The actual

economic value attached to them – as either cost decreases or revenue increases – can be created through both *incremental and radical* innovation but is yet to be leveraged. Brand value does not per se improve financial performance, hence it is often difficult to quantify as most interviewees pointed out.

3. The business case for *radical* innovation through revenue increases is weak. However, only a sound business case for more radical innovation (beyond e.g. incremental process modification to improve eco-efficiency) would lead to more accentuated approaches to resolve the two major strategic issues: climate change and the North-South energy divide.

In this situation, companies have moved beyond a mere cost reduction focus and also consider value constructs such as brand value and reputation, i.e. the informal license to operate, compelling arguments for CSM. Current demands for CSM from stakeholders are satisfied by incremental improvements to corporate activities, which clearly reflects the fact that the strongest business case can be built and quantified for the management of operational risks rather than strategic opportunities.

Overall, the business case for corporate sustainability is rather marginal, and therefore – as Steger (2004, p. 72) also argues based on recent cross-industry evidence – corporate sustainability is largely dominated by the "daily grind of business and maximizing shareholder value." Several significant barriers to a "breakthrough business case" exist – including technological trajectories and business systems (upstream and downstream) into which industries are locked; consumer inertia; and managers' attitudes (p. 68)

Issue integration

Qualitative data provide an overview of companies' structures, processes and tools used to identify, map, prioritize, and integrate issues into corporate decision-making. It appears that laggard companies have a rather inadequate portfolio of such tools, although the exploratory interview-based approach, on which this conclusion is based, inherently lacks generalizability. The author suggests that a further more intensive rather than extensive study (i.e. based on more in-depth analyses in fewer companies) could more closely analyze organizational settings (cross-business teams), procedures (risk reviews) and tools (e.g. carbon cost accounting) used to integrate issues into corporate decision-making, and thus more precisely identify gaps, best practices and success factors for issue integration.

Evidence shows that the portfolio of tools, particularly for **issue prioritization**, are characterized by a distinct focus on risk, which reflects the predominantly risk-based business case for sustainability – as described in the previous paragraphs. It also points to the importance of the principle of managerial discretion: Individual managers or issue teams have a great effect on CSM, since their efforts in identifying and evaluating issues result in assumptions, cause-effect understandings, predictive judgments, languages and labels, which determine "in large part, however implicitly, the subsequent of course of decision making" (Dutton et al., 1983, p. 310).

This finding offers an additional explanation for companies' largely incremental and reactive approach to CSM. Reactive attitudes and lack of knowledge and expertise among individuals who identify and prioritize issues may negatively affect issue integration, particularly if issues are complex and thus require a substantial amount of personal judgment. This insight calls for the employment of experienced and well-trained staff for processes of issue prioritization in particular.

Building and quantifying the business case for sustainability

Obviously managers would prefer more robust, quantified business case for sustainability over a more elusive one, which is associated with greater uncertainty of decision-making processes. Qualitative data obtained in this study show that the business case for sustainability

at the robust end of the spectrum is limited to rather obvious situations (e.g. efficiency improvements).

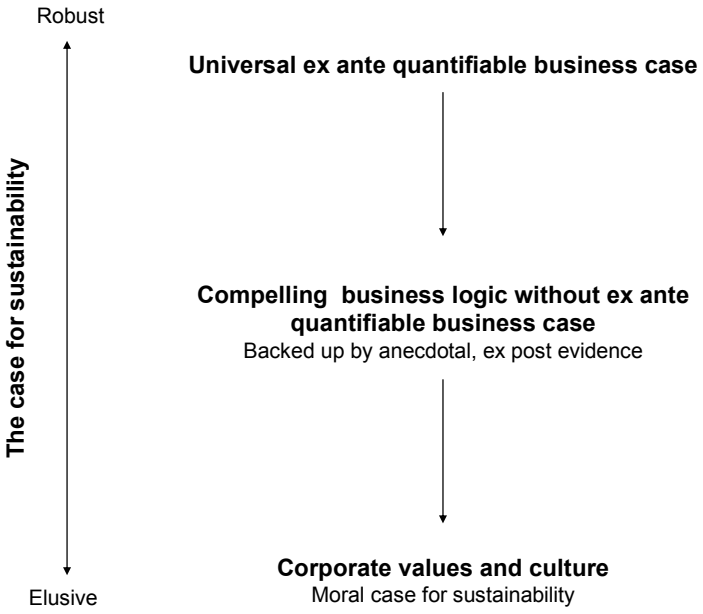


Figure 8-28: Different cases for corporate sustainability

This finding can be attributed to several reasons:

1. Complexity caused by a plethora of often highly fragmented issues. Figure 8-29 illustrates how difficult it would be to comprehensively assess the financial opportunities and threats that relate to only one issue such as climate change. Although complexity is largely systemic, some of it could be reduced by decreasing the diagnosed lack of organizational resources (see point 2 below).
2. Lack of resources. Data management (to track issues and activities) can be challenging, particularly in large multinational organizations, and thus requires certain tools and systems. Furthermore, it is difficult to develop and retain the managerial expertise necessary to assess and process the data available.
3. Marginality of the business case and companies' corresponding lack of interest. As mentioned earlier, the outside pressure to respond to social and environmental issues – e.g. the scrutiny from the financial sector, mandatory emissions trading systems, increased demand for renewable energy products, etc. as depicted in Figure 8-29 to illustrate the example of climate change – is limited. Companies can do very little in the short term to influence this marginality. The viability of more sustainable technologies and business models and hence a more substantial financial effects of CSM clearly depends on contributions from multiple stakeholders (changes in regulations, customer behavior). From the company side, the development of pilot projects and lobbying for new business systems are possible but also highly risky options.

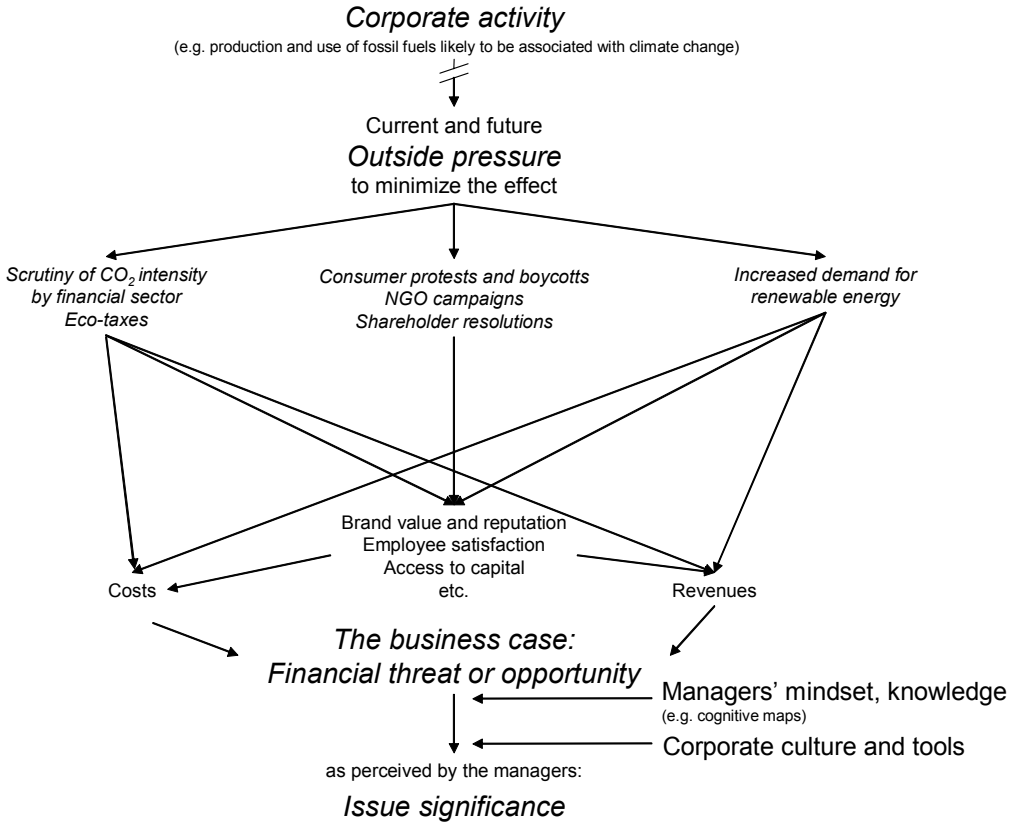


Figure 8-29: The complexity of the business case for sustainability

In this situation companies claim that a proactive organizational culture is as an equally pragmatic and effective "strategy" to ensure the integration of issues into decision-making (Salzmann, 2004, p. 136). This result is also in line with cross-sector findings from Steger (2004, p. 41) suggesting that a "corporate culture of doing the right thing" – in addition to the realization that the monetary costs of initiatives is small – relieves managers from the pressure of providing monetary quantification. Several authors have also argued along these lines, maintaining that corporate sustainability is essentially driven by a normative case (Schendler, 2002; Simms, 2002). However, it is obvious that strategies and projects that exhibit such elusive justification become vulnerable to cutbacks in times of increased financial pressure or changes in leadership (Henriques et al., 1996; Morsing, 2003).

If a business case cannot be quantified ex ante, one can also fall back on a less robust case such as a compelling business logic that can be backed up by anecdotal evidence and supported through an ex post quantified case (Andersson et al., 2000, p. 564). This finding is also in line with conclusions from Steger (2004, p. 39, 62) across several industry sectors. He states that the difficulty of quantifying the business case beyond project-related estimates does not present a serious barrier to social and environmental initiatives, as long as the initiatives support the core business strategy. However, the diagnosed lack of approaches that aim to systematically link corporate activities resolving issues with a positive economic effect suggests that a conclusive business logic is largely missing, particularly in laggard companies (Wheeler et al., 2000, p. 291). This most certainly is another strong explanatory factor for companies (and stakeholders) falling back on normative justification.

The author suggests that individual proactive attitudes and greater experience (as discussed in section 8.3 Managers) may be particularly effective in a situation in which the business case for sustainability is elusive rather than robust. A mandate for CSM without a strong, quantified business case is more likely to come from a corporate executive who is able to

understand the issue under consideration and to perceive an economic logic for its integration (Schendler, 2002, p. 29).

Overall the present study is able to hint at several conclusions on the quantification of the business case for sustainability. However, it also clearly points to the need for further – and rather quantitative – research in this area to obtain (1) more generalizable results and (2) deeper insights into the importance of quantification, the nature and effect of initiatives aimed to quantify the business case, and the significance of systemic and internal barriers to quantification efforts (e.g. marginality of the business case, complexity, organizational deficits).

Based on the findings presented above, IMD's Forum for Corporate Sustainability launched a follow up empirical study (Salzmann, Steger, & Ionescu-Somers, 2005b) to:

- examine the role quantification plays in companies in building the business case for corporate sustainability
- identify the main factors deterring quantification.

It is based on a sample of 300 managers, mainly sustainability experts in rather exposed industries (such as also oil & gas) and large multinational companies, and features a conceptual framework depicted below:

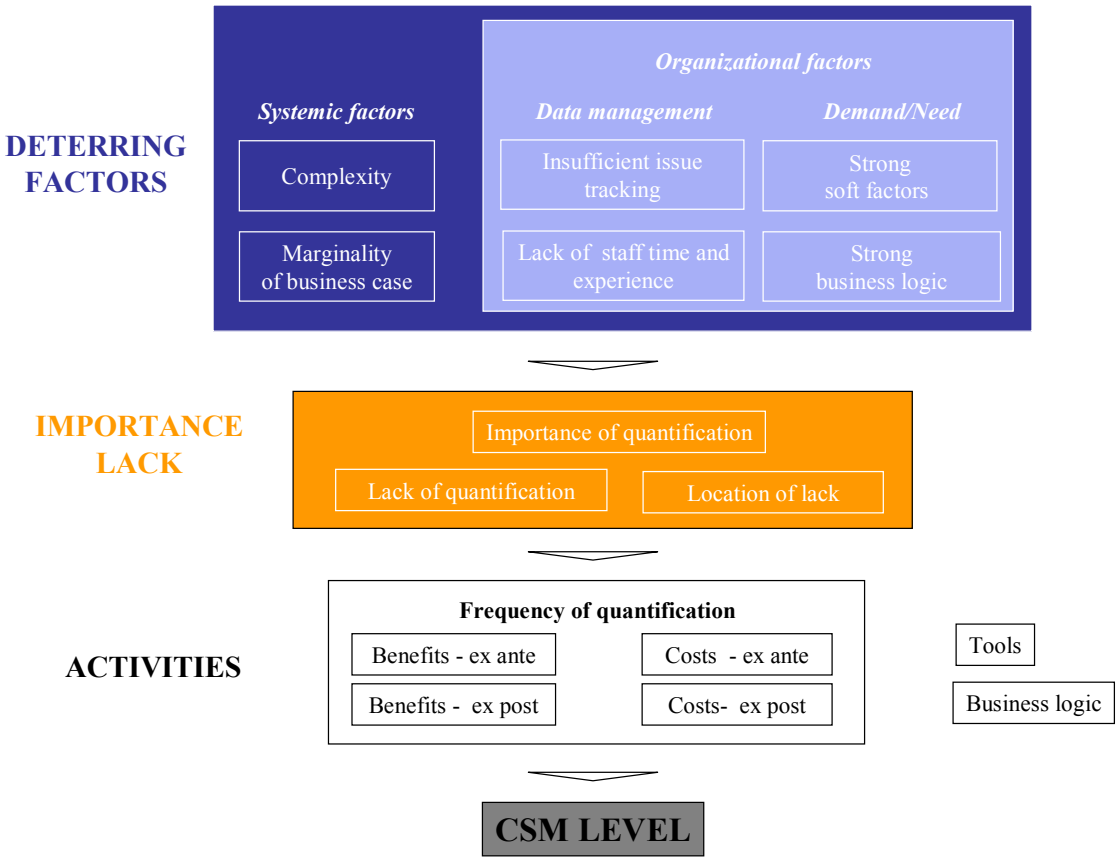


Figure 8-30: Conceptual Framework (Salzmann et al., 2005b, p. 6)

The authors drew the following conclusions:

- Costs and risks are less diffuse and immaterial, hence they are also more easily understood by managers (as suggested above in the present study), and traceable by existing systems and tools (investment proposals, accounting systems). Hence they are more frequently quantified than benefits and opportunities (Salzmann et al., 2005b, p. 13). Companies'

portfolio of quantification tools is limited and – as expected from the interviews in the present study – dominated by pragmatic (rather than sophisticated) and risk-oriented methodologies.

- Companies fail to produce more ex post, i.e. case-based, quantified evidence for opportunities and benefits due to a lack of staff time and experience as well as complexity. This lack of ex post evidence is likely to be very critical, as opportunities and benefits in most cases only materialize over time. If they cannot be tracked, the upside potential of sustainability initiatives remains undetected (Salzmann et al., 2005b, p. 14).
- Causal modeling (or business logic) is essential to CSM for two reasons: First, in many cases quantification is hindered by organizational factors (lack of resources and need) and systemic barriers (e.g. complexity). Second, quantification without business logic has no meaning (Salzmann et al., 2005b, p. 15). It is important at least to attempt a validation of causal models through quantification, as corporate decision-making could be seriously affected by half-baked assumptions and false preconceptions (Ittner & Larcker, 2003, p. 91; Salzmann et al., 2005b, p. 15). Both quantification and business logic (without quantification) contribute significantly to CSM.
- There is significant lack of quantification, which prevents corporate sustainability initiatives from being undertaken. As Salzmann et al. (2005b, p. 16) are able to show, this lack is determined by organizational factors (and not – as often presumed – by systemic factors), namely (1) companies' inability to track the social and environmental effects of initiatives, which clearly makes a comprehensive quantification of the resulting economic effects impossible; (2) corporate culture and management education; and (3) the role and sophistication of causal modeling/business logic. Lack of quantification also become greater at more aggregated levels (corporate or policy level and the business unit level), whereas quantification at the project level appears to be less challenging, obviously since the compatibility and quantity of relevant data is less of a problem. The significant lack of quantification at the more aggregated levels also clearly reflects managers' desire for more holistic and comprehensive measurement to support their decision-making (as suggested above in the present study). Overall this suggests that companies should initially focus on projects and quick wins whose social, environmental and thus economic effects are easier to measure.
- Systemic factors play a clearly less significant role than organizational factors in determining companies' activities to quantify the economic effects of their sustainability initiatives. However, their influence is not insignificant. Marginality of the business case is linked to less frequent quantification. It is important to note that Salzmann et al. (2005b) also reveal companies' tendency to marginalize the business case if they exhibit organizational deficits, i.e. to a certain extent marginality reflects an inaccurate preconception. This clearly puts interviewees' arguments of marginality (as discussed above in the present study) into perspective.
- The study furthermore shows that companies' data management has an essential weakness. The inability to measure the social and environmental effects of initiatives, and thus generate data on the basis of which economic effects can then be quantified. To clarify: The economic effect of an initiative – e.g. cost savings in the form of reduced fines, lower insurance costs, etc. through improvements in corporate environmental, health or safety performance – can only be seriously measured if its social or environmental effects are measured, i.e. fewer lost workdays, reduced number of spills, etc. Since companies are largely unable to generate the basic data, the processing of the data by experienced staff represents a less significant bottleneck.

- Demand-related factors were found to be of significant but generally overstated importance (Salzmann et al., 2005b, p. 17): Strong causal modeling/business logic makes quantification less important, i.e. sustainability initiatives are indeed less likely to be rejected if their economic effects have not been, or could not have been, quantified. However, it is clearly no panacea either, as companies indicating a strong dominance of business logic, making quantification obsolete, suffer from insufficient data management and thus also greater complexity. The overstatement of soft organizational factors was particularly obvious. It appears that a proactive corporate culture and management education – supposedly meant to make quantification less important – are often associated with insufficient data management capacities and with a consequent tendency to blame external systemic factors for a lack of quantification.

Salzmann et al. (2005b) were unable to detect any differences across different industries, most likely due to an insufficient sample size per industry. However, it appears likely that more risk-exposed sectors such as energy and chemicals exhibit a greater capacity for data management than others. The study leaves room for further research, since it differentiates:

- neither between different kinds of value drivers and constructs. This differentiation remains particularly interesting, since value constructs such as risk reduction, the license to operate, brand value and reputation (see Chart 8-31 and Chart 8-32) are the current key arguments for promoting CSM internally.
- nor between different kinds of sustainability initiatives. Hence there is still a lack of quantitative evidence on which social or environmental initiatives primarily lend themselves to quantification and are thus easiest to promote. A comparison with companies' current portfolio of initiatives could then also reveal to what extent the quantifiability of effects determines companies' selection process for certain environmental and social activities.

Based on the findings presented above and in complementary sections of this study, the author developed the following model to capture the main determinants of the business case for corporate sustainability: The financial opportunities and threats associated with social and environmental issues are determined by systemic and organizational factors. Systemic factors are largely beyond corporate control (at least in the short term).

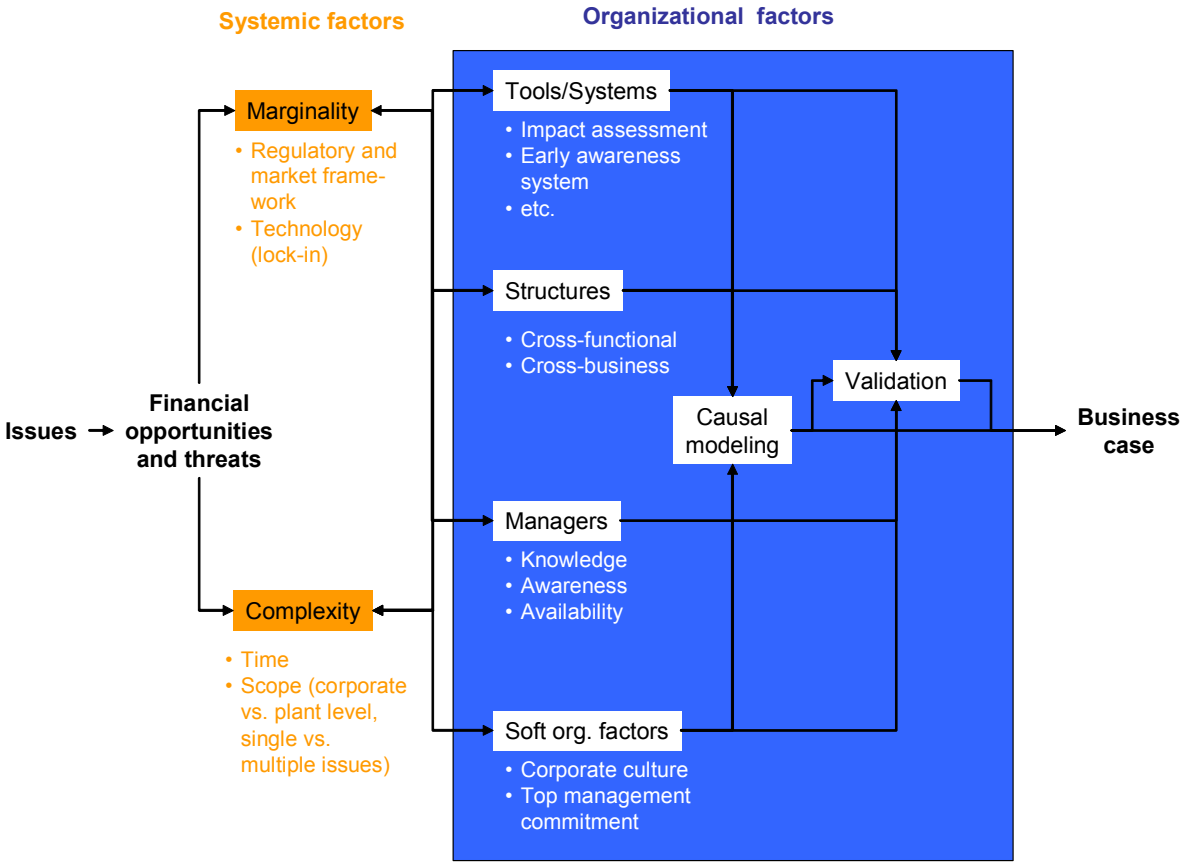


Figure 8-31: The business case and its determinants

This also means that there are interactions between both factors: Companies with elaborate structures, tools and systems as well as more skilled and proactive managers are likely to consider financial threats and opportunities less complex and less marginal. The framework conceptualizes companies' motivation to improve on their organizational capacities, which contribute to causal modeling (formulated business logic) and subsequent validation (through quantification). They include:

- Tools and systems to collect and process relevant data
- Structures that improve data management, facilitate decision-making and strengthen organizational alignment
- Skilled managers who complement the "technicalities" of tools and systems
- Soft organizational factors that can have a significant moderating force, which however should not be overestimated.

The author concludes with the following remarks:

First, the empirical findings presented above point to one further dilemma: As long as social and environmental initiatives (e.g. initiatives to stop flaring, or other investments in eco-efficient processes, improvements in labor conditions) are undertaken "on the side" (as an add-on), their relevance to core business strategies is rather difficult to prove and communicate. However, their effects are also easier to isolate. This means conversely that building a quantitative business case for sustainability becomes more difficult, the more integrated companies' approaches to CSM become (Salzmann et al., 2005b, p. 19), i.e. the more relevant CSM becomes to the core business strategy. How will the importance of quantification develop if CSM becomes more and more integrated? It is obvious that higher

levels of integration into business strategies (and eventually a "sustainable" business model) would make "special treatment" through complex causal models and their validation increasingly obsolete.

Second, the lack of quantification described above is not inherent to CSM only. It has also been discussed in the context of non-financial measurement. Non-financial measurement has developed during the 1980s and 1990s to facilitate a more holistic and strategic assessment of corporate performance (Kennerley & Neely, 2002, p. 145). It goes beyond the traditional focus on financial measures and often lagging indicators (e.g. accounting figures treating investments merely as costs and thus failing to recognize the potential generation of future revenues), but obviously bears the challenge of measuring future and intangible effects. Hence it is not surprising that empirical research in this domain yields results very similar to those presented above: Most importantly studies found a significant lack of non-financial measurement, mainly due to laziness and thoughtlessness (Ittner et al., 2003, p. 90; Reid, Tarbert, & Thomson, 2000). Here the author points to significant unexploited potential for cross-pollonization between both domains in both practice and research. The following questions are particularly interesting:

- To what extent can methodologies and staff expertise be pooled?
- Is there a link between companies' capacity for non-financial measurement and their ability to quantify their business case for sustainability?

Third, there appears to be a certain parallel between the role of systemic and organizational barriers and the importance of external and internal barriers to CSM: Companies' current approach to CSM is incremental and hindered by internal barriers, hence existing external barriers, namely the lack of awareness of the key transactional stakeholders, have not yet had a significant effect. In line with this, the systemic barriers to quantification – a marginal business case for corporate sustainability and the complexity associated with environmental and social effects – play a minor role. A lack of quantification is mainly caused by organizational barriers. Overall this suggests that companies have – as legitimate as blaming external barriers may be – failed to build up the necessary capacity for a fully systematic approach to CSM. This most certainly applies to laggard companies in particular.

Contingency perspective on the business case for sustainability

Evidence presented suggests that OG companies have more developed processes to integrate issues and a broader perspective on significant value drivers, which reflects their sector's higher position on the CSM learning curve. Obviously OG companies have been confronted with issues and an economic argument for their integration more often than UT companies due to higher issue and organizational visibility in their sector. This also means that OG sustainability officers are more often required to conclusively articulate the economic rationale for corporate sustainability.

Overall the study clearly reveals a strong contingency character of the business case for sustainability, which also explains why the plethora of instrumental studies that tried to link (mostly) social and financial performance produced largely inconclusive results: There is a business case for sustainability, if a process of issue integration leads to an increase in social and/or environmental performance and has a positive net effect on financial performance (see Figure 8-27). Issues and corporate activities to resolve them – and thus obviously their social, environmental and economic effects – vary between countries (e.g. different regulatory and societal pressure), industry sectors, business units and sites (e.g. different processes and products) (Lankoski, 2000, p. 150).

This strong contingency character points to the need to assess all three dimensions of corporate performance (financial, environmental and social) at less aggregated levels than

earlier studies which used e.g. reputation scores and multi-dimensional measures of sustainability indices as measures of social performance. Such measures obviously mask individual issue-specific relationships between social/environmental and financial performance: Whereas one corporate response to a certain issue may lead to a positive net economic effect, another response to another issue may be associated with a negative net economic effect, depending on various parameters such as individual cost structures; the level of outside pressure, which influences the level of issue integration; etc. Thus instrumental studies would clearly become more meaningful if they focused on only one issue or environmental/social intake and corresponding corporate activities.

8.4.4 Implementation

The following section deals with the implementation of CSM. It respectively focuses on the following key areas:

- the use of management tools, their current focus and gaps, as well as their effect on CSM success (section 8.4.4.1 Management tools)
- structure, i.e. the level and potential of cross-disciplinary collaboration, and its effects on CSM success (section 8.4.4.2 Structure)
- corporate initiatives, their current focus and their link with CSM success (see section 8.4.4.3 Corporate initiatives)

8.4.4.1 Management tools

8.4.4.1.1 Qualitative analysis and basic statistics

Chart 8-33 to Chart 8-36 exhibit the portfolio of tools used in companies in relation to corporate sustainability as reported by both general managers and sustainability officers. It difficult to single out one or two dominant tools based on the proportions, but it is notable that corporate values, policies and standards takes the greatest share in all charts. This is not surprising since they – as the interviews also suggest – are the basic, essential means of integrating CSM into the organization: They primarily create a common understanding within companies.

However, categorization into data management, managers' management and conflict resolution yields several additional insights (see Table 8-7):

The proportions point to an early stage in companies' phase of strategic redirection to CSM. For both sectors they reveal a dominance of (1) data management tools that provide relevant infrastructures and information needed to use other management tools; and (2) soft managers' management tools such as corporate values, policies and standards and management development, which alter perceptions of the management. In contrast "harder" tools such as reward and punishment systems, which are rather at the end of a redirection process, only account for a minor proportion (Doz et al., 1988, p. 76).

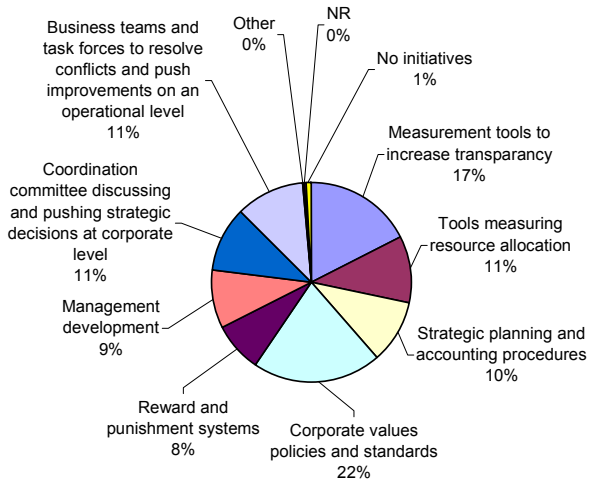


Chart 8-33: Tools and systems related to corporate sustainability (General managers – OG)

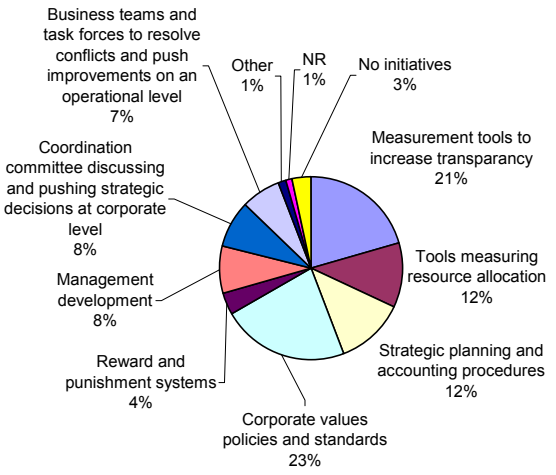


Chart 8-34: Tools and systems related to corporate sustainability (General managers – UT)

Chart 8-35: Tools and systems related to corporate sustainability (Sustainability officers – OG)

Chart 8-36: Tools and systems related to corporate sustainability (Sustainability officers – UT)

Qualitative data similarly point to companies' initial stage of redirection. Sustainability officers in particular are clearly aware of the necessity for and lack of adequate tools. The current gaps are mostly tools to ensure organizational alignment, i.e. managers' management tools and conflict resolution tools:

> We are aware of social and environmental problems, but are looking for a sound methodology to assess social impacts. So far, a we lack expertise and resources (OG4, SO).
>
> We, the industry, are quite good at issue tracking and evaluation. Organizational alignment is the most difficult step (OG5, SO).

The use of more sophisticated strategic tools such as scenario analysis and backcasting is rarely reported. The lack of such tools is justified by the fact that they are applied by industry associations or multi-industry platforms. Carbon cost accounting is increasingly used in both sectors to internalize current and future costs of CO_2 emissions. At the project level,

investment appraisals also increasingly feature this full cost approach. Cost benefit analyses incorporate issues that are hard to quantify.

Sector and discipline / Tools	OG sector		UT sector	
	General managers	Sustainability officers	General managers	Sustainability officers
Data management tools	38%	30%	45%	34%
- Measurement tools				
- Tools to measure resource allocation				
- Strategic planning and accounting procedures				
Soft managers' management tools	31%	38%	31%	29%
- Corporate values, policies and standards				
- Management development				
Hard managers' management tools	8%	7%	4%	10%
- Reward and punishment systems				
Conflict resolution tools	22%	25%	15%	22%
- Coordination committees (*strategic level)*				
- Business teams *(operational level)*				

Table 8-7: Portfolio of management tools used in companies (based on Doz et al., 1988)

Differences in the use of management tools across the two sectors and disciplines displayed in the table are difficult to interpret: They are partly contradictory, which could also be due to the fact that the small SO sample has biased the results (SO respondents may not necessarily come from the same companies as general managers):

1. Data from both management disciplines consistently point to a larger share of data management in the UT sector, which could point to a more basic portfolio of tools in the UT sector.
2. The share of soft managers' management tools appears to be similar in both sectors, judging from the GM data; and greater in the OG sector, judging from SO data. There is also an inconsistency in the share of hard managers' management tools: According to general managers the share of hard managers' management tools is greater in the OG sector, according to sustainability officers it is greater in the UT sector. In both cases the author prefers to trust the GM rather than the SO data due to the greater sample size, and thus concludes that the greater share of hard managers' management tools in the OG sector reflects the OG sector's higher level of implementation.

These results are also in line with the absolute frequencies of management tools used. The following cross-sector differences are statistically significant, and also clearly point to a more advanced approach to CSM in the OG sector, with more resources allocated to it:

- OG general managers more often report the use of corporate values, reward and punishment systems, management development, coordination committees and business teams than their counterparts in the UT sector.
- OG sustainability officers more often indicate the use of management development than UT sustainability officers do.

Furthermore, statistically significant cross-disciplinary differences can be detected: OG general managers more often report the use of tools to measure resource allocation, they less often report the use of management development than OG sustainability officers. This variation is somewhat indicative of the mindset and awareness of both groups: Sustainability officers see a greater need to build expertise among general managers, whereas the latter tend to be more focused on and concerned about the allocation of adequate financial resources for corporate social and environmental initiatives.

The author concludes that both sectors have portfolios of management tools that point to an early stage of strategic redirection to CSM, in which organizational alignment is the key challenge. However, the greater number of management tools used in OG companies clearly

reveals a more advanced stage of their sector, which can be attributed to stronger external and internal drivers elaborated on in the previous sections.

8.4.4.1.2 Advanced statistics

The following regression models (see Regression Table 8-14) show that several kinds of management tools affect CSM success.

	T model		OG model		UT model	
Number of obs	163		113		49	
F	10.97		9.19		4.21	
Prob > F	0.0000		0.0000		0.0209	
R-squared	0.1715		0.2019		0.1548	
Adj R-squared	0.1559		0.1799		0.1181	
Root MSE	.70013		.7172		.61235	
Coefficients						
	Incentive tools	.4004324	Incentive tools	.3766003		
			Management development	.3814714		
	Strategy tools	.2821253				
	Business teams	.2980669			Business teams	.4606742
			Coordination committees	.3349719		
					Age - over 50	.5200642
	Constant	3.08246	Constant	3.065055	Constant	3.128411

Regression Table 8-14: CSM success - CSM tools (Reduced submodels)

In the total sample, incentive tools, strategy tools (e.g. strategic planning and accounting procedures) and business teams have a positive effect on CSM success:

- Incentive tools such as "hard" managers' management tools appear to be effective at facilitating organizational alignment and thus contributing to CSM, since they effectively change managers' perceptions and expectations, since they strongly define "intra-organizational rules of the game" (Doz et al., 1988, p. 76).
- Strategic planning and accounting procedures rather than tools that measure resource allocation or increase transparency (through e.g. the measurement of material and waste flows) appear to be the most effective *data* management tools. This is plausible, since strategic planning and accounting procedures provide an important strategic context in which other data management tools (such as e.g. resource allocation) function more effectively. They indicate a more integrative and advanced approach to CSM as they (1) inextricably link issues with corporate decision-making (e.g. Ontario Hydro's approach to full cost accounting described in ICF, 1996) and (2) deliberately set out "to contemplate radical environmental change and pressures, and to challenge conventional thinking at the senior management level" (e.g. scenario building) (Kolk et al., 2001, p. 506; Skjaerseth et al., 2001, p. 53).
- The positive effect of business teams confirms the necessity to resolve conflicts within the organization. However, it is not immediately obvious why conflict resolution at the operational level (through business teams) rather than at the corporate level (through coordination committees) is a significant determinant of CSM success in the T model. A look at the sector-specific models reveals that CSM success is determined through conflict resolution at the corporate level in the OG sector, at the operational level in the UT sector. It is unlikely that this result suggests that OG companies exhibit greater conflict at the corporate level than UT companies, which hence only have to rely on business teams to resolve conflicts at the operational level. If one takes into account the qualitative data and basic statistics presented in the previous section, this result most likely indicates a more strategic (and thus corporate) approach to CSM in the OG sector. Thus the effect of

business teams in the UT sector indicates that CSM success is still merely pursued at the operational rather than the strategic corporate level. Since business teams rather than coordination committees feature in the total model, the author concludes that overall, in a broader population of energy companies, the success of corporate environmental and social initiatives is still largely determined at the operational level.

Compared to the UT model, the OG model features a greater number of independent variables, which could be partly caused by smaller constraints in the degrees of freedom. However, also based on the evidence presented in the previous section, it is just as likely that more tools have a statistically significant positive effect on CSM success because OG companies use management tools more effectively and to a greater extent: The OG model shows two additional positive coefficients for the effect of incentive systems and management development. In particular the influence of incentive systems as a hard managers' management tool indicates a more advanced and integrative approach to CSM compared to the UT sector. The positive effect of management development is also in line with the importance that OG sustainability officers and general managers attach to this tool in particular, and suggests that OG managers are better trained in the area of corporate sustainability.

The UT model indicates that respondents aged 50+ tend to overestimate CSM success compared to respondents who are younger than 35, supposedly because they are more strongly settled in their senior positions and exhibit a more conservative and reactive mindset (as suggested by qualitative data presented above). Hence they are less aware of the key issues and the need to improve corporate environmental and social performance. The T model shows a negative effect of North-American nationals compared to other respondents. This negative bias corresponds to a negative bias of respondents operating in North America, and – as suggested earlier – could be attributed to both stronger external (less interest from customers and investors) and internal barriers (most likely corporate cultures) to corporate sustainability.

Based on the regression models, one can conclude that:

- All three types of management tools (data management, managers' management and conflict resolution) contribute to a more effective implementation of CSM.
- The OG sector has a more strategic and integrative approach through existing (and more effective) incentive systems and management development.

8.4.4.1.3 Discussion

Portfolio of management tools

Quantitative data reveal an emphasis on data management tools and "*softer*" managers' management tools and thus indicate a rather early stage in companies' strategic redirection to corporate sustainability. This also explains why interviews consider organizational alignment the key challenge of CSM.

"*Harder*" management tools such as incentive systems are yet to be implemented comprehensively. Their role is particularly significant, since soft tools become less effective as soon as financial pressure increases. However, their introduction cannot be forced in large multinational organizations. First softer tools are necessary to "unlock and challenge the dominant perspectives" and thus gradually legitimize the strategic redirection (Doz et al., 1988, p. 76).

The importance of data management tools should not be underestimated, since they reduce information gaps and lack of direction, which prevent shifts in decision-making due to uncertainty (Sharma et al., 1999, p. 95). They also effectively contemplate radical changes

and challenge conventional senior management thinking, as can be seen from the effects of Shell's scenario building (Kolk et al., 2001, p. 506).

The present study also reveals that different management tools are used at different levels of the organization. But it is limited in terms of its depth and is thus unable to analyze either the cross-level use of tools or the tools and their strengths and weaknesses in more detail. A more intensive in-depth empirical approach could substantially contribute to a more thorough understanding of existing bottlenecks and best practices in terms of management tools that relate to CSM.

It should be taken into account that both quantitative and qualitative data were obtained from leading companies in their sectors. If their managers, and sustainability officers in particular, state a lack of tools, it is obvious that the portfolio of tools in laggard companies are even more incomplete.

Effects of management tools

Both qualitative data and regression models provided show that management tools affect CSM success. This finding is in parallel with the principle of corporate discretion incorporated in this study's framework. It also significantly complements results presented in section 8.4.1 Company-specific determinants, which pointed to a rather low (statistically insignificant) influence of tools (and processes) as barriers to CSM. The positive effects on CSM success detected for certain tools in the present section suggests that the lack of tools and processes did not attain statistical significance in the regression models above for two complementary reasons: (1) constraints in the degrees of freedom, and (2) a lack of differentiation between the plethora of different tools. The diagnosed significance of management tools also matches findings from other authors such as Kolk (2001) and Sharma (1999).

The present study does not allow for a detailed analysis of the *relative* effectiveness of individual tools or tool categories such as e.g. data management, managers' management and conflict resolution tools. Such an assessment could contribute substantially to the more effective development and application of management tools in the area of CSM. Since tools are not equally effective throughout a process of strategic redirection (Doz et al., 1988, p. 76), descriptive research in this area should also examine the effectiveness of tools contingent upon companies' stage of redirection.

Based on the qualitative and quantitative evidence gathered, the author argues that management tools that effectively change managers' perceptions and attitudes, e.g. management development and incentive tools, tend to be particularly effective. This is because these tools build motivation and expertise among managers who are thus enabled to react more proactively in situations of great uncertainty and complexity, which frequently occur when standardized systems and processes are unable to grasp the complexity and dynamics of the plethora of current or emerging social or environmental challenges.

Contingency perspective on management tools

Both qualitative and quantitative data show that the UT sector lags behind the OG sector in terms of the implementation of CSM: UT companies feature a relative lack of several soft and hard managers' management tools. Taking findings from the previous sections into account (e.g. lower issue significance, less outside pressure, lower strategic disposition), this was to be expected.

Cross-disciplinary differences in the reported use of two tools (measurement of resource allocation and management development) are insightful insofar as they give away the respective key agendas of respondents: General managers are concerned about their budgets and are – as revealed in section 8.3 Managers for the UT sector – largely unaware of their

reactive mindsets, which constitute a significant deterrent factor for CSM. Sustainability officers appear to have recognized this shortcoming and put more emphasis on changing mindset through management training.

8.4.4.2 Structure

8.4.4.2.1 Qualitative analysis and basic statistics

The level of cross-disciplinary collaboration is rather low in both sectors: In the UT sector almost 40% of the respondents do not work with their sustainability or environmental officer at all.

Cross-disciplinary collaboration (1 = No collaboration" to 3 = "Collaboration on day-to-day basis")

General managers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	48	1.8125	.1059249	.7338691	1.599407 2.025593
OG	120	2.05	.0601702	.6591311	1.930857 2.169143

Table 8-8: Summary statistics – cross-disciplinary collaboration

The sector-specific means are just below or above a value of 2 (see Table 8-8), which stands for collaboration on an ad hoc basis. The level of collaboration is lower in the UT sector, this difference being statistically significant.

Furthermore, quantitative data also point to low levels of cross-disciplinary potential: The two sector-specific means (located between 2 "little" and 3 "fairly") reveal general managers' significant skepticism of about the meaningfulness of cross-disciplinary collaboration (see Table 8-9). This also suggests that cross-disciplinary collaboration has been rather ineffective. In fact social desirability bias may have additionally concealed the real and most probably higher level of skepticism.

Cross-disciplinary potential (1 = "Not at all" to 5 = "Very much")

General managers					
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf. Interval
UT	45	2.4	.1399856	.9390517	2.117878 2.682122
OG	117	2.940171	.0918829	.9938657	2.758185 3.122157

Table 8-9: Summary statistics – cross-disciplinary potential

General managers from the OG sector report greater cross-disciplinary potential than their counterparts from the UT sector. Again this difference is statistically significant. The results also give a clear indication of how cross-disciplinary potential should be interpreted: Quantitative data point to more intensive cross-disciplinary collaboration in the OG sector. Thus the OG sector's greater cross-disciplinary potential is most unlikely to be an indicator of a lack of structure. On the contrary, it suggests that respondents are more aware of the benefits of cross-disciplinary structures, i.e. that CSM has been more effectively implemented. Results of most correlations, particularly the positive association between cross-disciplinary collaboration and potential, support this interpretation.

Overall the quantitative data reveal two clear findings: First general managers find it difficult to collaborate. Second they consider collaboration ineffective. Both findings point to several potential barriers within the companies surveyed, which are also found in the qualitative data:

- General managers have reactive mindsets and are under constant time pressure. Hence they are unwilling and unable to deal with sustainability officers.
- In some cases environmental or sustainability infrastructure appear to lack resources (personnel, training). In other cases corporate structure as such (bureaucratic, hierarchical) is likely to prevent organizational alignment.
- General managers and sustainability officers lack a common language.

Furthermore, the low level of collaboration indicates that cross-disciplinary teams are (1) still rare and (2) only bring together a small circle of managers. The data additionally suggest that OG companies are less strongly affected by the internal barriers referred to above. This result is in line with findings from the previous sections that point to a more advanced approach to CSM in the OG sector, i.e. also to higher levels of implementation.

8.4.4.2.2 Advanced statistics

8.4.4.2.2.1 Correlations

Figure 8-32 and Figure 8-33 display all correlations between other variables and cross-disciplinary collaboration and potential, respectively.

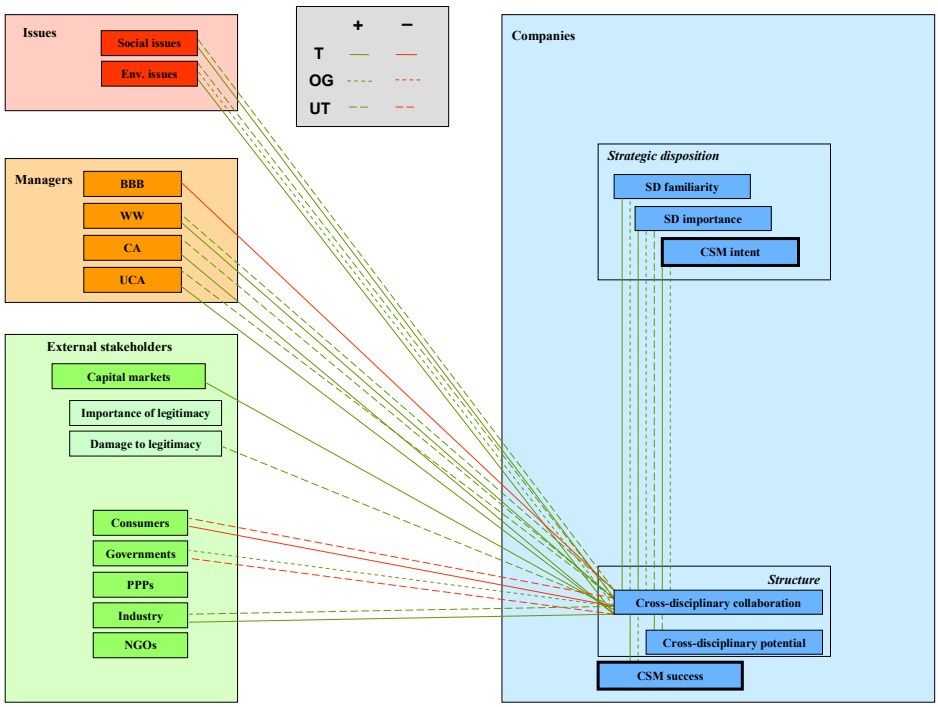


Figure 8-32: Correlations – Cross-disciplinary collaboration

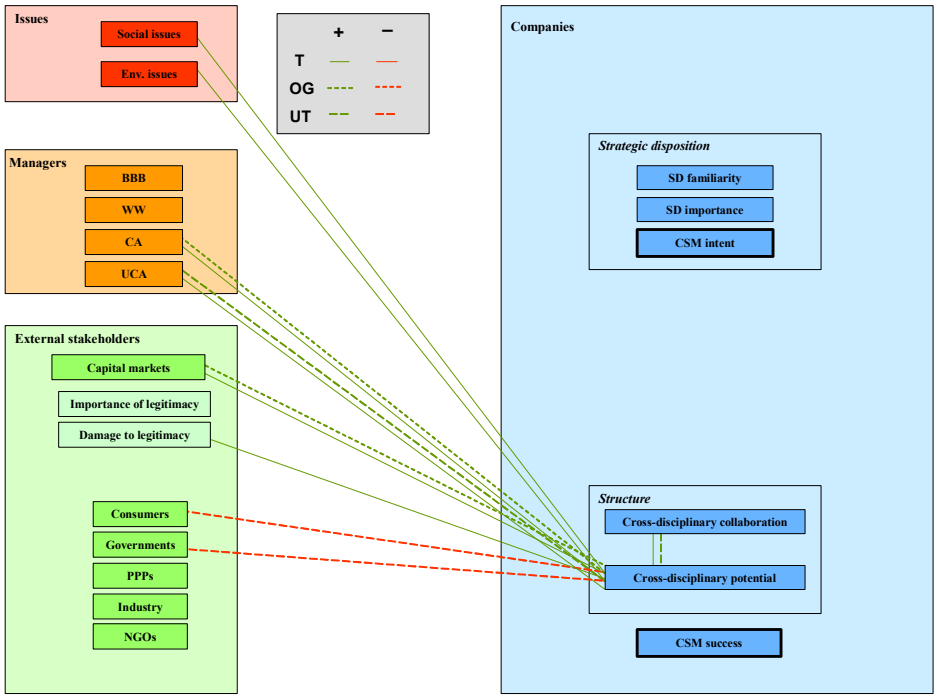


Figure 8-33: Correlations – Cross-disciplinary potential

They will be discussed in the text that follows. For this purpose, both cross-disciplinary collaboration and cross-disciplinary potential will be – in some cases – grouped together as "cross-disciplinary structure."

Issues

A more effective cross-disciplinary structure positively correlates with greater issue significance. This indicates that (1) greater issue significance calls for more effective cross-disciplinary structures, and (2) more effective cross-disciplinary structures lead to greater issue awareness among managers (see section 8.1 Issues for a more detailed discussion).

Managers' attitudes

A more effective cross-disciplinary structure positively correlates with more proactive attitudes. This suggests that (1) more effective structures change managers' attitudes, and (2) proactive managers are more inclined to collaborate and perceive collaboration as more worthwhile (see section 8.3 Managers).

External stakeholders and legitimacy

More effective cross-disciplinary structures are associated with the following:

- The perception of generally lower current demand for CSM from external stakeholders. This indicates that leading companies (with more elaborate structures) feel less strongly driven by external pressure (see section 8.2.3 Customers and section 8.2.1 Governments and regulators). The positive correlation detected between cross-disciplinary collaboration and governments' SD role in the OG sample does not necessarily contradict this finding, since governmental pressure on OG companies is generally low. Thus the positive link could indicate a heightened awareness of future proactive government initiatives (e.g. rising environmental standards in developing countries).
- Greater awareness of a future more proactive SD role of capital markets, which suggests that more effective cross-disciplinary structures increase awareness of future demands from external stakeholders (see section 8.2.4 Financial community).

- Greater sensitivity to the importance of retaining legitimacy (see section 8.2.6.1 The role of legitimacy)

Furthermore, more effective cross-disciplinary structures positively correlates with the SD role of industry, which suggests that cross-disciplinary collaboration increases respondents' awareness of corporate activities and thus positively influences their view on the overall performance of industry (see section 8.2.5 Industry and partnerships).

Strategic disposition

Cross-disciplinary collaboration positively correlates with strategic disposition (SD familiarity, SD importance and CSM intent). This suggests that a more distinct and strategic approach to CSM is characterized by more elaborate cross-disciplinary structures.

In contrast cross-disciplinary potential is unrelated to strategic disposition. As suggested above, this missing link is probably caused through different mindsets, corporate cultures and obviously structures that most likely subdue the associations (see section 8.4.2 Strategic disposition).

Structure

Cross-disciplinary collaboration and potential positively correlate. This is in line with conclusions in the previous section: The more closely respondents work with environmental or sustainability functions in their company, the greater they consider the unexploited potential of cross-disciplinary collaboration.

Hence greater potential indicates (1) respondents' greater awareness of the complexity of issues and the need to engage several business functions and units to resolve them, and (2) more effective cross-disciplinary structures.

It should be noted that the correlation is positive but not statistically significant in the OG sector, which suggests that the link exists but is subject to greater variation. As already argued above, this points to several factors that moderate this relationship more strongly in the OG than in the UT sector, since companies are larger and thus more complex and diverse. These factors include corporate culture and structure, i.e. the current level of cross-disciplinary collaboration: It is also possible that some respondents from leading OG companies that already exhibit intensive cross-disciplinary structures may consider the still unexploited cross-disciplinary potential relatively small.

CSM success

Cross-disciplinary collaboration is positively related to CSM success, which suggests that it significantly influences the effectiveness of CSM, since obviously, as the remaining correlations also suggest, it increases managers' awareness of issues and thus changes attitudes, facilitates cross-fertilization and consensus-building through individual and group collaboration (e.g. business teams, coordination committees).

It should be noted that the link between CSM success and cross-disciplinary collaboration is weak and statistically not significant in the UT sample. Again this finding matches evidence presented in previous sections of a less advanced approach to CSM in UT companies. Apparently the structures and processes needed to resolve environmental and social issues are less evolved or simply lacking.

Unlike cross-disciplinary collaboration, cross-disciplinary potential is not related to CSM success: Correlation coefficients are close to zero and not statistically significant. This is plausible, since the assessment of potential is – alongside cross-disciplinary collaboration, with which it positively correlates – also influenced by factors such as e.g. managers' mindset and corporate culture, and is subject to social desirability bias. These influences could subdue an (expected) positive link with CSM success, which would have shown that more effective

cross-disciplinary structures increase the success of corporate environmental and social initiatives.

Conclusion

Correlations presented above point to recursive relationships between cross-disciplinary structures and several concepts of CSM, i.e. cross-disciplinary structures affect them and are affected by them. Concretely, results suggest that

1. More effective cross-disciplinary structures increase issue awareness and are established as a reaction to greater issue significance.
2. They lead to more proactive attitudes among managers due to increased awareness, and they are used more frequently and effectively by proactive managers.
3. They lead to greater awareness of external stakeholders' demands, and are established as a reaction to greater demands from them.

Furthermore, correlations show that more effective structures tend to be established as a consequence of companies' greater strategic disposition to CSM and lead to more effective CSM.

Links between cross-disciplinary collaboration and potential with the other variables are largely congruent, but diverge in some cases, e.g. cross-disciplinary potential – unlike cross-disciplinary collaboration – is not related to industry's SD role (see section 8.2.5 Industry and partnerships), strategic disposition (see section 8.4.2 Strategic disposition) or CSM success. This points to a significant difference in the assessment of the two concepts. Cross-disciplinary collaboration, i.e. the intensity of collaboration, is assessed very straightforwardly (no collaboration, ad hoc or daily).

In contrast, cross-disciplinary potential, i.e. the effectiveness of cross-disciplinary collaboration, is subject to several "hidden" influences that apparently comprise:

- Managers' mindset: Some respondents may prefer teamwork, others not.
- Corporate culture: Does the corporate culture foster or promote collaboration?
- Corporate structure: How is cross-disciplinary collaboration organized, how intensive is it and how great is the potential to improve it?

This conclusion could also explain why the links between cross-disciplinary potential and other variables are more frequent in the UT than in the OG sector: OG companies are larger and more complex organizations, thus the hidden influences referred to above could have a greater impact and thus subdue expected relationships. For example, cross-disciplinary collaboration was found to be significantly higher in the OG than in the UT sector. Thus OG respondents who work relatively closely with their company's sustainability experts could consider the cross-disciplinary potential small since it is largely exploited.

8.4.4.2.2.2 Regressions

Regression Table 8-15 shows the effects of cross-disciplinary collaboration and potential on CSM success:

	T model	OG model	UT model
Number of obs	152	109	43
F	1.90	2.48	0.34
Prob > F	0.0637	0.0214	0.9291
R-squared	0.0963	0.1469	0.0639
Adj R-squared	0.0457	0.0878	0.1233
Root MSE	.7502	.75357	.73476
Independent variables	**Coefficients**		
Cross-disciplinary collaboration	*.1793314*	**.2570444**	-.2031973
Cross-disciplinary potential	-.0278079	-.0026728	.1329407
UT sector	**-.4232727**		
Nordic	-.2982675	*-.4413747*	-.0656289
North America	**-.4765598**	**-.6588283**	.5008414
Latin Europe	-.4069706	-.4990745	-.1971673
Developing economies	*-.4744258*	**-.5988299**	-.298766
Other regions	-.2300761	-.3644252	-.298766
Constant	**3.52993**	**3.42043**	**3.306339**

Regression Table 8-15: CSM success – corporate structure (Expanded submodels)

The total and OG model show a positive effect of cross-disciplinary collaboration on CSM success. The UT model's parameters show that the independent variables chosen are not able to adequately explain variation in CSM success, possible reasons being constraints in the degrees of freedom and largely missing or ineffective cross-disciplinary structures in the UT sector.

In contrast to the level of cross-disciplinary collaboration, cross-disciplinary potential has no statistically significant effect on CSM success, which is in line with the conclusion presented above: The assessment of potential, which should be seen as a proxy measure for the effectiveness of cross-disciplinary collaboration, is influenced by internal factors (e.g. mindset, corporate culture and structure) that confound an expected effect of effectiveness of cross-disciplinary structures on CSM success.

The author concludes that a corporate structure that allows for intensive cross-disciplinary collaboration is a significant determinant of CSM success. Furthermore, corporate structures in the OG sector appear to be superior to those of the UT sector, which is in parallel with findings in previous sections that revealed less close cross-disciplinary collaboration in UT companies.

The sector and region effects in the T and OG model are in line with those of previous regression models. They most likely reflect differences in external (e.g. issue significance, demands from stakeholders) and internal (e.g. corporate cultures, mindset) determinants.

8.4.4.2.3 Discussion

Lack of cross-disciplinary structures

Qualitative and quantitative data point to a surprisingly low level of cross-disciplinary collaboration and potential: Simply put, this means that general managers hardly work with sustainability experts in their company because they do not see much sense in it. This is particularly sobering if one takes into account that the study is naturally subject to an upward bias, since generally speaking the leading and thus more interested companies participated.

Obviously these results point to a significant barrier to CSM, since the complex nature of some environmental and social issues requires more flexible and egalitarian structures (Tapon et al., 1995, p. 312), group-learning situations and organizational networks (Lober, 1996, p. 189; Swinth et al., 1995) such as board level committees and task forces composed of managers from line and staff units (Sharma et al., 1999, p. 93). Such structures are particularly meaningful, since they facilitate effective decision-making in situations in which strategies are not adequately formulated and institutionalized (Fredrickson, 1986, p. 295), as is the case with CSM. As sections 8.4.2 Strategic disposition and 8.4.3 Economic rationale have shown, CSM

lacks integration into corporate visions and strategies as well as an obvious and universally strong economic rationale.

The low levels of cross-disciplinary collaboration and potential clearly correspond to general managers' lack of knowledge and expertise, as well as their mindset. Sustainability officers consider these to be two of the most important internal barriers to CSM.

Determinants and effects of cross-disciplinary structures

Cross-disciplinary structures are related to several variables including issue significance, demands from external stakeholders and damage to legitimacy, most likely "via" companies' level of strategic disposition. Strategic disposition appears to trigger the creation of cross-disciplinary structures. This is plausible, since a stronger willingness to integrate issues into strategies and operations is often, as the interviews indicated, accompanied by the creation of new structures, such as issue teams, coordination committees at executive level, etc.

Conversely, cross-disciplinary structures influence managers' attitudes and consequently their perceptions of issues, external stakeholders' demands and legitimacy. Most importantly they impact on the success of corporate environmental and social initiatives.

Contingency approach

Cross-disciplinary structures are more evolved in the OG sector. This is plausible, since it reflects OG companies' greater strategic disposition, and accordingly the greater significance of outside pressure (e.g. greater issue significance and importance of the informal license to operate) and the higher level of implementation (the use of management tools), which were diagnosed in the previous sections.

Furthermore, the region effects detected are also in line with findings presented above, and are obviously caused through several moderating factors such as external drivers (e.g. regulatory or societal pressure) and company-specific characteristics such as corporate culture and structures (Kolk et al., 2001, p. 506).

8.4.4.3 Corporate initiatives

8.4.4.3.1 Qualitative analysis and basic statistics

Corporate environmental and social initiatives obviously constitute an essential part of implementing CSM, since they largely determine how managers and external stakeholders see the role companies are playing in resolving their issues. In the following paragraphs the author will elaborate on the portfolios of initiatives as indicated by the respondents.

It should be clearly noted that levels of awareness and consequently also activities, which reflect the integration of environmental and social issues into operations, differ significantly across business units and regions.

> In the upstream business, people have to deal with changing environments and technical challenges. In contrast, downstream people are "settled" in their business, in their mindset (OG4, SO).

Thus the portfolios of tools displayed below show a "corporate average" which may deviate substantially from those of e.g. a particular business unit.

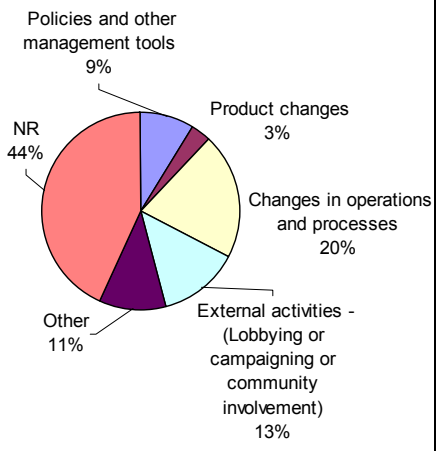


Chart 8-37: Responses to environmental and social issues (General managers – OG)

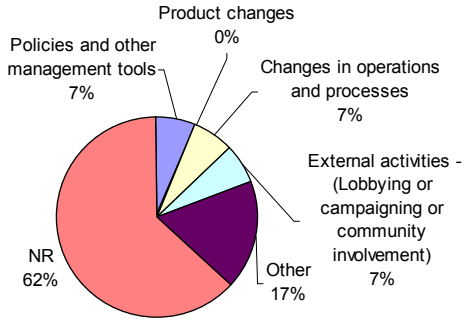


Chart 8-38: Responses to environmental and social issues (General managers – UT)

General managers were asked to describe their companies' responses to the most important environmental or social issues. Most striking is the high share of no-responses in both sectors, which strongly suggests that general managers are mainly concerned about "non-sustainability issues" (see Chart 8-37 and Chart 8-38). Furthermore, they may not be fully aware of the entire range of activities due to the immense scope of large multinational organizations.

> There are a lot of activities relating to sustainable development, but our company is big, so they [general managers] do not necessarily know about them (OG2, SO).

Data clearly point to an incremental approach to CSM in both sectors, which corresponds to their current strategic disposition which was found to be rather low (see section 8.4.2). Corporate environmental and social performance "on the ground" exhibits – as the interviewees reported – little variation in the two sectors. Strategies are not only very similar, but are also implemented through very similar modifications of operations and processes.

- Product changes take a minute 3% and 0% share in the OG and UT sectors, respectively. This corresponds to a weak business case for a more radical innovation of commodities as produced by both sectors, and to the deterrent role of largely environmentally ignorant and highly price-sensitive customers.
- OG general managers most frequently report modifications in operations and processes As interviews also revealed, these modifications comprise emissions reduction schemes and efficiency improvements across the entire value chain such as reduced flaring, investments in community infrastructures, comprehensive environmental and social assessments to ensure that projects harmonize with local and regional infrastructures and environments, and increased transparency. BP took the lead in "open" revenue sharing (see also section 8.1.1.1 Social and ethical issues) when it announced in 2001 that it would publish all the payments made to Angola (the government promptly threatened to cancel BP's contract) (Fritz, 2003). Statoil became involved in the training of Venezuelan judges on human rights (Murray, 2002). Other best practices include full impact assessment and community participation in the project planning (Bamber, 2002; Gavin, 2003).

Overall, UT data point to even lower levels of awareness and a less advanced approach to CSM: The share of no-responses is even higher. Furthermore, respondents report less changes

in operations and processes (largely limited to energy efficiency schemes to reduce emissions) than the OG sector. This cross-sector difference is statistically significant.

Initiatives aimed to more or less radically innovate existing business models in the long term exist but play a rather marginal role due to their weak business case compared to traditional activities. They comprise the development of cleaner fuels and new energy technologies such as photovoltaics, wind power, biomass (Jones, 2001; Ristau, 2004), and initiatives on rural electrification in developing countries through solar home systems (e.g. Shell and Eskom in South Africa). Furthermore, UT companies in particular undertake minor efforts in combined heat and power, distributed generation (Biedenkopf, 2003), and energy services and contracting (Jopp & Freisberg, 2003).

The proportions in Chart 8-37 Chart 8-38 above somewhat relativize the portfolios of initiatives displayed in Chart 8-39 and Chart 8-40. Hence it is likely that particularly responses from the UT sector are biased. The only notable difference in the proportions of the charts lies in a higher share of initiatives that improve social conditions in the supply chain in the OG sector, whereas UT companies appear to focus more strongly on environmental conditions in the supply chain. This is plausible since social issues are more significant in developing countries, in which an increasing share of extraction and production activities of OG companies take place.

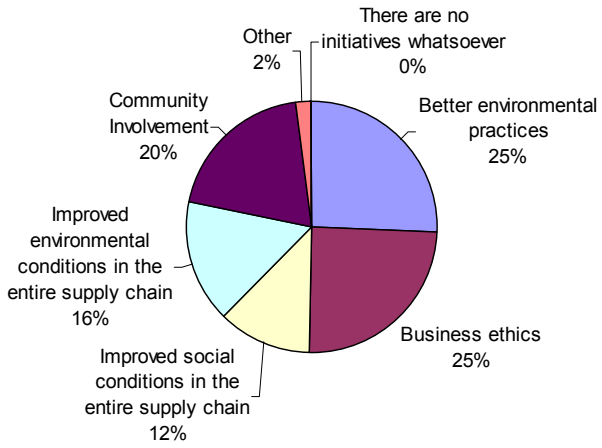


Chart 8-39: Corporate initiatives (General managers – OG)

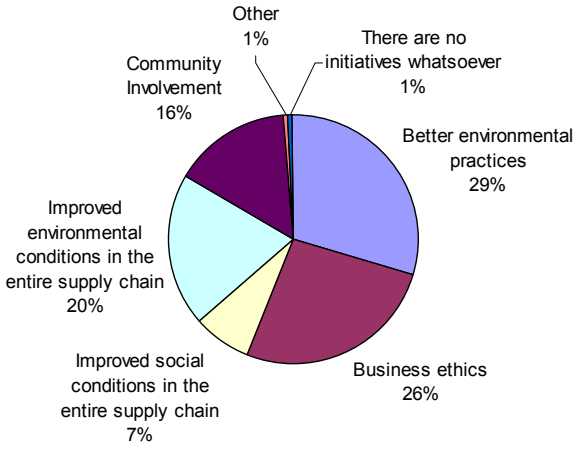


Chart 8-40: Corporate initiatives (General managers – UT)

A closer look at the absolute frequencies of individual initiatives being carried out (rather than the relative proportions) reveals three statistically significant cross-sector differences. OG general managers report more

- initiatives on business ethics. One may have expected a less significant difference due to renewed interest in the corporate governance of UT companies after Enron. Several interviewees actually confirmed increasing pressure in this area. However, overall a greater interest in business ethics in the OG sector is not implausible, since corruption is an ongoing issue in the developing world and strongly scrutinized by NGOs (Anonymous, 2003c, 2004b; Beattie, 2002; Schmitt et al., 2004).
- initiatives improving social conditions in the supply chain

- community involvement.

All three differences correspond to OG companies' greater involvement in developing countries. In conclusion qualitative and quantitative data reveal general managers' surprisingly low awareness of existing corporate environmental and social initiatives. This can be attributed to a narrow mindset that largely focuses on issues other than social or environmental ones, as well as to the complexity and scope of multinational organizations such as major OG companies in particular, whose activities differ across business units and regions and are difficult to keep track of. They also reflect companies' incremental approach to CSM (as diagnosed in section 8.4.2 Strategic disposition, which is even more incremental in the UT sector than in the OG sector.

Furthermore, the portfolios of initiatives reported show variations between the two sectors. These variations reflect cross-sector differences in issues and regions of operations: OG companies' activities comprise significantly more initiatives to resolve social and ethical issues in developing countries.

8.4.4.3.2 Advanced statistics

The regression models presented in Regression Table 8-16 show how the portfolios of environmental and social initiatives carried out by companies affect CSM success:

	T model	OG model	UT model
Number of obs	172	112	55
F	11.15	7.83	5.31
Prob > F	0.0000	0.0000	0.0080
R-squared	0.1660	0.2264	0.1695
Adj R-squared	0.1512	0.1974	0.1376
Root MSE	.70603	.70119	.66086
Coefficients			
	Env. performance .6588786	Env. performance .8897349	Community involvement .3854271
	Env. supply chain .326536	Social supply chain .3809096	
	Other initiatives .9115763	Other initiatives .7365061	
		North America -.2731517	
			Marketing -.6482412
	Constant 2.598637	Constant 2.553522	Constant 3.186432

Regression Table 8-16: CSM success – Corporate initiatives (Reduced submodels)

The T model shows a positive influence on CSM success of initiatives that (1) improve environmental performance and (2) address environmental issues in the supply chain. This suggests that, overall, companies in the energy industry are most successful in the environmental dimension of CSM, presumably through effective measures to improve efficiency and reduce emissions and the risk of environmental incidents.

The significant positive effect of "other initiatives" (which is also found in the OG sample) most likely indicates that respondents with higher levels of awareness and expertise – who were thus able and willing to "extend" the list of items provided in the multiple choice question – tend to report greater CSM success.

The OG and UT models reveal some notable cross-sector differences:

- In the OG sector, corporate activities to resolve social issues in the supply chain have a positive effect on CSM success, alongside initiatives that improve environmental performance of corporate activities. This result is in parallel with both qualitative and quantitative evidence presented earlier (see sections 8.1.1.1 Social and ethical issues and

8.4.2 Strategic disposition) insofar as they reflect the significance of social issues in developing countries and a clear economic rationale for resolving them.

- In the UT sector, none of the environmental initiatives has a significant effect on CSM success, although qualitative analysis pointed to significant and effective investments in more efficient processes of power generation (tagesschau.de, 2003; WBCSD, 2002, p. 20). Since constraints in the degrees of freedom are unlikely to be the cause, the results are indeed puzzling. They could point to a more heterogeneous perception of CSM success in the UT sector: Company-specific characteristics may have subdued the expected relationship, reflecting differences in fuel mix and in the current levels of market liberalization. The statistically significant and positive effect of community involvement could indicate that good relationships with residents around power plants and extraction sites constitute a key dimension of successful corporate initiatives since they improve the license to operate (and grow).

Overall, evidence presented indicates that the undertaking of certain initiatives determines the success of CSM. It is not surprising that the environmental initiatives are associated with greater success, since companies are much more experienced with programs that improve efficiency, reduce waste or avoid environmental incidents

Regressions also reveal, once again, the contingent, issue- and hence sector-specific nature of CSM: In the OG sector initiatives that resolve social issues in companies' supply chain and initiatives that improve environmental performance are positively linked with CSM success. This result shows that companies (successfully) focus on initiatives undertaken to address the most important issues. It is also a clear sign of the sample bias toward leading companies. Obviously they not only – in contrast to laggards – consider social issues relevant to their license to operate but have also learned to carry out initiatives to resolve them effectively.

8.4.4.3.3 Discussion

Initiatives and awareness

The revealed lack of respondents' awareness of existing environmental and social initiatives is somewhat sobering, particularly if one takes into account that only the more interested, and hence more likely to be leading companies in the sector participated in the survey. It clearly illustrates how "preoccupied with the daily grind of business and maximizing shareholder value" managers are, and how challenging it is for sustainability officers to promote environmental and social initiatives in a large multinational organization (Steger, 2004, p. 72).

It also reflects companies' largely incremental approach to CSM, which is primarily characterized through a more responsible interpretation of business-as-usual, and corresponds to a business case that is largely based on the management of operational risks. This finding points to two requirements:

1. Issues need to be more strongly integrated into companies' strategies and business models. However, several challenges remain including an elusive business case, managers' mindset and other internal barriers described in the present study.
2. It is important to celebrate successful initiatives, feature them on the company's intranet, in company documents, within and across business units.

The incremental approach to CSM is also reflected in the portfolios of initiatives described by respondents. They are largely limited to incremental innovations to processes and operations and thus point to few differences in the overall corporate environmental and social performance between companies in their sector (Friedl, 2003; Hoyos et al., 2003; Kuhnt, 2003).

Focus and effects

Quantitative methods also show a general environmental focus in the initiatives chosen. This is plausible, since environmental issues are – as outlined in section 8.1 Issues – as long as they are of local or regional nature, easier to assess and address. Social issues have only more recently come into focus, particularly the through activities of human rights organizations and other NGOs, and their use of internet and other media. They are more difficult to assess and handle, as they go beyond companies' traditional focus on their own facilities (e.g. community involvement, fair allocation of revenues).

Furthermore, the portfolios of initiatives feature a certain contingency on issues. Obviously this implies that they are sector-specific. A focus on the important issues is highly plausible if one assumes that companies make a rational choice when attempting to address those issues that most significantly threaten their license to operate. Results of the regression analysis also suggest that this strategy is successful, they show that OG companies that undertake initiatives to address social and environmental issues report higher levels of CSM success. However, there are obviously several possible moderating factors, such as corporate culture and structures, which are unaccounted for in the regression models. They will be included in the regression models featured in the next section to facilitate a more differentiated analysis of the determinants of CSM success.

Contingency perspective on corporate environmental and social initiatives

The present study shows that companies undertake initiatives to focus on their primary issues. This implies that their portfolio of initiatives are not only sector- but also region-specific: OG companies focus their social and ethical issues in developing countries (e.g. lack of community infrastructures, human rights and corruption), UT companies more on environmental problems, such as climate change, that present the prevalent issues in developed countries, their main regions of operations.

8.4.5 Outcome

8.4.5.1 Qualitative analysis and basic statistics

General managers' ratings of the success of their companies' environmental and social initiatives are – like those of the intensity and effectiveness of cross-disciplinary structures (see section 8.4.4.2 Structure) – relatively low. The means displayed in Table 8-10 below indicate that the success of initiatives is on average rated between 3 ("more or less") and 4 ("much").

OG general managers consider environmental and social initiatives in their companies more successful than UT general managers do. This difference is statistically significant at a 10% level and in line with findings from the previous sections which revealed lower outside pressure, less strategic disposition, as well as a relative lack of implementation compared to the OG sector (less management, less cross-disciplinary structures).

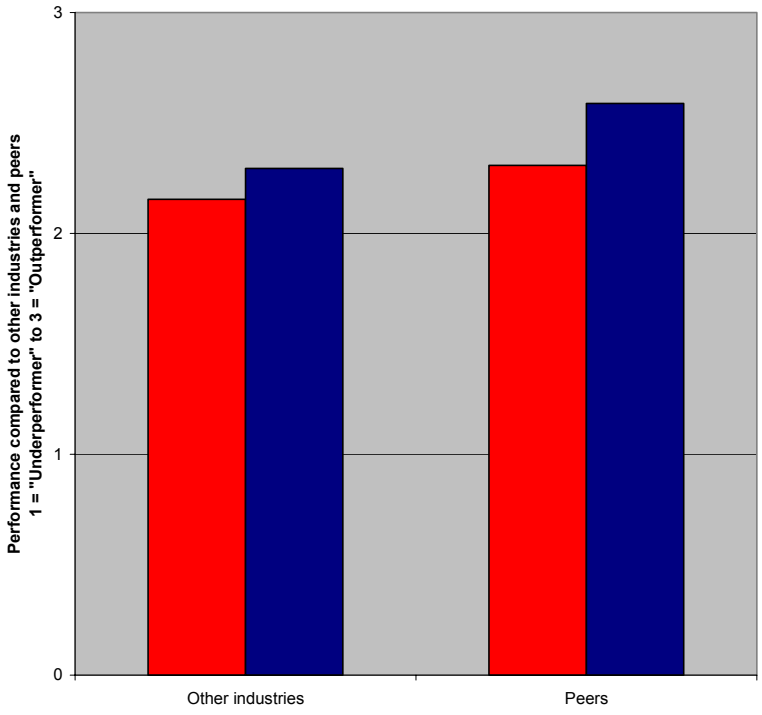
How successful were corporate environmental and social initiatives? (1 = "Not at all" to 5 = "Very much")

General managers						
Sector	Obs	Mean	Std. Err.	Std. Dev.	95% Conf.	Interval
UT	55	3.290909	.0959543	.711616	3.098532	3.483286
OG	117	3.512821	.0724456	.7836188	3.369333	3.656308

Table 8-10: Summary statistics – CSM success

When asked to benchmark their companies' and sectors' progress in adopting more sustainable business practices with other sectors and peers, respondents from both sectors indicated that both their sectors as a whole and their companies achieved an above average level of performance.

Overall a more than average *sector* performance seems more reasonable in the OG than in the UT sector, because the former has been more strongly prompted to adopt more sustainable business practices, and, implemented CSM more comprehensively (as shown in previous sections).



Industry performance compared to other industries

Group	*Mean*	*Std. Dev.*	*Freq.*
UT SO	2.15	0.69	13
OG SO	2.29	0.47	17
Total	2.23	0.57	30

Corporate performance compared to peers

Group	*Mean*	*Std. Dev.*	*Freq.*
UT SO	2.31	0.75	13
OG SO	2.59	0.62	17
Total	2.47	0.68	30

Chart 8-41: Progress in adopting more sustainable business practices

Although it remains unclear on which reference points and criteria of comparison responses are based, greater *corporate* performance compared to peers appears reasonable in both sectors, since the samples are certainly biased toward the sector leaders (see Chart 8-41). The typical laggards such as national oil companies and state-owned energy utilities in developing countries were not targeted in this survey and were most unlikely to participate due to lack of interest.

The low ratings of CSM success presented above are particularly surprising and telling if one takes into account that (1) the survey is biased toward leading companies in their sectors, and (2) responses are additionally subject to social desirability bias. They point to several significant internal barriers discussed in the previous section. The sustainability officers interviewed, in particular, attributed the lack of success and inconsistencies in practices to internal deficits such as lack of knowledge/expertise and a predominantly reactive mindset of the workforce, which points to a lack of organizational alignment as one of the most significant challenges of CSM. Outside factors such as lack of interest from customers, investors or other stakeholders are unlikely to play a significant deterrent role, since, as already stated in several sections above, companies' approach to CSM is largely incremental and thus does not strongly rely on buy-in from external stakeholders (see e.g. section 8.4.1 Company-specific determinants).

8.4.5.2 Advanced statistics

In the present section, possible determinants of CSM success are assessed through both correlation and regression analysis.

8.4.5.2.1 Correlations

Figure 8-34 displays all correlations between CSM success and the other variables accounted for in the correlation analysis. They have all already been discussed in detail in the previous sections, and thus will be only be summarized in a table below.

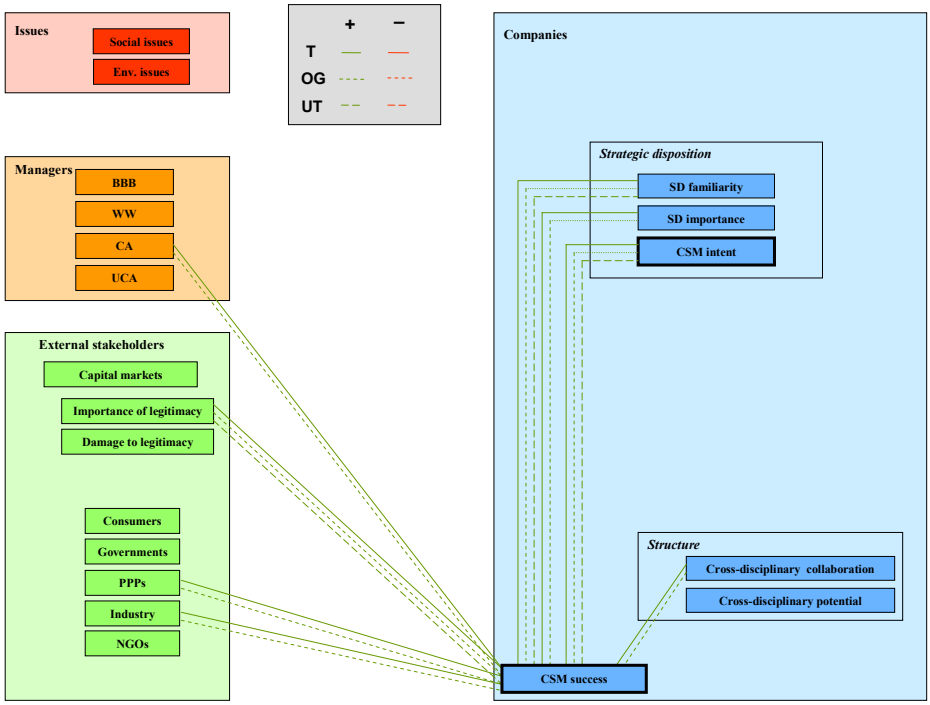


Figure 8-34: Correlations – CSM success

Data show links between CSM success and all four determinants of CSM included in the study's conceptual framework: issues (public responsibility), stakeholders (legitimacy), managers' attitudes (managerial discretion) and company-specific determinants (strategic disposition and structure).

Based on the study's model of corporate sustainability performance (see Figure 4-1), the outcome of CSM is determined by companies' strategic disposition to, economic rationale for and implementation of it. Correlation results clearly support the model insofar as they show a clear link between CSM success on the one hand and strategic disposition and structure (as one element of implementation) on the other.

Tested variables	Detected link	Brief interpretation	Reference to sector-specific interpretation
Issue significance	Positive (10% significance level)	Greater issue significance leads to greater strategic disposition to and implementation of CSM and thus to greater success	Section 8.1 Issues
Managers' attitudes	Positive (for proactive attitudes)	More proactive managers report greater CSM success because they implement initiatives more effectively and/or they consider them more successful (as a way of "doing good")	Section 8.3 Managers
Importance of legitimacy	Positive	Greater importance of the informal license to operate drives CSM success through greater strategic disposition and consequently more effective implementation of CSM	Section 8.2.6.1 The role of legitimacy
Industry's current SD role	Positive	Respondents who consider their company's environmental and social initiatives more successful have a more positive perception of the entire sector's performance	Section 8.2.5 Industry and partnerships
Public-private partnerships' current SD role	Positive	CSM success and a positive role of PPPs are linked because (1) partnerships substantially contribute to the success of corporate initiatives, or (2) CSM success is greater in leading companies, which are also more aware of the need to engage in PPPs	Section 8.2.5 Industry and partnerships
Strategic disposition	Positive	Greater strategic disposition leads to stronger implementation of CSM (tools, structures) and thus increases CSM success	Section 8.4.2 Strategic disposition
Cross-disciplinary collaboration	Positive	More intensive cross-disciplinary collaboration increases CSM success through cross-fertilization	Section 8.4.4.2 Structure

Table 8-11: Correlations with CSM success

This also means that correlations between CSM success and both issue significance and the importance of legitimacy are most likely caused through the correlation of CSM success with CSM intent (most likely any variable that operationalizes companies' level of strategic disposition), which was found to be determined by both variables. The limited importance of external factors (e.g. SD roles of governments, customers, public pressure groups) to CSM success is highly plausible if one takes into account evidence presented above (in section 8.4.1 in particular): Companies' approach to CSM features such incremental modifications to business models and products that their success is primarily determined by internal drivers and barriers rather than largely ignorant external stakeholders.

8.4.5.2.2 Regressions

In the following paragraphs, regression models are employed to assess the joint effect of two different sets of independent variables on CSM success: (1) Corporate discretionary determinants and (2) Corporate and managerial discretionary factors as well as external barriers.

Corporate discretionary determinants of CSM success

The reduced models displayed in Regression Table 8-17 show several statistically significant effects of hypothesized corporate discretionary determinants of CSM success:

		T model		OG model		UT model
Number of obs		71		113		49
F		9.15		7.60		4.21
Prob > F		0.0000		0.0000		0.0209
R-squared		0.2906		0.2197		0.1548
Adj R-squared		0.2588		0.1908		0.1181
Root MSE		.65605		.7124		.61235
Coefficients						
	Env. Performance	.6509395	Social supply chain	.2935317		
			Strategy tools	.2794148		
	Incentive tools	.6724412	Incentive tools	.3234996		
			Coord. committees	.3105709	Business teams	.4606742
	Corporate culture	-.557211				
					Age > 50	.5200642
	Constant	2.650915	Constant	2.993478	Constant	3.128411

Regression Table 8-17: CSM success – All corporate discretionary factors (Reduced cluster model)

The T model features statistically significant effects of initiatives that improve environmental performance, as well as incentive tools and corporate culture. All three independent variables have already been found to determine CSM success in their individual submodels above. The fact that their effects remain statistically significant in the summary model reveals them as particularly clear determinants of CSM success.

The three detected effect are highly plausible, and have already been interpreted in detail in their respective sections above:

- The positive effect of initiatives improving environmental performance indicates that companies are more successful at environmental initiatives, presumably because they are easier to evaluate and address.
- The positive effect of incentive tools points to the importance of soft managers' management tools. This effect is very plausible as incentive tools are used in a more advanced stage of companies' strategic redirection. They allow companies to effectively shape managers' perceptions and expectations and thus influence the "soft" capabilities needed to deal with the complexity of CSM (Doz et al., 1988; Sharma et al., 1999).
- The negative effect of organizational cultures reflects the importance of "soft" *internal* barriers, which can be mainly attributed to the complexity of issues and external demands, which is likely to overwhelm companies' "hardware," i.e. their tools and systems.

Results of the two sector-specific models are also insightful in several ways.

The OG model shows positive effects of supply chain initiatives that resolve social issues, and three management tools, namely strategy tools, incentive tools and coordination committees. These results are in parallel with findings presented above, as they support the conclusion that leading OG companies (1) have recognized the importance of resolving social issues in developing companies and learned to carry out corresponding initiatives effectively, and (2) have more frequent and effective use of management tools. It is also meaningful to note that all three tool categories – data management, managers' management and conflict resolution (Doz et al., 1988, p. 76) – feature in the model. This suggest that all three categories of management tools are meaningful determinants of CSM success and effectively complement each other.

The UT model only features one statistically significant coefficient for a non-demographic variable, namely business teams. Other management tools have no effect, because they are lacking or ineffective.

Although the results could also be affected by the smaller sample size, the relative lack of statistically significant independent variables strongly points to a less advanced approach to CSM. This finding is also supported by the fact that – unlike in the OG sample – business teams rather than coordination committees positively influence CSM success. Obviously CSM is still pursued on a less strategic level in the UT sector (as also indicated by less strategic disposition diagnosed in section 8.4.2). This is why business teams suffice to resolve conflicts that tend to take place at the operational level.

OG companies, by contrast, rely on coordination committees because their approach is more strategic and requires consensus building at the strategic or corporate level. The fact that the UT model features a statistically significant effect of only one variable, namely business teams, as a conflict resolution tool, suggests that the internal conflicts about the need for CSM are greater than in the OG sector.

Corporate discretionary, managerial discretionary and external determinants

The summary models provided in Regression Table 8-18 show the effects of corporate discretionary factors, managers' attitudes and external barriers on CSM success. They were obtained by expanding the scope of the models above on corporate discretionary determinants only (Regression Table 8-17) on include external barriers and managerial discretionary factors.

	T		OG		UT	
Number of obs		71		113		49
F		8.24		7.60		4.21
Prob > F		0.0000		0.0000		0.0209
R-squared		0.3332		0.2197		0.1548
Adj R-squared		0.2928		0.1908		0.1181
Root MSE		.64084		.7124		.61235
Coefficients						
	Env. performance	**.6317153**	Social supply chain	**.2935317**		
			Strategy tools	**.2794148**		
	Incentive tools	**.6890313**	Incentive tools	**.3234996**		
			Coord. committees	**.3105709**	Business teams	**.4606742**
	Corporate culture	**-.5648222**				
	Regulation	**.4045182**				
					Age > 50	**.5200642**
	Constant	**2.595106**	Constant	**2.993478**	Constant	**3.128411**

Regression Table 8-18: Summary models - CSM success

Results illustrate that only regulations (e.g. subsidies and low social and environmental standards) attain the required significance level, namely in the T model. The positive sign of the coefficient suggests that only leading companies which report greater CSM success perceive inadequate regulations as a barrier. This is most likely to be the case in developing countries in which sustainability leaders feel at a competitive disadvantage compared to laggards (e.g. no-bribe policies), but is also valid for the subsidization of fossil fuels which affects the cost competitiveness of renewable energy technologies.

In the two sector-specific models none of the variables tested in addition had a statistically significant effect. This points to the key importance of company-specific determinants rather than external barriers or managerial discretionary factors at determining CSM success.

The effect of managerial attitudes found through the correlations presented above is not significant in the regression models, presumably because it is picked up by variables that remain in the model such as incentive systems. The fact that other external barriers such as the lack of interest or opposition from investors or customers do not have a statistically significant effect points to the largely incremental approach of both sectors to CSM, which is hardly contingent upon the level of external buy-in or opposition. Thus the results are also in line with those obtained for the main barriers to CSM intent, which is largely hindered by internal factors.

Although it remains difficult to reach a definite conclusion about the role of tools and initiatives as well as other possible internal determinants in the UT sector, because variables may not become statistically significant due to constraints in the degrees of freedom, one can reasonably infer from the comparison of the two sector-specific models and the basic statistics presented in the previous sections, that OG companies feature a more resourceful and advanced approach to CSM. This also includes a more effective use of tools to shape managers' perceptions and expectations.

Conclusion

Regression analysis points to several significant company-specific determinants of CSM success, namely corporate initiatives, management tools and corporate culture. Corporate culture and incentive systems are determinants that influence "soft" factors within the organization (e.g. managers' perceptions and expectations). They are complemented with "hard" technical and structural factors such as data management tools (strategy tools) and tools for conflict resolution (coordination committees and business teams).

The T model only features – alongside corporate environmental initiatives – determinants that are linked to companies' soft factors. This could – in line with previous findings – suggest that soft factors contribute more to CSM success due to the complexity of social and environmental issues which overwhelms companies' hard factors (e.g. data management and structures).

Furthermore regressions show that external barriers have a minor to insignificant influence on CSM success. This result is in line with both quantitative and qualitative data presented in several previous sections that point to an incremental approach of companies to CSM.

8.4.5.3 Discussion

Low levels of CSM success

The present study reveals a very skeptical view among general managers of the effectiveness of environmental and social initiatives in their companies – surprisingly skeptical if one takes into account that the sample is biased toward more proactive respondents. Results most likely reflect their lack of awareness of the initiatives, and negative bias through a reactive mindset but they also clearly show the existence of other strong barriers mentioned below.

One could argue that initiatives may be more effective in some business units than others: E.g. interviewees noted that upstream units are more effective at such initiatives than downstream units, since operations are less standardized, more diverse and managers are less pressured to "sweat their assets." This could partly relativize the sobering evidence. The present study was designed to assess corporate sustainability management and its determinants across different sectors and not business units, and thus leaves room for further empirical quantitative research in this area.

Determinants of CSM success

Over the course of this study, the author has identified several significant factors that determine the implementation and thus the outcome of CSM success.

As shown in section 8.4.2 Strategic disposition, companies have a clearly incremental and process-driven approach to CSM. Their strategic disposition is largely limited to a "more responsible interpretation of business-as-usual." Hence the reason for the lack of success of corporate initiatives cannot be found in overambitious strategic objectives. It is to be found at the implementational level of CSM (Nicholson, 2002 p. 3; Simms, 2002) – see Figure 8-35: Determinants of CSM success.

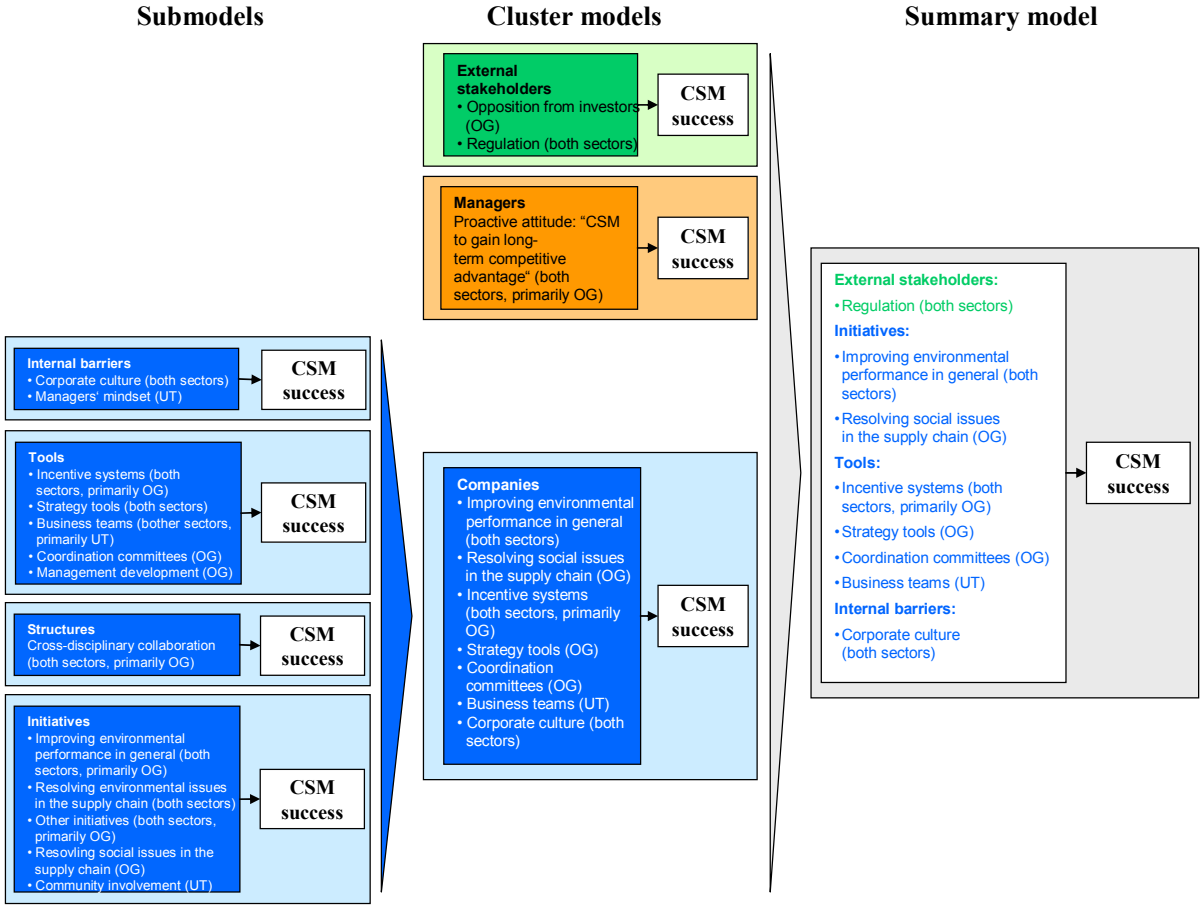


Figure 8-35: Determinants of CSM success

The challenge is clearly one of organizational alignment and reveals itself in various ways:

- "Soft" internal barriers such as managers' reactive mindset and inadequate corporate cultures are strong. Their effect is particularly significant, as the substance of CSM is very complex, because of the variety of issues and stakeholders, and thus difficult to capture.
- The business case for sustainability becomes more elusive, the more it goes beyond a mere cost reduction focus (e.g. eco-efficiency, health and safety improvement). It is particularly elusive for those managers that lack knowledge and expertise. Due to managers' mindset and the elusive nature of the business case, sustainability officers are often forced to focus on risk management arguments. As a result, any existing upside potential could be ignored.
- Although cross-disciplinary structures do not feature in the summary models presented in this section, the effect of their absence should not be underestimated. It is important to establish cross-disciplinary structures to facilitate shared learning through cross-impact analysis and consensus-building at the strategic and operational levels through business teams and coordination committees, respectively. This applies in particular to large global

and multinational organizations that face a plethora of different issues in different countries.

- The positive contribution of all three tool categories (data management, managers' management and conflict resolution tools) points to the importance of introducing and effectively applying management tools. The author suggests that especially managers' management tools, more specifically management development and incentive tools, are needed to effectively shape managers' perceptions and attitudes and thus gradually remove existing soft internal barriers.

By design the study is unable to assess the relative importance of the factors mentioned above. However, more detailed knowledge about the strength of their effects and possible interactions between them is clearly needed to more comprehensively assess the causes of the low levels of CSM success.

Contingency perspective on CSM success

This section of the study identifies higher levels of CSM success in the OG sector – which is in line with results presented in the previous sections – and can be explained through a variety of factors that have been discussed in more detail above. All in all, this clearly points to a relative lack of implementation, i.e. stronger internal barriers, in the UT sector.

Region effects are not visible in the regression models presented above. This is highly plausible, since the implementation of CSM follows an incremental approach. Thus CSM success is clearly internally determined through corporate cultures, structures and tools.

9 Synopsis

The present study set out to empirically examine the main external and internal determinants (i.e. drivers or barriers) of CSM, companies' approaches to CSM in terms of both strategic disposition, the economic rationale, implementation of their approaches, and the outcome. The author employed:

- a mixed method design featuring both qualitative and quantitative means of data collection and analysis
- a descriptive contingency approach based on data collected from two groups of managers, namely sustainability officers and general managers, in two different industry sectors (integrated oil and gas vs. electric utilities sector) and several geographical regions of operations.

In the following, he will elaborate on the study's key findings, significance and limitations, and make suggestions for further research.

9.1 Findings

The evidence presented in this study sheds significant light on the research field of CSM and the current situation in both industry sectors. In the following paragraphs, the author will briefly summarize his findings and relate them to the research questions listed in section 4. More detailed presentations of these findings and their discussion can be found in the respective discussion sections above.

It should be noted that results are based on the analysis of qualitative and quantitative data obtained from GMs and SOs in two specific sectors – OG and UT. Obviously one should avoid – under any circumstances – carelessly projecting its results on other sectors, particularly due to the issue-specific nature of CSM. Nevertheless, some of the study's key findings facilitate some conclusions about sectors with very similar or very different characteristics. The author will elaborate on these in the following paragraphs. It is worth

noting that the OG sector most likely represents a rather high benchmark for other industries in terms of both strategic disposition to CSM and its implementation due to the relatively high visibility of issues and companies, which leads to a comparatively strong external demand for CSM.

Most important issues and their effect on CSM

The study identified a substantial number of individual environmental and social issues that affect companies in the energy industry. Only a few of them can be considered key issues that influence CSM due to the financial risks and opportunities associated with them, which are in particular climate change in the UT sector and a complex of local or regional social and environmental issues (e.g. fair allocation of oil revenues, lack of infrastructure in communities, biodiversity) in the OG sector.

The importance of issues to companies is essentially determined by the demand from stakeholders: They sanction a corporate activity associated with a particular social or environmental issue, and reward a corporate response addressing it. This outside pressure is determined by the visibility of the issue, the visibility of the company (organizational visibility) and the limits of legitimacy, which can be defined globally, regionally or locally depending on the issue.

Although environmental issues were considered more important than social issues in both sectors, it was surprising to note that the significance of social rather than environmental issues affected their companies' intention to integrate environmental and social criteria into business strategies and operations. This points to an increasingly comprehensive approach to CSM that goes beyond a mere environmental focus. One can reasonably expect that sustainability leaders in other industries exhibit a similarly broadened view of CSM, i.e. they will look beyond their typically dominant (environmental or social) issue dimension (Salzmann, Steger, & Ionescu-Somers, forthcoming).

A separate consideration of both sectors revealed that the OG sector is primarily driven by social issues, the UT sector by environmental ones. The influence of social rather than environmental issues on strategic disposition to CSM in the OG sector is somewhat counterintuitive due to the wide public attention given to the issue of climate change in relation to current corporate activities. It can be explained as follows: As in the UT sector, financial risk and opportunities associated with climate change can be mitigated and exploited through incremental changes to current business models. Hence the focus of the two sectors on different regions of operations appears to be the dividing factor: OG companies' approach is global, and increasingly focused on developing countries. The data show that social issues in those regions more strongly threaten companies' informal license to operate than climate change, which is likely to develop increasing momentum only in the mid to long-term (Shell International Ltd, 2001). In contrast, the UT sector's approach is more regional and concentrates, in the case of the companies surveyed, on Europe, where environmental issues clearly dominate social issues (also due to e.g. stronger regulatory pressure in terms of climate change). The sector-specific dominant issue dimensions are also reflected in each sector's portfolio of corporate initiatives: The OG sector features more social, the UT sector more environmental activities.

The role of external stakeholders and legitimacy

The demand of external stakeholders for CSM is contingent upon issue visibility, organizational visibility and the level of legitimacy, which is determined by regulation and dominant socio-cultural paradigms. Hence it varies across sectors and regions of operations. Customer, shareholder and regulatory demand for CSM is marginal. In some cases, NGO activities have triggered selective, isolated and short-term actions by these transactional

stakeholders. However, overall external demand is so limited that it can easily be satisfied through companies' "watery" approach to CSM, which is essentially a more responsible interpretation of "business-as-usual."

External stakeholder are able to amend or revoke two kinds of licenses to operate: Governments and regulators target companies' formal license to operate through rising regulatory standards. The remaining stakeholders have the power to affect companies' informal license to operate through boycotts, campaigns and shareholder resolutions. The vulnerability of both kinds of licenses are dependent on several factors including the location of the key social or environmental intake geographically or within the life cycle phase of the product (production or use); the certainty and transparency of the resulting issue; the bargaining power of governments and regulators; and the vulnerability of brands and reputation. This degree of vulnerability also determines the amount of outside pressure on companies. It is obvious that these findings apply to any sector or company: E.g. the financial premium associated with the informal license to operate is higher for large companies that exhibit strong consumer recognition and are closer to the end consumer (even if retailers are in between as gatekeepers – as is the case in the food and beverage industry). It should be added that a lack of regulatory pressure on corporate activities in developing countries may also be compensated for by a civil society in developed countries, which increasingly scrutinizes those very activities (Bowen, 2000; Steger, 2003).

The individual roles of external stakeholders differ across both sectors as follows:

- Governments play a more important role in the UT sector since it is strongly regulated on its major environmental impact (emissions to air) in Europe, where most of the UT respondents were from. In contrast, most emissions associated with the OG sector come from the use phase of fossil fuels (primarily in the transport sector) rather than the production phase. Furthermore, extractive activities will increasingly concentrate on regions that feature relatively low regulatory standards compared to companies' home countries.
- This lack of regulatory pressure on the OG sector is overcompensated by stronger scrutiny from public pressure groups. Due to higher issue and organizational visibility, OG companies tend to be better targets than the on average smaller UT companies, with fewer resources at their disposal.
- OG companies expect capital markets to take a more proactive role in the future than UT companies, which also appears to increase OG companies' greater intention to integrate environmental and social criteria into business strategies and operations. This is also likely to reflect capital markets' greater interest in the OG sector in general but also in companies' position on climate change, as the growing number of, and support for, shareholder resolutions shows.
- The potential of customers to play a more proactive role is slightly greater in the UT sector. This outcome was rather unexpected, since customers in both sectors usually exhibit a clear preference for cheap and convenient energy. It could, however, be attributed to policy measures in some European countries that promote green electricity production and customers corresponding growing awareness of this alternative in liberalized markets.

External stakeholders play a clearly deterrent role. However, if one compares their demands for CSM, results show that non-regulatory stakeholders such as customers (through boycotts and "green" consumerism), capital markets and investors (through shareholder resolutions and increasing scrutiny of corporate risk management), and NGOs as catalysts exert more outside pressure on companies than governments and regulators. This means that challenges to

companies' informal rather than formal license to operate represent a significant driving force for CSM, also because the informal kind can be revoked more swiftly.

Role of managers and the effect of their attitudes, knowledge and mindset on CSM

Managers' attitudes, knowledge and expertise were identified as major internal determinants of CSM. They are particularly relevant, since current systems and structures fail to provide the necessary guidance for managers on how to assess and react to the issues they face.

Even if companies improve current systems and structures, the complexity inherent in CSM is likely to "overstrain" their capabilities. This means that knowledge and mindset will always remain key factors influencing managerial discretion, since they determine managers' perceptions and expectations. This is clearly reflected in the finding that managers' proactive attitudes are associated with a stronger perception of the significance of issues.

Overall UT managers have less proactive attitudes than their counterparts in the OG sector, which corresponds to UT companies' lower issue and organizational visibility and less proactive corporate cultures. It is also most likely a legacy from their past as natural monopolists and state-owned companies.

Companies and their approach to CSM

Corporate discretionary determinants of CSM and their effects

Results on the importance of internal, and in particular corporate discretionary, barriers, clearly hint at companies' incremental approach to CSM, which is enough to satisfy the marginal external demand: Changes to business models and corporate activities are so minor that the lack of interest from customers, shareholders and regulators does not significantly deter them. It is rather the internal deficits that negatively affect CSM. Hence the study points to a significant unexploited potential of both managerial and corporate discretion:

Managers' mindset, lack of knowledge and expertise as well as corporate cultures and lack of processes and tools prevent a stronger and more effective approach to CSM. Soft factors (managers' mindset and, above all, corporate culture, rather than hard ones (lack of appropriate processes, tools and structures) are the key internal barriers to CSM, most likely due to the complex nature of issues, which overstrain companies' "hard" instruments, structures and processes.

Company-specific barriers appear to be more significant than barriers set by the individual managers' mindset and (lack of) knowledge. This is obviously because the former determine to what extent managers are able (e.g. through management education, availability of relevant information through adequate data management) and willing (e.g. corporate culture, incentive) to exercise their discretion.

Overall corporate discretionary dimensions of CSM are less developed in the UT sector: Companies feature greater internal deficits due to weaker outside pressure and the legacy of former or current state ownership.

Strategic disposition, its determinants and effects

Companies' approaches to corporate sustainability are still clearly operational and process-driven rather than strategic and market-driven. Leaders in both sectors have recognized current and emerging issues, and are attempting to improve their flexibility to respond to future developments (e.g. emissions trading, pilot projects and niche markets to develop renewable energies). Long-term strategies are mainly concerned with future carbon pricing, and in the OG sector additionally with geopolitics and resource depletion. Distinct changes in business models are mainly discussed in the OG sector but decades away from adoption.

Greater strategic disposition was found to be driven through greater issue significance; more proactive attitudes of managers; company-specific factors such as more adequate corporate cultures; a more proactive role of public pressure groups; conflicts with authorities; and the importance of the informal license to operate. These identified determinants are able to conclusively explain the lower strategic disposition in the UT compared to the OG sector.

Finally, greater strategic disposition is also reflected in a more sophisticated implementation of CSM, more specifically in structures that allow for closer cross-disciplinary collaboration and more successful environmental and social initiatives.

Economic rationale for CSM and processes of issue integration

The business case for sustainability is clearly contingent in nature and bears a clear dilemma: It can be "logically built" and rather easily quantified for incremental innovations (to improve eco-efficiency, as well as health and safety) that have no potential to address the major strategic issues.

Overall it is rather marginal. It cannot be seriously built for radical innovations to address the strategic issues such as climate change and the North-South energy divide. This is due to external stakeholders' disinterest and opposition: e.g. shareholders' focus on short-term profits, consumers' preference for cheap and convenient energy products. The current business environment clearly provides the strongest business case for efficient and environmentally/socially responsible extraction, production and use of fossil fuels. New business models (e.g. hydrogen, renewable energy technology) are hard to introduce. This applies to the OG sector in particular, because it is strongly locked in a technological trajectory together with the mobility sector. Several pilot business units that produce and market renewable energy technologies have been established. However, there is significant disagreement within and across companies whether the money on these pilot projects is well spent: Some companies have adopted a "wait and see" attitude and rely on being able to acquire renewable energy companies later "when there is real money in it"; others have opted for the creation of renewable energy subsidiaries to "learn as they go."

Processes of issue integration mirror companies' narrow focus on the minimization of risks, which tends to lead to late and rather weak responses. Managers obviously prefer an ex ante quantified business case over an unquantified or ex post quantified one, but a certain lack of quantification is systemic due to the complexity of social and environmental effects and the marginality of the business case for sustainability.

Overall the scope of the business case is determined by both systemic and organizational factors (tools and systems, managers, structures, soft factors, causal modeling and validation). A "presumptuous" focus on business logic only (i.e. without quantification) is careless, as it prevents validation of expected causal links between initiatives and financial performance through measurement, i.e. quantification, and thus leads to decision-making based on (possibly wrong) preconceptions. Furthermore, companies' claims that strong soft factors make a quantified business case obsolete should not be taken at face value, since it often associated with a lack of data management and a consequent tendency to blame external factors for a lack of quantification.

In conclusion, the uncertainty is substantial among decision-makers and inherent in both the business case for sustainability and most managerial decisions. Additionally, considering companies' internal deficits, it is very likely that even the relatively robust business case for the management of operational risks and opportunities is not fully exploited, particularly not in laggard companies.

Implementation of CSM

Although tools are a less important determinant of CSM than soft company-specific factors (e.g. corporate culture), they still play a meaningful role: In particular incentive systems, strategic planning and accounting procedures, management development, and conflict resolution tools (used at the strategic and operational level) determine CSM success. This suggests that data management tools, tools that shape managers' perceptions and expectations and conflict resolution tools are necessary to effectively implement CSM. In both sectors, the portfolios of tools used are dominated by data management tools and corporate values, which confirms companies' rather early stage in a potential process of strategic redirection to corporate sustainability.

Overall companies exhibit clear deficits in terms of their structures: Cross-disciplinary collaboration is ineffective or completely lacking. It is determined through corporate strategic disposition to CSM. The importance of cross-disciplinary structures should not be underestimated, since they influence managers' awareness of issues and outside pressure from stakeholders and, alongside other variables, determine he success of CSM.

Companies' portfolios of initiatives clearly point to an incremental approach to CSM. Managers' awareness of ongoing initiatives is low, and initiatives are largely limited to minor modifications to process and operations. The portfolios also exhibit a contingency on the most important issues each sector faces. OG companies have increasingly attempted to take on important social issues associated with their extraction and production activities in developing countries; UT companies are more focused on environmental initiatives.

Overall the UT sector exhibits a lower level of implementation of CSM: Inter alia UT companies more clearly lack management tools, effective cross-disciplinary structures, and corporate social and environmental initiatives.

Outcome of CSM and its key determinants

Overall evidence on general managers' perceptions of the predominantly little success of CSM is quite sobering and reflects significant skepticism and a lack of corporate and managerial capabilities: The study revealed several key determinants of CSM success that comprise corporate cultures, managers' mindset, management tools and the initiatives carried out.

Internal rather than external factors such as lack of interest or opposition from customers or investors determine CSM success. As discussed above, this points to an incremental approach to CSM: Corporate social and environmental initiatives are so marginal in scope that they are not affected by external stakeholders' indifference or even opposition.

Primarily since UT companies face stronger internal barriers, it is coherent that CSM success is lower in the UT sector.

Contingency perspective

The contingency approach taken in the present study has proved very effective. It enabled a very differentiated analysis of the companies' approaches to CSM, its determinants and the outcome across two industry sectors, two management disciplines and various regions of operations.

Sectors

The key cross-sector findings on corporate sustainability performance (referred to as a company's configuration of external and internal determinants of CSM, strategic disposition to, economic rationale for and, implementation of CSM, and its outcome)

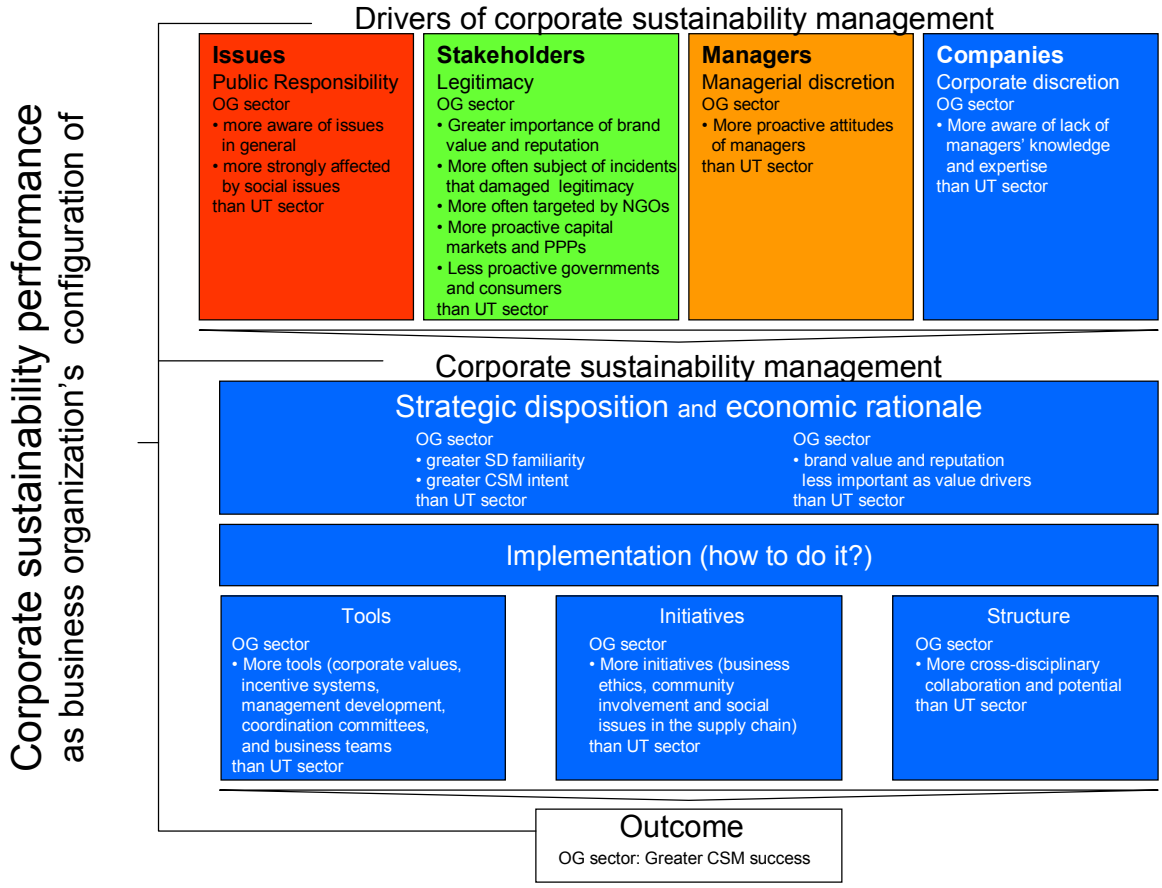


Figure 9-1: Cross-sector differences

have already been presented in detail in the previous paragraphs. They will not be repeated but the author provides an overview of the cross-sector differences in Figure 9-1. They clearly illustrate a less advanced approach of UT companies to CSM compared with OG companies.

Management disciplines

The study revealed several cross-disciplinary differences, summarized in Table 9-1, which show that the two groups have specific perceptions of determinants of CSM (issue significance) and of CSM as such, more specifically their companies' SD familiarity, internal barriers and management tools as well as the role of their sector in contributing to sustainable development.

Concept	Description of cross-disciplinary differences	Sector
Issue significance	Sustainability officers consider social and environmental issues more significant than general managers	OG, UT
Barriers to CSM	Sustainability officers more frequently consider managers' mindset an important barrier to CSM	UT
SD familiarity	Sustainability officers consider their companies' SD familiarity higher than general managers	OG, UT
SD role of industry	Sustainability officer consider their industry's role more proactive than general managers	OG
Management tools	Sustainability officers less frequently report the use of tools that measure resource allocation Sustainability officers more frequently report the use of management development tools.	OG

Table 9-1: Cross-disciplinary differences

Thus the sample of sustainability officers confirms their greater knowledge and expertise in the area of CSM, which was expected due to their role as advisors and catalysts in their companies. They are more aware of social and environmental issues and internal barriers, more specifically managers' mindset. Hence they see a clear need to increase general managers' awareness through management development. In contrast, general managers are

more strongly concerned with resource allocation, which likely reflects their perception of CSM as a cost driver.

Finally, sustainability officers have a more positive self-perception (of their company and industry), most likely because they are (1) calculatedly optimistic as catalysts, and (2) have a broader and more strategic perspective on CSM (e.g. greater awareness of best practices) and thus tend to overestimate organizational alignment.

Regions

The study pointed to several differences across regions of operations: The significance of some issues depends on local social and biophysical conditions. Furthermore, outside pressure from stakeholders is moderated through limits of legitimacy, which differ across regions of operations. E.g. developing countries have lower environmental and social standards than developed countries. Furthermore, public pressure on the same issue such as nuclear power (e.g. France vs. Germany) and climate change (Europe vs. US) differs across countries. There is some evidence that these country-specific differences are also reflected in managers' attitudes and corporate cultures.

9.2 Significance of the study

9.2.1 Implications for theory

The present study is both exploratory and explanatory in nature. It relies on a conceptual framework derived from those of Husted (2000) Greening and Gray (1994) and mainly Wood (1991). The resulting model of corporate sustainability performance was tested through both qualitative and quantitative methods. Empirical evidence reveals that the framework developed is valid. The following implications for theory are significant:

Joint consideration of social and environmental dimension

The most significant models of corporate social performance (Cochran & Wood, 1984; Greening et al., 1994; Husted, 2000; Wood, 1991) do not differentiate between social and environmental issues and corporate activities undertaken to address them.

The present study has shown that a separate but simultaneous consideration of the social and environmental dimension is worthwhile, since it takes into account the contingency character of CSM: Both the social and environmental dimensions of CSM can differ in terms of significance between industry sectors and regions of operations. Thus the study hints at even finer differentiations, which would take into account parameters such as issue transparency, certainty and urgency.

Economic rationale

In contrast to previous models, the study's model of corporate sustainability performance explicitly incorporates the economic rationale for CSM. It defines CSM as a profit-driven corporate response to social and environmental issues. Given that the economic rationale for CSM was a virtually untouched area of descriptive research, the study took a more exploratory qualitative approach to shed more light on the importance and characteristics of this concept.

The evidence gained points to the fact that the business case for sustainability plays a key role in fostering CSM, and thus justifies the inclusion of the business case in the study's conceptual framework. It also provided the basis for an empirical follow-up study that collected the first ever available quantitative data on companies' activities to quantify the economic effects of their social and environmental initiatives as well as on the importance and drivers of quantification.

Based on his study and follow up empirical research conducted at IMD (Salzmann et al., 2005b), the author developed a framework that includes all relevant determinants of the business case for corporate sustainability, i.e. systemic factors (marginality and complexity), and organizational factors (system and tools, structures, managers, soft organizational factors, causal modeling and validation).

Process orientation and corresponding systemization of subconcepts

None of the previous conceptual frameworks allowed for an examination of the relationship between possible determinants of CSM, companies' strategic disposition and approaches to implementing it and the outcome.

The corporate sustainability performance model presented in this study facilitates this sequential perspective. Data support the validity of the framework and show that:

1. Strategic disposition to CSM is driven by four (external and internal) determinants
2. Strategic disposition to CSM determines how it is implemented
3. Approaches to implementation determine the outcome of CSM.

Four determinants of CSM

To date the most comprehensive models of corporate social performance by Wood (1991) and Greening and Gray (1994) have featured only some subsets of the motivating factors accounted for in the present study, namely public responsibility, legitimacy and managerial discretion (Wood, 1991), and resource dependencies, institutional pressures and managerial discretion (Greening et al., 1994).

The present study has shown the meaningfulness overall of four determinants of CSM: legitimacy (stakeholders), managerial discretion (managers' attitudes, knowledge), corporate discretion (resource dependencies) and public responsibility (issues).

9.2.2 Implications for practice

Issues

The study clearly reveals that most issues in both sectors can be momentarily addressed through incremental modifications to operations and processes. The currently limited relevance of environmental and social issues to companies' core business clearly puts things into perspective: It is fairly easy for general managers to dismiss CSM as "baloney." It is obvious that two factors will significantly affect the importance of CSM in the future:

1. Issue visibility: Some issues are likely to become more and more visible. Effects of climate change are likely to show more clearly, e.g. higher sea levels, interference with atmospheric and water circulation and weather variability. Furthermore, environmental (e.g. biodiversity loss, environmental deterioration) and social pressures (e.g. income disparities, poverty) are likely to increase (OECD, 2001, p. 14). Those developments of issue visibility may be gradual or dramatic.
2. Societal reaction: It remains to be seen how societies will respond to this increasing issue visibility, and whether the associated risks can be – depending on the future state of local, regional or global ecological and social systems – avoided, mitigated or only managed (e.g. building higher dams against rising sea levels). Depending on future trends and countertrends (corporate social responsibility vs. radical capitalism; national protectionism vs. globalization; multi- vs. unilateralism), societies may or may not decide to internalize issues.

In the case of climate change, for example, direct taxes, tradable permits, reluctance of shareholders and institutional investors (e.g. The Carbon Disclosure Project), litigation and

changes in re-insurance policies could have a significant impact on current business models, which are largely based on the production and use of fossil fuels (OECD, 2001, p. 350; The Word Economic Forum, 2002, p. 2).

Provided that society is willing and able to internalize increasingly visible issues, companies' financial threats and opportunities will increase. The stakes will also rise through an increase in complexity and dynamics through geopolitics (e.g. terrorism) and the growing bargaining power of countries that own non-renewable energy sources. Furthermore, the situation is complicated by several systemic parameters driving the global energy system: Such factors (e.g. domestic energy policies, technological lock-in through long life-spans for energy-related capital stocks) can only be influenced by energy companies to a limited extent. In the UT sector, ongoing liberalization and privatization could additionally increase competition.

These trends clearly call for a more systematic approach, with more resources, to correctly evaluate emerging issues, detect the most important ones, and eventually launch activities to address them. The timing and the type (e.g. which technology?) of such activities is largely uncertain, but they will certainly become necessary and lead to a transition of energy markets in the future (Shell International Ltd, 2001, p. 58). The key importance of this transition becomes obvious if one takes into account the strategic importance of energy as a commodity that facilitates mobility and the production of goods and services.

Stakeholders and legitimacy

The study revealed that companies face little outside pressure from stakeholders, apart from NGO campaigns. In particular, the lack of strategic guidance from governments and regulators in industrialized countries has become apparent and can be attributed to the limited visibility of issues (e.g. climate change is a global long-term issue), which decreases the political acceptance of possibly more drastic measures. As noted above, these issues will tend to become more visible over the next decades, thus facilitating more demanding policy mixes targeting both energy producers (companies) and users (households and industries). On the other hand, globalization will decrease *national* governments' power to amend companies' licenses to operate. The slow Kyoto process suggests that effective transnational legislation is still years if not decades away from being introduced (WBCSD, 1999, p. 2).

This points to an increasing role of civil society and other non-regulatory stakeholders in amending companies' informal license to operate. With increasing issue visibility, customers (i.e. private and corporate customers) and the financial community are more likely to move beyond their ad hoc responses to NGO campaigns and more consistently exert greater pressure on companies. Two further motivating factors should be taken into account:

- With ongoing globalization, the organizational visibility (e.g. brand recognition) of the major oil and gas companies in particular will increase.
- With ongoing economic development, limits of legitimacy will shift, i.e. external stakeholders will become more demanding in terms of how issues should be addressed.

The increasing complexity and pressure companies will face points to the importance of forming partnerships with stakeholders, to develop technologies in joint pilot projects or safe niche markets (e.g. the hydrogen project of Norsk Hydro, Shell and DaimlerChrysler in Iceland, rural electrification project undertaken by Shell and Eskom) and to resolve local social and environmental issues in developing countries (e.g. human rights, allocation of oil revenues).

Managers

Since companies' "hardware" of tools and systems can inevitably not capture the complexity of CSM fully – even if gaps and failures diagnosed were removed – managers play a particularly important role. The assessment of issues and their integration into business strategies and operations (e.g. framing an issues as an opportunity) provides them with significant potential to exercise their discretionary power. This involves personal judgment that is based on the decision-makers' knowledge (cognitive maps) and personal attitudes. It should be noted that judgment is particularly difficult in the energy industry compared to others since, as outlined above, the global energy system is so complex and dynamic.

Management development is strongly needed, particularly in laggard companies, to encourage managers to exploit their discretionary power in the best possible way. In the current situation, in which issues can still be addressed through incremental innovations, more experienced and knowledgeable managers are more likely to acknowledge and strengthen existing links between social and environmental issues and their companies' core business, and thus more strongly promote CSM within their organization. For this reason, the author has developed an interactive web-based toolset to help managers build their business case for sustainability, benchmark their company's current approach to CSM and identify areas of improvements and potential pitfalls.[59]

It appears that younger managers already exhibit greater awareness of issues than their older colleagues, presumably due to their education (e.g. greater use of the internet) and heightened awareness of NGO campaigns. Hence one can expect that future managers will more easily sense a business logic to integrating issues. Greater visibility of some issues such as climate change will additionally help them to build a business case for CSM.

Companies

In the long term, financial threats and opportunities associated with environmental and social issues will become more significant to companies' core business. The business case will become clearer and easier to build. Thus companies' strategic disposition to CSM will increase beyond incremental improvements of operations and processes.

However the study identified – alongside managers' attitudes – several other internal factors that significantly affect companies' strategic disposition to and implementation of CSM. This means that a more optimal configuration of those internal factors leads to a greater willingness and ability to integrate issues into strategies and operations.

The potential for corporate discretion at the *strategic* level is rather limited under the current market regimes. However, it is likely to grow in the future and may thus lead to a gradual removal of internal barriers: CSM will become increasingly difficult to dismiss because its relevance to companies' core business will increase.

The potential for corporate discretion at the implementational level is significant in all companies today, particularly among laggards. How can this potential be exploited? The study points to the need for a two-pronged approach: First, companies need to work on their "soft" capabilities: Open proactive corporate cultures that can be most effectively fostered through credible signals from top management, management development and incentive systems are necessary to create a working environment in which managers feel empowered and encouraged to exercise their individual discretionary power. Companies featuring such corporate cultures have less need of a hard quantified business case and have a better "feel" for the underlying business logic. They may even also engage in corporate environmental and

[59] The toolset is available at the following web address: www02.imd.ch/research/project/bcs.

social activities on a normative case, but only as long as financial pressure is moderate. Second, "hard" internal capabilities are to be improved. They comprise inter alia:

- Corporate structures that foster effective collaboration between sustainability experts and general managers, between business functions and business units. This pooling of resources is necessary to cope with the complexity that comes with CSM and calls for cross-impact analysis, cross-functional and cross-business consensus-building and decision-making (through business teams and coordination committees at the operational and strategic levels, respectively)
- Management tools that provide managers with relevant data (e.g. carbon cost accounting, scenario building) that are necessary to establish a sound business logic for CSM or even a hard quantified business case.

Economic rationale

It is essential for companies to establish a sound economic rationale for CSM, but it is also not easy. Systemic factors such as the complexity associated with social and environmental issues as well as the limited scope of the business case for sustainability (particularly for a radical, "breakthrough" innovation) make it difficult and less worthwhile to establish business logic for social and environmental initiatives and to quantify it.

However, with the current state of CSM and its business case, it is short-sighted to blame outside and systemic factors when trying to build a sound business case. The actual bottlenecks are of rather basic and internal organizational nature:

1. Companies tend to lack capacities for data management, in particular those necessary to collect data on their initiatives and their effects.
2. Companies, particularly those exhibiting greater internal deficits, tend to overestimate the positive effect of soft organizational factors such as corporate culture, management education and top management commitment. Furthermore, business logic (without quantification) is not established as often as claimed.

Overall results provide a clear recommendation for managers to systematically establish business logic for social and environmental initiatives, and to confirm or disconfirm this logic by quantification to avoid flawed decision-making based on half-baked assumptions. In most cases this will have to go hand in hand with building organizational capacities in the form of:

- tools and systems to collect and process relevant data
- cross-disciplinary structures (across business units, business functions, regions, etc.) to ensure consistent flow of information, facilitate decision-making and strengthen organizational alignment
- management education, and
- more open and proactive corporate cultures.

9.3 Limitations and suggestions for further research

Apart from its analysis of determinants of strategic disposition to CSM which has been undertaken in earlier studies (even if not in such a differentiated way), the study has largely touched new areas of empirical research. The author has intended to capture the vast scope of this new research field through a broad exploratory and explanatory approach. The breadth and pioneering character of the study are inherently linked to some limitations that point to several opportunities for further research. The author has identified three key directions of future research: (1) research focus and operationalization, (2) refining the framework, (3) issue integration and the business case for sustainability, and (4) methodology and data.

Obviously all three directions should respect the contingency character of CSM when drawing multi-industry samples.

Research focus and operationalization

Sections 8.1 Issues, 8.2 External stakeholders, industry and partnerships, and 8.4 Companies, in particular, feature several opportunities to focus on individual research areas that have already been mentioned in the various discussions of the research results above. Naturally every focus has to go hand in hand with a more accurate operationalization of concepts. The following two directions appear particularly compelling:

- Both qualitative and quantitative methods employed in the study revealed that a differentiation between the social and environmental issue dimensions is meaningful. Future research can allow for a much finer distinction of issues or even a focus on the key issues identified through qualitative methods in this study. As depicted in Figure 8-6 studies can also incorporate various parameters such as certainty, transparency (Bansal et al., 2000), local, regional or global biophysical conditions to more comprehensively explain variations in the visibility of individual issues. They can additionally include the moderating factors of organizational visibility (Bowen, 2000) and limits of legitimacy to assess outside pressure associated with an issue and the corresponding financial threat and opportunity as perceived by managers. Thus results can also contribute to a more conclusive prediction of companies' strategic disposition to CSM.
- Quantitative methods linked several stakeholders' demands for CSM to companies' strategic disposition. Furthermore, demand for CSM was measured for the individual issue but at an overall level. As qualitative methods revealed, the demand level is only one of several determinants of outside pressure from a particular stakeholder and it is issue-specific. Future studies can assess the importance of the principle of legitimacy more accurately by incorporating additional factors featured Figure 8-15, such as the power of the individual stakeholder relative to the company. They may concentrate on single stakeholders only, or one issue only, and assess the corresponding outside pressure and the financial threat or opportunity faced by the company.

Refining the conceptual framework

The present study was based on a conceptual framework depicted in Figure 4-1, which featured four determinants of CSM comprising the principles of public responsibility (relating to issues), legitimacy (relating to stakeholders), managerial discretion (relating to managers' attitudes) and corporate discretion (relating to company-specific determinants). The business case, i.e. the economic rationale for CSM, was integrated with the strategic dimension of CSM next to companies' strategic disposition.

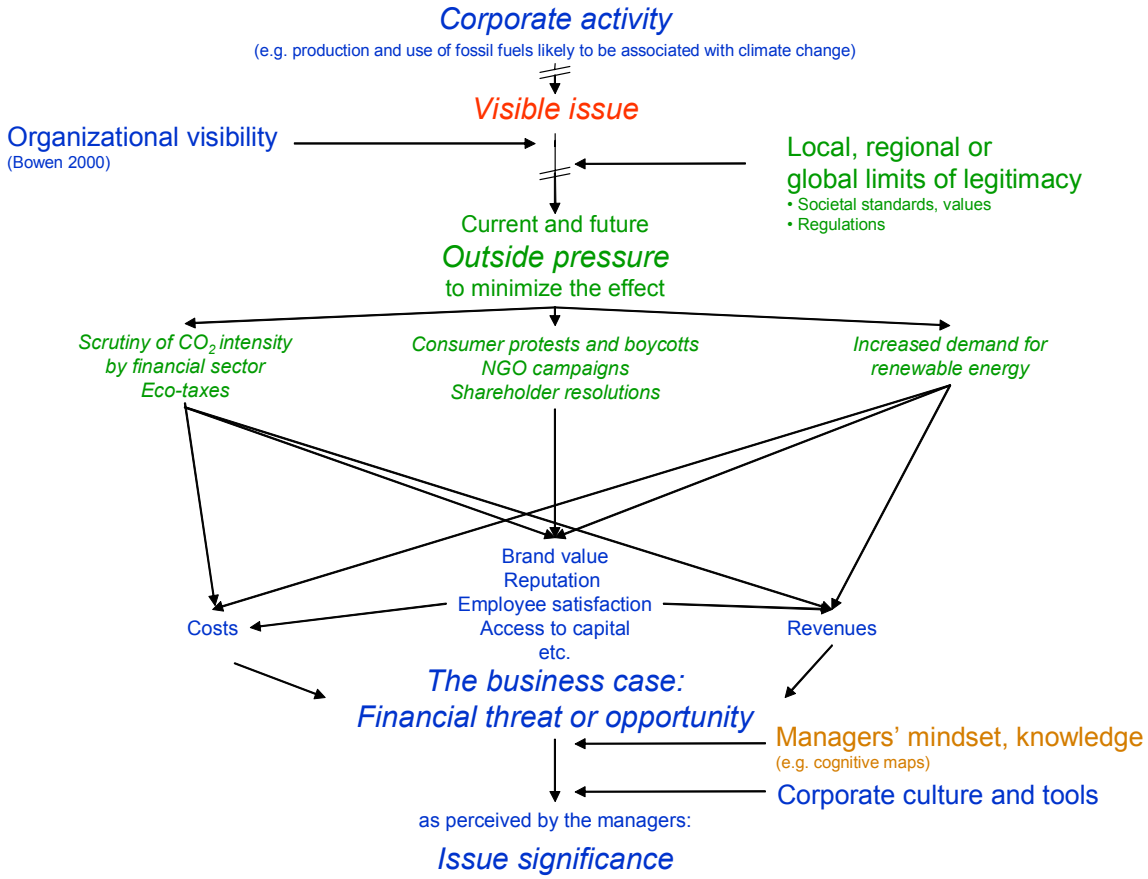


Figure 9-2: Integration of the business case into the conceptual framework

The central role of the business case for CSM revealed in this study calls, however, for an enhancement of the conceptual framework, more specifically a refinement to take into account its relationship with the motivating principles featured in the original framework. Figure 9-2 constitutes a proposition for such a refined framework. It features all concepts of this study, which were found to be directly relevant. They comprise the corporate activity that leads to a social or environmental intake (not shown, see Figure 8-6). This intake leads to an issue whose quality depends on local, regional or global biophysical or social conditions. The quality of the issue may additionally be visible to a varying extent depending on its transparency and certainty (not shown, see also Figure 8-6).

The visible issue then triggers outside pressure from stakeholders which is contingent on the organizational visibility of the company and the limit of legitimacy. This outside pressure can take different forms, depending on the individual stakeholder, and it affects costs, revenues or intangibles to a varying extent. The resulting financial opportunity or threat is then evaluated by a manager or a group of managers. Their mindset, level of knowledge and expertise as well as corporate culture and tools determines the outcome of this evaluation, which is the perceived issue significance. The issue significance then determines – alongside other factors – the willingness to address the issue, i.e. the strategic disposition.

The refined framework presented still reflects a rather exploratory stage of this research field. Future studies can test and refine it to move from the descriptive end of the continuum more toward a normative and predictive stage in this research field.

Issue integration and the business case for sustainability

The author developed the following framework depicting the major determinants of the business case for corporate sustainability – largely based on qualitative evidence collected in the course of this study and on empirical follow-up research:

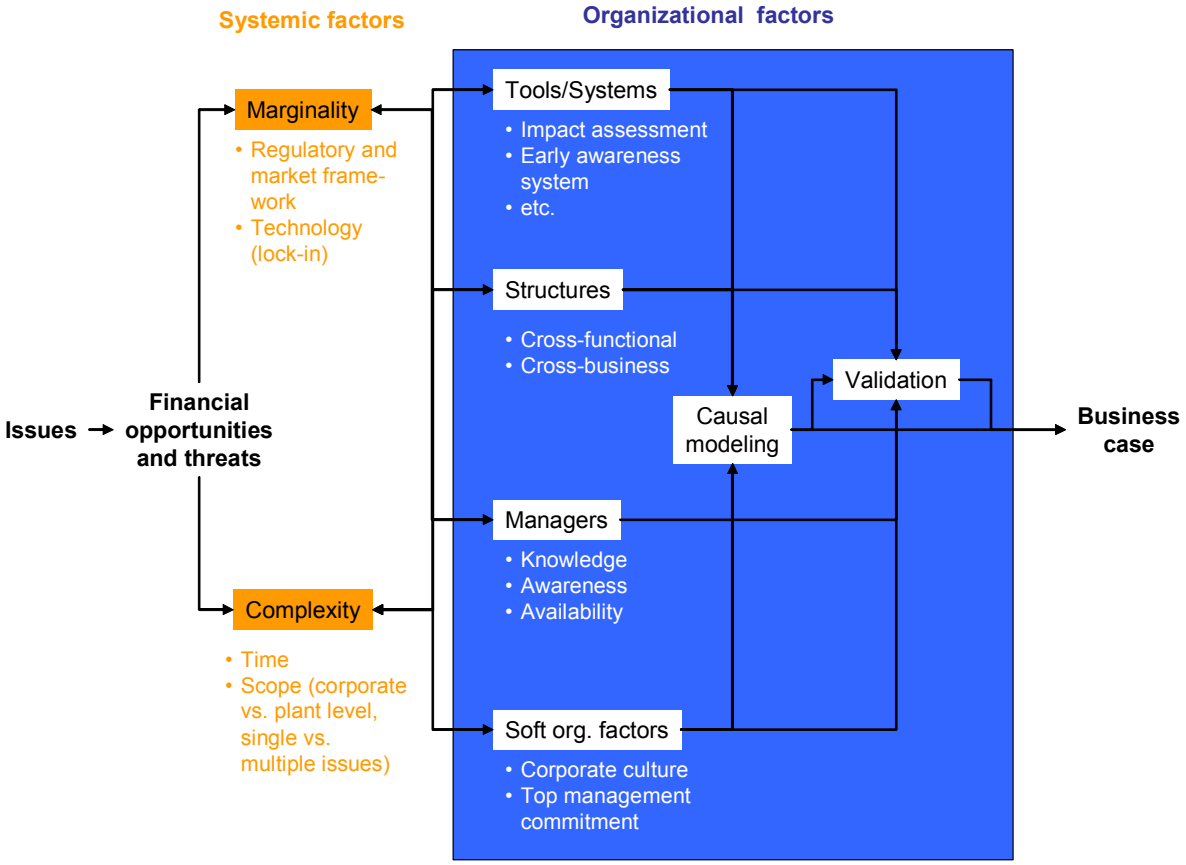


Figure 9-3: Developed framework – the business case for sustainability and its determinants

It is suggested that further empirical studies could test and refine this framework, in particular if they take into account the contingent natures of CSM and its business case. This means the author recommends a research design that allows the researcher to control for industry and company effects as well as varying characteristics of diverse social and environmental initiatives.

Furthermore, the author found a certain congruence in companies' challenges to quantify their business case for sustainability and measure their non-financial performance. He suggests that a study reviewing research in both domains could facilitate a significant amount of learning across the research disciplines. Furthermore, there is significant room for further empirical studies examining commonalities and differences between both domains more closely in terms of activities, tools, barriers and trends.

Finally the present study featured a largely qualitative analysis of corporate approaches to issue integration to explore a virtually untouched research terrain. Results reveal one particular compelling research opportunity. A more in-depth analysis (e.g. fewer companies but more intensive in-company research, compared to this study) could shed more light on how companies take their decisions to (or not to) address an issue and how: On what data exactly do they base their decisions? Who takes the decision, based on what rationale, etc.?

Methodology and data

The third enhancement suggested concerns (1) methodology and (2) data. The former applies to the quantitative methods used. They enabled the author to distinguish significant from insignificant determinants of CSM on the basis of whether they would feature a statistically significant coefficient in the regression models (and correlations) or not. However, due to different operationalizations of the variables (some ordinal, some nominal) and the per-fiat measurement through unnumbered equidistant Likert-type scales, a comparison of the strengths of the effects detected in regression models on the basis of the values of the coefficient would have been inadequate. Furthermore, an interpretation of the relative effects would have been difficult in some cases, since – due to the broad scope of the study – the author would have lacked the necessary qualitative data: The objective was to identify significant variables rather than assess their relative importance.

With regard to data, the study followed a strict contingency perspective, which allowed for a differentiated analysis across two industry sectors, two management disciplines and two main regions of operations (North America, Europe). A similar approach could be chosen for various other populations (sectors, management functions and levels, etc.), of which the following would appear to be the most compelling:

- Obviously any other individual industry sector could be selected and compared with a second one. For a cross-sector comparison, the selection could be based on a specific factor that is expected to moderate the sectors' approaches to CSM, i.e. the product (e.g. specialty vs. commodity), the customer (consumer electronics vs. industrial equipment), or material and energy intensity (e.g. mining or aluminum vs. service).
- The study also leaves several regions largely untouched. Above all, developing countries and Asia offer themselves as compelling research objects, since that is where the greatest potential for future growth – in the energy sectors as well as many other sectors – lies.
- It would be equally worthwhile to analyze small and medium-sized enterprises' approach to CSM and its determinants. A comparison with large corporations may be meaningful to assess which group is more advanced in terms of CSM – this question is still unanswered (Mathieu, 2002, p. 83) – and why.
- The approach taken in this study could be taken further down to the business unit or plant level (Lankoski, 2000, p. 152), and thus attempt to identify and explain possible variations in their approach to CSM, the reasons and the effects, within the same company.
- The samples of this study are biased toward the sustainability leaders of their sectors. Obviously any empirical study targeting the laggards would produce a meaningful benchmark for the research results presented.

The more advanced methods of data analysis were only applied to data obtained from general managers, since the sample size for sustainability officers was too small. This had been expected, since the underlying population is so much smaller than that of general managers. As challenging as data collection may be, a descriptive study that can facilitate a comprehensive comparison of general managers' and sustainability officers' perceptions of CSM through measures of associations (e.g. regression as in the present study) could be very insightful.

9.4 Conclusion

Elements of CSM were mainly examined under "kindred" concepts such as corporate social responsibility, corporate social performance or environmental management. Empirical research largely focused on studies aiming to confirm or disconfirm a link between corporate social/environmental and financial performance or test different concepts of corporate social

responsibility. Descriptive studies on CSM or related concepts were in the minority and limited in their scope. Most importantly they largely ignored the contingent nature of CSM and left its business case as a research area untouched.

The present study represents a meaningful effort to fill these research gaps. It features a conceptual framework that accounts for the clearly contingent nature of CSM. Its scope is substantial, as it comprehensively examines companies' approaches to CSM, the determinants and the outcome across two industry sectors, two management groups and mainly two regions of operations, namely North America and Europe.

Furthermore, it provides unique insights into how companies perceive their economic rationale for or against CSM. Thus it clearly cuts through the usual rhetoric of corporate communications and consultants. Its results point to the following key conclusions on CSM:

- Although CSM has clearly moved beyond the status of a "pet project" of some "activist" companies or CEOs, it has clearly limited relevance to the core business of the companies in the energy (and almost every other industry) sector.
- The business environment of companies, which is largely characterized by ignorance of or even opposition from shareholders and customers, only allows for a more responsible interpretation of "business-as-usual."
- Internal barriers identified show that laggard companies in particular have significant potential to use this scope of discretion more effectively, i.e. the mainstream transactional stakeholders' "allowance" for a more responsible "business-as-usual" is not fully exploited.

It remains to be seen whether, when and how societal regimes will demand more significant changes to existing business models, and what their effect with regard to the major strategic issues of climate change and the North-South energy divide will be. Precisely because of these open questions, CSM will continue to matter – to both practitioners and researchers.

Appendices

Appendix A – Interview samples

The author stresses that the numbering of the participating companies and stakeholders listed in the tables does **NOT** match the company and stakeholder codes used in the text to identify individual interview quotes.

OG sector

Company	Activity/Details	Location of headquarters	# of sustainability officers interviewed	# of general managers interviewed	Interviewees
A. BG Group	- Oil and gas extraction and production, refining and marketing (mainly gas)	UK	1	2	- Margaret Mogford (Head of Environment) - Derek (E&P North Sea) - Andrew (Head of Contracts and Procurement)
B. ConocoPhilips	- Oil and gas extraction and production, refining and marketing	US	1		- Jean Davis (Manager, Sustainable Development)
C. Exxon Mobil Corporation	- Oil and gas extraction and production, refining and marketing	US	2	2	- Ray A. Mentzer (SHE Manager – Safety, Health and Environment) - Michael J. Lane (Downstream & Chemicals SH&E Managers – Europe, Africa & Middle East) - Peter F Francis (Public Affairs Manager, Europe and Africa) - Richard Laing (Planning Advisor – Safety, Health and Environment)
D. Fortum Corporation	- Oil and gas extraction and production, refining and marketing - Power generation	Finland	1	1	- Arja Koski (Corporate Senior Vice President – Environment, Health and Safety) - Juha Laaksonen (Chief Financial Officer)

E. Gaz de France	- Gas extraction and distribution	France	1	1	- Marc Bussieras (Délégué Relations Collectivités Locales Et Environment) - Michel Duhen (Délégué A L'Environment)
F. Norsk Hydro ASA	- Diversified: light metals, oil and energy, fertilizer and chemicals - Oil and energy: E&P, refining (30% of sales)	Norway	1	1	- Alexandra Bech (Executive Vice President, Chief Sustainability Officer) - Sven Ombudstvedt (Senior Vice President, Head of Corporate Strategy)
G. Total	- Oil and gas extraction and production, refining and marketing	France	4	5	- Georges Dupont-Roc (Sustainable Development & Environment - Vice President Sustainable Development) - Jean-Philippe Raynaud (Strategy & Risk Assessment Division – Sustainable Development Program Manager, Corporate) - Laurette Gattoni (Refining & Marketing – Sustainable Development Project Manager) - Jean-René Marabelle (Sustainable Development & Environment – Intergovernmental Organizations) - Philippe Schultz (Refining and Marketing - Fuel Cell Task Force) - Hélène le Poezat (Gas & Power – Managers Strategy) - Claude Jabon (Strategy & Risk Assessment Division – Senior Vice President Scientific Development) - Dominique Chauvin (Sustainable Development & Environment, Johannesburg Coordinator) - Philippe Costerg (Renewables Division, Solar Energy Project Manager)
H. Royal Dutch/Shell Group	- Oil and gas extraction and production, refining and marketing	UK	2		- Marc Weintraub (Group Environmental Advisor) - Marc Wade (Sustainable Development Group)

UT sector

Company	Activity/Details	Location of headquarters	# of sustainability officers interviewed	# of general managers interviewed	Interviewees
A. EON	- Electric and gas utility - Power generation (45% nuclear, 34% hard coal)	Germany	2	1	- Gert Von der Groeben (Executive Vice President -Economic and Public Affairs) - Guido Pasternack (Bereich Wirtschaftspolitik, Abteilung Energie und Umwelt) - Kiran Bohjani (Executive Vice President -Investor Relations)
B. RAG	- Hard coal mining	Germany	1	1	- Michael Siemers (Referent Wirtschafts- und Energiepolitik) - Stephan Nahrath (Stellv. Zentralbereichsleiter Konzern-Controlling)
C. RWE	- Multi-utility: energy (electricity, gas), water, waste - Electricity generation (46.6% lignite)	Germany	1	1	- Marita Hilgenstock (Corporate Development) - Hans-Peter Meurer (Political Affairs)
D. Scottish Power	- Electric and gas utility	UK	1		- Fred Dinning (Corporate Environmental Director)
E. Suez	- Multi-utility: water, energy, waste - Energy (Tractebel): electric and gas utility	France	2	1	- Jean-Claude Steffens (Director – Department International Public Affairs) - Werner Braemscheute (Corporate Executive Development Managers) - Sophie Mertens (Sustainable Development Coordinator, Department of International Public Affairs)

External stakeholders

External stakeholders		# of interviewees	Interviewees
A. International Energy Agency	Renewable Energy, Energy and Environment	2	- Jonathan Pershing (Head of Division –Energy and Environment) - Rick Sellers (Head, Renewable Energy Unit – Energy Technology Collaboration Division)
B. Greenpeace	Energy	2	- Gabriela von Goerne (Energiebereich) - Sven Teske (Energy Unit)
C. European Commission	Directorate-General for Energy and Transport	1	- Pirjo-Liisa Koskimäki (Head of Unit – Sustainable Development, Directorate-General for Energy and Transport
D. UNEP	Energy	1	- Eric Usher (Project Officer, UNEP Division of Technology, Industry and Economics, Energy & OzonAction Unit)
E. World Business Council for Sustainable Development (WBCSD)	Climate and Energy	1	- Susanne Haefeli (Program Assistant)
F. World Economic Forum	Community Management, Energy	1	- Christoph Frei (Senior Community Manager, Energy)
G. Friends of the Earth	Climate and Transport	1	- Roger Higman (Senior Campaigner, Climate and Transport)

Appendix B – Key financials of sector samples

Company	Total assets (Millions US$) in 2002	Sales (Millions US$) in 2002	Net cash flow from operating activities (Millions US$) in 2002
Oil & gas			
BG Group	10,881.31	4,201.84	1,312.07
ConocoPhillips	76,795.00	50,512.00	4,969.00
Exxon Mobil	152,644.00	178,909.00	21,268.00
Gaz de France	29,943.76	15,263.60	3,023.13
Norsk Hydro*	29,648.06	20,725.46	3,486.88
Royal Dutch	92,968.39	107,658.38	9,835.98
Shell	61,076.55	71,772.19	6,545.98
Total	87,836.12	97,460.17	10,460.76
Electric utilities			
E.ON	115,450.74	37,908.20	3,872.04
Fortum	18,847.07	11,697.96	1,417.65
RAG**	19,967.75	13,667.56	NA
RWE	97,252.17	45,632.34	6,225.69
Scottish Power	23,131.74	7,864.47	1,130.66
Suez*	88,392.11	43,806.51	4,587.40

* Figures include non-energy business units

** RWE and E.ON are both parent companies

Appendix C – Hypotheses and objectives of IMD research project

(Excerpt from original research proposal)

1. Hypotheses

1.1 In most global companies, there is potential for the establishment of a readily identifiable robust business case for sustainability under current socio-economic conditions, which can be identified. Capital markets will react favorable to lower risks and higher growth opportunities in the long run.

1.2 The robust business case for sustainability is primarily sector specific and secondarily depends on the (national) business environment (regulation, social and political conditions, culture).

1.3 Corporate acceptance and implementation of a robust business case for sustainability is impeded by the following:

- *The mind set of managers*
- *Knowledge gaps*
- *Regulatory barriers*
- *The coordination of conflicting interests in the supply chain (customers and suppliers)*
- *Absence of appropriate tools and processes*
- *Internal organizational behavior*
- *Investor behavior*

1.4 Acceptance and implementation of the robust business case for sustainability is promoted by:

- *Public or market pressure*
- *Detectable new business opportunities*
- *Process and product innovations*
- *Progressive interactions with stakeholders*
- *Top management leadership and commitment (power promoter)*
- *Autonomy and internal scope of implementing officer*
- *Open organizational culture*
- *Corporate identity*
- *Demands of individual shareholders and institutional investors*

2. Objectives

A joint research project by CSM/IMD and WWF, the conservation organization, is proposed. The project will:

- examine the mismatch of perceptions, attitudes and corresponding behavior patterns between sustainability officers and other “policy makers” in the company;

- detect external barriers for sustainability and detect external promoters (or supporting frameworks) of unsustainable behavior
- detect possible country and industry-specific differences in values, restrictions, etc., and on the basis of this;
- examine the pressures undergone by companies to respond to internal demands, such as change management and external demands, such as the bottom line expectations of shareholders;
- examine whether companies use early warning systems or other diagnostic tools for meeting societal and environmental expectations;
- develop a strategic tool set allowing companies to strategically build their individual sustainable business case.

Since studies have often been criticized for potential research bias, a CSM/IMD partnership with a strong NGO such as WWF presents an opportunity to deliver objective results that, as a result of the collaboration, would gain in terms of credibility and lead to some valuable and relevant output to be used by managers. The CSM membership will play a strong support role in terms of review and approval of project outputs.

Appendix D – Operationalization of key concepts

Key concepts in conceptual framework	Subconcepts and terms used in study	Questionnaire version (GM/SO) and operationalization	Type of question/ scale	Interpretations and *hypotheses*
Issues – public responsibility	Issue significance	GM, SO: Respondents' perception of the significance of social and environmental issues, e.g. human rights, climate change ("Not at all" to "Very much")	Likert-type scale	- Higher rating = greater issue significance - *The greater the issue significance, the greater the strategic disposition*
	Issue awareness	GM: Respondents' ability to name and describe the most important environmental or social issues	Open-ended - coded	- Greater relative frequency = greater issue significance
	Issue awareness	SO: Respondents' ability to name and rank the three most important sustainability issues	Open-ended - coded	- Greater relative frequency = greater issue significance
External stakeholders, industry and partnerships - legitimacy	Importance of legitimacy	GM: Respondents' perception of the importance of brand value and reputation (from "Not at all" to "Very much").	Likert-type scale	- Higher rating = greater importance of legitimacy - *The greater the importance of legitimacy, the greater the strategic disposition*
	Damage to legitimacy	GM: Respondents' perception of the level of damage companies' brand value and reputation incurred due to incidents (e.g. conflicts with authorities, consumer boycotts) over the past three years ("No impact at all" to "Severe").	Ordinal	- Higher rating = greater damage to legitimacy - *The greater the damage to legitimacy, the greater the strategic disposition*
	Future SD role of capital markets	GM, SO: Respondents' expectation about the future reaction of capital markets to improved social and environmental performance ("Much more negatively" to "Much more positively").	Likert-type scale	- Higher rating = greater future demand for CSM - *The greater the demand, the greater the strategic disposition*
	Incidents damaging legitimacy	GM: Respondents' perceptions of the incidents that caused damage to brand value and reputation over the last three years, whether they were triggered by a media campaign, NGO campaign, conflicts with authorities, consumer boycotts, shareholder opposition or others	Multiple choice	- Greater relative frequency = greater significance of respective stakeholder - *Incidents with respective stakeholders drive strategic disposition*
	External promoting factors	SO: Respondents' perceptions of the importance of external promoting factors of CSM such as public pressure, increased competition on issues, new business opportunities	Multiple choice	- Greater relative frequency = greater significance of respective external promoting factor
	Current SD role of other external stakeholders	GM, SO: Respondents' perception of the current (proactive or reactive) role of consumers, governments, public pressure groups at contributing to sustainable development ("Least proactive" to "Most proactive")	Likert-type scale	- Higher rating = greater demand for CSM from respective stakeholder - *The greater the demand, the greater the strategic disposition*

Managers – managerial discretion		GM: Respondents' personal level of agreement with the following four different statements		
	BBB attitude	2. "The **b**usiness of **b**usiness is **b**usiness. So companies should comply with the law, but going beyond the law would only sacrifice profits."	Likert-type scale	- Higher rating = stronger attitude - *The stronger the attitude, the lower the strategic disposition*
	WW attitude	**3.** "Profit always comes first for companies. There are **w**in-**w**in situations in which companies can achieve financial, environmental and social goals at the same time. In these situations, it makes sense for companies to go beyond what the law requires."	Likert-type scale	- Higher rating = stronger attitude - *The stronger the attitude, the greater the strategic disposition*
	CA attitude	**4.** Companies should consider social and environmental issues/expectations, and try to actively integrate them into their strategies because, by doing so, they gain long-term **c**ompetitive **a**dvantage.	Likert-type scale	- Higher rating = stronger attitude - *The stronger the attitude, the greater the strategic disposition*
	UCA attitude	**5.** "As part of their role in the "global society," companies should engage in social and environmental initiatives, even if long-term competitive advantage cannot be proven."	Likert-type scale	- Higher rating = stronger attitude - *The stronger the attitude, the greater the strategic disposition*
	Internal manager-related barriers	GM, SO: Respondents' perceptions of the relative importance of internal manager-related barriers to CSM (managers' mindsets and managers' lack of knowledge and expertise) are a proxy measure for strength of discretionary potential of managers.	Multiple choice	- Greater relative frequency = greater significance of respective internal manager-related barrier - *Internal manager-related barriers affect strategic disposition*
Company-specific factors – corporate discretion	Internal company-specific barriers	GM: Respondents' perceptions of the relative importance the main internal company- rather than manager-related barriers to CSM (compared to other barriers): Absence of appropriate tools and processes and corporate culture	Multiple choice	- Greater relative frequency = greater significance of respective barrier - *Internal company-specific barriers affect strategic disposition*
	Internal company-specific promoting factors	SO: Respondents' perceptions of the relative importance the main internal company- rather than manager-related promoting factors of CSM (compared to other promoting factors): corporate values, open organizational culture, autonomy and internal scope of sustainability officer, top management commitment and leadership	Multiple choice	- Greater relative frequency = greater significance of respective promoting factor
Strategic disposition	SD familiarity	GM, SO: Respondents' perceptions of their companies' familiarity with the concept of sustainable development ("Not at all" to "Very much")	Likert-type scale	- Higher rating = greater SD familiarity
	SD importance	GM, SO: Respondents' perceptions of the future importance of sustainable development to their company ("Decreasing" to	Likert-type scale	- Higher rating = greater SD importance

		"Increasing")		
	CSM intent	GM, SO: Respondents' perceptions of their companies' intention to integrate environmental and social issues into business strategies and operations ("Not at all" to "Very much")	Likert-type scale	- Higher rating = greater SD familiarity
Business case for sustainability	Value drivers	SO: Respondents' perception of the best possible arguments when promoting the concepts of sustainable development in their company	Multiple choice	- Greater relative frequency = greater significance of the respective value driver
Tools	➔	GM, SO: Respondents' awareness of the availability and use of tools such as corporate values, coordination committees, strategic planning tools in their company	Multiple choice	- Greater relative frequency = greater significance of respective tool - *The use of management tools drives the outcome of CSM*
Structure	Cross-disciplinary collaboration	GM: Respondents' perceptions of the level of collaboration between sustainability officers and general managers ("No, we do not work together" to "Yes, on a day-to-day basis")	Ordinal	- More extensive collaboration = more elaborated structure - *The greater the cross-disciplinary collaboration, the more positive the outcome of CSM*
	Cross-disciplinary potential	GM: Respondents' perceptions of the extent, to which more extensive collaboration would contribute to more sustainable business practices, in the following referred to as SO-GM potential ("No at all" to "Very much")	Likert-type scale	- Greater potential = more elaborated structure and greater awareness of respondents - *The greater the cross-disciplinary potential, the more positive the outcome of CSM*
Initiatives	➔	GM: Respondents' awareness of existing corporate social and environmental initiatives	Multiple choice	- Greater relative frequency = greater significance of respective initiative - Initiatives determine the outcome of CSM
Outcome	CSM progress compared to peers	SO: Respondents' perceptions of the progress their company has made in adopting more sustainable business practices - in comparison to other companies in the same industry	Likert-type scale	- Higher rating = greater CSM progress, e.g. "outperformer" = greater than average CSM success
	CSM progress compared to other sectors	SO: Respondents' perceptions of the progress their sector has made in adopting more sustainable business practices - in comparison to other sectors	Likert-type scale	- Higher rating = greater CSM progress, e.g. "outperformer" = greater than average CSM success
	CSM success	GM: Respondent's perceptions of how successful corporate environmental and social initiatives undertaken were ("Not at all" to "Very much").	Likert-type scale	- Higher rating = greater CSM success

Appendix E – Pairwise correlation analysis

Pairwise correlation – Total sample

	SDfam	SDimp	CSMint	Social	Environ.	BBB	WW	CA	UCA	Capital	Imp.leg	Dam.leg.	CSMsuc	Collab.	Potential	Cons	Govt	PPPs	Ind	NGOs
SD familiarity	1.0000																			
SD importance	0.0693 0.3666	1.0000																		
CSM intent	0.6063 0.0000	0.2524 0.0009	1.0000																	
Social issues	0.2861 0.0001	0.1721 0.0244	0.2957 0.0001	1.0000																
Environmental issues	0.2409 0.0015	0.0575 0.4548	0.1214 0.1136	0.3307 0.0000	1.0000															
BBB attitude	-0.1598 0.0368	-0.0688 0.3729	-0.0553 0.4734	-0.1096 0.1535	-0.2161 0.0045	1.0000														
WW attitude	0.1147 0.1328	0.0372 0.6279	0.0833 0.2771	0.0461 0.5467	0.0626 0.4131	-0.0246 0.7491	1.0000													
CA attitude	0.3134 0.0000	0.1723 0.0238	0.3830 0.0000	0.2489 0.0010	0.2293 0.0024	-0.3049 0.0000	0.1522 0.0450	1.0000												
UCA attitude	0.0179 0.8154	0.1629 0.0328	0.1868 0.0142	0.1795 0.0181	0.1961 0.0097	-0.1823 0.0167	0.0482 0.5277	0.4391 0.0000	1.0000											
SD role Cap.markets	0.1195 0.1196	0.2331 0.0022	0.2596 0.0006	0.2682 0.0004	0.0706 0.3590	-0.1541 0.0448	0.0190 0.8051	0.5132 0.0000	0.3007 0.0001	1.0000										
Importance legitimacy	0.3960 0.0000	0.1724 0.0242	0.3830 0.0000	0.2024 0.0078	0.0194 0.8003	-0.0471 0.5406	0.2140 0.0047	0.2714 0.0003	0.0699 0.3610	0.2181 0.0042	1.0000									
Damage to legitimacy	0.0871 0.3610	0.2245 0.0179	0.1511 0.1135	0.2657 0.0048	0.0992 0.2979	0.0180 0.8522	0.1061 0.2657	0.1889 0.0461	0.1468 0.1224	0.2761 0.0032	0.0587 0.5370	1.0000								
CSM success	0.4134 0.0000	0.2421 0.0015	0.4787 0.0000	0.1437 0.0615	0.0773 0.3163	0.0358 0.6438	0.0494 0.5212	0.2212 0.0036	0.1216 0.1131	0.1027 0.1840	0.4171 0.0000	0.0558 0.5624	1.0000							
Cross-disc. collaboration	0.2618 0.0007	0.2179 0.0049	0.1786 0.0217	0.2552 0.0009	0.3580 0.0000	-0.1664 0.0327	0.1908 0.0135	0.2326 0.0025	0.1546 0.0461	0.1799 0.0207	0.0944 0.2249	0.0296 0.7574	0.1599 0.0402	1.0000						
Cross-disc. potential	0.0564 0.4769	0.1136 0.1526	0.0321 0.6881	0.2192 0.0054	0.1590 0.0447	-0.0917 0.2505	0.0184 0.8171	0.3089 0.0001	0.2196 0.0051	0.2452 0.0018	0.0560 0.4806	0.2069 0.0293	0.0240 0.7640	0.2804 0.0003	1.0000					
SD role Consumers	-0.0579 0.4646	0.0462 0.5609	0.0054 0.9462	0.0156 0.8433	-0.1188 0.1323	0.1270 0.1084	-0.0834 0.2898	-0.0138 0.8615	-0.0079 0.9207	0.0877 0.2687	0.0175 0.8244	0.2311 0.0166	0.0468 0.5538	-0.1663 0.0362	-0.1078 0.1848	1.0000				
SD role Governments	-0.1310 0.0936	0.1932 0.0132	0.0035 0.9642	-0.0316 0.6869	-0.0446 0.5697	0.0889 0.2578	-0.0722 0.3552	-0.0696 0.3731	-0.0189 0.8092	-0.0950 0.2265	0.0056 0.9425	-0.1097 0.2608	0.0243 0.7566	-0.0018 0.9819	-0.1500 0.0633	0.1020 0.1979	1.0000			
SD role PPPs	0.1662 0.0381	0.2933 0.0002	0.2539 0.0014	0.1360 0.0906	0.0718 0.3728	-0.0768 0.3409	0.0497 0.5362	0.2889 0.0002	0.2129 0.0074	0.2137 0.0072	0.1123 0.1613	0.1143 0.2480	0.2203 0.0057	0.1409 0.0824	0.1298 0.1158	0.0799 0.3214	0.1048 0.1928	1.0000		
SD role Industry	0.1945 0.0120	0.1815 0.0197	0.2602 0.0007	0.1122 0.1499	-0.0110 0.8883	0.0212 0.7868	-0.0306 0.6945	0.1267 0.1028	0.0517 0.5070	0.0767 0.3275	0.1662 0.0319	0.1550 0.1093	0.3967 0.0000	0.1832 0.0196	0.0530 0.5122	0.1072 0.1730	0.0089 0.9090	0.3359 0.0000	1.0000	
SD role NGOs	0.1567 0.0471	0.0610 0.4432	0.2097 0.0078	0.0895 0.2587	0.0224 0.7777	-0.0243 0.7594	0.0757 0.3381	0.1449 0.0658	0.0817 0.3014	0.1076 0.1756	0.1662 0.0346	-0.0228 0.8176	0.0337 0.6713	0.0566 0.4817	-0.0553 0.5001	0.1597 0.0436	0.0903 0.2533	0.1423 0.0774	0.0458 0.5613	1.0000

Pairwise correlation – UT sample

	SDfam	SDimp	CSMint	Social	Environ.	BBB	WW	CA	UCA	Capital	Imp.leg	Dam.leg.	CSMsuc	Collab.	Potential	Cons	Govt	PPPs	Ind	NGOs
SD familiarity	1.0000																			
SD importance	0.0263 0.8489	1.0000																		
CSM intent	0.6510 0.0000	0.1691 0.2215	1.0000																	
Social issues	0.3126 0.0201	0.2705 0.0458	0.2109 0.1258	1.0000																
Environmental issues	0.2586 0.0566	0.1619 0.2375	0.2469 0.0719	0.2958 0.0283	1.0000															
BBB attitude	-0.1064 0.4440	-0.0261 0.8512	-0.0374 0.7906	-0.1733 0.2103	-0.2602 0.0574	1.0000														
WW attitude	0.1642 0.2309	0.1952 0.1533	0.0720 0.6050	0.0498 0.7182	0.0347 0.8017	0.0324 0.8161	1.0000													
CA attitude	0.0985 0.4744	0.2939 0.0294	0.1699 0.2194	0.1536 0.2628	0.2651 0.0505	-0.2677 0.0503	0.1552 0.2579	1.0000												
UCA attitude	-0.1418 0.3016	0.1260 0.3594	-0.0294 0.8330	0.2023 0.1385	0.2091 0.1255	-0.1256 0.3656	-0.0307 0.8239	0.4585 0.0004	1.0000											
SD role Cap.markets	0.1037 0.4512	0.3219 0.0166	0.0466 0.7379	0.2541 0.0612	0.0513 0.7101	-0.0597 0.6680	0.0699 0.6122	0.3243 0.0157	0.0872 0.5269	1.0000										
Importance legitimacy	0.4560 0.0005	0.2388 0.0791	0.3360 0.0130	0.3211 0.0168	0.0180 0.8962	-0.1216 0.3809	0.2201 0.1064	0.2068 0.1299	-0.0347 0.8016	0.1595 0.2447	1.0000									
Damage to legitimacy	0.1240 0.5063	0.2128 0.2504	-0.0165 0.9312	0.5550 0.0012	0.0835 0.6551	0.0810 0.6703	0.1974 0.2871	0.3060 0.0941	0.1376 0.4605	0.2518 0.1719	0.1056 0.5720	1.0000								
CSM success	0.4506 0.0006	0.1825 0.1824	0.3769 0.0050	0.1314 0.3388	0.1086 0.4302	0.0579 0.6777	0.1725 0.2079	0.1232 0.3701	0.1276 0.3531	0.0743 0.5897	0.3253 0.0154	0.0475 0.7996	1.0000							
Cross-disc. collaboration	0.2679 0.0656	0.3170 0.0282	0.0266 0.8589	0.4016 0.0047	0.3131 0.0302	-0.2182 0.1407	0.2850 0.0496	0.3526 0.0140	0.3410 0.0177	0.2584 0.0762	0.1061 0.4728	0.4099 0.0272	0.0179 0.9036	1.0000						
Cross-disc. potential	0.1412 0.3550	0.2003 0.1871	-0.0985 0.5245	0.2499 0.0978	0.2740 0.0686	-0.0474 0.7598	0.1124 0.4621	0.1727 0.2566	0.3318 0.0260	0.1924 0.2055	0.0052 0.9729	0.3112 0.0941	0.0544 0.7227	0.6611 0.0000	1.0000					
SD role Consumers	0.0489 0.7389	-0.0244 0.8678	0.1113 0.4516	-0.0946 0.5181	-0.2851 0.0471	0.0715 0.6291	-0.2274 0.1161	0.1369 0.3482	-0.1091 0.4555	-0.1155 0.4292	0.1962 0.1765	0.1753 0.3542	0.0153 0.9171	-0.3916 0.0086	-0.3847 0.0130	1.0000				
SD role Governments	-0.1431 0.3165	0.0315 0.8266	-0.0013 0.9928	-0.0528 0.7131	-0.2321 0.1012	0.0791 0.5852	-0.1720 0.2275	0.0208 0.8847	0.0426 0.7667	-0.1097 0.4436	0.1683 0.2377	-0.2904 0.1265	-0.0790 0.5817	-0.4448 0.0022	-0.3569 0.0220	0.1717 0.2433	1.0000			
SD role PPPs	0.1158 0.4382	0.5132 0.0002	0.2784 0.0610	0.2587 0.0791	0.0780 0.6022	-0.0953 0.5242	0.0905 0.5452	0.2960 0.0433	0.2631 0.0740	0.2735 0.0628	0.1307 0.3810	0.3327 0.0837	0.2178 0.1414	0.1655 0.2948	0.1424 0.3936	0.2678 0.0719	-0.0367 0.8067	1.0000		
SD role Industry	0.1903 0.1811	0.3809 0.0058	0.0898 0.5350	0.2086 0.1418	0.0794 0.5799	0.0246 0.8651	-0.0372 0.7957	0.0171 0.9053	0.0863 0.5472	0.1286 0.3686	0.0170 0.9058	0.2984 0.1159	0.2343 0.0980	0.3502 0.0183	0.2912 0.0647	0.0688 0.6422	-0.2208 0.1195	0.5975 0.0000	1.0000	
SD role NGOs	0.2249 0.1244	0.1484 0.3142	0.4418 0.0019	0.1785 0.2249	0.0654 0.6588	0.0887 0.5489	-0.1134 0.4428	0.1498 0.3096	0.1237 0.4023	0.1290 0.3821	0.2385 0.1026	0.0537 0.7860	0.2217 0.1299	-0.0357 0.8225	-0.1236 0.4535	0.2369 0.1089	0.2885 0.0467	0.2372 0.1124	-0.0461 0.7555	1.0000

Pairwise correlation – OG sample

	SDfam	SDimp	CSMint	Social	Environ.	BBB	WW	CA	UCA	Capital	Imp.leg	Dam.leg.	CSMsuc	Collab.	Potential	Cons	Govt	PPPs	Ind	NGOs
SD familiarity	1.0000																			
SD importance	0.1295 0.1641	1.0000																		
CSM intent	0.5541 0.0000	0.3127 0.0006	1.0000																	
Social issues	0.2271 0.0138	0.1488 0.1109	0.3164 0.0005	1.0000																
Environmental issues	0.1969 0.0334	0.0272 0.7717	0.0382 0.6829	0.3351 0.0002	1.0000															
BBB attitude	-0.1476 0.1123	-0.0994 0.2884	-0.0396 0.6720	-0.0538 0.5647	-0.1796 0.0527	1.0000														
WW attitude	0.0504 0.5879	-0.0093 0.9211	0.0691 0.4571	0.0249 0.7888	0.0611 0.5113	-0.0362 0.6972	1.0000													
CA attitude	0.3272 0.0003	0.1683 0.0697	0.4310 0.0000	0.2564 0.0051	0.1814 0.0493	-0.2968 0.0011	0.1200 0.1938	1.0000												
UCA attitude	0.0413 0.6568	0.1965 0.0337	0.2618 0.0042	0.1443 0.1190	0.1716 0.0631	-0.1926 0.0367	0.0645 0.4861	0.4057 0.0000	1.0000											
SD role Cap.markets	0.0336 0.7205	0.2265 0.0149	0.3298 0.0003	0.2440 0.0083	0.0451 0.6307	-0.1771 0.0573	-0.0346 0.7113	0.5669 0.0000	0.3863 0.0000	1.0000										
Importance legitimacy	0.2741 0.0028	0.1789 0.0546	0.3695 0.0000	0.0769 0.4100	-0.0234 0.8026	0.0410 0.6606	0.1886 0.0408	0.2260 0.0138	0.0839 0.3667	0.1863 0.0452	1.0000									
Damage to legitimacy	0.0815 0.4697	0.2294 0.0406	0.2168 0.0519	0.1445 0.2011	0.1069 0.3423	-0.0072 0.9493	0.0777 0.4907	0.1657 0.1393	0.1525 0.1740	0.3065 0.0054	0.0476 0.6709	1.0000								
CSM success	0.3671 0.0001	0.2851 0.0021	0.5038 0.0000	0.1264 0.1784	0.0425 0.6520	0.0503 0.5936	-0.0192 0.8379	0.2171 0.0192	0.0951 0.3101	0.0780 0.4096	0.4509 0.0000	0.0627 0.5830	1.0000							
Cross-disc. collaboration	0.2039 0.0268	0.1949 0.0352	0.2064 0.0249	0.1591 0.0853	0.3573 0.0001	-0.1295 0.1623	0.1290 0.1621	0.1389 0.1318	0.0469 0.6128	0.0945 0.3109	0.0391 0.6726	-0.1176 0.2929	0.1901 0.0401	1.0000						
Cross-disc. potential	-0.0744 0.4273	0.1076 0.2523	0.0209 0.8243	0.1820 0.0516	0.0866 0.3574	-0.0874 0.3532	-0.0600 0.5221	0.2834 0.0020	0.1588 0.0887	0.2112 0.0235	0.0137 0.8836	0.1824 0.1031	-0.0335 0.7231	0.1088 0.2430	1.0000					
SD role Consumers	-0.0307 0.7466	0.0677 0.4780	-0.0021 0.9820	0.1236 0.1902	0.0187 0.8442	0.1279 0.1772	0.0163 0.8637	0.0136 0.8854	0.0905 0.3383	0.2790 0.0029	-0.0193 0.8383	0.2582 0.0234	0.1021 0.2818	-0.0029 0.9755	0.0578 0.5450	1.0000				
SD role Governments	-0.0041 0.9658	0.2333 0.0129	0.0842 0.3728	0.0429 0.6503	0.1051 0.2657	0.0442 0.6405	-0.0046 0.9607	0.0222 0.8136	0.0193 0.8381	-0.0048 0.9596	0.0196 0.8355	-0.0637 0.5796	0.1163 0.2178	0.2452 0.0080	-0.0022 0.9819	-0.0133 0.8891	1.0000			
SD role PPPs	0.1366 0.1568	0.2208 0.0216	0.2160 0.0241	0.0371 0.7015	0.0361 0.7091	-0.0465 0.6312	0.0123 0.8986	0.2420 0.0109	0.1692 0.0772	0.1428 0.1367	0.0563 0.5592	0.0196 0.8663	0.2096 0.0287	0.0945 0.3236	0.0857 0.3735	0.0282 0.7699	0.2457 0.0100	1.0000		
SD role Industry	0.1843 0.0487	0.1161 0.2186	0.3329 0.0003	0.0545 0.5633	-0.0666 0.4796	0.0298 0.7518	-0.0344 0.7137	0.1588 0.0886	0.0256 0.7848	0.0362 0.7021	0.2397 0.0095	0.1115 0.3281	0.4547 0.0000	0.1048 0.2606	-0.0440 0.6421	0.1442 0.1241	0.1311 0.1625	0.2095 0.0273	1.0000	
SD role NGOs	0.1309 0.1669	0.0282 0.7678	0.1138 0.2299	0.0495 0.6030	0.0042 0.9649	-0.0760 0.4239	0.1477 0.1168	0.1572 0.0949	0.0667 0.4808	0.1058 0.2667	0.1393 0.1395	-0.0490 0.6722	-0.0290 0.7605	0.0899 0.3392	-0.0313 0.7432	0.1257 0.1847	0.0047 0.9602	0.0958 0.3218	0.0834 0.3754	1.0000

Appendix F – Regression models

In most cases, the author has only included either the expanded or the reduced model in the text. The following models are those omitted from the text.

	T	OG	UT
Number of obs	89	63	26
F	4.30	3.45	1.75
Prob > F	0.0000	0.0012	0.1576
R-squared	0.4046	0.4266	0.5390
Adj R-squared	0.3105	0.3029	0.2317
Root MSE	.66794	.67328	.71456
Independent variables	**Coefficients**		
Importance of issues:			
Social issues	**.2743835**	**.2420246**	**.4354169**
Environmental issues	*.1942652*	**.3594095**	.108471
Issue descriptions:			
Emissions	*.3423784*	.2735957	*.8133893*
Other environmental issues	**.5006003**	**.516038**	.3853546
Social issues	.2947298	.1549398	.5771047
Other issues	-.5022126	-.7896195	-.3351642
Demographic variables:			
UT sector	-.2987733		
Nordic	.3206802	.1727388	.8137145
North America	**-.8503959**	**-.8708278**	**-1.334768**
Latin Europe	-.2162916	-.3165841	-.4057731
Developing economies	-.3660865	-.2188992	(dropped)
Other regions	-.174633	-.0293234	-.8915736
Constant	1.956014	*1.410591*	1.217057

Regression Table A 1: CSM intent - public responsibility (Expanded cluster models)

	T	OG	UT
Number of obs	167	113	54
F	14.68	15.54	7.26
Prob > F	0.0000	0.0000	0.0017
R-squared	0.2127	0.2203	0.2217
Adj R-squared	0.1982	0.2061	0.1912
Root MSE	.74818	.72554	.75574
Coefficients			
	Importance legitimacy .3057015	**Importance legitimacy .3396076**	**Importance legitimacy .2776573**
	UT sector -.3252365		
	North America -.4183765	**North America -.4248034**	**Nordic .7382502**
	Constant 2.685355	**Constant 2.538074**	**Constant 2.323933**

Regression Table A 2: CSM intent – importance of and damage to legitimacy (Reduced submodels)

	T	OG	UT
Number of obs	155	Not valid	47
F	9.64		8.72
Prob > F	0.0000		0.0006
R-squared	0.1607		0.2838
Adj R-squared	0.1441		0.2513
Root MSE	.77046		.73643
Coefficients			
	NGOs .2460667		**NGOs .3648695**
	UT sector -.4951742		
	North America -.5813939		
			Female .6549641
	Constant 3.295591		**Constant 2.222045**

Regression Table A 3: CSM intent – SD roles of external stakeholders (Reduced submodels)

	T	OG	UT
Number of obs	101	75	Not valid
F	7.43	9.06	
Prob > F	0.0000	0.0000	
R-squared	0.2364	0.2769	
Adj R-squared	0.2046	0.2463	
Root MSE	.75571	.73239	
Coefficients			
	Conflicts authorities -.4147974	**Conflicts authorities -.4460305**	
	UT sector -.3717977		
	North America -.7516513	**North America -.7632538**	
	Develop. Economies -.6691486	**Develop. Economies -.6844179**	
	Constant 4.339258	**Constant 4.351679**	

Regression Table A 4: CSM intent – incidents that damaged legitimacy (Reduced submodels)

	T model	OG model	UT model
Number of obs	76	53	23
F	1.68	1.88	1.28
Prob > F	0.1105	0.0884	0.3237
R-squared	0.1868	0.2543	0.3740
Adj R-squared	0.0759	0.1187	0.0819
Root MSE	.80449	.80727	.7572
Independent variables		**Coefficients**	
Regulations	.022634	-.1586722	.2185629
Investors	*-.4290876*	-.3637946	-.4041916
Customers	**.4469775**	*.5783517*	.497006
UT sector	*-.4917317*		
Nordic	.2451415	-.6878643	*.8562874*
North America	-.4573492	**-1.167655**	.9326347
Latin Europe	.0840425	-.7675564	.4356287
Developing economies	-.1368735	-.711177	-.0673653
Other regions	-.0665877	-.6957057	(dropped)
Constant	**3.806457**	**4.431734**	**3.067365**

Regression Table A 5: CSM intent – external barriers (Expanded models)

	T model	OG model	UT model
Number of obs	75	52	23
F	0.83	1.31	1.85
Prob > F	0.5939	0.2633	0.1496
R-squared	0.1027	0.1962	0.4637
Adj R-squared	0.0215	0.0467	0.2135
Root MSE	.76457	.7741	.59793
Independent variables		**Coefficients**	
Regulations	.3180829	.3162592	**.9311377**
Investors	-.2056704	*-.4644715*	**.757485**
Customers	.0803348	.0187094	.5648703
UT sector	-.2226435		
Nordic	-.0322007	-.3573823	-.2195609
North America	-.2019767	-.5347458	**1.626248**
Latin Europe	.1521281	.0630246	.0613772
Developing economies	-.0826459	-.4150853	.6262475
Other regions	.5257799	.2211288	(dropped)
Constant	**3.176033**	**3.561247**	**2.373752**

Regression Table A 6: CSM success – external barriers (Expanded models)

	T	OG	UT
Number of obs	167	101	Not valid
F	16.38	14.76	
Prob > F	0.0000	0.0000	
R-squared	0.2316	0.3808	
Adj R-squared	0.2175	0.3550	
Root MSE	.73914	.64754	
Coefficients			
CA attitude	**.3715439**	**CA attitude**	**.4278361**	**Not valid**
UT sector	**-.3290938**			
North America	**-.544326**	**North America**	**-.5435188**	
		Female	**-.3105834**	
		Board member	**-1.101162**	
Constant	**2.472119**	**Constant**	**2.317653**	

Regression Table A 7: CSM intent - personal attitudes (Reduced models)

	T	OG	UT
Number of obs	151	102	Not valid
F	8.54	8.99	
Prob > F	0.0003	0.0003	
R-squared	0.1035	0.1537	
Adj R-squared	0.0914	0.1366	
Root MSE	.68538	.68782	
Coefficients			
CA attitude	**.2421037**	**CA attitude**	**.228936**	**Not valid**
North American national	**-.2960012**	**North American national**	**-.4397059**	
Constant	**2.532599**	**Constant**	**2.70406**	

Regression Table A 8: CSM success – Personal attitudes (Reduced models)

	T model	OG model	UT model
Number of obs	76	53	23
F	1.68	1.88	1.28
Prob > F	0.1105	0.0884	0.3237
R-squared	0.1868	0.2543	0.3740
Adj R-squared	0.0759	0.1187	0.0819
Root MSE	.80449	.80727	.7572
Independent variables		**Coefficients**	
Regulations	.022634	-.1586722	.2185629
Investors	*-.4290876*	-.3637946	-.4041916
Customers	**.4469775**	*.5783517*	.497006
UT sector	*-.4917317*		
Nordic	.2451415	-.6878643	*.8562874*
North America	-.4573492	**-1.167655**	.9326347
Latin Europe	.0840425	-.7675564	.4356287
Developing economies	-.1368735	-.711177	-.0673653
Other regions	-.0665877	-.6957057	(dropped)
Constant	**3.806457**	**4.431734**	**3.067365**

Regression Table A 9: CSM intent – external barriers (Expanded models)

	T model	OG model	UT model
Number of obs	75	52	23
F	0.83	1.31	1.85
Prob > F	0.5939	0.2633	0.1496
R-squared	0.1027	0.1962	0.4637
Adj R-squared	0.0215	0.0467	0.2135
Root MSE	.76457	.7741	.59793
Independent variables		**Coefficients**	
Regulations	.3180829	.3162592	**.9311377**
Investors	-.2056704	*-.4644715*	**.757485**
Customers	.0803348	.0187094	.5648703
UT sector	-.2226435		
Nordic	-.0322007	-.3573823	-.2195609
North America	-.2019767	-.5347458	**1.626248**
Latin Europe	.1521281	.0630246	.0613772
Developing economies	-.0826459	-.4150853	.6262475
Other regions	.5257799	.2211288	(dropped)
Constant	**3.176033**	**3.561247**	**2.373752**

Regression Table A 10: CSM success – external barriers (Expanded models)

	T	OG	UT
Number of obs	76	53	23
F	2.14	2.06	0.98
Prob > F	0.0337	0.0547	0.4872
R-squared	0.2473	0.3017	0.3599
Adj R-squared	0.1315	0.1556	0.0059
Root MSE	.77989	.79022	.7926
Independent variables		**Coefficients**	
Mindset	.1834763	.2154108	.1415929
Knowledge	*-.3856986*	*-.4232323*	-.1961652
Tools	.0336815	-.0322264	-.1165192
Corporate culture	**-.51891**	*-.440347*	-.4306785
UT sector	-.4377725		
Nordic	.3338803	-.4479784	*1.014749*
North America	-.3247583	**-.9028092**	.5560472
Latin Europe	.1638789	-.4407292	.5560472
Developing economies	-.1110231	-.6202876	-.0132743
Other regions	.0394202	-.4557966	(dropped)
Constant	**4.075292**	**4.587511**	**3.443953**

Regression Table A 11: CSM intent - Internal barriers (Expanded models)

	T		OG		UT	
Number of obs	76		50		23	
F	11.14		6.91		4.98	
Prob > F	0.0013		0.0023		0.0176	
R-squared	0.1308		0.2271		0.3324	
Adj R-squared	0.1190		0.1942		0.2656	
Root MSE	.78548		.75735		.57777	
Coefficients						
	Corporate culture	**-.6015246**	Corporate culture	**-.641666**	Corporate culture	**-.519607**
					Mindset	**-.588235**
			Board member	**-2.04166**		
	Constant	**3.871795**	Constant	**4.041667**	Constant	**3.382353**

Regression Table A 12: CSM intent - Internal barriers (Reduced models)

	T	OG	UT
Number of obs	75	52	23
F	1.30	1.09	1.22
Prob > F	0.2472	0.3874	0.3537
R-squared	0.1694	0.1900	0.4116
Adj R-squared	0.0396	0.0164	0.0753
Root MSE	.74136	.78631	.64831
Independent variables		**Coefficients**	
Mindset	-.1340692	.0476532	-.5973451
Knowledge	-.0411513	.0394141	.0619469
Tools	-.0360151	-.0458647	.2780236
Corporate culture	**-.4780865**	*-.4809406*	*-.5789086*
UT sector	-.3336729		
Nordic	-.1679742	-.6241748	-.2809735
North America	-.2088076	-.6920358	.6489676
Latin Europe	-.1779417	-.44874	-.3510324
Developing economies	-.1551937	-.6127487	.2278761
Other regions	.3120247	-.1021595	(dropped)
Constant	**3.630882**	**3.942387**	**3.351032**

Regression Table A 13: CSM success – Internal barriers (Expanded models)

	T		OG		UT	
Number of obs	75		52		23	
F	9.47		6.56		4.98	
Prob > F	0.0029		0.0135		0.0176	
R-squared	0.1148		0.1159		0.3324	
Adj R-squared	0.1027		0.0982		0.2656	
Root MSE	.71658		.75289		.57777	
Coefficients						
	Corporate culture	**-.5092461**	Corporate culture	**-.5382309**	Corporate culture	**-.519607**
					Managers' mindset	**-.588235**
	Constant	**3.351351**	Constant	**3.434783**	Constant	**3.382353**

Regression Table A 14: CSM success - Internal barriers (Reduced models)

	T model	OG model	UT model
Number of obs	75	52	23
F	1.30	1.40	1.99
Prob > F	0.2329	0.2041	0.1414
R-squared	0.2331	0.3239	0.7053
Adj R-squared	0.0542	0.0926	0.3516
Root MSE	.73569	.75522	.54291
Independent variables		**Coefficients**	
Mindset	-.0766302	.1788755	*-.6091319*
Knowledge	-.0106792	.1226461	.3391206
Regulations	.3494807	.4303468	**.9641488**
Tools	-.0795091	-.0801113	.2980834
Corporate culture	**-.5119903**	**-.5882333**	-.402593
Investors	-.2361729	*-.4775634*	.600451
Customers	-.013196	-.1007492	**.7485908**
Other barriers	.265377	.3977338	.7128523
UT sector	-.3612436		
Nordic	-.1147584	-.381054	-.5651635
North America	-.1978884	-.4543134	.7299887
Latin Europe	-.0677895	.193295	-1.018602
Developing economies	-.2306275	-.553067	.845434
Other regions	.2989777	.0621333	(dropped)
Constant	**3.601036**	**3.755241**	**2.557159**

Regression Table A 15: CSM success - barriers (Expanded submodels)

	T	OG	UT
Number of obs	158	108	50
F	3.05	2.93	1.02
Prob > F	0.0002	0.0008	0.4551
R-squared	0.2572	0.3235	0.2902
Adj R-squared	0.1729	0.2132	0.0063
Root MSE	.69081	.70187	.66916
Independent variables		**Coefficients**	
Measurement tools	-.1836714	-.1654276	-.0735758
Measuring resource allocation	.0728151	.2073922	-.1485129
Strategy tools	**.244487**	.186642	.2767213
Corporate values, policies etc.	.1421064	.0466116	.0810583
Incentive tools	**.3524279**	*.3099458*	.2378114
Management development	.1540999	*.3285385*	-.3596692
Coordination committees	.0966535	.1677234	-.2345262
Business teams	.2014607	.1040036	**.62677**
Other tools	.1530652	-.1820014	.2601984
No tools	-.7148249	-.9370597	-.6955312
UT sector	-.1340911		
Nordic	-.1027964	-.2746653	-.0166835
North America	-.2632053	*-.3787544*	.2817376
Latin Europe	-.1093713	-.185012	.2740777
Developing economies	*-.488928*	*-.6007137*	(dropped)
Other regions	-.0359933	-.0319361	-.0870755
Constant	**3.225287**	**3.315814**	**3.195531**

Regression Table A 16: CSM success - CSM tools (Expanded models)

	T		OG		UT
Number of obs	153		113		Not valid
F	6.07		7.63		
Prob > F	0.0006		0.0001		
R-squared	0.1089		0.1736		
Adj R-squared	0.0910		0.1508		
Root MSE	.79443		.75039		
Coefficients					
	Cross-func. collaboration	**.2400167**	**Cross-func. collaboration**	**.2221265**	
	North America	**.3835473**	**North America**	**-.6365673**	
			Develop. Economies	**-.4636461**	
	Board member	**-1.223879**			
	Constant	**3.410513**	**Constant**	**3.711701**	

Regression Table A 17: CSM success – Corporate structure (Reduced submodels)

	T	OG	UT
Number of obs	167	112	55
F	2.99	3.18	1.40
Prob > F	0.0006	0.0010	0.2031
R-squared	0.2026	0.2591	0.2860
Adj R-squared	0.1348	0.1776	0.0821
Root MSE	.71088	.70979	.6818
Independent variables		**Coefficients**	
Env. performance	**.5959727**	**.8556031**	.5224154
Business ethics	.1755042	.2727292	.2213208
Social - supply chain	.0336241	**.361927**	**-.5557422**
Env. - supply chain	*.2588343*	.0861273	**.5131595**
Community involvement	.0840969	-.1934527	.3565067
Other initiatives	**.8258627**	**.7005664**	.0328329
No initiatives	.5506696	(dropped)	.7606556
UT sector	-.2044439		
Nordic	-.0553935	-.2032899	.1571956
North America	*-.2945164*	**-.4511378**	.6275798
Latin Europe	-.0793318	-.2503948	.2005494
Developing economies	-.0889663	-.2370496	.4041489
Other regions	-.1471273	-.2451746	-.2970045
Constant	**2.653774**	**2.609425**	**2.239344**

Regression Table A 18: CSM success - CSM initiatives (Expanded models)

Appendix G – Regression diagnostics

Models	Ramsey RESET test (Prob > F)	Breusch-Pagan / Cook Weisberg test (Prob > chi2)	Mean VIF	Mean residuals	Skewness/Kurtosis tests for normality (Prob > chi2)
CSM intent					
T	0.2952	0.8937	1.13	-4.90e-10	0.9923
OG	0.6632	0.4518	1.19	.0291694	0.2971
UT	0.7715	0.5794	1.11	.1044572	0.8029
CSM success					
T	0.4577	0.5818	1.02	-4.46e-10	0.9716
OG	0.1900	0.4784	1.08	-.0011659	0.5130
UT	0.8417	0.1568	1.01	.0241774	0.3403

All mean VIFs are greater than 1, which indicates the presence of multicollinearity (Hamilton, 2003, p. 167). This is not surprising in the present study, since variables are likely to be related, e.g. social issues and brand and reputation.

Appendix H – Interview guidelines

Interview Guidelines

I. Introduction

A. Introduction to the project

This project concerns the business case for sustainability (BCS), which we define as a strategy enabling a company to create economic value by means of improving environmental performance (e.g. increase eco-efficiency, reducing pollution) and social performance (e.g. engage in community development) beyond compliance.

A robust BCS is:

- clearly reflected by companies' strategies and operational activities
- open to assessment, reporting and monitoring

The main objective of the project is to develop a diagnostic tool for identifying company-specific potentials and barriers for corporate sustainability. Since the tool has to be based on empirical evidence, it is necessary to interview executives in different functions from different industries in different countries. We are particularly interested in industry- and country-specific factors such as regulation and the mindset of managers that impact on the corporate acceptance and implementation of the BCS.

B. Confidentiality and anonymity

Strict confidentiality will be accorded to all information received during the interviews.

C. Interview road map

The interview guidelines have been thoroughly pre-tested in several reference companies. They are separated into 5 sections:

- **Section A -** Building the BCS (Why bother with the BCS?): External pressures and value drivers
- **Section B -** Implementing the BCS (How to align the organization?)
- **Section C:** BCS-related tools (ONLY TO BE USED FOR INTERVIEWS WITH SUSTAINABILITY OFFICERS)
- **Section D:** Function-specific modules
- **Section E:** Wrap up (obligatory)

II. Interview

Opener: Briefly outline – let's say in 5 minutes max. - the development of the BCS and major milestone focusing, in particular, on your personal experience and, possibly, information I may not have come across in my preliminary research.

A. Building the business case: Detecting external pressures and value drivers for building the BCS

➔ Identify external pressures and value drivers to collect evidence for the BCS ("why bother")

A1. What are main actual and emerging sustainability issues in your company and how would you rank them according to their significance when building a BCS? Do only use the following prompts if questions A2.1-4 are skipped: customers, NGOs, competitors, regulators	3
A2. Elaborate on the significance of stakeholders in transmitting the sustainability issues mentioned above? • NGOs, customer reaction(public pressure) • Regulators • Competitors	4
A2.1 Please elaborate on the significance of regulatory pressure when building the BCS.	
A2.2 Please elaborate on the significance of public pressure from customers, NGOs etc. when building the SBC. A2.3 What role does the media play?	
A2.4 Please elaborate on the significance of pressure from competitors when building the BCS?	
A3. Name the value drivers for the BCS in your company and rank them according to their importance. Elaborate on the rationale behind and evidence for your choice. • Cost savings • process innovations • product innovations • brand value and reputation enhancement • attraction of human and intellectual capital • enhancement of risk profile • others	10
A3.1 What difficulties do you see in detecting value drivers that support the BCS?	
A3.2 Are value drivers likely to change in the future? Elaborate on how and why they may change.	
A4. What are your company's strengths and weaknesses in terms of the sustainability issues and value drivers identified (➔audit tool for assessing strategic fit)?	9

A5. What is your company's strategy for dealing with the sustainability issues and value drivers identified (➔ strategy-building tool)?	8
A6. Briefly generalize sustainability issues, value drivers and strategies to provide an industry overview.	5
A7. Who in your company (e.g. the sustainability officer, a committee, working group etc.) built the BCS (issues➔value drivers➔strategy)? Briefly describe the process and evaluate its effectiveness.	5

B. Implementing the BCS: Aligning the organization

➔ Identify organizational approaches used to overcome internal barriers to implementing the BCS

B8. What internal factors are significant in terms of aligning organizational behavior to implementing the BCS? Do use the following prompts if relying exclusively on question B8: knowledge, organizational culture and structure etc.	8
B8.1 What are the main organizational factors promoting the implementation of the BCS internally?	
B8.2 What are the main organizational factors impeding the implementation of the BCS internally?	
B8.3 Why does your particular organizational culture promote or hinder the implementation of the BCS?	
B8.4 Did you or do you see a need for improving knowledge and skills in your company to drive the BCS successfully through your organization?	
B9. Who do you see as the main leader in promoting the BCS internally?	1
B9.1 In what way did your company's delegation of responsibility impact the implementation of the BCS? Please describe positive and negative experiences.	
B9.2 In what way does the BCS influence managerial and technical processes (investment, accounting, research & development etc.)?	
B9.3 What managerial and technical processes play the most important role? Please elaborate on any potential for improvements.	
B9.4 How did your top management and line-managers support the implementation process and what was their general attitude?	
B.9.5 In what way did the level of awareness of the BCS change over time?	
B10. How much does the way the BCS is implemented in your company and your function depend on industry trends?	3

C. BCS-related Tools

➔ Examine tools and processes used for detecting (EAS), driving (EMS, reward system) and evaluating (accounting) the BCS –essentially market research for our final product.

ONLY TO BE USED FOR SUSTAINABILITY OFFERS. FOR FUNCTIONAL MANAGERS, DIRECTLY PROCEED TO SECTION D.

C11. Describe the specific managerial tools and systems that are used in detecting the actual and emerging sustainability issues? C11.1 What tools were effective and why?	5

C11.2 What tools were unworkable and why?	
C12. Describe the specific managerial tools and systems that are used in identifying the value drivers for the BCS? C12.1 What tools were effective and why? C12.2 What tools were unworkable and why?	5
C13. Describe the specific managerial tools and systems that are used in ensuring strategic fit with sustainability issues and value drivers (audit tool)? C13.1 What tools were effective and why? C13.2 What tools were unworkable and why?	5
C14. Describe the tools used in your company to formulate a beyond-compliance strategy based on business logic? C14.1 What tools were effective and why? C14.2 What tools were unworkable and why?	5
C15. Describe the tools used in your company to (qualitatively or quantitatively) evaluate the economic benefit from driving the BCS through the organization? C15.1 What tools were effective and why? C15.2 What tools were unworkable and why?	5
C16. Describe the tools used in your company to drive the BCS through the organization? C16.1 What tools were effective and why? C16. 2 What tools were unworkable and why?	5
USE ONLY IF YOU COULD NOT USE PROMPTS IN C10,11,12 C17. What tools were effective and why? C18. What tools were unworkable and why?	5

D. Function-specific modules

D19. Communication

D19.1 In what way do conflicting or shared interests with other external stakeholders such as • Suppliers • Customers (consumers vs. businesses) • NGOs (WWF vs. Greenpeace) • Regulators and enforcement agencies • Others influence the implementation of the BCS?
D19.2 Which managerial tools do you use to detect and resolve a potential conflict between your company and external stakeholders?
D19.3 How do industry-specific initiatives/industry associations impact the building of your BCS? D19.4 How do industry-specific initiatives/industry associations impact the implementation of your BCS?

D19.5 How do industry- and externally-driven initiatives (e.g. voluntary agreements, regulations on product take-back)?
D19.6 Describe the specific managerial tools and systems that are used in building the BCS, i.e. detecting the value drivers? D19.7 What tools were effective and why? D19.8 What tools were unworkable and why?
D19.9 Describe the tools used in your company to communicate the BCS internally? D19.10 What tools were effective and why? D19.11 What tools were unworkable and why?
D19.12 Describe the tools used in your company to communicate the BCS externally? D19.13 What tools were effective and why? D19.14 What tools were unworkable and why?
USE ONLY IF YOU COULD NOT USE PROMPTS BETWEEN D14.6 AND 14.12: D19.15 What tools were effective and why? D19.16 What tools were unworkable and why?

D20. Corporate Strategy and Development

D20.1 How is your company positioned in the building of its BCS relative to its competitors? Elaborate on your company's strengths and weaknesses. D20.2 How is your company positioned in the implementation of its BCS relative to its competitors? Elaborate on your company's strengths and weaknesses.
D20.3 In what ways does your corporate identity influence the building of the BCS? D20.4 In what ways does your corporate identity influence the implementation of the BCS?
D20.5 In what way could a change in corporate identity values have a positive influence on the building of the BCS? D20.6 In what way could a change in corporate identity values have a positive influence on the implementation of the BCS?
D20.7 What product and service innovations have resulted from implementing the BCS?
D20.8 Is there any evidence to prove that these innovations promoted the implementation of the BCS?
D20.9 How explicitly do your company's strategy and business models account for the building of the BCS, i.e. for generating economic value by means of improving environmental and social performance?
D20.10 Describe the specific managerial tools and systems that are used in building the BCS, i.e. detecting the value drivers? D20.11 What tools were effective and why? D20.12 What tools were unworkable and why?
D20.13 How explicitly do your company's strategy and business models account for the implementation of the BCS, i.e. for generating economic value by means of improving environmental and social performance?

D20.14 Describe the tools used in your company to drive the BCS through the organization? D20.15 What tools were effective and why? D20.16 What tools were unworkable and why?
D20.17 Describe the tools used in your company to (qualitatively or quantitatively) evaluate the economic benefit from driving the BCS through the organization? D20.18 What tools were effective and why? D20.19 What tools were unworkable and why?
USE ONLY IF YOU COULD NOT USE PROMPTS between D15.101 and D15.19: D20.20 What tools were effective and why? D20.21 What tools were unworkable and why?

D21 Investor Relations and Finance

D21.1 How do capital markets and shareholders influence your company's approach to building the BCS? D21.2 How do capital markets and shareholders influence your company's approach to implementing the BCS?
D21.3 Which capital market participants, in particular are interested in the building and the implementation of the BCS?
D21.4 If there are any, what are the demands from those capital market participants you mentioned above?
D21.5 How aware of these demands from those capital market participants are the different decision-makers in your company (e.g. CFO, CEO, implementing officers, etc.)?
D21.6 In what way does the level of awareness of those decision-makers impact their actual decision-making in their respective function?
D21.7 Describe the specific managerial tools and systems that are used in building the BCS, i.e. detecting the value drivers? D21.8 What tools were effective and why? D21.9 What tools were unworkable and why?
D21.10 Describe the tools used in your company to drive the BCS through the organization? D21.11 What tools were effective and why? D21.12 What tools were unworkable and why?
D21.13 Describe the tools used in your company to (qualitatively or quantitatively) evaluate the economic benefit from driving the BCS through the organization? D21.14 What tools were effective and why? D21.15 What tools were unworkable and why?
USE ONLY IF YOU COULD NOT USE PROMPTS between D16.7 and D16.15: D21.16 What tools were effective and why? D21.17 What tools were unworkable and why?

D22. Human Resources (HR)

D22.1 In what way do you think buy-in by managers is important for the implementation of

the BCS? Please elaborate on significance of • Key functions • Top management • Middle management • Blue-collar workers
D22.2 what way does internal organizational culture (top down, command and control vs. open, consensus-oriented approaches) influence the building of the BCS? D22.3 In what way does internal organizational culture (top down, command and control vs. open, consensus-oriented approaches) influence the implementation of the BCS?
D22.4 What kind of organizational culture is best suited to the implementation of a BCS? Elaborate.
D22.5 In what way does the mindset of managers influence the building the BCS? D22.6 In what way does the mindset of managers influence the implementation of the BCS?
D22.7 What are the differences in the mindset at different levels of management and in different functions?
D22.8 Describe the specific managerial tools and systems that are used in building the BCS, i.e. detecting the value drivers? D22.9 What tools were effective and why? D22.10 What tools were unworkable and why?
D22.11 Describe the tools used in your company to reduce resistance to the BCS through the organization? D22.12 What tools were effective and why? D22.13 What tools were unworkable and why?
D22.14 Which functions are most in need to be convinced and why?
D22.15 Describe the tools used in your company to (qualitatively or quantitatively) evaluate the economic benefit from driving the BCS through the organization? D22.16 What tools were effective and why? D22.17 What tools were unworkable and why?
USE ONLY IF YOU COULD NOT USE PROMPTS between D17.8 and D17.17? D22.18 What tools were effective and why? D22.19 What tools were unworkable and why?
D22.20 What training tools are currently in place to bring staff on board with the BCS?
D22.21 Where do you see need to expand on BCS training tools in the future and why?

E. Wrap up

E23. If you build your business case as a global company, are there significant national differences in the BCS and if so, what are they?	5
E24. If you implement your business case as a global company, are there significant national differences in the BCS and if so, what are they?	5
E24.1 What is more important for the development of the BCS, the industry- or the	

country-specific business environment? Please explain why.	
E24.2 Where do you see potential for improvement in building the BCS in your company and your business function?	
E24.3 How should the potential for improvement in building the BCS be exploited?	
E24.4 Is there a potential for establishing a convincing BCS in every company of your industry, under any given economic conditions, which can be identified and evaluated?	
E24.5 How do you think corporate financial performance influence sustainable development activities in your company in general? Examples of sustainability criteria dominated by economic criteria. Examples of economic criteria dominated by sustainability criteria.	
E25. If you had to name only one issue, which one would you consider most important to drive the BCS through your industry and why?	2

Appendix I – Questionnaires

Questionnaire – GM Version

BUSINESS CASE FOR SUSTAINABILITY – GM

Forum for CSM

By filling out the following questionnaire (duration approximation 10 minutes), you are taking part in an empirical research project undertaken by The Forum for Corporate Sustainability Management (CSM) of the International Institute for Management Development (IMD) in Lausanne, Switzerland.

As a token of appreciation, CSM will be happy to send you the executive summary of its research results later this year.

There are no right or wrong answers to this questionnaire. Please simply indicate your *personal* opinion and perception. Any information provided in this questionnaire will be treated in the strictest confidence.

Please either **fax** the questionnaire to +41 21 6180 641 or **send** it to:

CSM
International Institute for Management Development
1001 Lausanne
Switzerland

Please indicate the industry you represent:

- ❑ Oil and Gas
- ❑ Electric Utilities
- ❑ Automotive
- ❑ Aviation
- ❑ Chemical
- ❑ Financial Services
- ❑ Technology (Diversified)
- ❑ Food and Beverage
- ❑ Pharmaceutical
- ❑ Other (please specify) ……..
  ……
  ……

Please indicate the function you represent:

- ☐ R&D
- ☐ Manufacturing
- ☐ Human Resources and Corporate Staff (e.g. strategy, communication)
- ☐ Marketing/Sales
- ☐ Finance/Controlling
- ☐ Other (please specify) ……..
  ……
  ……

Please indicate your position:

- ❑ Board Member
- ❑ Senior Management
- ❑ Middle Management
- ❑ Junior Management
- ❑ Other (please specify) ……..
  ……

Please indicate the country where you **personally** are based:	…….

IMD

Forum for CSM

1	How familiar is your company with the concept of **Sustainable Development** (also known as Corporate Social Responsibility in the US), which calls for integrating environmental and social criteria into business strategies and operations?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Familiar	☐ Very familiar
2	How do you think the concept of **Sustainable Development** will develop in terms of importance within your company?				
	☐ increasing		☐ remain unchanged		☐ decreasing
3	How much does your company aim to integrate environmental and social criteria into its business strategies and operations?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much
4	A. To what extent is the business unit/function you work in affected by social issues (e.g. diversity, community development)?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much
	B. To what extent is the business unit/function you work in affected by environmental issues (e.g. local pollution through emissions to air, water or soil; climate change)?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much
	C. If your business unit/function is “much” or “very much” affected by environmental or social issues, briefly describe the problems and how your business unit/function responds.				
	…… …… ……				
5	How much do you personally agree with the following statements?				
	"The business of business is business. So companies should comply with the law, but going beyond the law would only sacrifice profits."				
	☐ Not at all	☐ A little	☐ More or less	☐ Much	☐ Very much
	"Profit always comes first for companies. There are win-win situations in which companies can achieve financial, environmental and social goals at the same time. In these situations, it makes sense for companies to go beyond what the law requires."				
	☐ Not at all	☐ A little	☐ More or less	☐ Much	☐ Very much
	"Companies should consider social and environmental issues/expectations, and try to actively integrate them into their strategies because, by doing so, they gain long-term competitive advantage."				
	☐ Not at all	☐ A little	☐ More or less	☐ Much	☐ Very much
	"As part of their role in the "global society," companies should engage in social and environmental initiatives, even if long-term competitive advantage cannot be proven."				
	☐ Not at all	☐ A little	☐ More or less	☐ Much	☐ Very much
6	How do you think capital markets will react to improved social and environmental performance in the next 5 years?				
	☐ Much more negatively	☐ A little more negatively	☐ No change	☐ A little more positively	☐ Much more positively

IMD

Forum for CSM

7 Which specific business functions can most effectively promote social progress or improve environmental performance?

☐	R&D	☐	Marketing/ Sales
☐	Manufacturing	☐	Finance/Controlling
☐	Human Resources and Corporate Staff (e.g. strategy, communication)	☐	Other (please specify) …….. ……

8 In terms of environmental and social issues, companies can improve their relationships with stakeholders (e.g. activist groups, customers, investors) in many ways. Please indicate how well the approaches listed below work to improve the relationships of your company with its stakeholders.

	Most effective	Fairly effective	Less effective	Least effective
Public relations	❑	❑	❑	❑
Listening more to their ideas and feedback	❑	❑	❑	❑
Donations (e.g. to local communities)	❑	❑	❑	❑
Greater transparency (e.g. Reporting)	❑	❑	❑	❑
Other (please specify) …… ……	❑	❑	❑	❑

9 A. How important is brand or reputation for your company?

☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very Much

B. If there have been any incidents in the last 3 years that damaged your company's brand(s)/reputation, was the damage due to:

☐	A media campaign	☐	Consumer boycotts
☐	An NGO campaign	☐	Shareholder opposition
☐	Conflicts with authorities	☐	Other (please specify) …… ……

C. In your opinion, how much damage to your company's brand(s)/reputation did the incident(s) cause?

☐	Slight
☐	Significant
☐	Severe
☐	No impact at all

10 A. Are there, to your knowledge, initiatives in your company promoting the following:

☐	Better environmental performance
☐	"Business ethics" (e.g. reducing corruption, ensuring good governance)
☐	Improved social conditions in the entire supply chain
☐	Improved environmental conditions in the entire supply chain
☐	Community involvement (particularly in developing countries)
☐	Other (please specify)…… ……
☐	No, there are no initiatives whatsoever

B. If there are such corporate environmental and social initiatives (as listed in question 10A), in your opinion how successful are they?

☐ Not at all	☐ A little	☐ More or less	☐ Much	☐ Very much

IMD

Forum for CSM

C. If they had little or no success, what are the main barriers?

- ☐ Managers' mindsets
- ☐ Managers' lack of knowledge/expertise
- ☐ Regulation (e.g. subsidies, low environmental/social standards)
- ☐ Absence of appropriate tools and processes (e.g. environmental management systems, green accounting)
- ☐ Organizational culture
- ☐ Opposition or lack of interest from investors
- ☐ Lack of interest from customers
- ☐ Other (please specify) ……

11 A. Do you work together with your company's sustainability/environmental officers or department?

- ☐ Yes, on an ad-hoc basis
- ☐ Yes, on a day-to-day basis
- ☐ No, we do not work together

B. To what extent would more extensive collaboration with your company's sustainability/environmental officers or department contribute to more sustainable business practices in your company?

☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much

12 Where in your company is the strongest opposition to implementing actions that follow the concept of Sustainable Development or Corporate Social Responsibility?

- ☐ R&D
- ☐ Manufacturing
- ☐ Human Resources and Corporate Staff (e.g. strategy, communication)
- ☐ Marketing/Sales
- ☐ Finance/Controlling
- ☐ Other (please specify) ……

13 What tools/systems in your company relate to the concept of Sustainable Development or Corporate Social Responsibility internally?

- ☐ Measurement tools to increase transparency (e.g. measuring material and waste flows)
- ☐ Tools measuring resource allocation (e.g. environmental expenses)
- ☐ Strategic planning and accounting procedures that take account of environmental and social issues (e.g. scenario-planning, full cost accounting)
- ☐ Corporate values, policies and standards that take account of environmental and social issues
- ☐ Reward and punishment systems (e.g. salaries partly based on social and/or environmental performance of the company/business unit)
- ☐ Management development (e.g. environmental training courses)
- ☐ Coordination committee discussing and pushing strategic decisions at corporate level
- ☐ Business teams, task forces to resolve conflicts and push environmental and social improvements on an operational level
- ☐ Other (please specify) ……
- ☐ No initiatives whatsoever

IMD

Forum for CSM

14 One may argue that the following parties all have a responsibility for contributing to sustainable development. Please indicate how proactively, in your opinion, they currently take this responsibility in your industry.

	Most proactive	Fairly proactive	Less proactive	Least proactive
Consumers	❑	❑	❑	❑
Governments	❑	❑	❑	❑
Partnership between industry and public agencies	❑	❑	❑	❑
Industry	❑	❑	❑	❑
Public pressure groups	❑	❑	❑	❑

Please indicate your nationality:	……		
Please indicate your age:	❑ Below 35	❑ Between 35 and 50	❑ Over 50
Please indicate your gender:	❑ Female	❑ Male	

We thank you for completing this survey and would be happy to send you the results of our research. If you are interested, please indicate by checking the box below.

☐ **I would like to receive the results of this survey.**

My e-mail address is:……..

Please fax your completed survey to CSM on +41 21 6180 641 or mail it to:

CSM
International Institute for Management Development
1001 Lausanne
Switzerland

Questionnaire – SO Version

BUSINESS CASE FOR SUSTAINABILITY – SO

By filling out the following questionnaire (duration approximately 10 minutes), you are taking part in an empirical research project undertaken by The Forum for Corporate Sustainability Management (CSM) of the International Institute for Management Development (IMD) in Lausanne, Switzerland.

As a token of appreciation, CSM will be happy to send you the executive summary of its research results later in the year.

There are no right or wrong answers to this questionnaire. Please simply indicate your *personal* opinion and perception. Any information provided in this questionnaire will be treated in the strictest confidence.

Please either **fax** the questionnaire to +41 21 6180 641 or **send** it to:
CSM
International Institute for Management Development
1001 Lausanne
Switzerland

Please indicate the **industry** you represent:

- ❑ Oil and Gas
- ❑ Electric Utilities
- ❑ Automotive
- ❑ Aviation
- ❑ Chemical
- ❑ Financial Services
- ❑ Technology (Diversified)
- ❑ Food and Beverage
- ❑ Pharmaceutical
- ❑ Other (please specify) ……
  ……

Please indicate the department within which you operate:

- ☐ External affairs, communication
- ☐ Risk management
- ☐ Environment, health and safety
- ☐ Strategy and innovation
- ☐ Other (please specify)
  ……
  ……

Please indicate the function/corporate unit you report to:

- ☐ CEO
- ☐ Executive Board
- ☐ Public Relations
- ☐ Strategy and Innovation
- ☐ Cross-functional executive committee
- ☐ Other (please specify)
  ……
  ……

Please indicate your position:

- ❑ Board Member
- ❑ Senior Management
- ❑ Middle Management
- ❑ Junior Management
- ❑ Other (please specify) ……
  ……

Please indicate the country where you **personally** are based: ……

IMD

Forum for CSM

1	How familiar is your company with the concept of **Sustainable Development** (also known as Corporate Social Responsibility in the US), which calls for integrating environmental and social criteria into business strategies and operations?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Familiar	☐ Very familiar
2	How do you think the concept of **Sustainable Development** will develop in terms of importance within your company?				
	☐ increasing		☐ remain unchanged		☐ decreasing
3	How much does your company aim to integrate environmental and social criteria into its business strategies and operations?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much
4	A. To what extent is your company affected by social issues (e.g. diversity issue, community development)?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much
	B. To what extent is your company affected by environmental issues (e.g. local pollution through emissions to air, water or soil; climate change)?				
	☐ Not at all	☐ A little	☐ Fairly	☐ Much	☐ Very much
	C. Please name the three most important sustainability issues (i.e. environmental and/or social issues) your company is facing.				
	1. ……				
	2. ……				
	3. ……				
5	Which business functions can most effectively promote social progress or improve environmental performance?				
	☐ R&D		☐ Marketing/Sales		
	☐ Manufacturing		☐ Finance/Controlling		
	☐ Human Resources and Corporate Staff (e.g. strategy, communication)		☐ Other (please specify) …… ……		
6	A. Please indicate the progress your industry has made in adopting more sustainable business practices. In comparison to other industries, my company's industry is an				
	❑ out-performer		❑ average performer		❑ under-performer
	B. Please indicate the progress your company has made in adopting more sustainable business practices. In comparison to other companies in our industry, my company is an				
	❑ out-performer		❑ average performer		❑ under-performer

C. Please name the top 3 sustainability leaders in the industry in which your company mainly operates:

1. ……
2. ……
3. ……

7 Sustainable business practices can be impeded by various barriers. Please choose **ONLY the three most important barriers** from the list below:

- ☐ Managers' mindsets
- ☐ Managers' lack of knowledge/expertise
- ☐ Regulation (e.g. subsidies, low environmental/social standards)
- ☐ Absence of appropriate tools and processes (e.g. environmental management systems, green accounting)
- ☐ Organizational culture
- ☐ Opposition or lack of interest from investors
- ☐ Lack of interest from customers
- ☐ Other (please specify)

  ……
  ……

8 What approaches/initiatives are used in your company to overcome the barriers mentioned above?

- ☐ Measurement tools to increase transparency (e.g. measuring material and waste flows)
- ☐ Tools measuring resource allocation (e.g. environmental expenses)
- ☐ Strategic planning and accounting procedures that take account of environmental and social issues (e.g. scenario-planning, full cost accounting)
- ☐ Corporate values, policies and standards that take account of environmental and social issues
- ☐ Reward and punishment systems (e.g. salaries partly based on social and/or environmental performance of the company/business unit)
- ☐ Management development (e.g. environmental training courses)
- ☐ Coordination committee discussing and pushing strategic decisions at corporate level
- ☐ Business teams, task forces to resolve conflicts and push environmental and social improvements on an operational level
- ☐ Other (please specify)

  ……
  ……
  ……
- ☐ No initiatives whatsoever

9 Where in your company is the strongest opposition to implementing actions that follow the concept of Sustainable Development or Corporate Social Responsibility?

- ☐ R&D
- ☐ Manufacturing
- ☐ Human Resources and Corporate Staff (e.g. strategy, communication)
- ☐ Marketing/ Sales
- ☐ Finance/Controlling
- ☐ Other (please specify)

  ……
  ……

10 Sustainable business practices can also be promoted by various factors. Please choose **ONLY the three most important factors** from the list below:

- ☐ Public pressure (e.g. boycotts against polluting products and companies)
- ☐ Increased competition on environmental and social issues in the industry
- ☐ New business opportunities (e.g. entering or developing new markets)
- ☐ Process and product innovations (e.g. increase energy-efficiency)
- ☐ Dialogue with stakeholders
- ☐ Top management commitment and leadership
- ☐ Autonomy and internal scope of implementing sustainability/environmental officers
- ☐ Corporate values
- ☐ Demands of individual shareholders and institutional investors
- ☐ Open organizational culture
- ☐ Other (please specify)

  ……
  ……
  ……

11 How do you think capital markets will react to improved social and environmental performance in the next 5 years?

☐	☐	☐	☐	☐
Much more negatively	A little more negatively	No change	A little more positively	Much more positively

12 What is your best possible argument when promoting the concept of sustainable development in your company? Please choose **ONLY the three most important arguments** from the list below: Good environmental and social performance

- ☐ attracts **talent** and increases **employee satisfaction.**
- ☐ improves our **access to capital.**
- ☐ leads to **cost reductions** (i.e. increase in eco-efficiency: generating more with less).
- ☐ is essential to maintaining our "**license to operate**".
- ☐ improves **brand value and reputation.**
- ☐ leads to **innovation of products and services.**
- ☐ helps us to manage our **risks** better.
- ☐ Other (please specify)

  ……
  ……

13 One may argue that all of the following parties have a responsibility for contributing to sustainable development. Please indicate how proactively, in your opinion, they currently take this responsibility in your industry:

	Most proactive	Fairly proactive	Less proactive	Least proactive
Consumers	❑	❑	❑	❑
Governments	❑	❑	❑	❑
Partnership between industry and public agencies	❑	❑	❑	❑
Industry	❑	❑	❑	❑
Public pressure groups	❑	❑	❑	❑

Please indicate your nationality:	.....		
Please indicate your age:	❑ Below 35	❑ Between 35 and 50	❑ Over 50
Please indicate your gender:	❑ Female		❑ Male

We thank you for completing this questionnaire and would be happy to send you the results of our research. If you are interested, please indicate by checking the box below.

☐ I would like to receive the results of this survey.

My e-mail address is:.....

Please fax your completed survey to CSM on +41 21 618 0641, or mail it to:

CSM
International Institute for Management Development
1001 Lausanne
Switzerland

Appendix J – Author's contribution to cross-industry research project

This is to clarify

- The author's contribution to the cross-industry research project that generated the data this dissertation is based on (refer to the table below for detailed list of the steps undertaken)
- The author's contribution to this dissertation

The author

1. carried out the research review, which determined the focus and the research design of the cross-industry project - meanwhile published in the European Management Journal (Salzmann, Ionescu-Somers, & Steger, 2005a).
2. substantially contributed to the formulation of the research hypotheses and objectives as well as the design of the means of data collection (and their pre-test)
3. solely collected all data on the two industries (oil and gas, electric utilities), i.e. he conducted all interviews and distributed all questionnaires
4. solely finalized the two corresponding research reports and managed the feedback process

Period	Step	Contribution
April 2002	- Research review	Author
	- Formulation of research hypotheses and objectives	Author and research team
	- Design of means of data collection (interview guidelines and questionnaires)	Author and research team
June 2002	- Pretests of means of research instruments	Author and research team
July 2002 – April 2003	- Establishing contacts with companies	Every member of research team was assigned one industry. The author focused on his two industries: oil & gas and electric utilities.
	- Distributing questionnaires	
	- Conducting of face-to-face interviews including follow up	
May– August 2003	- Finalization of sector-specific research reports and feedback process	
July 2003 – January 2005	- Analysis of qualitative and quantitative data - Concluding dissertation	Author

Upon project completion, the author solely and autonomously carried out the following step to conclude his dissertation:

- Selecting appropriate means of data analysis
- Carrying out data analysis
- Interpretation and documentation.

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