Strategic perspectives on corporate sustainability: Alternative views on the field's business case predominance

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PREFACE

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Sylvia Grewatsch,
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-Gratitude is the memory of the heart.-
(Jean-Baptiste Massieu, 1772-1846)

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EXECUTIVE SUMMARY

The business case thinking in corporate sustainability addresses the quest that a firm can *'do well by doing good'*. Investigating the business case of corporate sustainability has turned into an autonomous academic discipline with the primary objective to conceptualize, specify, and test the potential relationship between corporate sustainability and corporate financial performance. Consequently, corporate sustainability has become a topic of high strategic importance for research and practice. However, even though theoretical insights became more fine-grained and empirical qualitative and quantitative methods have improved over the last decades, concerns and inconclusiveness still exit as to finding a simple link between corporate sustainability and corporate financial performance. This obtains increasing criticism in sustainability and management research.

In the present dissertation I critically investigate the a priori predominance of the business case thinking in sustainability research. The overall research question guiding the structure and content of this dissertation revolves around: "*What is the relevance of the business case in corporate sustainability and how to move beyond it?"*. In order to approach this research question, I focus on the different constituting elements of the business case in corporate sustainability and its inherent problems of missing concreteness. Thus, the aim of this dissertation is to assess the increasing critique and to propose alternative views on the business case thinking in order to move this academic discipline forward towards a more complex and detailed understanding of corporate sustainability.

This dissertation consists of three related research articles, which all represent alternative perspectives on the business case of corporate sustainability. **Research article 1** presents a systematic literature review on contingent aspects influencing the relationship between corporate sustainability and corporate financial performance. The aim of research article 1 is to provide some clarity on what has been learned so far about the question *"When does it pay to be good?"*, through applying a thematic analysis of moderating and mediating factors in existing literature. The findings reveal a number of theoretical and empirical shortcomings, such as (i) a low degree of novelty, (ii) missing investments in theory building, and (iii) a lack of research design and measurement options. Avenues for future research outline potential solutions for these uncovered shortcomings. Research articles 2 and 3 focus on the cognitive aspects of corporate sustainability and alternative measurements for the independent as well as dependent variable in this relationship. The object of

research article 2 is to investigate the relative importance of corporate sustainability in a firm's organizational cognitive frame and how this may affect the development of organizational capabilities. Results of a survey among 301 manufacturing firms in Denmark show that corporate sustainability has a positive effect on three organizational capabilities: stakeholder integration, market sensing, and organizational learning. A negative effect was found on the strategic planning capability. The results imply that a cognitive perspective on corporate sustainability may provide a valuable alternative explanation on the development of capabilities and yields potential for future research addressing the relationship between corporate sustainability and corporate financial performance. **Research article 3** expands on the cognitive perspective, but explores an alternative organizational cognitive frame to the business case in corporate sustainability, namely the paradoxical organizational cognitive frame in corporate sustainability. The aim of research article 3 is to investigate differences in managerial practices and financial performance between both the business case and the paradoxical frame. Results of the survey among 301 manufacturing firms in Denmark reveal significant differences in the prioritization of issues, organizational orientation, and strategic intentions. However, no significant differences exist in financial performance. These findings challenge the predominance of the business case thinking in corporate sustainability.

In a nutshell, this dissertation applies strategic perspectives on corporate sustainability through critically examining the business case of corporate sustainability and through providing alternative views on existing theoretical and empirical research gaps. The overall implications for research and practice are to move beyond the predominance of the business case and its instrumentally-driven economic thinking. However, in order to fundamentally revise the academic discipline, researchers and practitioners need to bethink the roots and original aims of sustainability.

DANSK RESUMÈ

Business case tænkningen inden for virksomhedernes arbejde med bæredygtighed drejer sig om, at en virksomhed 'klarer sig godt, ved at gøre noget godt'. At undersøge business casen for virksomhedernes bærdygtighed er blevet en selvstændig akademisk disciplin med det primære formål at konceptualisere, specificere og efterprøve forholdet mellem virksomhedernes bæredygtighed og deres økonomiske ydeevne. Derfor er virksomhedernes bæredygtighed blev et emne af stor strategisk vigtighed for både forskning og praksis. Men selv om den teoretiske indsigt er blevet bedre og de empiriske metoder, kvalitative såvel som kvantitative, er forbedret de seneste årtier, er der fortsat bekymring og uafklarethed mht. at finde en enkelt forbindelse mellem virksomhedernes bæredygtighed og deres økonomiske ydeevne. Der er en stadig stigende kritik af dette inden for forskningen i bæredygtighed og ledelse.

I herværende ph.d.-afhandling undersøger jeg kritisk den a priori overvægt som business case tænkningen synes at have i forskningen omkring bæredygtighed. Det helt overordnede forskningsspørgsmål, der bestemmer strukturen af og indholdet i denne afhandling drejer sig om: "Hvilken relevans har business cases for virksomhedernes bæredygtighed, og hvordan kommer vi videre?" For at komme en besvarelse af dette forskningsspørgsmål nærmere, fokuserer jeg på de forskellige bærende elementer, der udgør en business case i virksomhedernes bæredygtighed og de iboende problemer med manglende konkrethed. Formålet med denne afhandling er derfor at vurdere den stigende kritik og at foreslå alternative vinkler på business case tænkningen med henblik på at flytte den akademiske disciplin tættere på en mere kompleks og detaljeret forståelse af bæredygtighed i virksomheder.

Denne afhandling består af tre relaterede forskningsartikler, der alle repræsenterer forskellige perspektiver på business casen om virksomhedernes bæredygtighed. I forskningsartikel 1 er der en systematisk gennemgang af og overblik over litteraturen om de mulige aspekter, der indvirker på forholdet mellem virksomhedernes bæredygtighed og virksomhedernes økonomiske ydeevne. Formålet med forskningsartikel 1 er at skaffe mere klarhed over, hvad der hidtil er kommet frem omkring 'Hvornår betaler det sig at opføre sig pænt?'. Det sker via en tematisk analyse af de modererende og medierende faktorer, der findes i litteraturen. Resultatet viser, at der er en række teoretiske og empiriske mangler, fx en meget lille nyhedsværdi, manglende investering i opbygning

af teori, mangel på forskningsdesign og målinger. Der udstikkes derfor nogle muligheder for fremtidig forskning og mulige løsninger på de afdækkede mangler. I forskningsartiklerne 2 og 3 fokuseres der på de kognitive aspekter af virksomheders bæredygtighed og alternative målinger af de uafhængige såvel som de afhængige variabler i dette forhold. Formålet med forskningsartikel 2 er at undersøge den relative vigtighed af virksomhedernes bæredygtighed set i en virksomheds organisatoriske kognitive perspektiv, og hvordan dette kan påvirke udviklingen af organisatoriske evner. Resultaterne af en spørgeundersøgelse blandet 301 produktionsvirksomheder i Danmark viser, at virksomhedernes bæredygtighed har en positiv effekt på tre organisatoriske evner: integration af interessenter, føling med markedet og organisatorisk læring. Der var en negativ effekt, hvad angår evnen til strategisk planlægning. Resultaterne indikerer, at anlægges der et kognitivt perspektiv på virksomhedernes bæredygtighed kan det resultere i en værdifuld, alternativ forklaring på udviklingen af evner og åbner mulighed for fremtidig forskning, der har forholdet mellem virksomhedernes bæredygtighed og virksomhedernes økonomiske ydeevne som emne. I forskningsartikel 3 arbejdes videre med det kognitive perspektiv, idet der udforskes en alternativ organisatorisk kognitiv ramme for business casen i forbindelse med virksomhedernes arbejde med bæredygtighed, nemlig den paradokse organisatoriske kognitive ramme. Formålet med forskningsartikel 3 er at undersøge, hvilke forskelle, der er mht. ledelsespraksis og økonomisk ydeevne for hhv. business casen og den paradokse ramme. Resultaterne af en undersøgelse blandt de 301 produktionsvirksomheder viser signifikante forskelle mht. prioritering af emner, den organisatoriske orientering og de strategiske intentioner. Men der er ingen signifikante forskelle i den økonomiske ydeevne. Disse resultater udfordrer den fremtrædende status som business case tænkningen menes at have på virksomhedernes bæredygtighed.

Kort sagt kan man sige, at denne afhandling anlægger nogle strategiske perspektiver på virksomhedernes bæredygtighed ved kritisk at undersøge business casen vedrørende virksomhedernes arbejde med bæredygtighed og ved at præsentere alternative synspunkter på de eksisterende teoretiske og empiriske huller i forskningen. De overordnede implikationer for forskning og praksis er at komme ud over den dominans som business case tænkningen og den associerede instrumentbaserede økonomiske tænkning har. Men for at kunne revidere den akademiske disciplin fundamentalt bør forskere og praktikere genoverveje bæredygtighedens rødder og oprindelige formål.

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1

– Introduction –

THE FALLACY OF THE FIELD'S BUSINESS CASE PREDOMINANCE

1.1. Motivation

Initially focused on environmental issues (such as climate change, water scarcity, and ecosystem preservation) and on social issues (such as labour practices, working conditions, human rights, and transparency) research in sustainability has witnessed an increasing dominance of an a priori instrumentally-driven business case thinking over the last 50 years. Exploring the business case of corporate sustainability has become one of the - if not *the* - most important field in sustainability research (Carroll & Shabana, 2010; Linnenluecke & Griffiths, 2013). The quest for finding empirical evidences that a firm can '*do well by doing good*' has transformed sustainability towards being a subject of strategic management away from concerns of sustainable development and the secured well-being of society and nature in future.

Businesses have become the central subject in sustainability research, as they have the power, the influence, and the financial capital to enforce meaningful sustainable changes. Therefore, sustainability research has received the added prefix '*corporate*' with the intention to increase a firm's organizational performance while doing something good for society and nature. By naming it corporate sustainability, sustainability refers to a firm's *ability* to *sustain* (Ehrenfeld & Hoffman, 2013). Thereby sustainability becomes recognized with the underlying organizational goal to keep the firm growing almost indefinitely, which attracted businesses' and researchers' interest and fascination to identify the economic rationale and financial benefits resulting from corporate sustainability engagement and investments. In this context, '*When and how does it pay to be good?*' are omnipresent research questions, in order to build coherent justification for firms to invest in corporate sustainability issues and initiatives. The primary focus hereby is to search for definite causal connections between corporate sustainability and corporate financial performance.

However, after decades of persistent inconclusive findings, the search for a universal business case has received some critique (Aguinis & Glavas, 2012; Margolis & Walsh, 2003). Most often mentioned are poor measurements and weak theory construction leading to an over-simplification and under-theorization of the corporate sustainability performance – corporate financial performance relationship (Gao & Bansal, 2013; Orlitzky, 2008). What may be required for sustainability research at this point, in order to move forward, is to critically examine the evidence that have led to these inconclusive findings and to open up discussions about alternative theoretical and empirical views on the business case of corporate sustainability.

Encouraged by the increasing concerns, the object of this dissertation is to look closer at the business case of corporate sustainability and the critique of it. In particular, I aim at contributing to alternative views on corporate sustainability performance, corporate financial performance, and their potential main relationship. By doing so, I follow a recent theoretical perspective on cognition in corporate sustainability and I provide alternative measurements for assessing the business case of corporate sustainability.

In this introduction (part 1) I first focus on the research questions and the underlying research paradigm. Then, I elaborate on the business case of corporate sustainability as an academic discipline and the theoretical and methodological critique of its components, followed by a presentation of the dissertation's research method and design. After that, I provide an overview of the three included research articles, whereby each research article intents to provide a new perspective on the academic discipline. The individual research articles are presented in full length thereafter in the following main parts 2, 3, and 4. In part 5 I will discuss the overall findings of this dissertation and suggest avenues for future research.

1.2. Research questions, aims, and contributions

Motivated by the increasing critique on the field's business case predominance, this dissertation is guided by the overall research question:

"What is the relevance of the business case in corporate sustainability and how to move beyond it?"

In order to answer the overall research questions, I divided the dissertation into three constituting research articles. Each research article is guided by its own research question illustrating vital aspects of the overall research question and, thus, illuminating a different perspective on the business case in corporate sustainability. Research article 1 is a literature review dedicated to the research question "*When does it pay to be good?*", in order to explore existing research on the relationship between corporate sustainability and corporate financial performance. Research article 2 is an empirical study focusing on the research questions "*How does corporate sustainability direct the development of organizational capabilities?*". The aim of this research article is to contribute to a cognitive perspective on corporate sustainability as the independent variable and on organizational capabilities as alternative dependent variables in this context. Research article 3 is also an empirical study driven by the research questions: "*How do top*

managers address and make sense of tensions among economic, environmental, and social issues under the business case and the paradoxical frame? What implications do these managerial differences have on financial performance?". The purpose of this research article is to promote recent research on cognitive frames in corporate sustainability, focusing on paradoxical thinking as an opposing perspective to the business case thinking.

With this dissertation I make several theoretical and empirical contributions to the field. (1) I provide a critical overview of the status-quo of research on the business case in corporate sustainability and influencing moderating and mediating factors. (2) I foster cognitive thinking in sustainability research by looking at corporate sustainability through the cognitive lens rather than through the performance lens focused on actions, principles, procedures, and observable outcomes (Wood, 1991). (3) I provide an alternative measure for the benefits of corporate sustainability on firms by looking at organizational capabilities, additional to financial performance. (4) I explore a new research setting by collecting my own primary data in Denmark. Denmark is an interesting research setting to investigate business practices beyond the business case thinking and outside the U.S. centric data- and mind-set.

Summarizing, I posit that a more comprehensive and diversified understanding of the individual fundamental components of the business case in corporate sustainability is important and may provide valuable avenues to move beyond the a priori instrumentally-driven thinking in sustainability research. However, this approach to sustainability is self-defeating. In the long-term perspective, more fundamental change is needed so that the success of corporate sustainability is no longer measured by its contribution to a firm's success and growth rate, but by its creation and maintenance of a sustainable and responsible firm (Ehrenfeld & Hoffman, 2013). I elaborate more on this aspect in part 5 of this dissertation.

1.3. Research paradigm – Critical realism

I build my dissertation on the research paradigm of critical realism. Critical realism is often seen as a middle way between positivism and empiricism on the one side and interpretivism and constructivism on the other side. Critical realism owes its popularity to the pioneering work of Rom Harré (Harré, 1970; Harré & Secord, 1972) and his student Roy Bhaskar (1978, 1979), who is increasingly associated with this research paradigm. In social sciences, critical realism finds considerable application, such as in economics (Lawson, 1997), organization studies (Fleetwood,

2005; Hesketh & Fleetwood, 2006), marketing (Hunt, 1992), and strategic management (Miller & Tsang, 2011). The simultaneous central concern of natural sciences and social sciences makes critical realism also of particular interest for research in sustainability, which is significantly influenced by both natural and social sciences. It is beyond the scope of this section and this dissertation to compare critical realism with other research paradigms[1], rather the purpose is to review important characteristics of the critical paradigm and how those guided me in my dissertation project about alternative views on the business case of corporate sustainability. Therefore, I will discuss in detail the following main aspects: (i) *fallibility of knowledge*, (ii) *stratified ontology*, (iii) *explanatory causation*, and (iv) *emancipatory potential*.

1.3.1. *Fallibility of knowledge*

Ontology (the study of reality) rather than epistemology (the study of knowledge) is the point of departure for critical realism (Danermark et al., 2002). In critique to positivism and its reduced consideration of ontology, critical realism maintains a strong emphasis on ontology and postulates realism or objective ontology. Saying on the one hand, reality exists independent of a researcher's knowledge and consciousness of it. On the other hand, it postulates anti-realism or subjective ontology, meaning that the researcher's knowledge of the world is socially determined by perceptions and interactions of subjects. Those two claims motivate the critical evaluation of theories and to move beyond the 'either-or' positive-interpretative ontological and methodological dichotomy (Danermark et al., 2002; Miller & Tsang, 2011). Critical realism declares the possibility of truthful knowledge, but at the same time acknowledges that human limitations undermine claims to objective knowledge.

Bhaskar noted: "*To be a fallibilist about knowledge, it is necessary to be a realist about things*." (2008, p. 43). In this sense critical realism takes a balanced stance on reality and affirming or reflecting theories, because there are two sides of knowledge and Bhaskar (1998, 2008) further distinguishes between *transitive* and *intransitive* objects of knowledge. Intransitive objects of knowledge do not depend on and nor are they determined by humans, such as gravity and death. Transitive objects of knowledge are artificial and fashioned by the recent science, such as applied theories, models, methods, and techniques (Bhaskar, 1998). Thus the world exists independently of what we know and think about it. Researchers need to accept the fallibility of knowledge and the

[1] For further background on overviews and detailed comparisons between critical realism and other research paradigms, I recommend Bhaskar (1998), Sayer (2000), Guba & Lincoln (1994), and Danermark et al. (2002).

potential of being wrong about social phenomena, because we may not be able to observe nor to measure issues directly, but only through a latent approach. Reality consists of a non-observable dimension where researchers find only mechanisms that produce the empirical observable events. However, the knowledge of it is conceptually mediated and, thus, more or less truth-like. Facts about reality are theory-dependent, but not theory-determined. Thus, research is fallible and needs to be open to adjustments (Danermark et al., 2002; Sayer, 2000).

Applied to research on the business case of corporate sustainability this means that the pursuit for statistical association or significance between corporate sustainability and corporate financial performance is not the 'end game' and does not reach far enough inside firms in order to explain what is going on. Therefore a deeper understanding of the relationship, beyond looking at only empirical observable aspects, is needed, because our knowledge about it is fallible.

1.3.2. *Stratified ontology*

In addition to the distinction between intransitive and transitive knowledge (the distinction between the world and our experiences and knowledge about it), critical realism also differentiates between different levels of reality. In contrast to other research paradigms with a rather minimal ontology, critical realism applies a stratified ontology and distinguishes between the "*real*", the "*actual*", and the "*empirical*" domains of the world (Bhaskar, 1978; Sayer, 2000). Critical realism accepts that there is a 'real' world, but researchers have no immediate access to it nor are they able to observe every aspect of it. Meaning, the 'real' domain is whatever exists regardless of whether researchers have an understanding of it or view it as an empirical object. The reality exists of physical and social objects, which have certain structures and powers that behave in a particular way and cause changes. Power exists universally. The nature of an object constitutes certain time constraints and enables what can happen but does not consequently predetermine what will actually happen. Thus, the 'real' domain refers to the structure and power of objects. The domain consists also of general mechanisms, referring to "*the ways of acting of things*" (Bhaskar, 2008; p. 14). The 'actual' refers to changes that occur when those powers and mechanisms are activated, their exercises, as well as the effect of them. Some events are experienced, whereas others not. The 'empirical' is defined as the domain of events experienced through direct and indirect observations, contingent on what it is known (Sayer, 2000).

The ‘real’ and the ‘actual’ parts presuppose that not all what is experienced can in fact be directly observed. So the reality of the world does not assure the researcher’s access. As noted by Sayer (2000): “*observability may make us more confident about what we think exists, but existence itself is not dependent on us*” (2000; p. 12). Consequently, critical realism does not rely on observations only, but accepts that there is a caused criterion as well (Collier, 1994). Thus, scientific theories refer to structures and mechanism, rather than empirical events. Critical realists seek explanations of unobservable events through the contingent relations understood as causal mechanism.

Applied to the business case of corporate sustainability, critical realism provides a way of meta-theorizing the relationship between corporate sustainability and corporate financial performance without reducing it to the observable and statistical associations only. The attempt to look exclusively for statistical common denominators overlooks the complex underlying organizational processes and practices, crucial for enhanced corporate financial performance. Thus, the search for alternative views on the business case of corporate sustainability should not only address the identification and quantification of new measurements and data, but also the development of a more complex theoretical understanding and explorative research methods.

1.3.3. *Explanatory causation*

A third distinct characteristic of critical realism, relevant for this dissertation, is the view of causation. Critical realists seek to find and test explanations instead of correlations between the observable constant antecedents and events. Correlations and observed regularities have nothing to do with what causes something to happen. Therefore, critical realists move beyond pragmatic concerns for whether acting on a theory produces the expected effect. Explanation has a higher priority than prediction in theory testing (Miller & Tsang, 2011; Sayer, 1997). The reason is that predictions only arise under special circumstances in ‘*closed systems*’, characterized by event regularities. However, critical realism considers the openness of social systems (‘*open systems*’), because reality is far too complex and identical causal powers do not necessarily produce the same outcome. Due to the given variety and continuous changes a lack of event regularities exists between causes and effects (Sayer, 2000). As Bhaskar (1998) concluded: “*the rational development and replacement of theories in social sciences must be explanatory and non-predictive*” (1998, p. 225). Thus, social phenomena are context and content-dependent and require interpretation.

However, contrary to interpretivism, critical realism does not exclude causal explanation (Sayer, 2000).

Consequently, for the business case of corporate sustainability this means that an empirical association between corporate sustainability and corporate financial performance does not constitute a sufficiently comprehensive explanation of this potential association nor does it consider whether the proposed theoretical mechanism accounts for the data. Even a regression equation with a good predictive power, for instance, has no explanatory power, because the social world, and in particular sustainability, is not a closed system based on regularities, like the regression approach presupposes. Especially the inconclusive findings between corporate sustainability and corporate financial performance could be due to pseudo-falsification, which occurs according to Bhaskar (1998) when "*a theory is not sufficiently developed to deal with anomalous findings if the data are wrong or if countervailing mechanism cause researchers to conclude prematurely that a theory is false*" (1998, p. 160). Greater attention needs to be payed, theoretically and empirically, to the power of extrinsic and intrinsic contingencies, which cause the correlation between the observed phenomena.

1.3.4. *Emancipatory potential*

Bhaskar (1986) argued that social sciences have emancipatory potential in the way that social practices are informed by ideas which may be true or not depending on whether they are true will influence what happens. Therefore, it might happen that social scientists reproduce explanations uncritically in their own research. In this case the critical realism implies a commitment to change false beliefs and actions. In order to mobilize research and to encourage flourishing, researchers need to replace 'unwanted determinations' with 'wanted and need determinations' (Bhaskar, 1986; Sayer, 1997). To identify unmet needs and to decide which beliefs are false requires judgment of good and bad and what ought and ought not to be removed or changed, and hence to engage in normative questions (Sayer, 1997). Emancipatory social sciences, therefore, need to have specific and directive critical content, in order to identify what exactly is wrong and what consequently needs to be changed.

Therefore, when developing criticism it is important to identify first problems in terms of unmet needs and false beliefs and then to identify the sources or causes of this, before favoring alternatives to remove the sources (Bhaskar, 1986; Sayer, 1997). In order to develop a feasible,

plausible superior, and desirable alternative, the explanatory critique of something needs to be justifiable. Proposals of solutions suggesting alternatives should (i) realize the desired end goals more than the original problem, (ii) suggest specific mechanism, and (iii) address enough people who are willing to make the changes happen.

Especially the aspect about emancipatory potential and how to develop alternatives provide important guidance on the future development of research on the business case of corporate sustainability. During my PhD project, I oriented my work as well as how I critically looked at the academic discipline based on the critique principles of the critical realism. Therefore, before suggesting and developing alternative views on it (research article 2 and 3), I intensively reviewed the field first (research article 1) to understand standpoints and sources of problems. Thereafter I identified alternative views, which I also emprirically explore and test to ensure their feasibility. Consequentially, the following section and the research articles should be considered under the critical realism paradigm.

1.4. Theoretical Positioning

1.4.1. The business case as an academic discipline

Prior to describing the academic discipline concerning the business case of corporate sustainability, first, it is necessary to briefly define what is understood by the individual key constructs: *corporate sustainability*, a *business case*, as well as the combined construct *the business case of corporate sustainability*. After that, a short historical overview[2] of the academic discipline itself will follow.

Corporate sustainability. Corporate sustainability builds on the concepts of sustainable development, which is commonly defined as "*meeting the needs of the present without compromising the ability of future generations*" (World Commission on Environment and Development (WCED), 1987). In this sense, sustainability in general aims at securing intergenerational equity and similar opportunities for present and future generations. Applied to businesses, this means that firms should be at least as profitable in the future as in the present and past, but ideally with opportunities and profits to growth. Hence *corporate* sustainability can be defined as "*the ability of firms to respond to their short-term financial needs without compromising*

[2] As the first research article is a very comprehensive literature review about this field, I will keep this section rather short and will focus on more general aspects, in order to introduce main aspects and the main points of departure for the three research articles.

their ability to meet their future needs" (Bansal & DesJardine, 2014, p. 71). Accordingly to the WCED's definition of sustainable development, corporate sustainability is understood as (i) a tridimensional construct integrating economic, environmental, and social dimensions in a triple-bottom line (Bansal, 2005; Dyllick & Hockerts, 2002; Montiel, 2008), (ii) represents intertemporal trade-offs of short-term and long-term aspects (Bansal & DesJardine, 2014; Dyllick & Hockerts, 2002), and (iii) requires to consume the income and not the capital basis (Dyllick & Hockerts, 2002).

Confusion often exists between corporate social responsibility (CSR) and corporate sustainability, in the sense of responsibility versus sustainability. Whereas CSR aims at creating value for business and society in the short-term, corporate sustainability considers more the long-term viability and alignment of micro- and macro-systems (Bansal & DesJardine, 2014). Consequently, corporate sustainability is seen more as an umbrella term that subsumes not only CSR aspects, but also main aspects of environmental management. During the last years, CSR and corporate sustainability seem to have converged and are used more and more interchangeably in literature and practice, even though CSR and corporate sustainability have divergent historical backgrounds and conceptual differences (Montiel, 2008; Van Marrewijk, 2003). Therefore researchers, like Montiel (2008), call for one merged construct that accounts for all environmental and social related issues in business and the management field. Based on this, I follow in this PhD project the notion of corporate sustainability, firstly, in order to account for firms that work towards becoming more responsible and sustainable, and, secondly, to support research that strives for a common definition favoring corporate sustainability as a strengthened overall umbrella term.

A business case. A business case is "*a pitch for investment in a project or initiative that promises to yield a suitably significant return to justify expenditures*" (Kurucz, Colbert, & Wheeler, 2009, p. 84). Thus, a business case grasps the reasoning for proposing a project in support of a particular business need. A formal business case adequately considers quantifiable characteristics and outcomes of initiated projects (Schaltegger & Wagner, 2006).

The business case of corporate sustainability. The business case of corporate sustainability covers the broad area of questions that address the relevance of voluntary environmental and social initiatives and actions to the success of a firm. It addresses the pitch that a firm can '*do well by doing good*'. Meaning a firm can perform well financially by focusing not only on its core business activities, but also by considering its responsibility to a better society (Kurucz et al., 2009;

Schaltegger & Wagner, 2006). Firms behave responsibly not only because managers become more public-spiritual and sustainability-conscious, but merely because managers believe that being more responsible and a better corporate citizen is a source of competitive advantage and, by that, cause a better financial performance (Vogel, 2006). Examining, theoretically and empirically, the business case of corporate sustainability has turned into an autonomous academic discipline with a primary focus on conceptualizing, specifying, and testing the relationship between corporate sustainability and corporate financial performance.

Brief outline of the academic discipline. The quest for finding financial bottom line related arguments and other beneficial reasons for businesses pursuing corporate sustainability initiatives and activities goes long back in history and has been increasingly developed over several decades (Carroll & Shabana, 2010; Linnenluecke & Griffiths, 2013). The 1960s and early 1970s were the 'awareness' eras of corporate sustainability issues. During this period the social consciousness of business owners changed and they started to recognize their overall responsibility for mainly ethical concerns, such as addressing community affairs, racial discrimination, and alleviation of poverty Carroll & Shabana, 2010). This changed awareness was primarily driven and motivated by external social consciousness and not by improved financial returns, and therefore criticism and questions arose with more time and resources spent. At that time Friedman triggered a still lively debate against this movement by stating: "*A corporate's social responsibility is to make profit*" (1970 (reprint from 1962)). Meaning, the only responsibility of a firm is to its shareholders and not to society in general. Friedman intellectually challenged the debate and, thus, an intense desire arose among researchers to find positive evidences for financial benefits from corporate sustainability initiatives and activities, in order to at least neutralize his statement. The first empirical study published was by Moskowitz (1972) who showed that corporate sustainability firms are good investments. Thus, the 1970s marked the beginning of the business case of corporate sustainability and discussions about the responsibility of businesses towards society, business legitimacy, and performance (Carroll & Shabana, 2010; Linnenluecke & Griffiths, 2013). In the 1980s, research on the link between corporate sustainability and corporate financial performance exploded and became a main item on the agenda. Early influential contributions from that time are Cochran and Wood (1984), Aupperle, Carroll, and Hatfield (1985), and Ullmann (1985). In the 1990s, the trend continued, but with growing international attention. More specifically, researchers have thematically focused mainly on aspects of environmental management and corporate citizenship.

Since the 2000s, the business case of corporate sustainability has become one of the four main academic disciplines in sustainability research (Linnenluecke & Griffiths, 2013) and an integral part of business practices. The majority of business leaders have accepted that there is a beneficial connection between corporate sustainability and corporate financial performance (Dyllick & Hockerts, 2002). Summarizing over the last decades the business case of corporate sustainability has moved from an ethical orientation and a macro-social level of analysis in the 1960s to a performance orientation and organizations as level of analysis until today.

However, even after more than 50 years of research in this academic discipline, no clear findings exist about how corporate sustainability improves the financial bottom line. Arguments pro and against the business case of corporate sustainability are still present as in the 1960s (Carroll & Shabana, 2010). Even though theoretical insights became more fine-grained and empirical qualitative and quantitative methods have improved, curiosity and inconclusiveness still exit regarding the potential link between corporate sustainability and corporate financial performance. Therefore over the last ten years, researchers (Barnett, 2007) have called for a more contingent view on underlying factors in this relationship and for a critical revision of existing measures and theories, in order to explain the 'disappointing' results. This is the point this PhD project takes up. Based on the increasing critique on the business case thinking and its academic discipline, I aim at providing alternative and more fine-grained views in order to move forward the academic discussion about corporate sustainability and its benefits. However, before continuing with the three research articles, I will briefly summarize the central aspects or points of missing concreteness which caused the recent criticism.

1.4.2. Missing concreteness: The direct relationship

After more than 50 years of inconclusive findings on the business case of corporate sustainability, it becomes more and more obvious that no universal business case exists and that there is no generalizable direct relationship between corporate sustainability (CS) performance and corporate financial performance (CFP) as such. However, the majority of studies indicate that high, proactive corporate sustainability performance is associated with increased corporate financial performance (Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013; Margolis & Walsh, 2003; Orlitzky, Schmidt, & Rynes, 2003). Also noted should be the different causal sequences, whether corporate sustainability leads to corporate financial performance, corporate financial performance leads to corporate sustainability, or both corporate sustainability and corporate financial performance exist

simultaneously. It is not within the scope of this PhD project to look closer at these causal differences, rather I follow the most often argued causal relationship in research and practice that corporate sustainability leads to corporate financial performance.

Previous research followed either a theoretical/-conceptual approach or an empirical approach to investigate the corporate sustainability - corporate financial performance relationship. From a *theoretical/-conceptual perspective* the direct link between corporate sustainability - corporate financial performance has been strongly embedded in and shaped by existing theoretical domains. The literature mainly refers back to key concepts and theories within the management discipline. Most often applied (Linnenluecke & Griffiths, 2013) are stakeholder theory, the resource-based view, and institutional theory. Little evidences exist of incorporating more micro-organizational level oriented management disciplines (Aguinis & Glavas, 2012; Salzmann, Ionescu-Somers, & Steger, 2005), such as Human-Resource Management, managerial and organizational cognition, as well as incorporating theoretical concepts from ecology, economy, and natural sciences (Linnenluecke & Griffith, 2013). Regarding *empirical studies* two streams exist- qualitative case studies and quantitative analyses (Orlitzky et al., 2003; Salzmann et al., 2005). Case study research is mainly dominated by success stories and best practices, which makes it difficult to generalize the findings and to apply them to other firms or industries. Quantitative analyses are either based on portfolio analyses, event studies, or multivariate analyses. Major critique regarding these approaches exists, on the one hand, because of less comparative studies (Orlitzky et al., 2003). The main focus has been on multi-industry U.S. samples. Certain geographical areas, such as Europe, and single industries or sectors are underrepresented. On the other hand, major critique exists concerning matching measures for corporate sustainability and corporate financial performance that cannot be linked theoretically (Wood & Jones, 1995). Table 1 presents a brief summarizing overview about theoretical and empirical approaches on the direct relationship between corporate sustainability and corporate financial performance with reference to the different causal sequences.

Table 1: Empirical findings and key theoretical concepts for the CS-CFP relationship (adapted from Preston and O'Bannon, 1997)

Causal sequence	**Direction of the relationship**			
	Positive link	*Neutral link*	*Negative link*	*inverted U-shape*
CS leads to CFP	Social impact hypothesis *(Cornell & Shapiro, 1987)*, stakeholder theory *(Freeman, 1984)*, resource-based view *(Hart, 1995)*	Supply and demand theory *(McWilliams & Siegel, 2001)*	Trade-off hypothesis *(Friedman, 1970 (reprint from 1962))*	Corporate optimum *(Lankoski, 2008)*
CFP leads to CS	Slack resource theory *(Waddock & Graves, 1997)*		Managerial opportunism *(Preston & O'Bannon, 1997)*	
CS and CFP contemporaneous	Positive synergy *(Waddock & Graves, 1997)*		Negative synergy (*Preston & O'Bannon, 1997)*	

Abbreviations: CS = Corporate sustainability, CFP = Corporate financial performance

1.4.3. Missing concreteness: Measuring corporate sustainability performance

Inconsistencies in analyzing the influence of corporate sustainability on corporate financial performance can be attributed to differences in conceptualizing and measuring corporate sustainability (Orlitzky et al., 2003). On the one hand, corporate sustainability is not a generally defined construct and thus difficult to measure. Applying the concept of corporate sustainability *performance*[3] is one way of putting corporate sustainability into practice and making it measureable. However, on the other hand corporate sustainability performance is a broad meta-concept and no consensus exists on what should be included in measuring corporate sustainability performance, because it is relevant on different levels outside and inside the firm (van Beurden & Gossling, 2008).

Divergent views exist on the central concept of corporate sustainability performance. The first concept was introduced by Carroll (1979) based on the principle of CSR. According to him, corporate sustainability performance is a tri-dimensional construct, referring to specifying the nature of social responsibility, social issues, and social responsiveness. Wood (1991) revised this definition and defined corporate sustainability performance as: *"a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies,*

[3] It should be noted that in this PhD project I apply the concept of corporate sustainability and consequently corporate sustainability performance. This should not be confused with corporate social performance (CSP) that is related to CSR, which is subsumed under corporate sustainability. Therefore, when considering and including aspects of corporate sustainability performance, I do not only refer to studies on CSR and CSP, but also on environmental management and corporate environmental performance, as well as related constructs. More details on these differences can be found in research article 1.

programs, and observable outcomes as they relate to the firm's societal relationships." (1991, p. 693). Thus, Wood examines corporate sustainability performance based on principles, policies, and outcomes. Both Carroll's and Wood's definitions are highly cited, but they are not understood as standards. They only provide the foundation for further theoretical advancements and initiatives for research between corporate sustainability and corporate financial performance. Summarizing, conceptually corporate sustainability performance assesses a firm's general stance and actions towards a complex range of concerns relevant to the economic, environmental, and social dimensions of a firm's surrounding business and natural environment.

As corporate sustainability performance attempts to make corporate sustainability suitable for objective measurements, but no theoretical or conceptual consensus has been found yet, different methodological approaches exist. They all have in common that corporate sustainability performance is a multi-dimensional construct that measures organizational behavior and actions across a wide range of dimensions on different organizational levels (van Beurden & Gossling, 2008). However, four main measurement strategies can be distinguished according to Orlitzky et al. (2003): (i) disclosure measures, (ii) reputation rankings, (iii) audits, written reports, observable outcomes, (iv) managerial perception and principles (for instance surveys). Most often applied are reputation rankings and disclosure measures. The most widely known measure for corporate sustainability performance is the Kinder, Lydenberg, Domini (KLD) social performance index (Carroll & Shabana, 2010). Based on 12 areas the KLD database covers environmental, social, and governmental issues, as well as controversial business issues, in order to indicate the presence of societal and stakeholder concerns in a firm. However, the problems with KLD are that the firms included are U.S. centric, it lacks nomological and construct validity (Sharfman, 1996), and no specific theory was used to develop the database (Carroll & Shabana, 2010). Therefore alternative measurement frameworks and databases have gained more attention within the last years, such as GRI guidelines, Oekom, and Dow Jones Sustainability Index (DJSI). Nonetheless, all these reputation rankings and disclosure measures have in common that they abstract corporate sustainability thinking and engagement from business operations, in order to understand it better and to measure it easier. What is missing is an integrated concept of assessing corporate sustainability in relation to a firm's business activities as well as managerial principles and values. More research is needed that moves away from measuring only observable outcomes, and instead considers managerial principles, values, and cognitive aspects behind corporate sustainability thinking and strategies. Summarizing, inconclusive findings on the business case of corporate

sustainability can be attributed to missing concreteness in theoretical and methodological approaches of corporate sustainability and corporate sustainability performance.

1.4.4. Missing concreteness: Measuring corporate financial performance

Object of past criticism about the fallacy of the business case of corporate sustainability has also been the poor measurements for corporate financial performance. One reason for the problem is that the right choice of the measurements for corporate financial performance has been overlooked as most researchers often used a convenience choice, meaning they picked those measurements that were known to them or easy to get access to (Griffin & Mahon, 1997). With the word of Aupperle and his colleagues: *"assessing profitability is a relative clear-cut process, but assessing social responsibility is not"* (1985, p. 446). However, this is not the case for those two meta-constructs. Choosing the right measurement for corporate financial performance is as important as for corporate sustainability performance. Some measurements represent short-term financial performance while others represent long-term financial performance; respective some are more backward-looking and others are forward-looking.

Another problem with assessing corporate financial performance is the lack of consistency and the use of multiple indicators to measure it. Similar to the existing critique of inconsistency and missing concreteness in measuring corporate sustainability performance, the same applies to measuring corporate financial performance. More than 80 different financial measurements have been used so far, whereby over 70 percent of those measurements were used only once (Griffin & Mahon, 1997). Yet, without a repetitive use of measurements no validity or reliability check of the finding is possible. Most often used are market-based and accounting-based financial measurements; less used are perceptual measurements based on magazine ranking or managerial surveys (Orlitzky et al., 2003; Peloza, 2009). Market-based measurements relate to shareholder wealth and can be represented by, for instance, stock performance, market return, market value to book value, and share price. Market-based measurements reflect the notion that shareholders are the primary stakeholder groups of concern, because their perception determines a firm's success or faith. Basically, stock market participants qualify a firm's stock price and market value based on their perception of the firm's past, present, and future performance (Orlitzky et al., 2003). Thus, market-based measurements represent external market response to organizational activities through reputation benefits and reduced risk perception. However, the problem with market-based measurements is that the value of corporate sustainability relies on salient stakeholders who assess

either a positive or negative value to organizational activities. Hereby corporate sustainability initiatives are part of thousands of other firm initiatives unrelated to corporate sustainability. Therefore, market-based measurements provide only limited meaningful guidance for managers and researchers to assess the financial benefits of corporate sustainability (Peloza, 2009). As a result, market-based related studies tend to show more negative findings or with only marginally significant positive results (Dixon-Fowler et al., 2013; Griffin & Mahon, 1997; Peloza, 2009; van Beurden & Gossling, 2008).

Accounting-based measurements, such as profitability, asset utilization, and growth, reflect internal efficiency and decision-making capabilities. They capture more unique and unsystematic firm attributes (McGuire, Sundgren, & Schneeweis, 1988). Accounting-based measurements are subject to managers' allocation of resources and capital to projects and hence assess in this way also past managerial performance (Orlitzky et al., 2003). Compared to market-based measurements, accounting-based measurements show a larger correlation to corporate sustainability performance measurements (53 percent compared to 70 percent) (Peloza, 2009), because they are associated with high social responsibility (McGuire et al., 1988). However, accounting-based measurements are less used than market-based measurements. This might be due to a lack of accessibility or subsequent biases. Accounting-based measures can be subject to managerial manipulation, differences in accounting-procedures, or industry characteristics (McGuire et al., 1988).

Summarizing, the right choice of financial measurement is as crucial for assessing the business case as the right measurement for assessing corporate sustainability performance. Problems of missing concreteness occur, because of convenient measurement choices or unawareness of what the individual measurements represent. Thus, the fallacy of the business case of corporate sustainability can also be attributed to theoretical and methodological disagreement about corporate financial performance as the dependent variable.

1.5. Research methodology, method, and design

Critical realism is compatible with a wide range of research methods and not as other research paradigms limited to either a quantitative or a qualitative based method and design. This implies, however, that the choice of the particular method and research design depends on the nature of the study's object and the study's aim. Rather than giving explicit advices on which method and design to apply, critical realists allow flexibility and only require scholarly knowledge of the academic

discipline and objects of interest (Sayer, 2000). Based on these requirements and the overall research question of this dissertation, I adapted as research method a survey based on a quantitative methodology. Two of the dissertation's research articles are empirical[4] and both are based on a comprehensive survey conducted in 2014 in Denmark. In the following, I provide a short overview of the applied research method and design. As the survey method and the content-specific applied analyses are described in detail in the two research articles, I will in this section specifically focus more on the general design of the survey and the descriptive analysis of the firm characteristics.

1.5.1. Survey method

Empirical setting and sampling. Information on the firm's corporate sustainability management and the top management's perspective on a firm's social and environmental issues and activities have been collected through an online-based questionnaire in Denmark in 2014. From the national firm registration database I extracted a sample of manufacturing firms with more than 100 employees. I focused only on manufacturing firms, because I was interested in the integration of corporate sustainability throughout a firm's complete value chain activities. Considering also that service firms would not have led to the desired results, because there are a number of important differences between the management of manufacturing and that of service firms, such as production strategies, assessing effectiveness and efficiency, as well as the diversity of environmental and social concerns (Bowen & Ford, 2002). The reason why I considered Denmark as an interesting empirical setting and firms with more than 100 employees is, that Denmark is one of the leading countries with a high standard of and active position towards corporate sustainability (Strand, Freeman, & Hockerts, 2015; UNEP, 2015). In 2009, Denmark introduced in the Danish financial reporting law the voluntary requirement that the 1100 largest firms need to report on corporate sustainability[5]. Even though the quality of reporting remains different, this voluntary requirement has had an overall positive effect towards a business-driven corporate sustainability approach in Denmark (Strand et al., 2015; UNEP, 2015). Therefore, I focused in the survey only on the largest manufacturing firms, as these firms should show a high awareness and managerial interest in corporate sustainability due to the national requirement.

[4] The first research article is a systematic literature review. The applied design of the literature search is explained in detail in the research paper itself. Therefore I focus in this section only on the research methodology, method, and design of the two empirical research articles and the common underlying survey.

[5] The Danish Action Plan comprises §99a and b, which require a firm to report about its corporate sustainability policies, implemented actions, and results. There are no specific requirements on the content and degree of those reported information. Corporate sustainability is still seen as voluntary for firms, but if a firm has no corporate sustainability policy it needs to state information to that effect explicitly.

Response rate. The final survey sample consisted of 301 manufacturing firms in Denmark. In order to identify the main responsible person for corporate sustainability at each firm, I called all 301 firms before sending out the questionnaire. With partial help of a student assistant, I approached each firm, in order to explain the purpose of the survey, to get the firm's acceptance to participate, and to identify the key person in the top management responsible for corporate sustainability. After a period of two months I received 124 valid and useable questionnaires[6]. This represents a response rate of 41.20 percent, which is a satisfying result and higher than the average response rate of 35.7 percent for studies with a survey approach directed at the top management (Baruch & Holtom, 2008). Regarding the distribution of the non-responding firms no bias could be found for common organizational characteristics, in particular size of the firm, geographical location, and financial performance in 2014. However, one possible lack of validity could be that non-responding firms have in general another perception of and attitude to corporate sustainability compared to responding firms. Whether this is the case is not known; but if so, then the presented results in this dissertation might overestimate the level of the actual situation.

Questionnaire design. The questionnaire used in the survey was structured according to the main topics of the business case identified through the comprehensive systematic literature review and the objects of the empirical studies. The topics included in the questionnaire are (i) *scope of corporate sustainability activities*, (ii) *corporate sustainability integration*, (iii) *organizational capabilities*, (iv) *organizational performance*, and (v) *general socio-economic questions* about the firm and the respondent. Within each topic, more specific questions were formulated based on appropriate existing literature. The questionnaire was based on an ordinal scale (Cox III, 1980; Hinkin, 1995), ranging from 1 (not at all) to 5 (a very great extent), or respective a 5-point-Likert scale ranging from 1 (decreased a lot) to 5 (increased a lot). With the given answers, respondents expressed their perceived level of agreement/-disagreement (Likert scale) or perceived level of impact (ordinal scale). A focus group meeting with MBA students and the consultation of five senior researchers were done before sending out the questionnaire, in order to get feedback on the questionnaire and to ensure understanding, reliability, and content validity of the questionnaire (Hinkin, 1995). The complete final questionnaire can be found in appendix A.

[6] For the second research article I could use all 124 questionnaires, whereas for the third research article I could only use 119 due to limited access to the firms' financial data, which was extracted from the national online platform virk.dk. Virk.dk has the largest and oldest collection of financial and annual reports for all registered firms in Denmark.

1.5.2. Descriptive analysis

As an introduction to the more specific and more detailed analyses conducted in the two research articles, the following section provides a descriptive analysis about the socio-economic characteristics of the responding firms.

Based on the results split by industry (see Figure 1) and firm size (see Figure 2), the responding firms represent the overall business structure in Denmark very well. Ten of the 12 main industries in Denmark are represented, whereas "Metal and machine industry" (30.65 percent) and "Food, beverages and tobacco industries" (20.16 percent) represent the largest group. "Electricity, gas, heating and water supply" (2.42 percent) and "Paper and graphical industry" (2.42 percent) represent the smallest groups. No representatives from the "Stone, clay and glass industry" and "Textile and clothing industry" participated in the survey. This represents well the actual concentration of manufacturing industries in Denmark (Statistics Denmark, 2015). Regarding the firms size (number of employees in 2014) the respondents represent a diverse spectrum, ranging from 100 up to 5000 and more. The main representative groups are "100-249 employees" (40.32 percent) and "250-499 employees" (23.39 percent). This reflects quite well that the majority of Danish firms are relatively small and medium-sized, compared to other western countries. Only a few very big firms exist with more than 5000 employees. The largest firm that participated had almost 90,000 employees in 2014.

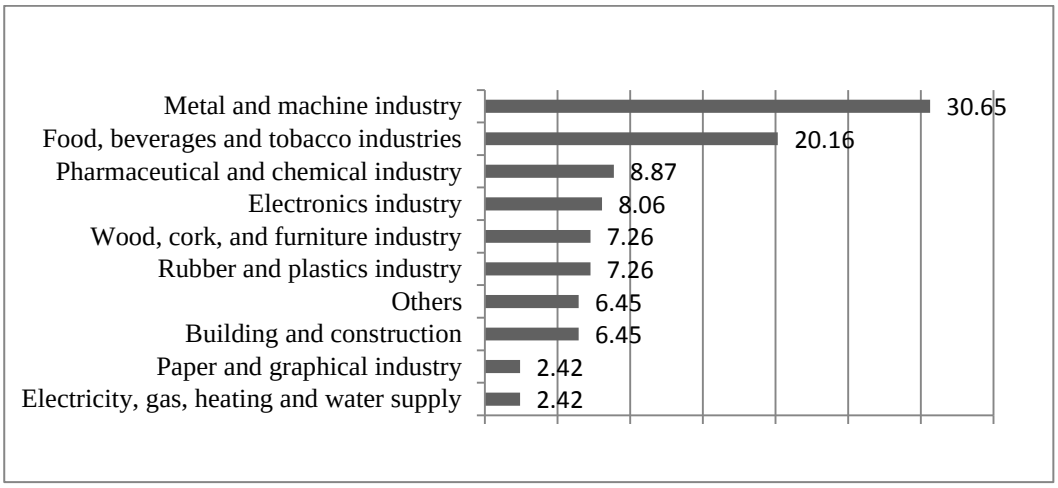

Figure 1: Represented industries in the survey sample (in percent)

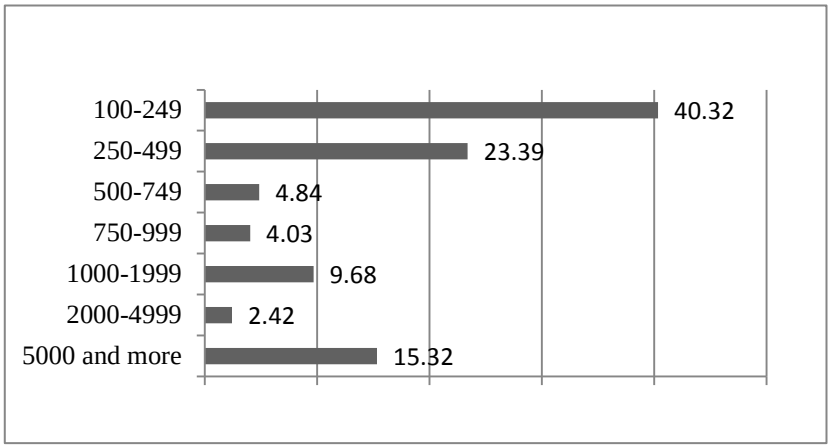

Figure 2: Represented firm sizes (number of employees) in the survey sample (in percent)

Diverse is also the spectrum of the firms' age (see Figure 3); ranging from minimum 5 years to more than 200 years. Thus, both relatively young firms and very traditional firms are represented in the sample of respondents. However, the median of the sample is 59 years.

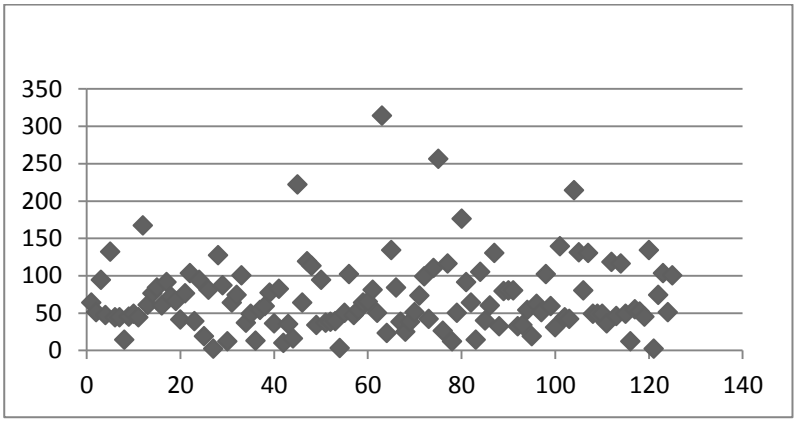

Figure 3: Represented firms and their age in the survey sample

As mentioned earlier, one of the aims of contacting the firms beforehand was to establish contact with the person most knowledgeable and mainly responsible for sustainability issues in the firm. The overview of the respondents' organizational positions (see Figure 4) shows that the majority had a position as division heads (25 percent) and the minority as group heads (12.10 percent). This might indicate the importance and rank of corporate sustainability in each firm.

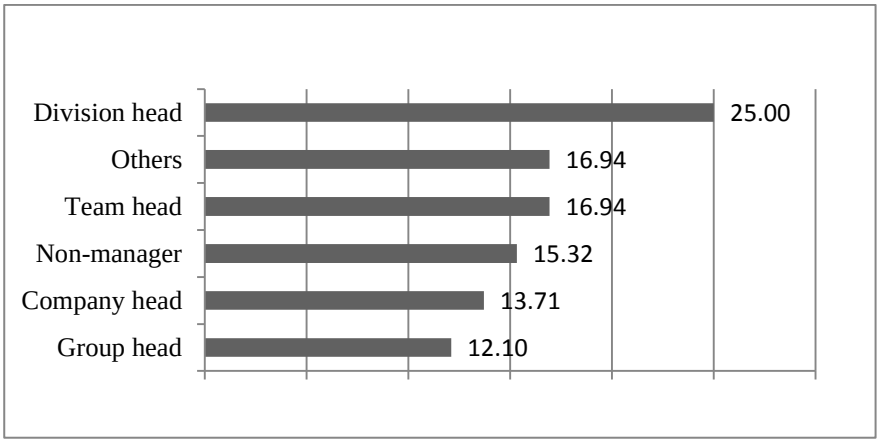

Figure 4: Represented organizational positions of respondents in the survey sample (in percent)

Interesting to note is also the distribution of divisions (see Figure 5) the respondents have been affiliated with. Besides a certain amount of respondents who could not assign themselves with the given answer options (Others 34.68 percent), the second most mentioned answer was CSR division (19.35 percent). Least often mentioned are the procurement (0.81 percent) and accounting divisions (1.61 percent). These results show, on the one hand, that corporate sustainability has a high status in general, as most firms have either their own CSR divisions or corporate sustainability is affiliated with main divisions, such as the marketing or human resources. However on the other hand it also shows a very diverse picture and that it is not easy to identify a firm's most knowledgeable person for corporate sustainability. Therefore it was a necessary step to contact each firm beforehand.

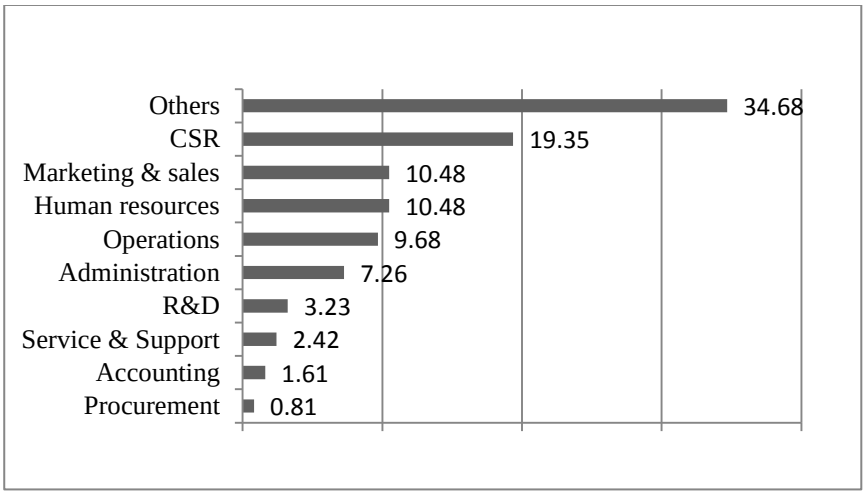

Figure 5: Represented organizational divisions of respondents in the survey sample (in percent)

How the subjects and responses have been treated and analyzed specifically will be described in more detail in the subsequent research articles.

1.6. Overview of the research articles

As presented earlier, the general research questions of this dissertation investigate the relevance of the business case in corporate sustainability and aims at presenting alternative views on this, in order to move forward this academic discipline. Guided by the critical realism research paradigm and its principles of providing critique and alternative views, I structured the three research articles accordingly. With the first research article I provide a comprehensive overview on the field through a systematic literature review. Based on these findings or identified sources of problems in this academic discipline, research article 2 and 3 aim at suggesting and exploring alternatives to overcome existing shortcomings and the previously described areas of missing concreteness. In the following, I shortly present the content of the three research articles individually, how they address the overall research question of this dissertation, and how they contribute to literature. At the end I present a tabulated overview and summary of the three research articles.

1.6.1. Research article 1 – Summary and status

"When does it pay to be good? Moderators and mediators in the corporate sustainability–corporate financial performance relationship: A critical review" (by Grewatsch & Kleindienst, 2015)

Motivated by the omnipresent research question '*When does it pay to be good?*' and by the fragmented knowledge about the business case of corporate sustainability, the intention of this research article is to provide some clarity on the relationship between corporate sustainability – corporate financial performance. In particular, we are interested in a contingency perspective on this much-researched relationship, because underlying factors such as moderators and mediators have been overlooked in the quest for finding a general direct relationship.

In order to identify the literature, we applied a systematic search of studies published in highly ranked management and sustainability journals. For the search itself we used major databases, such as Business Source Complete, Web of Science, and Science Direct, and looked at the period between 1972 and 2013. Based on a broad set of keywords we identified a total of 274 potential studies, which we narrowed down through an iterative process to 32 studies. The analysis and review of the 32 studies focused on several characteristics, such as applied constructs, main

arguments, research settings, and findings. Overall, we reveal in our systematic literature review that this research stream has made some progress in the past. However, we also find this research stream to be characterized by three major shortcomings, namely a low degree of novelty, missing investment in theory building, and a lack of research design and measurement options. To address these shortcomings, we suggest moderators and mediators for future research. Beyond that, we also argue for a stronger emphasis on the strategic perspective of corporate sustainability and a higher integration of the corporate sustainability–corporate financial performance relationship into the strategic management literature.

Regarding the general management and sustainability literature, this research article contributes with a more systematic and critical understanding of contingencies, in terms of moderators and mediators, in the corporate sustainability–corporate financial performance relationship. The detailed overview provided aims at summarizing the recent status quo as well as at providing valuable ideas for future directions in this academic discipline. Regarding the PhD dissertation, this literature review is of major importance. It provides a detailed summary of the business case of corporate sustainability, with a particular focus on the indirect relationship between corporate sustainability and corporate financial performance. Through its critical standpoint and the revealed weaknesses of this academic discipline, this literature review sets the foundation for the following two research articles with the intention to facilitate moving beyond the business case thinking.

Regarding the status of research article 1, this systematic literature review has been finally accepted at the *Journal of Business Ethics* in September 2015 and is available online. During the review process, this research article was also presented at the Performance Management Association (PMA) conference in June 2014 in Aarhus (Denmark).

1.6.2. Research article 2 – Summary and status

"Corporate sustainability and the effect on organizational capabilities: A cognitive perspective"
(by Grewatsch & Kleindienst, 2016)

Previous research on the business case of corporate sustainability has mainly focused on measuring corporate sustainability through activities and initiatives of firms. Probably driven by convenience and accessibility, most often the KLD database was used to gather data about a firm's

corporate sustainability performance. At the same time and because of similar reasons a firm's financial performance has mostly been applied as the dependent variable in order to assess the benefits of corporate sustainability. Therefore, the missing concreteness of the independent as well as the dependent variable in this relationship remained unquestioned. In this research article we want to address alternative measurements for assessing the benefits of corporate sustainability, in terms of organizational capabilities and based on the theoretical background of organizational cognitive frames. We suggest evaluating corporate sustainability in terms of its relative importance in a firm's organizational cognitive frame. Through this cognitive perspective it also becomes less appropriate to consider financial performance as the dependent variable, rather more valuable and insightful is the development of organizational capabilities in a firm. Organizational capabilities are a necessary pre-condition for achieving a competitive advantage and superior financial performance.

In order to assess the perceived relative importance in an organizational cognitive frame, we conducted a survey among 301 manufacturing firms in Denmark. As top managers are the ones who mostly influence and shape a firm's prevailing organizational cognitive frame, we approached representatives of the top management in each firm. Based on their answers we can identify to what extent corporate sustainability is perceived as important and integrated in a firm and throughout its strategic decision-making processes in main business activities. Through applying a partial least squares (PLS) structural equation model, we can show the effects of corporate sustainability, in terms of its relative importance, on four different organizational capabilities.

Regarding the management and sustainability literature, as well as the overall aim of the PhD project, this research article contributes in multiple ways. First, this research article provides alternative measurements for assessing the benefits of corporate sustainability. Second, it steps away from the usually applied theories by adopting a cognitive lens on the academic discipline. Lastly, it presents unique data from Denmark. In this way, we aim at addressing the identified shortcomings resulting from the systematic literature review (research article 1).

Regarding the status of research article 2, a previous version of the manuscript was presented at the BSV Seminar at IVEY Business School (Canada) in Winter 2014/2015 as well as at the Annual Meeting of the Academy of Management in Vancouver (Canada) in August 2015 (available as AOM proceedings). The previous version was also under review at the *Strategic Management*

Journal, but was not accepted in the end. Based on the received comments we profoundly revised the research article and the current version of the manuscript is under review at *Long Range Planning*.

1.6.3. Research article 3 – Summary and status

"Between business case and paradoxical frame: Different management approach but same financial implications" (by Grewatsch, 2015)

In order to overcome the predominance of the business case thinking in corporate sustainability and its shortcomings of the underlying instrumental logic (Gao & Bansal, 2013), researchers have recently encouraged to follow more integrative cognitive perspectives on corporate sustainability. Most prevailing in this discussion is the suggestion of the paradoxical organizational cognitive frame, as the corresponding counterpart to the business case organizational cognitive frame (Hahn, Preuss, Pinkse, & Figge, 2014; Van der Byl & Slawinski, 2015). The main difference between the two cognitive frames lies in the way how the inherent tensions in corporate sustainability are embraced and acknowledged in a firm. As little is known about whether these two organizational cognitive frames actually exist in practice, and if so, how decision-makers then deal with tensions between economic, environmental, and social concerns, this research article addresses this gap. I investigate the differences in managerial practices and financial performance between the business case and the paradoxical organizational cognitive frame. The aim of this research article is to support alternative, viable perspectives on the business case thinking and to reveal how they are experienced and managed in practice.

In this research article, I am interested in finding large-scale evidences from practices on different managerial aspects between the business case and the paradoxical organizational cognitive frame. Based on a survey among 301 manufacturing firms in Denmark, I could classify the responding 119 firms into two distinct clusters of firms; thus representing the business case and the paradoxical organizational cognitive frame. Building on these two clusters, I applied tests of differences in order to compare differences in managerial practices and the financial performance. The results showed significant differences between the prioritization of issues, organizational orientation, and strategic intentions. Additionally I compare the financial performances of both organizational cognitive frames, but without significant results. The applied organizational cognitive frame had no effect on the financial performance.

Regarding the management and sustainability literature, this research article provides a more fine-grained picture of organizational cognitive frames in corporate sustainability and a better understanding of how they are realized in practice. Of great interest hereby are the similar findings for several financial performance indicators, which seem to make both organizational cognitive frames equally profitable. This challenges the predominant thinking of the economically-driven business case organizational cognitive frame. Regarding the PhD dissertation, this research article contributes by empirically exploring a viable alternative view on the business case of corporate sustainability. In particular the cognitive perspective on corporate sustainability offers a more sophisticated picture of the dependent variable in this relationship; detached from past considerations of only sustainability activities and initiatives in a firm.

Regarding the status, research article 3 has been under review at the Journal of Business Ethics. It was submitted autumn 2015 to the special issue *"Paradoxes in corporate sustainability: Managing tensions between social, economic and environmental issue".* A previous version of this manuscript was presented at the Annual Meeting of the Academy of Management in Vancouver (Canada) in August 2015.

The following Table 2 presents a short overview and summary of the three research articles.

Table 2: Overview and summary of the three research articles

	Aspect of the business case	Research question	Research approach	Main argument	Findings
Paper 1: Moderators and mediators in the CSP-CFP relationship	Main relationship	When does it pay to be good?	*Design* Descriptive Inductive Theory elaboration *Method* Systematic literature review *Data* 32 research articles	More research needs to be done to investigate underlying factors in the direct CS-CFP relationship	Missing investments in: i) degree of novelty, ii) missing investment in theory building iii) lack of research design and measurement options
Paper 2: The effect of CS on capability development	Dependent and independent variable	How does corporate sustainability direct the development of organizational capabilities?	*Design* Explanatory Deductive Theory testing *Method* Quantitative PLS-SEM *Data* Survey data Sample 301 firms	If the relative importance of CS in a firm's prevailing organizational cognitive frame is high, then CS issues are conceptualized along an opportunity/threat dichotomy, which directs the development of organizational capabilities	Positive effect on: i) collaboration ii) market sensing iii) organizational learning Marginal negative effect on: iv) strategic planning
Paper 3: Cognitive frames of CS	Independent variable	How do top managers address and make sense of tensions among economic, environmental, and social issues under the business case and the paradoxical frame? What implications do these managerial differences have on financial performance?	*Design* Explorative Deductive Theory elaboration *Method* Quantitative Cluster analysis, t-test *Data* Survey data Sample 301 firms	Different cognitive frames apply different managerial approaches towards tensions in CS, which might result in differences in financial performance	Significant managerial differences between CS cognitive frames in: i) Issue prioritization ii) Organizational orientation iii) Strategic intention No significant differences in: iv) Financial performance

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1.8. Appendix A

Complete final questionnaire applied in this dissertation

Strategic Corporate Sustainability
In Danish Manufacturing Firms, 2014

Introduction

Thank you in advance for taking the time to complete this survey, by Aarhus University, Department of Business Administration and co-founded by COWIfonden. The survey focusses at Danish manufacturing firms to get information on how Corporate Sustainability affects a firm's organizational performance. In particular, the interest is on the strategic application and integration of Corporate Sustainability. The information will be used to improve the understanding of Corporate Sustainability as a strategic tool to create value for a firm and to create a competitive advantage

This survey should take you 15 minutes to complete. None of the information you provide can be traced back to you so all your responses will be anonymous, accessed only by the research team, and reported in aggregated results.

If you would like a summary of our findings, you will be able to enter your email address at the end of the survey. Your email address will be gathered separately from your responses to protect your anonymity.

If you have questions about the survey, please contact PhD researcher *Sylvia Grewatsch, sylgr@badm.au.dk.*

Please click on the button below to begin the survey.

AARHUS UNIVERSITY

COWIfonden

Guidelines

Please note: If your firm has several different business units, please base your answers on the main activity/business unit of the firm. The person who fills in the questionnaire should regard him/herself as the firm's representative and should answer the questions on behalf of the firm.

On the last page of the survey, there is space where you can add any comments you may have related to the subject.

Corporate Sustainability – Introduction

Corporate Sustainability (CS) is understood as a business approach that aims at creating long-term value for the firm by incorporating economic, environmental and social dimensions into a firm's core business decisions. More broadly, it is referred to as the efficient use of resources and generation of wealth so as to contribute to a healthy economy, society and natural environment.

Corporate Sustainability might be given another label at your firm, like corporate responsibility, corporate social responsibility, environmental management, environmental health and safety, corporate citizenship, or any other related term. Regardless of the label used at your firm, please answer the following questions about Corporate Sustainability based on your firm's understanding about economy, environment and society related activities. To avoid any misunderstandings, the term '*sustainability'* will be used in the following.

Section 1: The Firm's Scope of Sustainability Activities

Q. 1 Sustainability activities cover a broad range of different aspects. To get an overview about what is of relevance for your particular firm, indicate the extent to which your firm emphasizes the following sustainability related aspects. (*Please answer **all** aspects.*)

	not at all	to a lesser extent	to some extent	to great extent	to very great extent
Economy					
Economic growth	1	2	3	4	5
Shareholder value	1	2	3	4	5
Taxes paid	1	2	3	4	5
Fair pricing policy	1	2	3	4	5
Investor relations	1	2	3	4	5
Employment creation	1	2	3	4	5
Environment					
Air	1	2	3	4	5
Water	1	2	3	4	5
Energy	1	2	3	4	5
Waste	1	2	3	4	5
Biodiversity	1	2	3	4	5
Land	1	2	3	4	5
Society					
Labour practice	1	2	3	4	5
Community impact	1	2	3	4	5
Human rights & business ethics	1	2	3	4	5
Stakeholder practice	1	2	3	4	5
Employees practices					
Product responsibility	1	2	3	4	5

Q. 2 Please indicate the relative importance top management places on the three main areas of sustainability activities. *(Distribute points from 1-100, so that the sum of the three areas will lead to 100.)*

Economy ……
Environment ……
Society ……
(100)

Q. 3 Please state approximately the years your firm is engaged in sustainability

activities. Years of engagement: ……

*If you have experiences for more than three years, how has the firm's sustainability engagement evolved over the last three years? *(Choose **one** option only.)*

Decreased……..….1
Not changed……..….2
Increased……...….3
If increased, please specify which major changes have taken place: ……..

Q. 4 Each firm has its own approach towards the management of responsibilities for sustainability activities. It can be that there is only one person responsible for sustainability activities, a team, an autonomous department, the top management or external consultants. Please state briefly who has responsibility for sustainability activities at your firm?

Q. 5 Please indicate the extent of your firm's orientation towards sustainability concerns. (*Please answer **all** aspects.*)

	not at all	to a lesser extent	to some extent	to a great exten	to a very great
In our firm, sustainability is widely recognized as a very important activity.	1	2	3	4	5
In our firm, colleagues working with sustainability are widely recognized as a very important part of our organization.	1	2	3	4	5
In our firm, the sustainability program is highly	1	2	3	4	5
In our firm, the top management team is personally committed to the development of our sustainability program.	1	2	3	4	5
In our firm, the top management team clearly communicates their commitment to the sustainability program	1	2	3	4	5
In our firm, CS success is actively celebrated.	1	2	3	4	5

Section 2: Corporate Sustainability Integration

Q. 6a Please indicate the extent to which sustainability concerns are included in carrying out the following activities in your firm? (*Please answer **all** aspects.*)

	not at all	to a lesser extent	to some extent	to a great extent	to a very great extent
Defining the firm's mission and goals	1	2	3	4	5
Formulating and implementing the firm's strategy	1	2	3	4	5
Deciding about the competitive strategy	1	2	3	4	5
Making decisions about investments in general management projects	1	2	3	4	5
Setting the firms top 20 Key Performance Indicators (KPI)	1	2	3	4	5
Reporting about the firm's performance to shareholders	1	2	3	4	5
Assigning responsibilities and announcing leaders	1	2	3	4	5
Discovering and developing valuable new products, services and processes	1	2	3	4	5
Assessing the product's impact at all stages of its life cycle	1	2	3	4	5
Managing the combination of all products and services the firm offers	1	2	3	4	5
Managing and directing the physical aspect of business operations (e.g. workplace assessment)	1	2	3	4	5
Managing and directing the technical aspects of the firm's production and manufacturing operations (e.g. investments in new equipment)	1	2	3	4	5
Managing technical support and customer service	1	2	3	4	5
Assessing the performance and progress of top managers (e.g. compensation and benefit scheme)	1	2	3	4	5
Offering training & development of top managers	1	2	3	4	5
Internal communication across different hierarchy levels	1	2	3	4	5
Recruiting and hiring new employees at the top management level	1	2	3	4	5
Setting and representing the firm's collective values, believes and behavior at the top management level	1	2	3	4	5

Q. 6b Please indicate the extent to which sustainability concerns are included in carrying out the following activities in your firm? (*Please answer **all** aspects.*)

	not at all	to a lesser extent	to some extent	to a great extent	to a very great extent
Identifying new customers	1	2	3	4	5
Developing, maintaining and enhancing customers' loyalty (e.g. loyalty programs)	1	2	3	4	5
Developing and executing advertising programs	1	2	3	4	5
Customizing of products	1	2	3	4	5
Establishing and maintaining mutual steady communication with all customer groups	1	2	3	4	5
Developing and executing common focus and goals, and sharing of risks and rewards with first tier suppliers	1	2	3	4	5
Communicating with first tier suppliers	1	2	3	4	5
Cooperating with first tier suppliers (e.g. integration of processes, coordination of similar activities)	1	2	3	4	5
Purchasing of production material and services (e.g. considering the effect on human health and the environment)	1	2	3	4	5
Transporting products and other goods and materials for the firm's operations	1	2	3	4	5

Q. 7 What is the purpose of applying sustainability activities in your firm? (*Please answer **all** aspects.*)

	not at all	to a lesser extent	to some extent	to a great extent	to a very great extent
Sustainability is used to reduce costs	1	2	3	4	5
Sustainability is used to enable higher prices and margins	1	2	3	4	5
Sustainability is used to enter new customer markets	1	2	3	4	5
Sustainability is used to differentiate from competitors	1	2	3	4	5
Sustainability is used to reduce business risks (e.g. conflicts with stakeholders, market acceptance)	1	2	3	4	5
Sustainability is used to increase sales volume in existing markets	1	2	3	4	5
Sustainability is used to increase costumer value through customized products	1	2	3	4	5
Sustainability is used to do something good for society and the environment	1	2	3	4	5
Sustainability is used to improve the firm's reputation	1	2	3	4	5
Sustainability is used to attract more investment from the financial market	1	2	3	4	5

Section 3: Strategic Capabilities

Strategic capabilities are defined as *'complex bundles of skills and accumulated knowledge that enable a firm to coordinate activities and make use of their assets',* in order to create economic value and sustain competitive advantage. Various kinds of strategic capabilities can be identified in business. For example technological, product development, manufacturing, and logistics capabilities allow a firm to keep costs down and/or differentiate its offerings

Q. 8 Please indicate how the following strategic capabilities have developed over the last three years in your firm? (*Please answer **all** aspects.*)

	decreased a lot	decreased	no changes	increased	increasing a lot
Creation of durable relationships with customers	-2	-1	0	1	2
Creation of durable relationships with suppliers	-2	-1	0	1	2
Creation of durable relationships with distributors	-2	-1	0	1	2
Ability to retain customers	-2	-1	0	1	2
New product development	-2	-1	0	1	2
Resource efficiency and process improvements	-2	-1	0	1	2
Quality control skills of the production process	-2	-1	0	1	2
Ability to anticipate and adapt technological changes related to production technology	-2	-1	0	1	2
Knowledge of customers	-2	-1	0	1	2
Knowledge of competitors	-2	-1	0	1	2
Effectiveness of advertising programs	-2	-1	0	1	2
Effectiveness of pricing programs	-2	-1	0	1	2
Facilitation of internal cross-department integration (e.g. shared activities and processes)	-2	-1	0	1	2
Facilitation of internal communication (across departments and levels of the organization)	-2	-1	0	1	2
Facilitation of external communication (across suppliers, customers, channel members)	-2	-1	0	1	2
Facilitation of organization wide learning (among a wide range of employees)	-2	-1	0	1	2
Facilitation of collaborative problem solving (e.g. market knowledge, new product development)	-2	-1	0	1	2
Control of costs and keeping them on a low level	-2	-1	0	1	2
Raising and budgeting capital (long-term capital as well as short term assets)	-2	-1	0	1	2
Managing human resource (e.g. employee engagement, morale and motivation, talent management)	-2	-1	0	1	2
Accuracy of profitability and revenue forecasting	-2	-1	0	1	2
Long-term strategic planning processes	-2	-1	0	1	2
Integrated logistics systems (among suppliers, the firm, distributors and customers)	-2	-1	0	1	2

Section 4: Organizational Performance

Q. 9 In your opinion, please rate how well your firm has performed to its three main competitors in the principal served market segment over the past three years? (*Please answer **all** aspects.*)

	¦ rown worse a lot	grown worse	no changes	improved	improved a lot
Return on investments	-2	-1	0	1	2
Return on assets	-2	-1	0	1	2
Fast delivery	-2	-1	0	1	2
Volume flexibility	-2	-1	0	1	2
Design flexibility	-2	-1	0	1	2
Cycle times (complete a specific task from start to finish)	-2	-1	0	1	2
New product introduction	-2	-1	0	1	2
Product quality	-2	-1	0	1	2
Return on sales	-2	-1	0	1	2
Sales growth	-2	-1	0	1	2
Market share	-2	-1	0	1	2
Marketing effectiveness	-2	-1	0	1	2
Productivity	-2	-1	0	1	2
Employee turnover	-2	-1	0	1	2
Personnel development	-2	-1	0	1	2
Absenteeism rate (reduced)	-2	-1	0	1	2
Total shareholder return	-2	-1	0	1	2
	-2	-1	0	1	2
Overall organizational performance	-2	-1	0	1	2

Section 5: General Questions about the Respondent and the Firm

Q. 10 What is your organizational position at your firm? *(Choose **one** option only.)*

Non-manager……..……..……1
Team Head…….…..2
Group Head……..…….3
Division Head……..4
Company Head…….……5

Q. 11 Which division in your firm are you affiliated with? *(Choose **one** option only.)*

Service and Support……..……...…..1
Research and Development.……...…...2
Procurement…….……..……....3
Operations…..…….…..….4
Logistics…….…….……..…5
Marketing and Sale…….……....…....6
Administration…….....…7
Accounting…….…….……8
Human Resources…….….……9
CSR……...…10
Others……...…11 Please specify,……..

Q. 12 What is the main activity of your firm? *(Choose **one** option only.)*

Food, beverages and tobacco industries……..1
Textile and clothing industry…….…..2
Wood, cork, and furniture industry……3
Paper and graphical industry……..…….4
Pharmaceutical and chemical industry, etc. ….....….5
Stone, clay and glass industry……...….6
Metal and machine industry…….…..….7
Electronics industry…….…...….8
Rubber and plastics industry……..…….9
Electricity, gas, heating and water supply……...….10
Building and construction……..……11
Others……..…….…..….…12 Please specify,……..

Q. 13 Please give an estimate of how much of your firm's business is either business-to-business or business-to-customer? (Distribute points from 1-100, so that the sum of the two areas will lead to 100.)

Business-to-Business ……
Business-to-Customer ……
100

Q. 14 How many full-time employees are employed at your firm at the moment? *(Choose **one** option only.)*

0-49 ……...……..1
50-99 …….…..2
100-249 …….……..3

250-499 ……..…..4
500 - 749 ……..5
750 - 999……..…..6
1,000 - 1, 999……..…..7
2,000 - 4,999……...…..8
5,000 and more……..9

Q. 15 When was your firm founded? In case of acquisition, what was the earliest possible founding year (year of acquisition)?

Founding Year: ……

Q.16 According the European Commission a family firm is:

A firm, of any size, if:

1) The majority of decision-making rights is in the possession of the natural person(s) who established the firm, or in the possession of the natural person(s) who has/have acquired the share capital of the firm, or in the possession of their spouses, parents, child or children's direct heirs.

2) The majority of decision-making rights are indirect or direct.

3) At least one representative of the family or kin is formally involved in the governance of the firm.

4) Listed companies meet the definition of family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25 per cent of the decision-making rights mandated by their share capital.

Please state whether your firm does belong to a family-owned firm or not, according the EC definition for family firms!

Family-owned…….1
Non family-owned……...……...…2

Q.17 Please state whether your firm is a public or private owned firm?

Public…..…….1
Private-owned……...……...…2

Concluding Question

Q. 18 What are the three main perceived drivers (e.g. customers, cost reduction, quality improvement) for your firm's sustainability engagement?

Comments

If you have any supplementary comments or elaborations, please write them down in the space provided below.

Thank you for taking the time and for supporting our research!

If you are interested in the results of the survey and you wish to be informed about it, please enter your e-mail address here:_____.

2

– Research article 1 –

WHEN DOES IT PAY TO BE GOOD? MODERATORS AND MEDIATORS IN THE CORPORATE SUSTAINABILITY – CORPORATE FINANCIAL PERFORMANCE RELATIONSHIP: A CRITICAL REVIEW

WHEN DOES IT PAY TO BE GOOD?
MODERATORS AND MEDIATORS IN THE CORPORATE SUSTAINABILITY – CORPORATE FINANCIAL PERFORMANCE RELATIONSHIP: A CRITICAL REVIEW

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Abstract

In this paper, we review the literature on moderators and mediators in the corporate sustainability (CS) –corporate financial performance (CFP) relationship. We provide some clarity on what has been learned so far by taking a contingency perspective on this much-researched relationship. Overall, we find that this research has made some progress in the past. However, we also find this research stream to be characterized by three major shortcomings, namely low degree of novelty, missing investment in theory building, and a lack of research design and measurement options. To address these shortcomings, we suggest avenues for future research. Beyond that we also argue for a stronger emphasis on the strategic perspective of corporate sustainability. In particular, we propose future research to take a step back and aim for an integration of the CS-CFP relationship into the strategic management literature.

Keywords: Corporate sustainability, corporate financial performance, moderators, mediators, literature review, Strategic corporate sustainability

Status: This research article has been finally accepted at the *Journal of Business Ethics* in September 2015 and is available online. During the review process, this research article was also presented at the Performance Management (PMA) conference in June 2014 in Aarhus (Denmark).

INTRODUCTION

For the past 40 years, the study of the relationship between corporate sustainability (CS) and corporate financial performance (CFP) has had a prominent place in the literature (Bowman & Haire, 1975; Bragdon & Marlin, 1972). However, despite literally hundreds of studies on this topic, the findings have been inconsistent and disappointing (Waddock & Graves, 1997), as the relationship between CS and CFP has been argued and found to be positive (Hart & Ahuja, 1996; Orlitzky, Schmidt, & Rynes, 2003), insignificant (Surroca, Tribo, & Waddock, 2010), negative (Aupperle, Carroll, & Hatfield, 1985; Friedman, 1970), U-shaped (Barnett & Salomon, 2012), inverted U-shaped (Lankoski, 2008), or asymmetric (Jayachandran, Kalaignanam, & Eilert, 2013). Indeed, at first sight the wide variety of shapes found in the literature may convey the impression that we as researchers are able to argue and find whatever shape we want the CS-CFP relationship to have.

Then again, is it really surprising that our quest for a general relationship between CS and CFP has failed so far? We do not think so. In fact, we believe that the quest for such a general relationship may be pointless given the large number of environmental and organizational influences on CFP (Anderson & Zeithaml, 1984). After all, there is little evidence for the existence of a simple, unidirectional causal relationship of any given construct on CFP (Lenz, 1981).

Efforts aimed at reconciling the inconsistent and at times even contradictory findings have initially focused on the choice and measurement of constructs for CS and CFP (Aupperle et al., 1985; Griffin & Mahon, 1997; Sharfman, 1996), as well as model specification (Margolis & Walsh, 2003; Marom, 2006; Russo & Fouts, 1997). However, a debatable implicit assumption of this approach is still that there is a general relationship between CS and CFP that holds for any firm in any context at any time. Acknowledging the possibility that such a general relationship may just not exist, scholars have called for more research on the contingencies – moderators and mediators – affecting the CS-CFP relationship. As Barnett (2007, p. 813) put it: *"Here I […] call for increased attention to a contingency perspective that affirms the payoffs of CSR to some forms of CSR for some firms at some points in time."* In other words, in contrast to a congruent proposition in which *"a simple unconditional association is hypothesized to exist among variable in the model […] a contingent proposition is more complex, because a conditional association of two or more independent variables with a dependent outcome is hypothesized"* (Drazin & Van de Ven, 1985, p. 514). As a result, a contingency perspective on the CS-CFP relationship is likely to yield a much

finer grained and differentiated picture, thereby acknowledging that differences in firm and context characteristics may affect the CS-CFP relationship – *moderators* – and also that the effect of CS on CFP may occur through different means – *mediators*.

Concentrating on moderators and mediators that may affect the CS-CFP relationship, research attention has recently begun to shift from *whether* it pays to be good to *when* it pays to be good (Orlitzky, Siegel, & Waldman, 2011; Orsato, 2006). In light of the potential contribution, which the contingency perspective holds, it seems that there is great value in taking stock of what we have learned so far and what is still to be explored regarding moderators and mediators of the CS-CFP relationship. The objective of the present study is, thus, to provide a review of research exploring the contingencies affecting the CS-CFP relationship. In doing so, we aim at increasing our understanding of the conditions under which CS has a distinct effect on CFP.

Admittedly, a number of thorough reviews on the CS-CFP relationship are available (Aguinis & Glavas, 2012; Beurden & Gössling, 2008; Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013; Margolis & Walsh, 2003; Orlitzky et al., 2003). Some of these reviews have focused on measurement and operationalization issues (Peloza, 2009; van Beurden & Gössling, 2008), some have focused on specific scholarly disciplines (Dixon-Fowler et al., 2013), and still others have attempted to review the entire literature on the CS – outcome relationship (Aguinis & Glavas, 2012). However, to the best of our knowledge to date, no in-depth review is available critically reflecting upon existing knowledge, uncovering important gaps, and outlining future research avenues regarding research on moderators and mediators within the CS-CFP relationship. We address this gap.

We proceed as follows: In the next section, we describe both our approach to identifying the relevant body of literature to be reviewed as well as the integrative framework for organizing and reviewing this body of literature. Thereafter, in section three we review the building blocks of the basic relationship, that is, CS and CFP. In sections four and five, we present the results of our review regarding moderators and mediators of the CS-CFP relationship, respectively. Thereafter, in section six, we provide an overall evaluation of the current status of the field before we provide an extensive agenda for future research in section seven. We close the paper with a brief conclusion in section eight.

METHOD

Identification of the literature

In order to identify the body of literature to be reviewed, that is, studies adopting a contingency perspective on the CS-CFP relationship, we followed prior research and conducted a systematic literature search (Aguinis & Glavas, 2012; van Beurden & Gössling, 2008). We decided to focus our search on major academic journals that had previously been included in studies of journal impact and quality (Podsakoff, MacKenzie, Podsakoff, & Bachrach, 2008; Tahai & Meyer, 1999). The rationale for doing so was twofold: First, as Tahai and Meyer (1999, p. 280) have reasoned, studies published in highly ranked academic journals are likely to contain *"the ideas which are most closely scrutinized, evaluated, and extended"*. As such, research published in these journals can be considered validated knowledge (Podsakoff, Mackenzie, Bachrach, & Podsakoff, 2005). Second, given that publication in highly ranked academic journals serves as evidence of scholarship and potential impact on the field (Podsakoff et al., 2005), it is likely that these journals represent the current 'frontier of research', that is, the current state of knowledge of a given subject matter.

In order to select the specific journals that provide the basis for our review, we first consulted several studies on journal quality and impact (Johnson & Podsakoff, 1994; Podsakoff et al., 2005; Podsakoff et al., 2008; Tahai & Meyer, 1999). Based on this, we selected a set of core management and strategy journals that have consistently been evaluated as being the journals with the highest quality and impact. The focus on management and strategy journals was due to the fact that at the core, research on the CS-CFP relationship focuses on the topic of wealth creation, which has been argued to be at the heart of the management and strategy literatures (Rumelt, Schendel, & Teece, 1994). Besides these core management and strategy journals, we included a set of journals considered to be important outlets for academic research on the broader topic of CS. Finally, to account for the prominence of the CS-CFP relationship within business practice, we also included three practitioner oriented journals.

The set of journals that forms the starting point for our review consists of *Academy of Management Journal, Academy of Management Review, Administrative Science Quarterly, Business Strategy and the Environment, Business & Society, California Management Review, Harvard Business Review, Journal of Business Ethics, Journal of Management, Journal of Management Studies, Management Science, Organization Studies, Organization Science, Sloan Management Review,* and *Strategic Management Journal.*

We decided to rely on a systematic search within major databases such as Business Source Complete, Web of Science, and Science Direct for the identification of relevant studies within the set of journals for the period between 1972 and 2013. We selected 1972 as a starting point for our review as Margolis and Walsh (2003) have argued that empirical research on the CS-CFP relationship first appeared in that year.

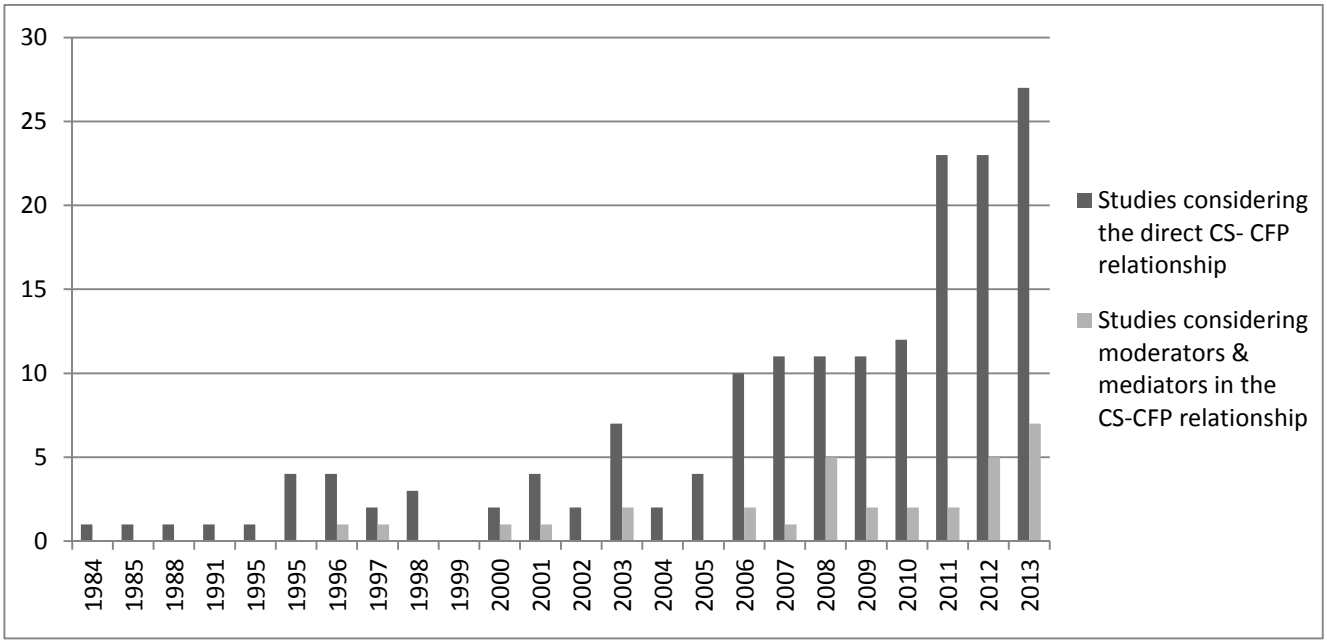
Notwithstanding our focus on the contingency perspective, we decided to use a broad set of keywords[1] referring to CS and CFP, reasoning that limiting our search to keywords referring to moderators and mediators would potentially lead to the exclusion of relevant studies. We also decided to apply the term Corporate Sustainability (CS) rather than Corporate Social Responsibility (CSR). There are two main reasons for this decision. First, from a theoretical perspective CSR can be seen as a subset of CS issues. Both terms have similar conceptualizations, but small differences exist related to applied questions and theories. CSR is very society oriented and associated with communication aspects of people and organizations, whereas CS offers a wider focus, because it is considered from the tridimensional perspective of the Triple Bottom Line (TBL), which emphasizes the integration of economy, society and environment for a firm's success (Montiel, 2008; Van Marrewijk, 2003). CS sees the environment as the third main element, whereas CSR refers to the environment as a subset of social issues. Or in other words *"CS is the ultimate goal, with CSR as an intermediate stage where companies try to balance the Triple Bottom Line"* (Van Marrewijk, 2003, p. 101). Second, from a practical perspective, firms use both terms as interchangeable, with a tendency towards an increasing use of CS, in order to account for all social and environmental issues in the organization (Montiel, 2008). Therefore, it becomes more difficult to assess a firm's social and environmental engagement with any accuracy by focusing on only one of the two terms. Consequently, we follow Montiel's (2008) recommendation of only one term for CSR and CS, which is CS. Studies related to CSR and Environmental Management (EM), as well as Corporate Responsibility (CR) and Corporate Philanthropy (CP) are considered as part of CS and are hence also included and in our review. In order to reduce complexity and to avoid confusion resulting from the use of various sub-constructs of CS, we will refer in the following to CS only. We believe that doing so will result in making the text more accessible. However, it is important to note at this point, that Table 1 provides for every study contained in our review very fine-grained, detailed information of the applied sub-construct of CS, explored moderator or mediator, operationalization of measurements for CS and CFP, as well as the results and findings for each reviewed study on an individual level.

Results of the database search

The database search – in title and abstract – yielded a total of 274 potentially relevant studies. In a first step, we carefully reviewed the abstract of each study and eliminated 106 studies, which obviously did not fall within the domain of our review, for example because they were not concerned with the CS-CFP relationship. In a second step, we examined the theory and method sections of the remaining 168 studies to make sure that these studies did in fact fall into the domain of our review. In particular, we focused on studies that explicitly use the term moderator or mediator, but we also included studies with an implicit argumentation for a moderating or mediating effect. This inspection led us to eliminate another 137 studies, as these studies did not adopt a contingency perspective. Finally, we scanned the references of the remaining 31 articles in order to identify prominent studies that could not be identified using the aforementioned approach. In doing so, one additional study was included. Our final sample of studies therefore consists of 32 studies, made up of 22 empirical studies, 8 conceptual papers, and 2 literature reviews. We provide more detailed information on the sample in Table 1.

Insert Table 1 here

To get a sense of how the academic interest in the topic of moderators and mediators within the CS-CFP relationship has evolved, we plotted Figure 1. It shows for each year in the period examined both the overall number of studies on the CS-CFP relationship and the number of studies among those adopting a contingency approach in our set of journals. The plot shows, not surprisingly, that interest in research on the CS-CFP relationship has substantially increased in recent years, reflecting the accelerating discussion on firms' social and environmental responsibility within both public and business. It also indicates an increasing share of studies – though on a low level – adopting a contingency perspective. This reinforces our belief that an in-depth review of the contingency perspective within CS-CFP research is beneficial, because it may allow future research to build more meaningfully on existing knowledge and may help to work against the fragmentation that is characteristic for CS-CFP research at large (Ullmann, 1985).



*Note that even though we searched the time period 1972-2013, the first studies to be published on the CS-CFP relationship in the journals we reviewed date back to 1984

Figure 1: Number of studies published on the CS-CFP relationship per year and those adopting a contingency perspective

A framework for organizing the literature

Subsequent to the identification of the literature, we moved to the coding and categorizing of the identified studies. In this step, we coded the primary constructs and key findings. Drawing from this coding, we then developed a framework that provides the analytical review scheme necessary for systematically evaluating the contribution of a given body of literature (Ginsberg & Venkatraman, 1985).

Our framework is made up of four major building blocks: (a) *corporate sustainability*, (b) *moderators*, (c) *mediators*, (d) *corporate financial performance*. In coding the moderators and mediators of the basic CS-CFP relationship, we followed the widely used approach and distinguished between influences coming from outside the firm and those originating from within the firm. Accordingly, we distinguished moderators and mediators into *external* and *internal* factors. Figure 2 depicts our framework and Table 1 provides an overview of the classification of the studies included in the review.

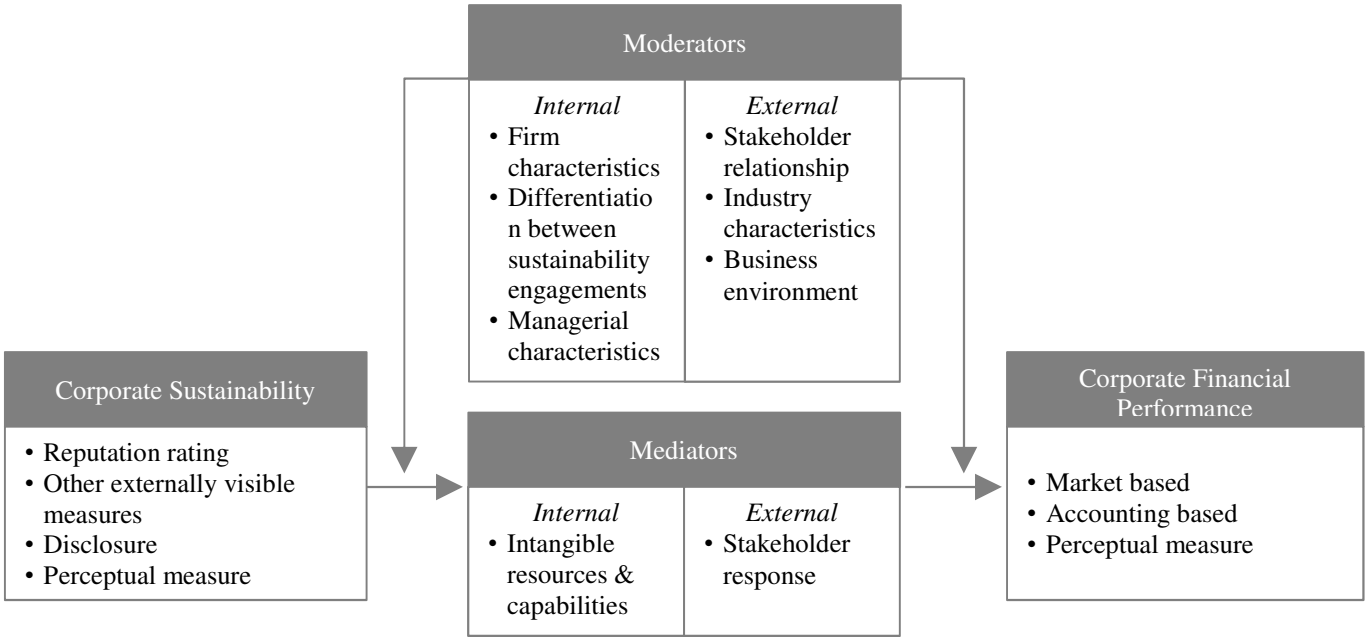


Figure 2: Framework used to review the literature

THE BUILDING BLOCKS OF THE BASIC RELATIONSHIP: CS AND CFP

The focus of our study is on the moderators and mediators of the CS-CFP relationship. Nonetheless, we begin with an analysis of the constructs underlying the basic relationship, that is, CS and CFP. In particular, in a first step, we were interested in learning how these constructs were measured within the body of literature we reviewed, the rationale being that potential moderators and/or mediators may have differential effects depending on how the constructs of the basic relationship were actually measured. In carefully examining the literature we found that four different forms of measurement of CS exist, namely reputation rating, other externally visible measures, disclosure, and perceptual measures. Likewise, we found that CFP may be categorized into three different forms, namely market based, accounting based, and perceptual measures (Orlitzky et al., 2003).

In a second step, we took a closer look at the 22 empirical studies included in our review with the objective of specifying the respective form of measurement and to identify potential patterns and flaws. In Table 1 we present the outcome of this detailed analysis. Overall, we find that with regard to the basic relationship between CS and CFP the majority of studies (59%) report a positive relationship, 9% report a negative relationship, and 32% report other relationships including non-findings or mixed-results. As such, our findings seem to be in line with previous review findings (Peloza, 2009).

Regarding the CS construct we find that relying on other external visible measures, in particular the Kinder, Lydenberg, Domini and Company (KLD) database, has evolved as the most widely used form of measuring CS. This development is probably driven by Graves and Waddock's (1997), Sharfman's (1996), and Hull and Rothenberg's (2008) prominent KLD supporting studies. In general, the recurring application of a specific dataset is vital to building a cumulative and reliable body of literature. After all, as Bettis, Helfat, and Shaver (2014, p. 1) have argued, *"reproducibility of results lies at the core of modern science"*. However, we find that there is no consistent application of the KLD database. Quite the contrary, our analysis leaves us with the impression that the choice regarding what items to include or exclude is at times random. Often, items such as corporate governance, human rights, and controversial issues are excluded, even though these topics are obviously of special interest to social activist stakeholders (Sharfman, 1996). Thus, beyond the acknowledged limitations of the KLD database in the literature, such as the problems of aggregation related to the correlation of dimensions (Graafland, Eijffinger, & Smid, 2004), the lack of sector specificity, or the treatment of ordinal measures (Surroca et al., 2010), our analysis points to the fact that – despite relying on one and the same KLD database – the studies actually involve different independent variables. What makes the situation even worse is the fact that given a lack of reporting on how the construct was ultimately operationalized – for example, was a weighing score used or a simple summation – the replication of the CS construct is simply not possible.

In trying to overcome some of the limitations of the KLD database, some studies relied on alternative databases such as oekom, FRDC (Franklin Research and Development Corporation) and Sustainalytics. However, lacking a strong foundation in the literature and at times subjective coding schemes (Rahman & Post, 2012), these alternatives have – to date – only seldom been used. With only five out of 22 studies, disclosure and reputation rating as a form of measuring CS were even used less often.

To measure the dependent construct, that is, corporate financial performance, the studies in our sample typically rely on either accounting-based measures – such as return on assets (ROA), return on equity (ROE), or return on sales (ROS) – or market-based measures – such as Tobin's q or cumulative abnormal returns (CAR). In accordance with the findings of Peloza (2009) we find a slight preference (55%) for the application of market-based measures. This is most likely reflecting that in particular Tobin's q has been argued to overcome shortcomings of accounting-based measures of corporate financial performance (Servaes & Tamayo, 2013). Comparing the results of

studies using market-based measures with those using accounting-based measures, we find a similar pattern uncovered in previous reviews and meta-analyses (Margolis, Elfenbein, & Walsh, 2009; Peloza, 2009). Accordingly, studies using accounting-based measures tend to demonstrate a stronger positive relationship between CS and CFP as compared to studies relying on market-based measures. Studies using market-based measures of CFP show a more diverse picture of the basic CS-CFP relationship, including non-effects, trade-offs, or asymmetry.

Beyond the seemingly emerging pattern that the CS-CFP relationship may be affected substantially by the choice of the CFP construct, the theoretical conceptualizations underlying accounting-based measures of CFP as opposed to market-based measures of CFP are important. While accounting-based measures are generally conceptualized as a reflection of past, short-term financial performance, market-based measures are seen as a reflection of future, long-term financial performance (Hoskisson, Johnson, & Moesel, 1994). However, as Venkatraman and Ramanujam (1986) in a widely acknowledged article on corporate financial performance have argued, accounting-based measures and market-based measures may be unrelated. If this is true – and some studies, such as the one of Gentry and Shen (2010) report such findings – then this has important implications for theory development. As Gentry and Shen (2010, p. 514) have reasoned:

> *"if accounting and market measures are not correlated or are correlated only at a low level, it suggests that firm financial performance is not a single unidimensional construct and that accounting and market measures capture its distinct dimensions. In this situation, researchers should attend to the differences between accounting profitability and market performance, and develop separate theories to explain their variation."*

Put differently, the choice of construct used to operationalize CFP must already be reflected in the theoretical development. Some theories, such as agency theory, may be used to explain both short-term, backward looking performance and long-term, forward looking performance. However, what we observe is that a study's theory section is typically focused, that is, developed to explain *either* short-term, backward looking performance *or* long-term, forward looking performance. Hence, studies reporting in their robustness check section that the results also hold when using long-term, forward looking performance instead of short-term, backward looking performance (or vice versa) exhibit – almost by definition – a substantial flaw, namely a mismatch between theory and construct. This assessment is further reinforced by the fact that, as elaborated above, short-term,

backward looking performance represents a different aspect of performance as opposed to long-term, forward looking performance (Gentry & Shen, 2010).

An additional comment concerning the use of market-based measures of CFP seems in order. Market-based measures such as Tobin's q or cumulative abnormal return are often argued to reflect CFP. However, market-based measures merely reflect investors' expectations and are based on the market efficiency hypothesis stating that market prices fully reflect all available information in the market (Malkiel & Fama, 1970). Given, however, that the market efficiency has been questioned (see for example (Tobin, 1984)) some scholars have raised concerns regarding the use and interpretation of market-based financial performance measures for strategy and management research (Bromiley, 1990). Thus, it seems at least questionable whether market-based performance measures are suitable to address the question of whether or not a firm's CS is associated with an increase in firm performance.

Finally, our analysis of the constructs underlying the basic relationship revealed another interesting pattern. Due to the widespread application of the KLD database, studies in our sample were almost exclusively restricted to US firms. Studies involving firms from other countries are largely missing. A notable exception in this context is Schreck (2011). Using a sample of firms originating from the oekom research AG, the author was able to include firms originating from as many as 24 different countries. Moving beyond the US context, however, is important given that scholars such as McWilliams, Siegel, and Wright (2006) have pointed out that CS initiatives are substantially affected by cross-country differences. Cultural, institutional, and regulatory differences are likely to lead to different returns of activities and expectations. Therefore, we encourage future studies to pay more attention to the importance of country context and come up with more studies involving non-US firm samples.

Our analysis lends support to the assumption that different findings concerning the basic CS-CFP relationship may to a substantial degree be explained with the varying operationalizations of the CS-CFP constructs. Even seemingly identical constructs – such as for instance CSR – that are derived from the same database – such as the KLD database – may exhibit substantial differences at closer inspection. For example, the studies of Blanco et al. (2013), Jayachandran et al. (2013), Servaes and Tamayo (2013) all rely on the construct of *CSR* based on *KLD data* and operationalize *CFP* by *Tobin's q*. However, Blanco et al. (2013) measure CS using the KLD index of *community*, *corporate governance*, *diversity*, *environment*, *product*, *employee relations*, *human rights* and

controversial issues. Conversely, Jayachandran et al. (2013) measure CS using only the KLD index of *environment* and *product*, whereas Servaes and Tamayo (2013) use *community*, *diversity*, *environment*, *employee relations*, and *human rights* in their narrow measure of CS, and add *product* to obtain a broader measure of CS. Beyond that, they introduce yet another CS variable that consists of *industry concerns*, only (see Table 1, for detailed construct and operationalization information on each study). Given these substantial differences it is almost impossible to compare the findings of studies that – though only on the surface – are concerned with the same issue. This proliferation in construct operationalization, however, is likely to hamper the further development of the field and the development of a cumulative and reliable body of literature.

Subsequently, we shift focus to the moderators and mediators of the basic CS-CFP relationship. Table 1 provides an overview of the studies contained in the present review according to the type of moderator and/or mediator explored as well as the underlying concepts of CS and CFP. As Table 1 reveals, there is an accumulation of internal and external moderating variables within the context of CS operationalized as other externally measured variables and CFP operationalized as market or accounting based measures. In what follows, we provide an in-depth review of the moderators and mediators of the CS-CFP relationship.

MODERATORS: WHAT ALLEVIATES OR REINFORCES THE CS-CFP RELATIONSHIP?

Moderation specifies the impact of an independent variable (predicator) on a dependent variable (criterion) as a function of a third, moderating variable (Baron & Kenny, 1986). Accordingly, the moderator affects the direction and strength of the relationship between the predictor and the criterion. In order to learn what factors have an effect on the CS-CFP relationship – alleviating or reinforcing it – we distinguished potential moderators into *internal* and *external*, respectively.

Internal moderators

Reviewing the studies within our sample, we found that a broad variety of internal, organizational-oriented factors had been explored as potential moderators of the CS-CFP relationship. However, this broad variety of factors can be categorized as: firm characteristics, differentiation between sustainability engagements, and managerial characteristics, behavior, and action.

Firm characteristics

Based on the assumption that some firm characteristics represent a firm's resources and capabilities, the literature has so far explored the moderating effect of firm size, ownership structure, innovation, and strategic orientation. For example, Dixon-Fowler et al. (2013) provide evidence for a negative moderating effect of firm size. Put differently, notwithstanding a lack of slack resources, smaller firms are more flexible as compared to large firms and as such more effective in responding to environmental challenges and associated organizational change. Interestingly, Aguinis and Glavas (2012) and van Beurden and Gössling (2008) in their reviews of the CS-CFP relationship reach the opposite conclusion arguing that larger firms typically have more financial resources, which in turn may strengthen the CS-CFP relationship.

Even though not explicitly tested in an econometric model, Wang and Bansal (2012) emphasize the age of the firm. According to the authors, due to less knowledge, limited capabilities, and fewer financial resources, younger firms (less than 8 years old) are more likely to experience negative returns on CS. However, Wang and Bansal (2012) show that a long-term orientation, with a strategic perspective of more than 5 years, reverses this negative impact. In this way, their research shows that investments and engagements in CS activities need time to pay off and that limited capabilities and resources are less restricting than assumed in the CS-CFP relationship.

Other moderating firm characteristics are the degree of innovation and ownership structure. Hull and Rothenberg (2008) show that the level of innovation negatively moderates the CS-CFP relationship. They argue that low-innovative firms benefit more financially from CS activities, the reasoning being that firms engaging in CS are able to differentiate themselves from competitors and give customers a reason to buy their products and services. Conversely, high-innovative firms differentiate through innovation rather than CS (Hull & Rothenberg, 2008). Again, Aguinis and Glavas (2012) come to the opposite conclusion in their review of the literature. They find that the higher the R&D investments, the greater the positive impact of CS on organizational outcomes, including CFP.

Finally, Dixon-Fowler et al. (2013) explore the ownership structure and argue that due to higher public interest, public firms might benefit more from CS than privately owned firms. However, their meta-analysis shows no evidence that there is a moderating effect of ownership structure. Rather, given that most firms face media attention and stakeholder pressure to invest in environmental activities both public and private firms seem to benefit to the same extent from CS.

Differentiation between sustainability engagements

Firms follow different approaches towards their sustainability engagement. Variations can be found in the degree of CS intensity and the CS initiatives. The firm's commitment to sustainability influences the degree of confidence that stakeholders have in the firm, as well as the building of organizational capabilities and resources. Based on the argumentation that pace, path, relatedness and consistency of the sustainability engagement (Tang, Hull, & Rothenberg, 2012) have different implications on the impact of CS on CFP, a number of studies consider varying CS approaches as a moderating variable. Studies such as Jayachandran et al.(2013), Kurapatskie and Darnall (2013), as well as Gilley et al.(2000) point out that not every kind of CS initiatives yields the same results. In these studies, the authors pursue a disaggregated view of CS, distinguishing between product-driven and process-driven initiatives. The findings reveal that product-oriented CS outperforms process-oriented CS (Busch & Hoffmann, 2011; Gilley et al., 2000; Kurapatskie & Darnall, 2013) and environmental oriented CS (Jayachandran et al., 2013). The reason for this is likely to be found in the perception and acceptability by stakeholders. The development of new sustainability oriented products is more appreciated by stakeholders. This is because a firm's CS orientation is easier and more transparently communicated through its products as opposed to its internal processes. Initiatives, addressing internal processes or the environment outside the firm, lack reliability due to information uncertainty and less relation to customers' value. For stakeholders it is harder to evaluate this information and therefore they perceive non-product related CS activities as inappropriate and as 'failure preventers' rather than 'success producers' (Jayachandran et al., 2013, p. 1261).

Instead of differentiating between the various types of CS initiatives, some studies (Brammer & Millington, 2008; Dixon-Fowler et al., 2013) focus on CS intensity, referring to whether firms behave proactive or reactive. Based on a theoretical reasoning grounded in either strategic decision-making (Brammer & Millington, 2008; Dixon-Fowler et al., 2013; Halme & Laurila, 2009) or microeconomics (Husted & Salazar, 2006), it is more beneficial for firms to follow a proactive rather than a reactive approach. The reactive approach limits CS activities to the compliance of existing laws and regulations and solves environmental and/ or social issues only when they occur. In contrast, the proactive approach goes beyond legal requirements and focuses on the alignment of a firm's business activities with growing sustainability concerns and expectations of a broad set of stakeholders, in order to cope with environmental and/ or social issues. Thus, in the proactive approach, CS evolves as a valuable organizational capability that has the potential to decrease costs

and risk (Dixon-Fowler et al., 2013) and to cause less replicable differentiation in the eye of the stakeholders (Brammer & Millington, 2008).

Managerial characteristics, behavior & action

Some authors have focused on the individual and explored individuals' characteristics, behavior, and action as a moderating variable. As such, these authors, for example, acknowledge that personal values are central to any decision-making process. Kim and Statman (2012), for example, argue that managers act in the interest of shareholders to increase their benefits. Accordingly, managers actively adjust environmental investments up or down depending upon whether they expect a specific investment to increase or decrease financial performance. Firms that exhibit such proactively investing and divesting managers outperform firms that do not adjust their levels of CS. Moreover, Aguinis and Glavas (2012) provide some evidence in their review that managers' commitment to ethics and sensitivity to equity have a strong positive moderating effect on the CS-CFP relationship. To date, research exploring the effect of individuals on the CS-CFP relationship is still in its infancy. However, the results of available studies indicate that it is worthwhile pursuing this research avenue further.

External moderators

External moderating variables are external factors, which influence the strength and intensity of the CS-CFP relationship. We categorize the identified external moderating variables into three themes: stakeholder relationship, industry characteristics and general business environment.

Stakeholder relationship

Good stakeholder relationships are a source of competitive advantage (Wang & Choi, 2013). Accordingly, the financial value of CS is directly contingent upon the ability to influence stakeholders and their perception of the firm's CS activities. A firm's CS involvement may only be beneficial, if it gains legitimacy and reward in the stakeholders' eyes. Clear communication and reliable information create awareness and allow stakeholders to assess the firm's CS performance (Jayachandran et al., 2013). Stakeholders' confidence in the firm's CS engagement, in turn, depends on whether the stakeholders consider a specific CS engagement as a sporadic self-interest or as being permanent and predictable. Due to information asymmetry and uncertainty between different stakeholders (Van der Laan, Van Ees, & Van Witteloostuijn, 2008), firms need to work on their CS

reputation and communication, as well as symbolic management. Through advertising intensity (Servaes & Tamayo, 2013), high qualitative CS reports (Schreck, 2011), and consistent good treatment of different stakeholders over time (Wang & Choi, 2013), firms can reduce the information gap, so that stakeholders find out more about the firm's CS engagement and reward it, which enhances the benefits of CS. Thus the bottom line is that tailor-made stakeholder relationships positively moderate the CS-CFP relationship.

Industry characteristics

There is no universal or unconditional business case for CS. The nature of the CS-CFP relationship varies across industries, because each industry operates in a different context with distinct environmental, social, and financial concerns (Baird, Geylani, & Roberts, 2012; Schreck, 2011). A firm's CS approach is a response to industry-specific stakeholder demands. These stakeholder demands vary in terms of levels of activities as well as areas of interest (Baird et al., 2012). Stakeholders' demands differ between clean industries, less pollution intensive industries (e.g. banking & finance, insurance, IT-equipment) and dirty, high pollution intensive industries (e.g. chemistry, automobile, oil & gas). Industries with a negative environmental reputation face higher media attention, regulations and pressure by stakeholders (Dixon-Fowler et al., 2013), but at the same time they have more to win from a good environmental performance. Conversely, they have more to lose from a bad environmental performance (Schreck, 2011). Klassen & McLaughlin (1996) were among the first to elaborate on the moderating effect of industries within the CS-CFP relationship. Conversely to their reasoning that the CS-CFP linkage may be stronger in clean industries, recent studies by Schreck (2011) and Baird et al. (2012) show that the CS-CFP linkage is stronger in bad industries, because they earn greater legitimacy. However, Dixon-Fowler et al. (2013) fail to find a significant effect of this relationship in their meta-analysis. Rather, they find that environmental aspects matter for any firm, regardless of its industry.

Besides the environmental reputation of an industry, the moderating role of industry growth (Russo & Fouts, 1997) or the industry life cycle (Brammer & Millington, 2008) has also been explored. Based on the resource-based view of the firm (RBV) and the importance of tangible and intangible resources, it has been argued that the organizational benefits of CS are higher in high-growth industries than in low-growth industries. High-growth industries have fast growth rates and are more profitable than other industries, which makes them more attractive for entries by new players. Rules and regulations of competition are in flux. Firms in high-growth industries are more

successful with their CS than firms in low-growth industries due to a general higher attitude to riskier investments, a more flexible and organic organizational management structure, and the promotion of intangible assets, such as reputation, in order to differentiate from competitors and new players (Russo & Fouts, 1997).

Business environment

Apart from industry characteristics, various studies have considered characteristics of the general business environment. This includes the macro-perspective reflected, for example, by external norms, regulations, governmental subsidiaries, tax incentives, interest rates, and external research at universities, that moderates the CS-CFP linkage (Aragon-Correa & Sharma, 2003; Flammer, 2013). External pressure towards the institutionalization of sustainability impacts the value of CS. The more CS becomes an institutional norm, the more firms are punished for a non-sustainable behavior. At the same time, the more firms employ the norm of sustainability, the less are they rewarded for their CS activities (Flammer, 2013).

Equally important are the characteristics of the business environment. Uncertainty, complexity and hostility of the general business environment require different strategic CS approaches. Aragón-Correa and Sharma (2003) focus on the environmental perspective of CS. They show that difficulties in understanding and predicting the impact of changes in the general business environment and the impact of consequences of individual decisions in this context moderate the positive effect of proactive environmental strategies on organizational performance. Based on the 'contingent RBV theory' (Aragon-Correa & Sharma, 2003), a proactive environmental strategy can achieve a competitive advantage only in an uncertain and complex environment, because for competitors it is difficult to imitate the obtained particular information and environmental capabilities. In contrast, munificence or a low hostile environment makes it easier for competitors to obtain this information of a firm's proactive environmental strategy and to duplicate these capabilities. For firms it becomes more difficult to follow a consistent environmental strategy, which weakens the relationship between CS and CFP (Aragon-Correa & Sharma, 2003).

MEDIATORS: BY WHAT MEANS DOES CS AFFECT CFP?

Following Preacher, Rucker, and Hayes (2007, p. 186), mediation *"is said to occur when the causal effect of an independent variable (X) on a dependent variable (Y) is transmitted by a mediator (M). In other words, X affects Y because X affects M, and M, in turn, affects Y."* Accordingly, mediation analysis allows the examination of *process* in the sense that it permits to explore *by what means* the independent variable X exerts its influence on the dependent variable Y (Baron & Kenny, 1986; Preacher et al., 2007; Venkatraman, 1989). Following our previous approach taken to review moderators of the CS-CFP relationship, we subsequently distinguish potential mediators into *internal* and *external*, respectively.

Internal mediators

Internal mediators are internal factors through which an indirect relationship between CS and CFP occurs. The few studies, addressing the intervening process of internal mediators, can be summarized to one factor – intangible resources & capabilities.

Intangible resources & capabilities

Drawing on the insights of RBV (Barney, 1991; Wernerfelt, 1984), some scholars have argued that the CS-CFP relationship is mediated by a firm's intangible resources and capabilities. Accordingly, by engaging in CS a firm proactively considers the social and environmental challenges of its environment and aims at dealing with numerous stakeholders (Surroca et al., 2010). CS initiatives, such as product stewardship, resource management, reduction of energy consumption and waste, and stakeholder dialogue, in turn, are argued to represent means promoting the development of specific organizational capabilities. Amongst others, these specific capabilities encompass (i) learning (Lankoski, 2008), (ii) managerial competencies (Orlitzky et al., 2003), (iii) innovation (Blanco, Guillamón-Saorín, & Guiral, 2013; Surroca et al., 2010), (iv) culture (Surroca et al., 2010), (v) stakeholder integration (Sharma & Vredenburg, 1998), and (vi) reputation building (Orlitzky et al., 2003). By developing these capabilities, a firm increases its preparedness for a dynamic, complex environment and turbulent times. Learning, for example, provides a capability to coordinate, interpret and integrate information. CS activities improve the quality of information on stakeholder expectations and the holistic view along the product life cycle (Lankoski, 2008).

Likewise managerial skills, referring to organizational-wide coordination, forward-thinking and employee involvement, are argued to be promoted through CS activities (Orlitzky et al., 2003).

Each of the six previously mentioned capabilities generates a source of competitive advantage and, thus, leads to higher financial profits (Barney, 1991). The competitive advantage is a result of the capabilities' deep embeddedness and the social complexity in a firm. For competitors it is difficult to identify and imitate the capabilities, because they are invisible, path-dependent and lack a concrete owner in the firm (Barney, 1991; Surroca et al., 2010).

Though studies have begun to study the mediating role of intangible resources and capabilities this research stream seems to be in its infancy. The further development of the research stream – and the interpretation of results – is hampered by the fact that to date no common agreement on the conceptualization and measurement of intangible resources and capabilities exists (Dutta, Narasimhan, & Rajiv, 2005). First empirical results seem to yield mixed patterns. While both studies by Blanco et al. (2013) and Surroca et al. (2010) find evidence for a mediating effect of innovation in the CS-CFP relationship, indicating that CS stimulates the development of intangibles related to innovation, they find different effects for the direct relationship between CS and CFP. Interestingly, the studies also reveal that there are differences across the type of intangible resources and capabilities in terms of their mediating effect. Surroca et al. (2010), for example, find strong evidence for a mediating effect of intangibles related to innovation, human capital, and culture – but not for reputation. Conversely, Orlitzky et al. (2003) find that reputation appears to be an important mediator of the CS-CFP relationship, significantly stronger as compared to intangibles related to managerial competencies, organizational knowledge, and organizational efficiency. Clearly, further research is needed before stable conclusions can be drawn. However, the initial findings suggest that further exploring the mediating role of intangible resources and capabilities may yield a great degree of insights into the CS-CFP relationship.

External mediators

According to the external mediator perspective, there is no direct relationship between CS and CFP. Rather, the basic assumption of this literature is that the effect of CS on CFP occurs through external influence factors. Reviewing the literature, we found that research on external mediators focused on a single factor, namely stakeholder response.

Stakeholder response

Studies exploring stakeholder response as an external mediator are grounded in stakeholder theory (Freeman, 1984), with stakeholder response referring to stakeholders' assessment, attitude, and action towards a firm's CS actions. Studies in this stream are based on two main arguments: (i) the need of stakeholders are at the heart of any CS activity (Surroca et al., 2010) and (ii) stakeholders' responses towards a firm's CS activity directly affect financial performance (Schuler & Cording, 2006).

Stakeholders praise or criticize a firm's CS activities. The pivotal issue here is that the information stakeholders base their praise or criticism on is the central input factor. After all, in order to praise or criticize a firm's CS activities, stakeholders must first notice, interpret, and finally act on the provided information of the firm's CS activities (Daft & Weick, 1984; Peloza & Papania, 2008). CS disclosure provides signaling (Orlitzky et al., 2003), as well as information diffusion and consistency (Schuler & Cording, 2006). It reduces information asymmetry between stakeholders and the firm, and increases stakeholders' knowledge. Communication about CS activities helps a firm to build a positive image of quality, honesty, and reliability, which, in turn, is argued to positively affect stakeholders' loyalty and satisfaction (Lev, Petrovits, & Radhakrishnan, 2010).

However, at the same time the firm's CS activities and behavior must support the communicated information, to sustain this reputation (Wang & Bansal, 2012). Stakeholders' responses depend on the relation of the firm's CS activities to the firm's history (Barnett, 2007) and probable business-related intentions (Lev et al., 2010). CS activities need to be related to the domain of the firm's business. Stakeholders punish firm that engage in inappropriate action; meaning actions they perceive as opportunistic, self-serving and without reciprocity for the firm (Jayachandran et al., 2013). Therefore, in order to enhance financial performance, a firm needs to acquire legitimacy in the eyes of the stakeholders by addressing stakeholders' expectations and communicate appropriately with them. In this context, primary stakeholders have to be differentiated from secondary stakeholders. Primary stakeholders perceive CS activities more as self-serving and related to a firm's profit-making interests than secondary stakeholders do (Godfrey, Merrill, & Hansen, 2009). The reason is that primary stakeholders have more power and urgency. Thus CS activities are perceived less as voluntary action, but rather as a firm's means to reach more flexibility and to create more beneficial exchanges with its primary stakeholders.

AN OVERALL EVALUATION

Overall, our assessment of the literature taking a contingency perspective – moderators and mediators – on the CS-CFP relationship is mixed. On the one hand, we find it encouraging for the field that scholars have begun to take a finer grained and more differentiated perspective on the CS-CFP relationship. This is likely to advance our knowledge substantially and may ultimately reveal stable patterns in the relationship at hand, enabling us to answer the question '*When does it pay to be good?*'

On the other hand, however, we find research on moderators and mediators in the CS-CFP relationship to be fragmented and underdeveloped. For one thing, considering both the vast amount of studies addressing the CS-CFP relationship and the fact that scholars have long called for a contingency perspective on this relationship, the number of studies exploring moderators and mediators is strikingly small. A limited number of studies addressing a specific relationship need not be a severe limitation per se. However, taking into consideration the many different constructs and operationalization the studies in our sample rely on to proxy firms' corporate sustainability performance as well as the different dependent variables (see Table 1 for detailed information on this), the limited number of studies available must be considered a severe limitation as it hampers the comparability of results across studies and – as a result – the emergence of stable patterns.

For another thing, we also find that available research taking a contingency perspective may be criticized for three issues, namely (i) limited novelty, (ii) missing investment in theory building, and (iii) shortcoming in research design and measurement options. We elaborate in more detail on these three critical issues in the following.

Low degree of novelty

Our systematic search of relevant literature yielded a total of 32 studies focusing either on moderators or mediators in the CS-CFP relationship. At first sight, this may be perceived as a broad variety of studies. However, on second sight, it becomes obvious that notwithstanding different names and operationalization only eight different moderators and mediators were explored. Given that we were able to identify only two distinct mediators, it seems that the case is even worse for mediators than for moderators. Furthermore, we were surprised to find that many of the moderators and mediators explored were the 'usual suspects', such as firm size or industry. However, we believe that in order to provide deeper insights on the CS-CFP relationship, we must move beyond

these ‘usual suspects’ and explore novel constructs that have the potential to moderate and/or mediate the CS-CFP relationship. For example, there is hardly any research addressing factors on the individual level such as employees’ organizational commitment or organizational citizenship behavior (Chun, Shin, Choi, & Kim, 2013). In other words, so far little attention has been devoted to the individual-level factors inside the firm. This, however, is in line with our finding that the field basically draws on mainly two theoretical approaches – RBV and stakeholder theory – reflecting the organizational and institutional level, respectively.

But novelty is also missing in the application of constructs. Most of the studies refer to the construct of CSR and only a few to EM or other constructs. Only one study explicitly applies CS. As mentioned in the beginning of this paper, we encourage the development towards CS as one integrative term, in order to enhance our understanding and thinking about the CS-CFP relationship. The different constructs are mutually supportive and as a consequence apply similar underlying theories, research design and measurement options.

Missing investment in theory building

RBV and stakeholder theory are clearly the theoretical cornerstones of the literature we reviewed (and maybe also of the broader CS-CFP relationship literature). As shown in Table 1, half of the studies build their arguments based on stakeholder theory and/ or RBV. Indeed, these two theories are an obvious choice since the management of different stakeholders and of social and environmental changes are at the innermost core of CS (Surroca et al., 2010). A good relationship to stakeholders goes along with the development of valuable resources and capabilities (Hart, 1995). Moreover, RBV and stakeholder theory are strongly interlinked with a firm’s competitiveness and financial performance (Barney & Zajac, 1994; Schuler & Cording, 2006). Decisions on resource allocation and stakeholder relations are inseparable, because the way in which managers allocate resources necessarily has implications for the strength of the relationship to stakeholders. This set together interacts with and affects a firm’s financial performance (Berman, Wicks, Kotha, & Jones, 1999).

In our view, however, the virtues of these two theories, that is, their advanced development and their obvious fit to the research question at hand, are at the same time an obstacle for the further development of the field. Both theories are widely accepted in the literature and as shown in Table 1, many studies do not even explicitly refer to these two theories, rather start building

directly their arguments based on these theories without reviewing them or assessing their suitability. Applying them to a specific research question is likely to yield the 'same old story'. This, in turn, is likely to have hampered the development of novel research questions.

At the same time, the contradicting findings we revealed may suggest that these two theories alone are not enough to provide an explanation for the effect of specific moderators and mediators. Therefore, we believe that the field may greatly benefit from the integration of concepts and theories from other research areas, such as contingency theory, organizational behavior, agency theory, cognitive science or human resource.

Finally, our findings do not just reveal a lack of theoretical lenses. Rather, our results also indicate that the CS-CFP research is in transition towards a shifting research focus (Taneja, Taneja, & Gupta, 2011), implying that there is a need to move away from a direct focus on CS-CFP and its measures. It is of utmost importance to understand the underlying constructs of this phenomenon and to treat CS no longer as a 'black box'. To do so, theoretical groundwork is needed, in particular with respect to firms' strategic management. Typically, decisions concerning CS activities are related to strategic decisions on the business and/or corporate level of a firm (McWilliams & Siegel, 2011). Therefore, in order to understand '*when it pays to be good'*, it is not enough merely to explore the extent of a firm's investment in CS activities and projects. Rather, it is important to uncover how and to what degree these CS projects and investments are intended and designed strategically to enhance a firm's profit. We will come back to this issue in more detail in our future research agenda.

Lack of research design and measurement options

Despite the nearly 30 year old call for moderators and mediators in the CS-CFP relationship (Ullmann, 1985), its empirical research is still in its infancy. There is a mismatch between theory, research design, and measurement options. Eight out of the reviewed studies are interpretative in nature, in terms of conceptual articles and literature reviews. 24 out of the reviewed studies are empirical in nature. One outstanding aspect, which our literature review reveals regarding research design, is the occurrence of *implicit* argumentation. By that we mean that some studies miss an *explicit* moderator and/or mediator analysis. Rather, these studies indirectly argue for either a moderator or mediator variable but do not explicitly test this relationship. A total of eight out of 32

studies can be assigned to this implicit argumentation. Nonetheless, we decided to include them in our literature review, because they point out interesting new moderator and mediator variables.

The missing variety in measurement options goes hand in hand with the lack of research design. The most popular research approach is the analysis of secondary database sources, such as *Kinder, Lydenberg & Domini* (KLD), *oekom* or *Dow Jones Sustainability Index* (DJSI). Less used are perceptual and reputational measures. A common used explanation is that external third-party ratings are more reliable and transparent (Chatterji, Levine, & Toffel, 2009; Chatterji & Toffel, 2010), whereas perceptual and disclosure based information are labeled as being subjective (Cochran & Wood, 1984). However, it should be taken into consideration, that especially perceptual measures are necessary to get internal insights into a firm's CS activities. A broader variety of applied mixed measurement options can be useful to increase the understanding of moderators and mediators in the CS-CFP relationship.

Finally, we believe that future studies need to put more emphasis on ensuring a fit between their theoretical argumentation and the construct used to operationalize CFP. In some of the studies we reviewed we felt that there was some misfit between the choice of CFP construct and the theoretical development of the respective study – at least, as discussed above when it comes to apply a accounting-based measures of CFP as a robustness check for market-based measures of CFP and vice versa. Given that accounting-based and market-based measures of corporate financial performance have been argued and shown to represent distinct dimension of CFP (see, for example, Gentry & Shen, 2010), future research needs to define more clearly which aspect of firm performance they are interested in and develop the theory accordingly.

SUGGESTIONS FOR FUTURE RESEARCH

Given the limited number of studies exploring moderators and/or mediators in the CS-CFP relationship there is no lack of topics deserving future research attention. Hence, in the following we provide several suggestions for future research that we believe deserve particular attention. We begin with outlining specific suggestions for moderator and mediator research. Thereafter, we take a step back and provide some broader suggestions for future CS-CFP research that evolved as a result of our review. Our suggestions for future research are considered under to broader concept of CS and respective CS activities.

Specific suggestions for moderator & mediator research

In a notable study, Marom (2006) laid the foundation of a *unified theory* of the CS-CFP relationship, aimed at explaining the range of observed outcomes within the respective research. To develop this unified theory, the author draws on the parallels between the construct of CSR and the business economics domains. Acknowledging both, the rewards as well as the costs of CSR, the resulting formal model is able to bridge two seemingly contradictory hypotheses about the CS-CFP relationship – the social impact hypothesis arguing for a positive relationship and the trade-off hypothesis arguing for a negative relationship. Though Marom's (2006) attempt is noteworthy, it argues that this relationship is contingent only upon the reward of CSR and the resulting costs. It does not, however, acknowledge contextual factors.

In the following, we provide an extensive set of suggestions for future research that explicitly takes into account that contextual factors may have an effect on the basic CS-CFP relationship. Given that our review reveals that RBV and stakeholder theory are the main theoretical perspectives underlying the literature in question, we propose that the inclusion of theories taken from the broader field of strategic management may offer the greatest potential for advancing this research field, thereby appreciating the complex and interdisciplinary nature of CS. This is due to the following reasons: First, as Lee (2008) in his recent review of theories of the CSR construct has outlined, the theoretical perspective in CSR thinking has evolved over time with strategic management marking the contemporary dominant theme. Second, following Farjoun (2002) the two dominant questions within strategic management research are (i) to identify what affects firm strategy and (ii) to explain what determines firm performance. Against the background of these three studies and our emphasis on CS, decisions concerning CS activities can be considered one of the strategic management's key questions. Emphasizing the internal and external environment as well as the development of the firm's resources and capabilities, CS activities represent a key determinant of a firm's strategy. Moreover, with CFP being the dependent variable, the CS-CFP relationship focuses on the core issue of strategic management research.

By taking a more strategic perspective on the moderators and mediators within the CS-CFP relationship, our objective is to encourage cross-fertilization of concepts, theories, and analytical models. Below we outline our suggestions for future research involving moderators and mediators within the CS-CFP relationship.

Internal moderators

Leadership style. In the CS and strategic management literatures there is a vigorous discussion on the driving forces of managerial motives and, in particular, on the influence of different leadership styles (Waldman & Siegel, 2008). Leaders are in focus, because the behavior of CEOs and other top managers can stimulate investments into organizational resources and capabilities. This, in turn, may affect both CS and CFP. CEOs and other top executives influence employees and other followers to engage in complex CS problems, to understand CS activities, and to advance their implementation.

Research has shown, that leadership style and firm performance are strongly interlinked (Ogbonna & Harris, 2000). The success or failure of a firm is to a large extent determined by the effectiveness of its leader(s). Of particular relevance is the interest in different styles of leadership. In the leadership and human resource management (HRM) literatures two main concepts are contrasted, namely the transactional and the transformational leadership style (Ogbonna & Harris, 2000). The transactional leader is rather instrumental and emphasizes a frequent exchange with subordinates. In contrast, the transformational leader is more visionary and enthusiastic with a strong focus on the motivation of subordinates. This leader is also referred to as a charismatic leader (Bass & Avolio, 1993). Transformational leaders positively influence the firm's organizational performance, because their inspirational skills motivate subordinates towards a superior performance. Moreover their decision-making approach focuses on balancing the concerns and needs of multiple stakeholder groups. This yields a better long-term reputation, inspiration and profitability (Waldman & Siegel, 2008). Conversely, it has been shown that less charismatic leaders with a focus on profit and cost control in decision-making are less inspiring for subordinates. As a result these subordinates did not achieve a better performance (Orlitzky et al., 2011).

The preceding arguments lend strong support to the assumption that leadership style moderates the CS-CFP relationship. Charismatic leaders behave to a large degree in favor of core CS values and goals as opposed to less or non-charismatic leaders. The focus of charismatic leaders is on stakeholder needs and motivation of employees, which is well in line with CS principles (Waldman, Siegel, & Javidan, 2006). Hence, it is almost natural for charismatic leaders to successfully align CS and business activities. At the same time, the vast body of research dealing with *charismatic leadership theory/transformational leadership theory* has argued theoretically and

shown empirically that charismatic leadership results in an extra effort of employees, and that charismatic leaders should be able "to generate more innovation, learning, improved asset deployments, and long-term efficiency, with positive effects on organizational performance" (Sully de Luque, Washburn, Waldman, & House, 2008, p.634). Conversely, leaders with an emphasis on purely economic values produce negative feelings among followers which ultimately harm organizational performance. Hence, charismatic leadership will yield extra efforts of organizational members in carrying out CS activities, which will then have a positive effect on the respective organization's performance.

In sum then, we suspect that the degree to which a leader engages in a charismatic leadership style positively moderates the CS-CFP relationship. To test leadership style as a moderator, future research may address this moderating relationship drawing on charismatic leadership theory/transformational leadership theory and may either rely on self-reported surveys among CEOs, top executives, and employees or draw on some already established measures such as the Conger-Kanungo charismatic leadership scale (Conger & Kanungo, 1992, 1994).

Product type. CS activities can be seen as a form of investment, in particular, a mechanism for product differentiation. Firms can differentiate their products either by providing them with CS attributes (product differentiation) or by producing the products through CS processes (process innovation). This aims at increasing the demand for CS and to address customers who are willing to pay a price premium for CS attributed products (McWilliams & Siegel, 2001). Firms can then integrate their CS activities into their marketing strategy to exploit key segments in the market and to signal reputation for quality, honesty, and reliability (Fombrun & Shanley, 1990).

CS is a popular means to differentiate products, in order to achieve a premium price and to create new markets. Differentiation through CS reduces the price elasticity of demand, because consumers are more willing to pay a higher price for sustainable products (Flammer, 2014) Furthermore, CS attributed differentiation directly increases customer demand through attracting new customers. These new customers are open and responsive to CS practices, such as quality, product safety, antitrust conformity and benefits for economically disadvantaged (Reinhardt, 1998).

However, instead of focusing on CS attributes, we rather recommend looking at the type of the product, whether it is an experience or search good (Nelson, 1970). In the context of ever-increasing competition it seems that CS is not any longer an 'unnecessary cost of doing business'.

Rather it seems that, in particular, for firms selling experience or credence goods and services, it is likely that the benefits of differentiation achieved through CS offset the higher costs associated with the respective CS activities. Experience goods and services, such as automobiles or healthcare services, need to be used or consumed before consumers are able to determine their true value (Nelson, 1970). Typically such goods and services have a lower price elasticity since consumers may conclude that a low price signals low quality and/or unobservable problems (Lancaster, 1966). Given that experienced consumers base their purchasing decision on brand, reputation, and trust, they have a higher demand for product information. Accordingly, they are more responsive to a firm's CS commitment, since this credibly signals quality and trust. Conversely, the value of search goods, such as clothing and furniture, is evaluated before purchasing. Advertising of those goods typically involves only information on the price and the availability (Siegel & Vitaliano, 2007). Thus, a CS attributed differentiation strategy seems to be less suited for search goods.

Based on the preceding reasoning, we therefore propose that the effect of CS on CFP is moderated by the type of the good or service offered. Applying CS differentiation on experience goods is likely to be more successful than on search goods, due to different levels of asymmetric information. The use of perceptual measures may be useful to understand the intra- and inter-related financial difference between CS and non-CS attributed experience goods and services, as well as search goods and services.

Ownership type. Though corporate governance is one of the issue areas contained in the KLD database, the majority of studies relying on KLD data did not include this specific issue area (see Table 1). Even more, the indicators included under corporate governance do not encompass ownership type – which we here refer to as the distinction between family firms and non-family firms. Rather, owners and investors have been treated as a homogenous group (Johnson & Greening, 1999). However, we believe that there is a need to consider different types of owners – family vs. non-family – and their different impact on the CS-CFP relationship. Owners pursue their own goals with the firm and their own way to achieve corporate outcomes. At the same time, ownership is among the most powerful forces that affect a firm's strategy and performance. It is a mechanism to institutionalize power and to change a firm's responsiveness to external and internal contingencies (Chaganti & Damanpour, 1991).

Zahra et al. (1993) did the first empirical study that considered the impact of corporate ownership and board structure on CS-CFP. The authors show that higher insider ownership is positively related to better CS and CFP. Following up on their findings, we recommend that future research explores the differences between *family firms* and *non-family firms*. Both types differ in their strategy, structure, and risk taking behavior, which affects the investments in CS. CS investments are long-term and it takes time to benefit from CS commitment (Graves & Waddock, 1994). This may, first and foremost, be incompatible for the short-sighted time horizon of listed public non-family firms. Those firms are most likely to follow short-term goals, because of their own reward system, which in general emphasizes quarterly performance. Therefore they push firm management towards the bottom line and prefer investment strategies for corporate growth, rather than internal development of new products and R&D expenditures (Chaganti & Damanpour, 1991). Conversely, family firms regularly adopt a more defensive and less risky strategy. They are more committed to the firm's success and consistent long-term growth and profit of the firm (Breton-Miller & Miller, 2006; Miller & Le Breton-Miller, 2003). Family firms typically do not face short-term pressure, because they cannot move quickly and sell their shares. Therefore they have a strong interest not only in the financial performance of the firm, but also in competitiveness and activities with other stakeholders. Family firms see the long-term benefits of maintaining the quality of the product, acting responsive to the environment and stakeholders, and showing responsibility to the people and community (Johnson & Greening, 1999). Unique for family firms is the desire for independency and privacy, which leads to the avoidance of external funding and cost intensive environmental fines. Investments into CS commit owners to have interest in all stakeholders and long-term oriented benefits. In sum then, it seems that ownership type is an internal moderator that may have a profound impact on the CS-CFP relationship. In particular, we propose that due to shortsightedness, the relationship between CS and CFP will be less distinct (if present at all) for non-family firms, whereas we expect a strong positive relationship for family firms.

External moderators

Market structure. The type of industry, whether firms act in environmentally bad or good industries, is a common moderator and a control variable in the CS-CFP nexus. However, the consideration of the market structure with reference to the degree of competitiveness is missing. We believe that the degree of competitiveness / industry concentration is important for at least two reasons: *First*, an industry's market structure – for example, in terms of degree of competitiveness /

concentration – is likely to change over time. Becker (2006), for example, reports that while in 1960 there were as many as 62 independent automotive manufacturers, the concentration process within this industry resulted in only 30 independent manufacturers in 1980 and as few as 12 in 2004. *Second*, not all – in fact hardly any – industries are 'perfectly global', meaning that the competitive market structure is identical, independent of the geographic location. Rather, an industry's competitive market structure is likely to vary with geographic location. The 'restaurant industry', for example, is likely to be quite different depending upon whether a metropolis such as New York or a small town somewhere in the Midwest is considered. It has been shown that both objective characteristics and subjective perception of the competitive market structure affect a firm's financial performance and determine the success of strategies (Prescott, 1986). Objective characteristics of the market structure, such as number and relative strength of firms, entry and exit conditions, extent of differentiation, and terms of competition, determine market conditions (Porter, 1979, 2008). Firms in a more competitive environment are forced to be more responsive to changing needs of the market. They need to be more market-oriented towards what customers want and then satisfy them. In order to outperform competitors, firms need to have a greater understanding of customers' needs, which, in turn, influences the success of new products, reduces failures and costs, and affects marketing decisions. Increased customer orientation goes together with an increased engagement and communication of firms' CS activities, in order to identify customer needs, to gain legitimacy, and to differentiate from competitors (Gardberg & Fombrun, 2006). This, however, lends support to the assumption that the more competitive the market structure, the higher the probability of an increased bottom-line oriented CS engagement.

Additionally there is also a subjective component of the market structure. As shown by Miles and Snow (1978), the characteristics of the environment influence the decision-making of managers. Managers enact (Weick, 1979) their decisions according to their perception of specific conditions, trends, and occurring events in the environment. Managerial cognitive components can play a catalytic role in facilitating market structure specific CS engagement.

In sum, we therefore propose that the market structure, in terms of degree of competitiveness, positively moderates the CS-CFP relationship. Different competitive environments have different constellations of key success factors. Thus, it may be of interest to identify meaningful sub-environments and key interactions. Future research may therefore aim at developing an environment specific typology which may then help in identifying the form and strength of the relationship.

Labor market conditions. Another important factor, that we consider to require more research attention in future CS-CFP research, is the occupational composition of employment, in particular the shortage of available skilled workers. Due to the rapid growth of developing economies and the aging of many advanced economies, the demand for skilled workforce is growing faster than its supply (McKinsey Global Institute, 2012). Skilled employees turn more and more into a critical success factor for firms. The shortage of a skilled workforce obliges firms to rethink their working practices in the sense to become an attractive employer for talents, who will give them a competitive advantage. Especially skilled employees seek a workplace that supports labor relations, safety and health policies, and financial security (McWilliams & Siegel, 2001).

Therefore, when facing a shortage of skilled labor in its industry, a firm is likely to apply CS activities and policies in order to become more attractive for potential employees (Greening & Turban, 2000). CS humanizes a firm and serves as a means of differentiation. The skilled workforce is attracted to CS committed firms that are typically associated with a trustworthy working environment and fair working conditions, such as union relations, employee involvement, retirement benefits, and health and safety concerns. This also increases employee morale and productivity, which in turn positively affects a firm's financial performance (Bhattacharya, Sen, & Korschun, 2012). Thus, summarizing the preceding arguments, we propose that labor market conditions such as the degree of shortage of skilled workforce moderates the CS-CFP relationship positively.

Socio-demographic characteristics. As stated before, we believe that more research focusing on the role and effect of the individual within the CS-CFP relationship is needed. In particular the role of employees needs more attention, because firms increasingly stress the importance of employees for the successful implementation of CS activities. Aguinis and Glavas (2013) have pointed out that the employee's identification with the firm is a great enabler of successful CS activities. Moreover, CS allows employees to present and employ more of their personal selves at work (Kahn, 1990), because outside of the firm they are parents, friends, community members or similar. Employees, whose self-concept is aligned with being a good person, identify with a social and environmental responsible firm, and thus, those employees are more engaged in the firm (Aguinis & Glavas, 2013).

In order to address the individual needs of employees and to improve the successful implementation of CS activities, it is of interest to which degree socio-demographic characteristics, such as gender, marital status, stage of family life cycle, education, and social class, determine the firm-wide CS implementation. From marketing research, especially cause-related marketing (CRM) (Varadarajan & Menon, 1988), it is known that socio-demographic characteristics such as political orientation, educational level and socio-economic status (Webb & Mohr, 1998), as well as cultural background (Kim & Johnson, 2013) and personality attributes (Fraj & Martinez, 2006) influence the evaluation of CRM activities. Building upon these insights from CRM and the need for self-fulfillment of employees, we propose that socio-demographic characteristics are likely to shape employees' individual willingness to participate internally in CS activities and to promote the firm's CS engagement towards financial success. We suggest that socio-demographic characteristics moderate the CS-CFP relationship. In particular, we propose that socio-demographic characteristics that increase environmental consciousness positively moderate the CS-CFP relationship. Future research may rely on segmentation and profiling of employees to explore which groups of employees show consciousness for CS and to which degree.

Internal mediators

Administrative and social structure. The administrative and social structure represents a firm's formal and informal organizational system. Among the many important functions that a firm's administrative and social structure holds, a particular important one is that it determines how attention is allocated within the firm (Ocasio, 1997). In doing so, the firm's administrative and social structure substantially influences to what issues attention is padi and those that ave neglected. Put differently, the firm's administrative and social structure affects what issues make it on the firm's strategic agenda and as such what decisions and moves a firm undertakes (Dutton, 1997; Ocasio, 1997). Considering this important role of the firm's administrative and social structure, it is reasonable to assume that it represents an important resource guiding the implementation of strategic actions and the interaction between the firm and the environment. Organizational activities, decisions, and rewards are allocated, coordinated, and mobilized based on the firm's administrative and social structure (Farjoun, 2002).

Following Chandler's (1962) notion according to which structure follows strategy, we argue that the firm's administrative and social structure is shaped by the respective firm's CS strategy.

The more the firm engages in CS activities – that is, the larger the degree to which the firm considers CS to be part of the firm's strategy – the more aligned becomes the firm's administrative and social structure with that CS strategy. Accordingly, following the logic of the attention-based view of the firm (Ocasio, 1997), the firm will pay more attention to CS-related issues and – as a result – achieve a better alignment with the environment in terms of CS related issues. At the same time, the better alignment is likely to have a positive effect on the implementation of CS activities and ultimately the firm's performance. After all, the efficiency and effectiveness of CS activities' realization and management is substantially affected by the formal (e.g. governance structure, assigned responsibilities) and informal (e.g. culture, politics) aspects of the firm's administrative and social structure.

Based on the preceding reasoning, we propose that a firm's administrative and social structure mediates the relationship between CS and CFP. If this mechanism is valid, we expect firms that engage in more CS activities to have an administrative and social structure that more strongly supports and guides CS related activities, which in turn is likely to enhance a firm's CFP.

Organizational commitment. Employees' organizational commitment can be seen as a significant intermediate process between CS and CFP. Employees' identification and involvement in the firm (Chun et al., 2013) appear to operate as key intervening mechanisms in this relationship. When firms apply social, environmental and ethical standards, employees value their organizational membership and increase their identification with the firm (Turker, 2009). They feel pride and prestige. CS creates a climate of fairness and justice, which fosters the development of employees and increases employees' collective integrity, loyalty, and trustworthiness (Berman et al., 1999). Internally oriented CS activities indicate the presences of fair and transparent organizational practices and policies, where employees are more likely to develop trustful relationships among themselves, which favors a shared, pleasant work atmosphere (Chun et al., 2013).

Such collective organizational commitment relates to collective engagement, collaboration and loyal efforts towards common goals. This efficient allocation of individual resources and capabilities enhances the firm's productivity and helps to adapt to external environmental changes. A trustworthy and mutually supportive climate and improved inter-unit communication are crucial for maintaining and improving financial performance. Therefore we propose that organizational commitment mediates the CS-CFP relationship. If so, we expect that more CS leads to a higher

degree of organizational commitment, which in turn will positively affects CFP (Berman et al., 1999). For researchers as well as executives the identification of best practices may be a promising first step to obtaining necessary insights.

Competitive strategy. Organizational strategic variables are important for the successful implementation of the long-term orientation of the firm. Market orientation – in terms of the pursued competitive strategy – is such a valuable intangible variable. According to Porter (1980) the three generic competitive strategies are (i) cost leadership, (ii) differentiation, and (iii) focus, which constitute a fit of resources and capabilities, leading to the long-term profit of the firm (Grant, 1991). From a configurational theoretical perspective the fit between available resources and capabilities, contextual characteristics, and the pursued competitive strategy leads to a superior performance (Doty, Glick, & Huber, 1993; Meyer, Tsui, & Hinings, 1993). Resource bundles are appropriately channeled and configured through strategic choices, which ultimately determine the firm's financial performance.

Taking competitive strategy into consideration as a mediating factor is relevant, because it relates to the degree of CS implementation and promotion. Each competitive strategy is based on different market assumptions, mass production and distribution investments, and management values and vision. A differentiation or focus oriented competitive strategy emphasizes customers' satisfaction, loyalty and attraction; whereas a cost leadership competitive strategy stresses operational costs, efficiency and effectiveness (Porter, 1980). Both the differentiation approach and the focus approach are in favor of promoting CS, because sustainability assessment allows quality and customer concerns to be incorporated in the early stage of product development and production technologies, and makes it possible for the firm to enter into growing markets for sustainable products and technologies. Firms can differentiate themselves from other firms through CS and address customers who want sustainable products and services (Shrivastava, 1995). Conversely, CS is likely to be less applied in connection with a cost leadership approach; even though the exploitation of ecological efficiencies goes together with, for example, waste reduction, energy conservation, re-usage of material and reduction of life cycle costs (Shrivastava, 1995). The reason is that the initial investments and costs are too high. For a cost oriented firm, a CS approach may be restraining and too cost-intensive at first sight. Based on these arguments, we propose that the pursued competitive strategy mediates the CS-CFP relationship. We expect that the more CS a firm

engages in, the more stringent this firm will pursue either a differentiation or a focus strategy, which in turn will positively affect the CFP.

External mediators

Strategic networks. Firms are not autonomous actors. They are embedded in a network of social, professional, and exchange relationships with other stakeholders. These relationships can be within or across industries and countries, and be horizontally or vertically oriented. The rationale behind such a perspective is to consider the benefits of CS from optimizing the entire network of relationships. Networks affect the availability of resources and the flow of goods, services, and information, which influence the nature of competition and the degree of profitability (Gulati, Nohria, & Zaheer, 2000). As such, networks are both opportunities as well as threats. The advantages and disadvantages of a single firm are therefore linked to the advantages and disadvantages of the network and relationships, in which the firm is embedded (Dyer & Singh, 1998).

In the following, we focus on the structural context of the networks, rather than on the cognitive, institutional or cultural aspects (Gulati et al., 2000). Three characteristics are of relevance to describe the structural context of networks (i) network structure, (ii) network position, and (iii) quality of network ties (Uzzi, 1997). Network structure refers to patterns and first- or second-order of linkages in which the firm is embedded. Network position refers to the status, membership and identity of the firm in the network. The quality of ties can be described as weak or strong ties (Granovetter, 1983). What qualifies strategic networks as important mediators in the CS-CFP relationship, is the view that organizational outcomes are a function of social relationships between firms and other entities (Connelly, Ketchen Jr, & Slater, 2011). Firms make decisions based on information and influences that arise from the degree of involvement in social networks. In this way strategic networks determine activities. They are also important to diffuse and receive information. Strategic networks affect the likelihood of successful CS activities by providing information and experiences, and reducing information uncertainty. Imperfect ties make the implementation of CS activities uncertain and fragmented. Equally important is the position or centrality of a firm in this network. Centrality determines how fast CS strategies and practices diffuse throughout the strategic network, which concerns the access to timely and novel information (Connelly et al., 2011).

Strategic networks are external gatekeepers for the success of CS. Networks allow profits by means of casual ambiguity, sharing of risks, inter-organizational interconnectedness, time compression, development of the institutional environment, and co-evolution of resources and capabilities. This leads to relation-specific assets, scale and scope economies, and lower transaction costs (Dyer & Singh, 1998). Accordingly, we propose that a firm's embeddedness in a strategic network mediates the CS-CFP relationship. In particular, firms with higher CS are likely to be more central and active in a network and to possess higher quality network ties through open dialogues with their stakeholders. This, in turn is likely to positively affect CFP. Obviously, the development of multi-perspective network models and ethnographic field work are appropriate research methods to explore this proposition.

Taking a step back - broader implications for the cs-cfp research

In the previous section we have provided a number of specific suggestions to further explore moderators and mediators in the CS-CFP relationship. We are convinced that this will ultimately lead to a better understanding of this important relationship. However, the ambiguous and inconclusive findings on the general CS-CFP relationship seem to call for a complementary approach in order to further develop this research stream. At the core, we propose that future research moves away from simplifying the relationship between CS and CFP. This simplified relationship is likely to capture only a fraction of the issue at hand and is unlikely to guide us towards the desired answer. Put differently, adding more and more variables and using increasingly sophisticated analytical models is not likely to move forward our understanding of '*when does it pay to be good'*. Instead, we believe that it may be more advisable to understand the '*How*' and '*Why*'. This, however, requires a re-orientation towards opening the '*black-box*' (Aguinis & Glavas, 2012; Klassen & McLaughlin, 1996) and to understand the complex mechanism of CS.

A core element of CS is the so-called triple bottom line (TBL) approach, referring to the inclusion of social, environmental, and economic results in the measurement and reporting of firm performance (Elkington, 1997). Against this backdrop, measuring exclusively the effect of CS on CFP, almost per definition, provides a limited picture. We believe that it is important that we as researchers and also corporate managers increase the awareness of the benefits associated with CS activities that go beyond financial ones. Understanding '*How'* and '*Why'* CS creates value for a firm is way beyond the simplistic CS-CFP relationship. In fact, we believe that we as researchers

need to step back from the silo-like thinking that to date has dominated research involving CS activities.

As Elkington (2004, p. 6) has elaborated, over the last decades, CS has moved *"from the factory fence to the boardroom"*, from a compliance issue towards a strategic issue of competitiveness and market creation. Therefore, we call for a re-orientation of the CS-CFP research towards a more integrated picture of CS in strategic management. CFP is at the heart of strategy, given that the ultimate objective of strategy is increasing or at least sustaining firm performance. In the words of Venkatraman and Ramanujam (1986, p. 802), *"performance is the time test of any strategy"*. If one accepts this notion, then it becomes obvious that the question of how CS affects CFP is an essential issue in any strategy consideration. To date, however, we witness that the CS-CFP relationship has regularly been discussed without any strategy considerations. One way to address this existing shortcoming could be to draw on the concept of strategic CS. In particular, future research may move beyond the fairly old and less precisely defined term CS from Wood (1991) towards a strategic CS concept. At the core such a strategic CS concept (Aguinis & Glavas, 2013; Burke & Logsdon, 1996; Husted & Allen, 2007) would focus on the integration of CS within a firm's values, goals, and daily routines and operations. CS activities are strategically embedded in the firm's core competencies, because its implementation builds on the firm's own and unique core competencies (Aguinis & Glavas, 2013).

Beyond that, another necessary way to take a strategic perspective on the CS-CFP relationship is to step away from a purely financial perspective towards a more comprehensive understanding of firm performance. Following Venkatraman and Ramanujam (1986) there are three different approaches to measure firm performance in the strategy literature, namely (i) financial performance, (ii) operational performance, and (iii) operational effectiveness. Thus, financial performance, based on outcome-oriented financial indicators, reflects only a partial picture of the overall concept of firm performance. The financial performance emphasizes the dominance of financial goals of the firm. However the broader concepts of operational performance and operational effectiveness additionally emphasize non-financial goals and indicators, such as market-share, product development, product quality, manufacturing, as well as marketing effectiveness and technology efficiency (Venkatraman & Ramanujam, 1986). These are operational key success factors, which are also stressed in the TBL approach of CS. In accordance with the TBL approach it is advisable to look at the existing *'types of capital'* in a firm – physical, financial,

human, intellectual, social and natural capital (Elkington, 1997). The different types of capital are involved in providing products and services. Thus, CFP is *not* to be understood as a synonym for the economic aspect of TBL, since the economic aspect of TBL is not only about financial aspects. Rather TBL's economic aspect is in line with the understanding of organizational effectiveness and the firm's economic impact on the growth of the economy and wealth. This means, rather than looking at statements of profit and loss, the performance side should also consider long-term costs, demand for products, pricing, profit margin and innovation programs (Elkington, 1997).

In sum, we strongly encourage future research to take a step back and work towards a re-orientation of the CS research. We are convinced that moving beyond the narrow view of the CS-CFP relationship towards a strategic CS – the organizational effectiveness relationship holds great potential.

CONCLUSION

In this paper, we have reviewed the literature on moderators and mediators in the CS-CFP relationship. Overall, we find that despite long-standing calls to take a contingency perspective on the CS-CFP relationship, this research is underdeveloped. While existing studies have for sure provided valuable and interesting insights, the overall attention that this research has attracted is rather low. Therefore, we have provided a number of suggestions aimed at accelerating future research in this area. Given the overall results obtained within the CS-CFP literature we also believe that there is a considerable need for taking a step back and re-conceptualize the CS-CFP relationship. Given the insight that the CS-CFP relationship is an inherently strategic topic, our core argument is to aim for an integration of the CS-CFP literature and the strategic management literature. We hope that our review of the literature and our suggestions for future research will provide some help in overcoming the challenges this research stream currently faces.

NOTES

[1] The keywords used were *corporate sustainability* and *corporate financial performance.* Corporate sustainability was alternatively substituted with *(corporate) social performance*, *(corporate) environmental performance*, *corporate social responsibility*, *corporate sustainability performance*, s*ustain** and *CSP*. Corporate financial performance was substituted with *organizational effectiveness, organizational performance, profitability, economic success, outcomes and CFP*.

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Table 1: Studies adopting a contingency perspective on the CS-CFP relationship

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Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
Empirical Article							
CSR	Baird, et al. (2012)	**Moderator** - Industry context **Controls** - Size - Debt ratio - Return on invested capital	*Stakeholder theory* 58 different 1,153 firms, N=5,073 2000 - 2008	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, corporate governance, diversity, environment, product, employee relations, and human rights*. The index consists of a Z-score for the sum of strengths and concerns, based on a binary scoring scheme.	CFP **Market based** - Intrinsic value (stock price)	While CSP has a measure-able positive effect on CFP, the nature of the relationship is variable across industries. *Industry context* ** CSP-CFP: *negative*
CSR	Blanco, et al. (2013)	**Mediator** - Innovation **Controls** - Liquidity - Leverage - Financial distress - Size	*not specified* 28 different 202 firms, N=595 2005-2008	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, corporate governance, diversity, environment, product, employee relations, human rights as well as controversial issues (alcohol, gambling, military, nuclear power, and tobacco).* The index is calculated through aggregating total strengths minus total concerns.	CFP **Accounting based** - Profitability **Market based** - Tobin's q - Market to equity - EBIT to assets	There is a positive relationship between CSP-CFP. Evidence is found for a positive mediation effect of CSP on financial market-based performance through innovation. *Innovation* ** CSP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CSR	Godfrey et al. (2009)	**Mediator** - Stakeholder related CSR (institutional vs technical CSR) **Controls** - Size - Market-to-book - Event specific characteristics	*not specified* not mentioned 96 firms, N=178 1993-2003	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, corporate governance, diversity, environment, product, and employee relation.* The index consists of two scores (the sum of all positive and the sum of all negative items across the six dimensions).	CFP **Market based** - Cumulative abnormal return (-8;8)	The results indicate that institutional related CSR activities yield insurance like protection, technical related CSR do not. All in all, CSP has a positive impact on CFP. *Institutional CSR* ** *Technical CSR* (not significant) CSP-CFP: *positive*
CSR	Hull & Rothenberg (2008)	**Moderator** - Innovation - Industry differentiation **Controls** - Size - Firm risk - Industry	*RBV* not mentioned 69 firms 1998-2001	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, diversity, environment, product, employee relations, as well as controversial issues*. Each dimension score is measured by the difference between the summed value of each dimension's strengths and concerns, which then relates to the CSR measure by calculating the average of the seven dimensions.	CFP **Accounting based** - Return on assets	When the interactions of CSP with firm innovation and with differentiation in the industry are included, CSP has a positive, if marginally significant, effect on firm performance. *Innovation* ** *Industry differentiation* ** CSP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CSR	Jayachandran, et al. (2013)	**Moderator** - Product-based SP (PSP) - Environment-based SP (ESP) **Controls** - Information uncertainty - Size - Leverage - Return on assets	*Stakeholder theory* not mentioned 518 firms, N=3701	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *environment and product*. The index consists of a disaggregated score of the strengths and concerns in both categories.	CFP **Market based** - Tobin's q	Due to information uncertainty it is harder for stakeholders to diagnose ESP than PSP. PSP has a stronger positive impact on CFP than ESP. *Product-based SP* ** *Environmental-based SP* (not significant) *Information uncertainty* ** Size ** Leverage** ROA** CSP-CFP: *asymmetric*
CSR	Ruf et al. (2001)	**Moderator** - Changes in CSR engagement **Controls** - Size - Industry - Previous year's financial performance	*Stakeholder theory (with transaction cost theory and RBV)* not mentioned 496 firms; N=496 1991-1992	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, environment, employee relations, women and minority issues, product, as well as controversial issues (South Africa, military, and nuclear power)*. The index consists of a weighted average across the attribute ratings for each company in the study. This process results in a single-value CSP index for each firm.	CFP **Accounting based** - Return on equity - Return on sales - Growth in sales	There is a positive relationship between CSP-CFP. Firms achieve a competitive advantage when improving CSP, even if it is only for a short time period. *Changes in CSR engagement* ** CSP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CSR	Schreck (2011)	**Moderator** - Industry classification - Quality of CSR reporting activities **Controls** - Size - Industry - Leverage - Market risk	*not specified* 13 different 128 firms, N=128 2006	CSP **Reputation rating** Oekom rating	CSP is measured using the oekom index of: *employee relations, society & community involvement, corporate governance, environmental management, and product & consumer responsibility*. Oekom provides a weighted, disaggregated scheme of the measures.	CFP **Market based** - Tobin's q	No support is found for causality in the relationship between CSP and CFP, and it fails to support the existence of industry type and quality of CSR reports as moderators. *Industry classification* (not significant) *Quality of CSR reporting activities* (not significant) CSP-CFP: *no effect*
CSR	Servaes & Tamayo (2013)	**Moderator** - Consumer awareness **Controls** - Size - R&D - Advertising intensity	*not specified* not mentioned N=100 1991-2005	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, diversity, environment, employee relations, human rights, as well as product.* The index consists of two net score of strengths and concerns one for each category and one across all categories. A further category for CSR industry concerns is added.	Firm Value **Market based** - Tobin's q	Only under certain conditions CSR activities can add value to the firm, because consumer awareness moderates the CSP-CFP relationship. *Consumer awareness* ** CSP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CSR	Tang, et al. (2012)	**Moderator** - Pace of CSR engagement - Relatedness of CSR engagement - Consistency of CSR engagement - Path of CSR engagement **Controls** - Size - Industry - R&D investments - Slack	*Absorptive capacity theory, Related perspectives* not mentioned 130 firms, N=1300 1995-2007	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, corporate governance, diversity, environment, product, employee relations, and human rights*. Each dimension score is measured by the difference between the summed value of each dimension's strengths and concerns, which then relates to the CSR measure by calculating the average of the seven dimensions.	CFP **Market based** - Tobin's q **Accounting based** - Return on assets	There is a positive CSP-CFP relationship and firms benefit more when they adopt a CSR engagement strategy that is consistent, involve related dimensions of CSR, and begin with aspects of CSR that are more internal related to the firm. *Pace* (not significant) *Relatedness* ** *Consistency* ** *Path* ** CSP-CFP: *positive*
CSR	Van der Laan et al. (2008)	**Moderator** - Interactions with different stakeholder groups **Controls** - Size - Relative amount of debt	*Stakeholder theory (with sociology's resource dependence theory, and psychology's prospect decision theory)* not mentioned 734 firms, N=2,329-3,000 1997-2002	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, corporate governance, diversity, environment, product, employee relations, and human rights.* First, the percentage of criteria that are met for each of KLDs seven CSP dimensions is calculated. Second, the overall mean over the seven positive and negative indicators is composed. For all CSP variables the natural logarithm is applied.	CFP **Accounting based** - Return on assets - Earnings per share	The relationship between CSP and CFP is asymmetric and depends on the nature of the relationship between stakeholders and the firm, distinguishing primary (private) stakeholders from secondary (public) stakeholders. *Stakeholder group interactions* ** CSP-CFP: *asymmetric*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CSR	Wang & Bansal (2012)	**Moderator** - Long-term orientation **Controls** - Size - Age - Place of origin - Market scope - Industry - CSR disclosure	*not specified* 18 different 149 firms, 2008	CSP **Disclosure + perceptual measures** Survey and webpages	CSP is measured in two steps: first, manual identification of discrete CSR attributes of 145 firms on their webpages (disclosure measure); second, a survey about long-term orientation and financial performance (perceptual measure).	CFP **Accounting based** - Sales level - Market share - Sales growth - Cash flow - Return on assets - Return on equity - Return on sales - Ability to fund business growth from profits - Overall firm performance	Evidence found for a negative relationship between CSR activities and financial performance for new ventures, and this relationship is positively moderated by the degree of long-term orientation. *Long-term orientation* ** CSP-CFP: *negative*
CSR	Wang & Choi (2013)	**Moderator** - Temporal consistency - Interdomain consistency **Controls** - Size - Debt ratio - R&D - CSP trend - Industry	*Instrumental stakeholder theory, RBV* not mentioned 622 firms, N= 2,356 1995-2000	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of: *community, diversity, environment, product, employee relations, as well as controversial issues*. The index consists of the net score of total strengths and total concerns.	CFP **Market based** - Tobin's q	Consistency in CSP, both over time and across different stakeholder domains has a positive moderating effect on the overall positive CSP-CFP relationship. There seems to be significant differences in the moderating effect of consistency for firms with different knowledge intensity. *Temporal consistency* ** *Interdomain consistency* ** CSP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
eCSR	Flammer (2013)	**Moderator** Events - Eco-friendly - Eco-harmful Time **Controls** - Time - Size - Age - Profitability - Market-to-book - Analysts following	*not specified* not mentioned N= 273 1980-2009	CSP **Other external visible measures** KLD index	CSP is measured using the KLD index of *environmental strength* as well as the KLD index of *environmental concerns*. The two indexes are not aggregated but rather included separately in the same model.	CFP **Market based** Cumulative abnormal return (-1;0)	There is a positive relationship between CSP-CFP. However, environmental CSR is a resource with decreasing marginal returns and insurance-like features. This is supported by the fact that positive (negative) stock market reactions to eco-friendly (-harmful) events are smaller for firms with higher levels of environmental CSR. *Time* ** *Event* ** CSP-CFP: *positive*
EM	Busch & Hoffmann (2011)	**Moderator** - Process-based CEP **Controls** - Risk - Size - Region - Industry	*Stakeholder theory, RBV* not mentioned 174 firms, N=174 2006	CEP **Other external visible + perceptual measures** Sustainable Asset Management + Survey	CEP is reflected by the firm's carbon intensity, measured as the ratio between the total GHG emission and a firm's sales. The firm's carbon performance was provided through the Sustainable Asset Management rating. Process based CEP is measured as the quality of a firm's carbon management, measured through a survey.	CFP **Accounting based** - Return on assets - Return on equity **Market based** - Tobin's q	The choice of CEP measurements determines the outcomes when analyzing the CEP–CFP relationship. Process-based measurements cause a negative CEP–CFP relationship Process-based *CEP (not significant)* CEP-CFP: *negative*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
EM	Gilley et al. (2000)	**Moderator** Type of greening initiative: - Process-driven - Product-driven **Controls** - Firm reputation - Size	*not specified* 16 different N=71 1983 - 1996	CEP **Other external visible measures** Wall Street Journal Printed Index	CEP was measured as corporate environmental initiatives, which were defined as any organizational effort designed to reduce the impact of the firm's goods/services or processes to the environment and reported upon in the Wall Street Journal	CFP **Market based** Cumulative abnormal return (-1;0)	The results indicate that there is no overall effect of CEP on CFP, but the type of environmental initiatives announced does make a difference. Investors react more positively to product-driven initiatives than to process-driven initiatives. *Product-driven †* *Process-driven †* CEP-CFP: *no effect*
EM	Kim & Statman (2012)	**Moderator** - Managerial action **Controls** - Size - Market equity valuation	*RBV* not mentioned N=4,894 1992-2000	CEP **Other external visible measures** KLD index	CEP is measured using the KLD index of *environmental strength* as well as the KLD index of *environmental concerns*. The two indexes are not aggregated but rather included separately in the same model.	CFP **Accounting based** - Return on assets **Market based** - Tobin's q	Evidence for an inverted U-shaped CEP-CFP relationship, which is affected by managers' adjustments. *Managerial action*** CEP-CFP: *trade-off*
EM	Klassen & McLaughlin (1996)	**Moderator** - Industry context **Controls** - Size - Market equity valuation	*not specified* 3 different 82 firms, N=110 1985-1992	CEP **Reputation rating** NEXIS database	CEP is measured as the amount of received environmental awards by an independent party. Awards referring to product and operations technology, as well as management systems.	CFP **Market based** - Stock equity return	The importance of strong environmental management varies across industries. Strong environmental performance has a stronger positive impact on financial performance in clean industries than in dirty industries. *Industry context* ** CEP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
EM	Russo & Fouts (1997)	**Moderator** - Industry growth **Controls** - Size - Advertising intensity - Industry concentration - Firm growth rate - Capital intensity	*RBV* not mentioned 243 firms, N=486 1991-1992	CEP **Other external visible measures** Franklin Research and Development Corporation (FRDC) rating	CEP is measured using the FRDC rating of the following criteria: *compliance records, expenditures, reduction of waste, support of environmental protection organizations, and other initiative.*	CFP **Accounting based** - Return on assets	CEP and CFP are positively linked and this relationship is moderated by industry growth. *Industry growth* ** CEP-CFP: *positive*
CP	Brammer & Millington (2008)	**Moderator** - Time - Intensity of CSP **Controls** - Industry - Size - R&D/Sales - Profitability - Advertising intensity - Labor intensity - Leverage - Cash - Dividends	*not specified* 8 different 537 firms, N = 4,459 1990 - 1999	CSP **Disclosure** Annual Reports	CSP is measured as a firm's charitable giving	CFP **Market based** Sharpe ratio (ex-post reward-to-variability-ratio)	There is a curvilinear relationship between CSP-CFP. Firms with both unusually high and low CSP have higher financial performance than other firms. Poor social performers do best in the short run and good social performers do best over longer time horizons. *Time* ** *Intensity of CSP* ** CSP-CFP: *curvilinear*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CP	Lev, et al. (2010)	**Mediator** - Consumer satisfaction **Controls** - Industry profitability - R&D - Market-to-book ratio - Firm specific organizational capital - Percentage of shareholders by institutions - M&A - Capital expenditures - Advertising and promotion	*not specified* 9 different 251 firms, N= 1,618 1989-2000	CP **Other external visible measures** Taft Corporate Giving Directory + National Center for Charitable Statistics (NCCS)	CP is measured based on the time and amount of charitable giving	CFP **Accounting based** - Net revenues	There is an overall positive effect of CP on CFP. Evidence is found that customer satisfaction mediates the relation between corporate giving and sales; customer satisfaction is a conduit from contributions to revenue growth, particularly for consumer-focused firms. *Consumer satisfaction* ** CP-CFP: *positive*
CR	Surroca et al. (2010)	**Mediators** Intangible resources - Innovation - Human capital - Reputation - Culture **Controls** - Capital intensity - Leverage - Firm liquidity - Size - Risk - Industry - Country - Year	*natural-RBV, Stakeholder theory* not mentioned 599 firms, N=1204 2002-2005	CRP **Other external visible measures** Sustainalytics platform ratings	CRP is measured as the weighted sum of scores of five stakeholder groups (employees, customers, suppliers, community, environment), using the corresponding Sustainalytics weights averaged by sector and country.	CFP **Market based** - Tobin's q	There is no direct relationship between CRP and CFP —merely an indirect relationship relies on the mediating effect of a firm's intangible resources. - *Innovation* ** - *Human capital* ** - *Reputation*** - *Culture*** CRP-CFP: *no affect*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CS	Kurapatskie & Darnall (2013)	**Moderator** - Type of CS activity **Controls** - Industry - Size - R&D/Sales - Profitability - Advertising intensity - Labor intensity - Leverage - Cash - Dividends	*not specified* not mentioned 48 firms, N=633 2006-2007	CSP **Disclosure** Sustainability Reports	CSP is measured as the sum of a firm's lower-ordered CS activities and the sum of a firm's higher-order CS activities. Based on Hart and Milstein (2003) individual activities were assigned to one of four categories: - Pollution prevention - Product stewardship - Innovative technologies - Community-focus	CFP **Perceptual measure** Sum of self-reported financial benefits of a firms sustainability activities	The two types of CS activities have similar positive associations with financial performance, but the magnitude of this association appears to differ. *Type of CS ** CSP-CFP: *positive*
Meta-Analysis							
CSR	Orlitzky, et al. (2003)	**Moderators** - Artefacts - Measurement strategies **Mediators** - Competencies, learning, and efficiency - Reputation-Building **Controls** - No controls	-- not mentioned 52 studies, N=33,878 1970-2002	CSP **Disclosure, Reputation rating, Other external visible, Perceptual measures**	The meta-analysis uses Hunter and Schmidt's (1990) statistical aggregation techniques.	CFP **Market based** **Accounting based** **Perceptual measures**	It is shown that across studies, CSP is positively correlated with CFP. The relationship tends to be bidirectional and simultaneous. Cross-study variations in various subsets of CSP–CFP correlations can be explained through moderators and mediators. *Artefacts** *Measurement strategies** *Competencies* (not significant) *Reputation** CSP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
EM	Dixon-Fowler, et al. (2013)	**Moderators** - Environmental strategy - Firm characteristics - Methodological issues **Controls** - No controls	-- not mentioned 39 studies, N=22,869 1970-2009	CEP **Disclosure, Reputation rating, Other external visible, Perceptual measures**	The meta-analysis mixed-effect model methods developed by Hunter and Schmidt (1990) is applied to test for CEP-CFP.	CFP **Market based** **Accounting based** **Perceptual measures**	The results suggest a significant positive relationship of the general CEP–CFP link. Contingencies, as environmental strategy, firm characteristics and methodological issues, moderate differently the CEP-CFP relationship. *Environmental strategy* (not significant) *Firm characteristics * Methodological issues* (not significant) CEP-CFP: *positive*
Conceptual Articles							
CSR	Barnett (2007)	**Mediator** - Stakeholder relations	*Stakeholder theory* - - -	CSP	-	CFP	CSR influences CFP through improving a firm's relationship with relevant stakeholder groups. Hereby the firm's history is a relevant contingency. Overall the CSP-CFP relationship is U-shaped. *Stakeholder relations:* positively and negatively CSP-CFP: *U-shaped*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CSR	Husted & Salazar (2006)	**Moderator** - Types of strategic approaches towards CSR	*Microeconomic theory* - - -	CSP	CSP is theoretically measured based on microeconomic analysis of decisions, characterized by decreasing marginal returns.	CFP	A trade-off relationship exists between CSP-CFP. Greater overall benefits will be achieved by the strategic approach, rather than by the altruistic approach. Those different approaches suggest that CSP would drive CFP only in the strategic case. *Types of CSR:* positively CSP-CFP: *trade-off*
CSR	Schuler & Cording (2006)	**Mediators** - Information intensity - Consumer decision processes	*Stakeholder theory, Theory of planned behavior* - - -	CSP	Suggestions to test the model with KLD data or a survey instrument.	CFP	Stakeholder behavior explains how CSP leads to CFP. A key aspect of this dynamic is driven by how a stakeholder's moral values interact with information about a firm's CSP. Information about a firm's CSP influences the decisions of a stakeholder to engage in either supportive or deleterious behavior that ultimately affects the firm's financial performance. *Information intensity:* positively *Consumer decision:* positively CSP-CFP: *unclear*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
EM	Aragón-Correa & Sharma (2003)	**Moderators** - Uncertainty - Complexity - Munificence	*Contingent natural RBV* - - -	CEP	-	CFP	Certain characteristics of the general business environment, as uncertainty, complexity, and munificence, moderate the general positive relationship between the dynamic capability of a proactive environmental strategy and competitive advantage. *Uncertainty:* positively and negatively *Complexity:* positively *Munificence:* negatively CEP-CFP: *positive*
CR	Halme & Laurila (2009)	**Moderators** - Types of CR strategies	*not specified* - - -	CRP	-	CFP	There is a positive relationship between CR and CFP, but the way in which CR is implemented will in all probability influence its outcomes. Arguments are provided for an action-oriented CR typology. *Types of CSR:* positively CRP-CFP: *positive*

Construct	Study	Moderator/ Mediator (Control Variables)	*Theoretical approach* Industry Sample Time	Independent Variable (Measure)	Details on CS measure	Dependent Variable (Measure)	Main Findings (Empirical Results)
CR	Lankoski (2008)	**Mediators** - Learning - Reputation - Outcomes	*Neoclassical theory* - - -	CR activities	CR activities are considered as the sum of positive and negative outputs.	Economic Performance (EP)	The distinction between firms' CR activities on the basis of what outputs are produced outlines the U-shaped relationship between CR activities and economic performance. *Learning:* positively *Reputation:* positively *Outcomes:* positively CR-EP: *inverted U-shape*
Literature Review							
CSR	Aguinis & Glavas (2012)	**Moderators** different factors classified according: - Institutional level - Organizational level - individual level **Mediators** different factors classified according: - Institutional level - Organizational level - individual level	-- - 690 studies 1970-2011	CSP	-	CSR outcomes	The knowledge about the CSR-outcome relationship is fragmented and there are unexplored key opportunity areas that allow improving the knowledge of this nexus. CSP- Outcomes: *positive*
CSR	van Beurden & Gössling (2008)	**Moderators** - Firm size - Industry - R&D - Risk	-- - 34 studies 1990-2007	CSP	-	CFP	Firm size, industry, R&D, and risk appeared to be important factors that influence the general positive relationship between CSP and CFP. CSP-CFP: *positive*

Abb.	CEP	Corporate environmental performance
	CFP	Corporate financial performance
	CP	Corporate philanthropy
	CR	Corporate responsibility
	CRP	Corporate responsibility performance
	CSP	Corporate social performance
	CSR	Corporate social responsibility
	eCSR	Environmental corporate social responsibility
	CS	Corporate sustainability
	EM	Environmental management
	RBV	Resource-based view

† p <.10, *p <.05, ** p <.01

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***– Research article* 2 –**

CORPORATE SUSTAINABILITY AND THE EFFECT ON ORGANIZATIONAL CAPABILITIES: A COGNITIVE PERSPECTIVE

CORPORATE SUSTAINABILITY AND THE EFFECT ON ORGANIZATIONAL CAPABILITIES: A COGNITIVE PERSPECTIVE

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Abstract

This paper explores the effect of corporate sustainability on the development of organizational capabilities. In particular, building on cognitive theory about organizational cognitive frames, we argue that the relative importance of corporate sustainability in a firm's organizational cognitive frame provides an alternative explanation for the development of organizational capabilities. Based on survey evidences from 310 manufacturing firms in Denmark, we find that the relative importance of corporate sustainability in a firm's organizational cognitive frame has a positive effect on three organizational capabilities: stakeholder integration, market sensing, and organizational learning. Contrary to our reasoning, we find a negative effect on strategic planning. Thus, a cognitive perspective on corporate sustainability may provide an alternative explanation on the development of capabilities and yields potential for research addressing the relationship between corporate sustainability and corporate financial performance.

Keywords: Capability development, corporate sustainability, organizational cognitive frame, partial-least squared structural equation modelling

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INTRODUCTION

The study of the corporate sustainability – corporate financial performance (CFP) relationship has occupied one of the – if not the – most prominent places in the sustainability literature for the past four decades (Linnenluecke & Griffiths, 2013; Margolis & Walsh, 2003; Orlitzky, Schmidt, & Rynes, 2003). Corporate sustainability most often refers to the extent of a firm's sustainability activities and initiatives (measured in a variety of different ways) and CFP refers to a firm's financial return (typically measured as the return on assets or sales, or as Tobin's q). The importance of the corporate sustainability – corporate financial performance relationship is reflected by the sheer number of empirical studies published on this topic in major journals (for a review see for example Aguinis & Glavas, 2012). The reasons that this relationship has received this amount of research attention are straightforward: First, if there were reliable evidence of a positive relationship, managers would try to guide their firms to increase their engagement in sustainability activities, thereby benefitting both the firm and society at large. Second, databases containing quantitative data – such as KLD, FRDC, oekom – on firms' corporate social and environmental performance are readily available to researchers enabling them to engage in sophisticated statistical analysis.

However, despite the large number of empirical studies, the findings on the corporate sustainability– corporate financial performance relationship have been inconsistent (Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013; Margolis & Walsh, 2003; Orlitzky et al., 2003). In an effort to bridge these inconsistent findings, the academic debate on the corporate sustainability– corporate financial performance relationship has increasingly shifted towards a greater understanding of underlying factors, such as organizational capabilities (Sharma, Pablo, & Vredenburg, 1999) and cognitive frames (Hahn, Preuss, Pinkse, & Figge, 2014). We believe that rethinking the fundamental conceptualization of the relationship towards a more cognitive understanding of corporate sustainability under consideration of organizational capabilities, rather than financial performance as the dependent variable, is a promising way to overcome existing weaknesses, such as low degree of novelty and missing investment in theory building (Grewatsch & Kleindienst, forthcoming).

Therefore, the aim of the following study is to provide a complementary view to the traditional corporate sustainability– corporate financial performance relationship. In particular this paper applies a cognitive lens to explore how corporate sustainability directs the development of organizational capabilities. We posit that the relative importance of corporate sustainability in a

firm's organizational cognitive frame enables the development of specific organizational capabilities. We ground our prediction in theories of cognitive frames in corporate sustainability (Hahn et al., 2014) and hypothesize that the relative importance of corporate sustainability in the firm's organizational cognitive frame positively affects the development of four distinct organizational capabilities, namely (i) *stakeholder integration*, (ii) *market sensing*, (iii) *strategic planning*, and (iv) *organizational learning*.

To empirically investigate our arguments, we use data from a survey conducted among the top management of 301 manufacturing firms in Denmark. Using partial least square structural equation modeling, we find broad support for our hypotheses. We find that the perceived relative importance of corporate sustainability in the firm's organizational cognitive frame positively affects the development of stakeholder integration-, market sensing-, and organizational learning capabilities. However, contrary to what we hypothesized, we find a marginally significant negative effect on the development of strategic planning capability.

This study is structured as follows. Next, we discuss the theoretical background for our argumentation, by looking at cognitive aspects in capability development and in corporate sustainability. We begin with explaining the role of cognition in organizational capability development, before focusing on the relative importance of corporate sustainability in a firm's organizational cognitive frame. Thereafter, we develop our hypothesis connecting the relative importance of corporate sustainability in a firm's organizational cognitive frame to the development of four distinct organizational capabilities. Subsequently, we explain our research design and methodology. Finally, we discuss our findings and limitations of this study.

THEORETICAL BACKGROUND

A cognitive perspective on the development of organizational capabilities

Previous research has shown that cognition is a central element in the process of organizational capability development, the reason being that organizational capability development is constantly affected by managerial interpretation and the ongoing sensemaking of both internal and external circumstances (Barr, Stimpert, & Huff, 1992; Laamanen & Wallin, 2009). In particular the findings reveal that mental representations of the information environment direct the way in which organizational capabilities are developed (Barr et al., 1992; Eggers & Kaplan, 2013; Gavetti, 2005; Laamanen & Wallin, 2009; Tripsas & Gavetti, 2000).

How managers process information about the environment and consequently make decisions is subjective and dependent on the particular cognitive frame applied in a specific decision-making situation (Barr et al., 1992). Each individual has its own cognitive frame, or schemata of interpretation (Goffman, 1974), representing "*underlying structures of beliefs, perception, and appreciation through which subsequent information is filtered*" (Gilbert, 2006, p.151). Cognitive frames shape how managers perceive ambiguous information and drive their decisions. As a result, they are both diagnostic about the interpretation of the environment and prognostic about the development of organizational capabilities (Eggers & Kaplan, 2013).

Even though developed at the individual level, it has been argued that members of an organization can share a common cognitive frame (Bartunek, 1984; Rerup & Feldman, 2011) that is mainly shaped through top managers who have been argued to have the most impact on the firm (Hambrick & Mason, 1984; Kaplan, 2008b; Weick & Roberts, 1993). Therefore, an *organizational cognitive frame* can be defined as "*a set of shared assumptions, values, and frames of references that give meaning to everyday activities and guide how organizational members think and act*" (Rerup & Feldman, 2011, p.578). In this sense an organizational cognitive frame represents a dominant collective cognition about the strategy and objectives of the firm and which opportunities will be pursued. An organizational cognitive frame becomes articulated as rules of thumbs or codified in written manuals and documents. The organizational rather than the individual cognitive frame plays an instrumental role in how specific organizational capabilities are developed, given the critical influence they have on top management's strategic decisions (Kaplan, 2008b; Tripsas & Gavetti, 2000). It guides managers' understanding of both internal and external circumstances and thus facilitates and/ or limits attention to the accumulation and development of particular organizational competencies.

Consequently, organizational capabilities emerge from top managers' understanding of how things should be done and what the firm is capable of based on the given perception of the environment. Following Eggers & Kaplan (2013) organizational cognitive frames direct capability development along three aspects: i) identifying the purpose of the organizational capability, ii) understanding what the organization is capable of, and iii) directing the match between organizational capabilities and opportunities in the environment. From a cognitive perspective, capability development is an abductive process based on the organizational members' past experiences that best match the available information about the environment. Accordingly, managerial attention shifts from one critical organizational capability to another in order to develop

the firm in a balanced way (Laamanen & Wallin, 2009). Summarizing, organizational capabilities are context-dependent and result from managers' interpretation of the environment.

In the following we are interested in the impact of corporate sustainability's relative importance in a firm's organizational cognitive frame and its effect on the development of organizational capability. We argue that the relative importance of corporate sustainability shape the content and structure of a firm's organizational cognitive frame, which subsequently directs the development of specific organizational capabilities.

A cognitive perspective on corporate sustainability

Corporate sustainability builds on the concepts of sustainable development, which is commonly defined as "*meeting the needs of the present without compromising the ability of future generations*" (World Commission on Environment and Development (WCED),1987). In this sense, sustainability in general aims at securing intergenerational equity and similar opportunities for present and future generations. Applied to the business level this means that firms should be at least as profitable in the future as in the present and past, but ideally with opportunities and profits to growth. Hence *corporate* sustainability can be defined as "*the ability of firms to respond to their short-term financial needs without compromising their ability to meet their future needs"* (Bansal & DesJardine, 2014, p.71). According to the WCED's definition of sustainable development, corporate sustainability has three meta-characteristics: (i) it is a tridimensional construct integrating economic, environmental, and social dimensions in a triple-bottom line (Bansal, 2005; Gao & Bansal, 2013; Montiel, 2008), (ii) it represents intertemporal trade-offs of short-term and long-term aspects (Bansal & DesJardine, 2014; Dyllick & Hockerts, 2002), and (iii) it requires to consume only the income while maintaining the economic, environmental, and social capital bases (Dyllick & Hockerts, 2002).

From a cognitive perspective the three meta-characteristics of corporate sustainability can be seen as a decision-supporting framework for top managers, and in fact all organizational members (Boal & Peery, 1985). The extent to which they perceive corporate sustainability as being important and present in their decision-making determines the *content* and *structure* of the firm's organizational cognitive frame (Walsh, 1995). The cognitive content *"consists of the things he or she knows, assumes, and believes*", whereas the cognitive structure stands for *"how the content is arranged, connected, or situated in the executive's mind"* (Finkelstein, Hambrick, & Cannella, 2009, p. 61). The cognitive content relates to the attribution of domains, objects, and events and

thus infuses them with meaning and consequences by labelling them as either opportunities or threats (Dutton & Jackson, 1987). The cognitive structure is characterized by differentiation and integration. Differentiation denotes the "*ability to perceive several dimensions in a stimulus array"*, while integration describes "*the development of complex connections among the differentiated characteristics*" (Bartunek, Gordon, & Weathersby, 1983, p. 274). The cognitive content and structure are thus characteristic for an organizational cognitive frame. Cognitive content and structure, as reflected in the organizational cognitive frame, lead to a distinct interpretation of the situation and consequently to a specific organizational and managerial response (Tikkanen, Lamberg, Parvinen, & Kallunki, 2005).

In relation to the cognitive content, previous research has shown that firms with a high relative importance of corporate sustainability in their organizational cognitive frame (Hahn et al., 2014; Van der Byl & Slawinski, 2015), assign a high priority to social, environmental, and economic issues labelling them as opportunities rather than threats (Bansal, 2003; Sharma, 2000; Sharma et al., 1999). Firms interpret corporate sustainability related issues as opportunities, recognize the financial and strategic benefits of pursuing corporate sustainability initiatives, and look for ways to integrate these into their strategic agendas and decision-making processes. If corporate sustainability is perceived and understood as a present and highly important aspect in an organizational cognitive frame, then social and environmental issues become harder to "*disown*" (Weick, 1988, p.310). In fact, they get legitimated and justified as integral and crucial parts of the firm's strategy. This in turn, channels resources for actions, allows a more open search for solutions, supports communication inside and outside the firm, and directs the attention towards prioritized organizational capabilities (Sharma, 2000). Corporate sustainability becomes an overall guiding reference point in relation to which top managers and organizational members frame decisions and actions. Firms are more likely to achieve comfort and familiarity with social and environmental issues, reducing initial uncertainty and ambiguity surrounding such issues. As opportunities are more attractive than threats, involvement in the process of resolving the issue is greater and participation will take place at all levels of the firm (Dutton & Jackson, 1987; Sharma, 2000).

This also affects the degree of differentiation and integration in a firm's organizational cognitive frame. As corporate sustainability focuses on three dimensions (economic, environmental, social), it requires a high degree of differentiation, in order to recognize the distinct value of each of the three dimensions. Doing so requires top managers to mindfully attend to these distinct values in

order to avoid that the economic dimension is prioritized and only associated organizational capabilities are repeatedly applied (Smith, Besharov, Wessels, & Chertok, 2012). Top managers need to maintain the social and environmental mission, while at the same time achieving economic goals. Constantly evaluating things over time leads to the generation of more information in complex situations, reinforces organizational learning, and avoids inertia and cognitive commitment to the past. A high relative importance of corporate sustainability in a firm's organizational cognitive frame encourages the long-term future oriented thinking of the firm, and the constant development of new more effective and efficient products (Smith et al., 2012; Smith & Tushman, 2005). Additionally, the relative importance of corporate sustainability in an organizational cognitive frame also strengthens the degree of integration through developing interpersonal skills to build an organizational culture of trust, openness, and sensitivity in addition to seeking synergies between different alternatives (Smith et al., 2012). Corporate sustainability with its three meta-characteristics fosters complex thinking, integrative solutions, open exchange of ideas, and mutual collaborative learning. Thus, conflicts become productive and different levels of analysis in the firms are considered (Smith & Tushman, 2005; Smith et al., 2012). As a results, differentiation and integration are likely to strengthen a more temporal, spatial, and procedural (Ocasio, 1997) balanced decision-making.

The theoretical model we pursue in this paper is illustrated in Figure 1. The relative importance of corporate sustainability, under consideration of its three meta-characteristics, is related to the content and structure of a firm's organizational cognitive frame. In turn, the organizational cognitive frame affects decision-making and by that the development of organizational capabilities.

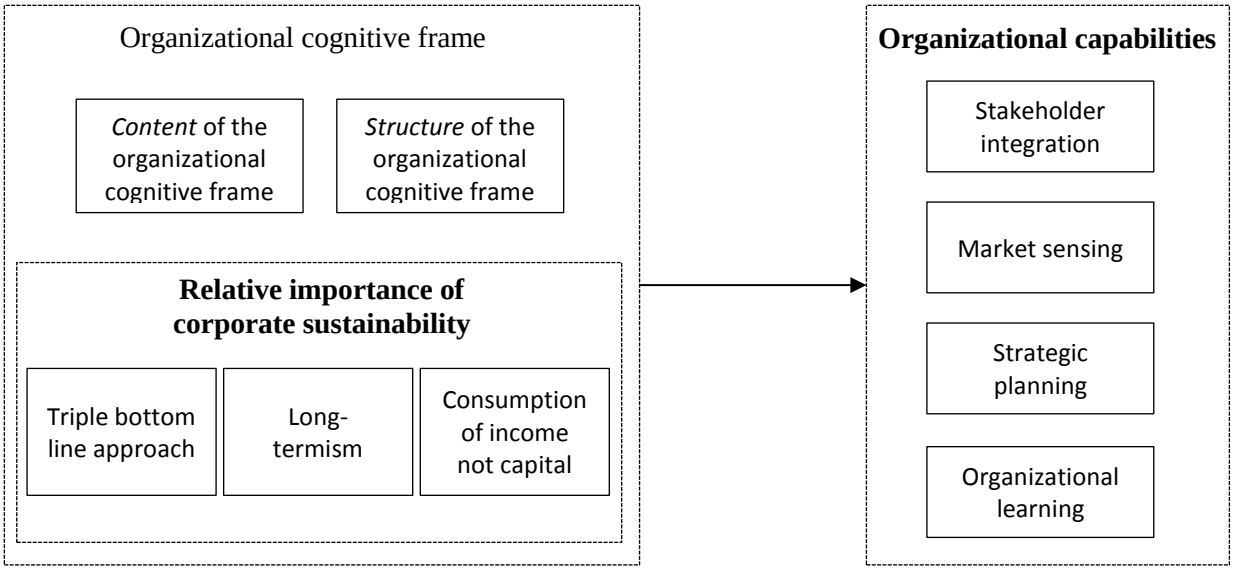

Figure 1 Cognitive model about the effect of corporate sustainability on organizational capabilities

HYPOTHESES DEVELOPMENT

The impact of corporate sustainability on organizational capabilities

In the following we argue how the relative importance of corporate sustainability in a firm's organizational cognitive frame affects organizational thinking and behaviour and thus directs the development of organizational capabilities. In particular we look at (i) *stakeholder integration*, (ii) *market sensing*, (iii) *strategic planning*, and (iv) *organizational learning*. These four organizational capabilities correspond to the four dimensions through which, according to Hockerts (2015), corporate sustainability may increase competitive advantage – namely (i) risk reduction, (ii) brand building, (iii) new market opportunity and, (iv) efficiency gains.

Stakeholder integration capability

Stakeholder integration is the ability of a firm to establish durable, trust-based, collaborative relationships with a wide variety of key stakeholder groups and has been argued to arise as a result of an integrated corporate sustainability approach (Sharma & Vredenburg, 1998). Social and environmental issues are complex, include different perspectives, and impact multiple stakeholders. In order to reduce the inherent types of risk in this complexity (Hockerts, 2015), firms with a high relative importance of corporate sustainability in their organizational cognitive frame are likely to engage in relational rather than transactional relationships (Hillman & Keim, 2001) with a diversity of stakeholder groups. Through a more opportunity focused attitude and a greater degree of differentiation as well as integration, these firms tend to be more focused on identifying and

understanding multiple stakeholders groups and their particular issues. Consequently, they gain stakeholder legitimacy (Suchman, 1995) for corporate sustainability related actions and initiatives as well as prevent losing their 'license to operate'. It is important that a firm's corporate sustainability initiatives are in alignment with a firm's strategy and main business activities, in order to gain trust and credibility in the eye of stakeholders. Firms with participation in social and environmental issues without direct ties to value creation and stakeholder management are associated with self-serving and creation of additional costs with a negative impact on shareholder values (Barnett, 2007; Hillman & Keim, 2001). Time, in terms of long-term orientation and repeated actions, is equally essential for a successful integration of stakeholders. Collaborative relationships are long-term investments for both parties based on fair dealing and moral treatment.

In sum then, corporate sustainability captures a firm's commitment to long-term, high-quality relationships, signals a reduced likelihood of short-term opportunistic behavior (Eccles, Ioannou, & Serafeim, 2014; Slawinski & Bansal, 2012), while representing a more efficient form of contracting through lowered risks and transaction costs (Jones, 1995). Firms with a high relative importance of corporate sustainability in their organizational cognitive frame develop intense and durable relationships with stakeholders, because they see a need as well as profitable opportunity in it, and it is easier for them through a more differentiated and integrative thinking. Thus, we hypothesize:

H_1: The relative importance of corporate sustainability in a firm's organizational cognitive frame positively affects the development of a firm's stakeholder integration capability.

Market sensing capability

Marketing focuses on the creation of customer demands and how to offer customers a unique value. The proliferation of digital media drives customers to change their search and choice behavior leading to an increased complexity in the market. As a result, niche segments and channel members gain power (Day, 2011). Therefore, the gap between the demands of the market and the capacity of the firms to meet these demands is increasing (Day, 2011). Firms can address this gap with a market sensing capability, enabling the firm to sense and act on emerging customers' needs before these are fully apparent and earlier than their competitors (Day, 1994; Olavarrieta & Friedmann, 2008).

Such a market focused capability requires that a firm is open to latent needs and is willing to seek insights about the market and the life of its customers outside of the market periphery. Firms with a high relative importance of corporate sustainability in their organizational cognitive frame

aim at addressing more individual customer needs by differentiating their product portfolio along social and environmental lines. Having a sense for different customer needs and developing specialized products are seen as opportunities for the firm as well as society. Previous research has shown that firms with socially and environmentally responsible products have a higher stance to attract new customer and clients (Christensen, 2008) and experience a higher customer loyalty, even though a price premium is charged (Hockerts, 2015). The reason may be found in the more differentiated and integrative thinking of these firms. Firms with a high relative importance of corporate sustainability in their organizational cognitive frame typically aim at creating and providing more differentiated products depending on the specialized needs of their customers. For instance an organic supermarket provides a more specialized and diversified product variety than an ordinary commercial supermarket. Customers feel that their individual needs are more understood and satisfied in an organic supermarket, consequentially they show a higher loyalty towards a brand or a firm.

A more integrated thinking is reflected in a more coherent customer and society thinking throughout the firm. Everyone, from the frontline salesperson to the top management, is committed to corporate sustainability and aims at building a strong base of satisfied customers, that is based on improved customer specific knowledge (Sen & Bhattacharya, 2001) and customer well-being (Bhattacharya & Sen, 2003). Therefore we hypothesize:

H_2: The relative importance of corporate sustainability in a firm's organizational cognitive frame positively affects the development of a firm's market sensing capability.

Strategic planning capability

A strategic planning capability refers to managed strategic processes and actions intended to improve a firm's long-term growth and development (Lenz, 1980; Mintzberg, 1994). Strategic planning affects the allocation of resources and the implementation of long-term plans through effectively monitoring internal operations and adjusting strategic actions to a changing technology and market environment (Chandler, 1990). In order to obtain a strategic planning capability, it requires for a firm to have a sense of short-term and long-term time horizon, awareness for the environment it acts in, and the key success factors, understanding for day to day operations, a vigorous approach to strategic issues, and a responsible and committed top management (Houlden, 1986).

Strategic planning and corporate sustainability are strongly interconnected (Galbreath, 2010; Judge & Douglas, 1998). Firms with a high relative importance of corporate sustainability in their organizational cognitive frame have a better understanding of changing conditions both in the internal and external environment and act opportunistic and flexible through constantly identifying new ways to adapt the firm's business activities and long-term goals to them. A more differentiated thinking triggers systematic monitoring of environmental conditions and stakeholder needs, prompts the top management's perception, and guides their actions in uncertain environments towards new business opportunities and emerging social and environmental issues. Firms follow a long-term temporal orientation and make strategic decisions that take into consideration their relationship with society and the environment. This can be observed, for instance, in the development of environmentally more resource-efficient technologies or the commercialization of the base of the pyramid markets (Hockerts, 2015). New market opportunities arise from a more complex corporate sustainability thinking and often start in niche markets, which are usually ignored by bigger businesses (Hockerts & Wüstenhagen, 2010)

A more opportunity focused and differentiated strategic planning approach is accompanied by a more integrated thinking throughout the firm's functional areas. Firms with a higher relative importance of corporate sustainability in their organizational cognitive frame are more process-oriented, in order to improve planning and production efficiency as well as the productivity, aimed at reducing overall costs and avoiding the consumption of valuable financial, natural, and social capital (Christmann, 2000; Paul & Siegel, 2006; Vilanova, Lozano, & Arenas, 2009). Consequently, we hypothesize a positive effect of corporate sustainability on strategic planning:

H_3: The relative importance of corporate sustainability in a firm's organizational cognitive frame positively affects the development of a firm's strategic planning capability.

Organizational learning capability

The organizational learning capability is defined as the capability of a firm to process knowledge, in terms of creating, acquiring, transferring, and integrating knowledge, in order to improve a firm's performance (DiBella, Nevis, & Gould, 1996; Jerez-Gomez, Céspedes-Lorente, & Valle-Cabrera, 2005). The development of an organizational learning capability requires four basic conditions, namely (1) knowledge transfer and integration, (2) openness and experimentation, (3) systems perspective, and (4) managerial commitment (Jerez-Gomez et al., 2005).

A high relative importance of corporate sustainability in a firm's organizational cognitive frame facilitates these four basic conditions in different ways. On the one hand, corporate sustainability involves multiple learning processes with a long-term focus, which requires an open environment and the firm's willingness to listen and respond to alternative perspectives by others. A higher degree of differentiation makes a corporate sustainability oriented firm open to learn from others, to share similar perceptions of issues, and to debate the nature as well as distinct values of endogenous and exogenous changes in the environment (Basu & Palazzo, 2008). Differentiation skills help top managers to address the challenges of sustaining commitment to both their business and society. In order to avoid inertia, top managers seek novelty and opportunity in constant learning and knowledge creation, such as when developing new products. On the other hand, the inherent social and ethical values of corporate sustainability influence the way top managers and organizational members make decisions. This in particular affects the moral and ethical aspects of organizational learning (Argyris & Schön, 1996), as well as the setting of targets, hampering short-term profit motives (Cramer, 2005). Moreover, a higher degree of integrative thinking requires that top managers build an organizational atmosphere of openness, trust, and cultural sensitivity in order to facilitate learning from each other and collaborative problem solving. This in turn increases a good reputation for a positive working environment which attracts, motivates, and retains employees and increases employee productivity (Branco & Rodrigues, 2006; Hockerts, 2015). Therefore, we hypothesize a positive effect of corporate sustainability on organizational learning:

$H_{4:}$ *The relative importance of corporate sustainability in a firm's organizational cognitive frame positively affects the development of a firm's organizational learning capability.*

METHODOLOGY

Data collection

Given the critical influence of top managers in strategic decision-making (Hambrick & Mason, 1984), we focus on organizational cognition at the top management level. Their commitment represents strategic priorities and reflects credibility to the goal of pursuing corporate sustainability throughout the firm. Therefore, we conducted a survey among the top management of manufacturing firms in Denmark during the summer 2014. Denmark was chosen as setting for the survey, because Danish firms show a high standard of corporate sustainability and active position towards corporate sustainability. The reason for this is the introduction of the Act on corporate

sustainability reporting (§99a) for the 1100 largest Danish firms in 2009[1]. Because of the mandatory corporate sustainability reporting for large firms, many Danish firms have adopted a corporate sustainability agenda and view corporate sustainability as a business opportunity. In order to differentiate one's corporate sustainability engagement from others and to stand out from the overall high social and environmental oriented standards in all business areas, the strategic aspect of corporate sustainability plays a crucial role for Danish firms (DanWatch, 2011; Strand, Freeman, & Hockerts, 2015; UNEP, 2015).

Based on the Danish company register we picked all firms with more than 100 employees, which lead us to 301 firms. We chose 100 employees as the lowest limit, because those firms fall under the legal requirement of corporate sustainability reporting. The top management of the 301 firms was asked to answer an online based questionnaire. Beforehand, each firm was contacted per telephone, in order to identify the key person to contact, to explain the purpose of the survey, and to get their permission. We also ensured confidentiality of the obtained sensitive firm information. After a period of two months, 124 valid and useable questionnaires were received, representing a response rate of 41.20 percent. Missing values in 10 questionnaires were replaced with mean replacement in scales (Hair , Hult, Ringle, & Sarstedt, 2013).

The questionnaire was based on a 5-point-Likert scale (Cox III, 1980; Hinkin, 1995), ranging from 1 (not at all) to 5 (a very great extent) or respective 1 (decreased a lot) to 5 (increased a lot). A focus group meeting with MBA students and consultation of five senior fellow researchers were done before contacting the manufacturing firms, in order to ensure understanding, reliability and content validity of the questionnaire. Based on this, the wording of the questionnaire was adjusted and when necessary, questions were reordered (Hinkin, 1995).

A means comparison between respondents and non-respondents indicated that non-included firms in the analysis were not statistically different from included firms in size (log transformed numbers of employees), financial performance (return on assets and return on equity), as well as available slack and leverage, based on available data from 2014.

[1] §99a requires a firm to report about its corporate sustainability policies, implemented actions, and results. There are no specific requirements on the content and degree of those reported information. Corporate sustainability is still seen as voluntary for firms, but if a firm has no corporate sustainability policy it needs to state information to that effect explicitly.

Measures

Relative importance of corporate sustainability. To the best of our knowledge, this study is the first to empirically explore in detail the relative importance of corporate sustainability in a firm's organizational cognitive frame. Therefore no existing quantitative measure exists. In order to measure the relative importance of corporate sustainability in an organizational cognitive frame and its application throughout a firm's decision-making processes, we decided to develop a second-order reflective-formative construct (Becker, Klein, & Wetzels, 2012), represented by a firm's five main business activities – general management, marketing, human resources, production, and supply chain. Each of the five categories captures a specific aspect of functional integration and only together they present the holistic picture of corporate sustainability throughout a firm. We adopted the five business activities from Lozano's concept of generic corporate systems in corporate sustainability (Lozano, 2012), which is based on Porter's value chain approach (Porter, 1985). Each of the five business activities is a reflective construct represented by 5-6 items. In total 28 items were used to measure corporate sustainability. Through an indirect approach, the respondents were asked to indicate the extent to which sustainability is considered in carrying out certain activities in their firm, in order to capture the relative importance. A confirmatory factor analysis (CFA) was applied, in order to confirm the reflective measurements for general management, marketing, human resources, production and supply chain, and also to reduce the amount of items from 5-6 to 3-4 items each, in order to increase construct reliability (Hair, Sarstedt, Ringle, & Mena, 2012b). The individual items underlying each reflective construct are displayed in appendix A.

Organizational capabilities. The four main organizational capabilities were measured as reflective constructs. Each construct consists of 3 to 4 items, which were based on the distinct characteristics for each main organizational capability. After carefully reviewing the existing literature for each main organizational capability, we developed our own measures suitable to the context of our study. The underlying items of each main organizational capability construct are shown in Appendix A. All items were asked in a time comparative approach, where the respondents were asked to indicate the extent to which organizational capabilities have been developed over the last three years. A CFA was applied, in order to confirm the reflective measurements for the stakeholder integration capability, the market sensing capability, the strategic planning capability, and the organizational learning capability. The loadings for each item on its reflective construct are shown in Table 3.

Control variables. We followed existing meta-analyses in corporate sustainability research (Dixon-Fowler et al., 2013; Orlitzky et al., 2003), in order to identify control variables. In this study we included firm size, industry type, and years of experiences with corporate sustainability. First, we controlled for firm size, because the size has a significant impact on corporate sustainability and organizational performance (Dixon-Fowler et al., 2013; Torugsa, O'Donohue, & Hecker, 2012). The firm size was measured by the natural logarithm of the number of fully employed employees in 2014. Second, industry may also be considered as an influencing factor. Each industry operates in a different context with its distinct financial, environmental, and social concerns (Baird, Geylani, & Roberts, 2012; Dixon-Fowler et al., 2013). Firms were affiliated according the Danish classification for the manufacturing business sector (Statistics Denmark, 2014). The Danish classification includes 12 industry types, which were coded as 11 dummy variables and individually inserted in the structural model. Lastly, we considered a firm's years of experience working with corporate sustainability. Previous research (Torugsa et al., 2012; Wang & Bansal, 2012) has shown, that corporate sustainability engagement becomes beneficial in the long-run rather than in the short-run. In the questionnaire respondents were asked to estimate the approximate years of engagement in corporate sustainability practices.

Partial least square analysis

We used Partial Least Squares structural equation modelling (PLS) with SmartPLS3 (Hair et al., 2013; Ringle, Wende, & Will, 2005) to test our hypotheses. PLS is a variance-based path-modelling technique, appropriate for exploratory research based on structural models with multiple-item constructs (Hair et al., 2012b). PLS can handle large model complexity, small sample sizes with less than 200 observations, formative and relative constructs, and to some extent non-normal distributed data (Hair, Ringle, & Sarstedt, 2013; Hair, Sarstedt, Pieper, & Ringle, 2012a; Shook, Ketchen, Hult, & Kacmar, 2004). Compared to covariance-based structural equation modelling (SEM) (Jöreskog, 1978), PLS aims at prediction and the early stage of theory development, rather than confirmation and theory testing (Hair et al., 2012b). PLS is a commonly used technique in management research, especially to analyze exploratory survey data. It has less stringent assumptions about normality and sample size.

Our PLS model has a total number of 10 latent variables and 28 items. With 124 respondents the minimum requirement for item-to-response ratio of 1:4 (Rummel, 1970) is fulfilled. Table 1 and

Figure 2 present the most significant characteristics of our model. Correlation coefficients for the latent variables are provided in Table 2.

TABLE 1: Description of model variables

Latent variable	Consideration	Nature	Indicators
Management (CS_MAN_F)	Exogen, 1st order	Reflective	3 observed items
Marketing (CS_MAR_F)	Exogen, 1st order	Reflective	3 observed items
Production (CS_PROD_F)	Exogen, 1st order	Reflective	3 observed items
Human resources (CS_HR_F)	Exogen, 1st order	Reflective	3 observed items
Supply chain management (CS_SCM_F)	Exogen, 1st order	Reflective	3 observed items
Relative importance corporate sustainability (RI_CS)	Exogen, 2nd order	Formative	5 latent variables
Stakeholder integration capability (SIC)	Endogen, 1st order	Reflective	3 observed items
Market sensing capability (MSC)	Endogen, 1st order	Reflective	3 observed items
Strategic planning capability (SPC)	Endogen, 1st order	Reflective	3 observed items
Organizational learning capability (OLC)	Endogen, 1st order	Reflective	4 observed items

TABLE 2: Correlation latent variables, and Fornell and Larcker Criteria

	1	2	3	4	5	6	7	8	9	10	11
1 RI_CS	**0.66**										
2 CS_HR_F	0.61	**0.81**									
3 CS_MAR_F	0.86	0.45	**0.84**								
4 CS_MAN_F	0.79	0.52	0.58	**0.83**							
5 CS_PROD_F	0.86	0.38	0.73	0.57	**0.86**						
6 CS_SCM_F	0.77	0.31	0.55	0.50	0.55	**0.88**					
7 SIC	0.32	0.04	0.29	0.15	0.31	0.29	**0.78**				
8 MSC	0.27	0.04	0.29	0.15	0.31	0.18	0.57	**0.75**			
9 SPC	-0.14	-0.13	-0.13	-0.03	-0.09	-0.16	025	0.33	**0.74**		
10 OLC	0.31	0.06	0.29	0.19	0.34	0.24	0.52	0.61	0.36	**0.72**	
11 Firm size	0.10	0.11	0.05	0.15	0.01	0.12	0.15	0.06	0.28	0.05	**1.00**

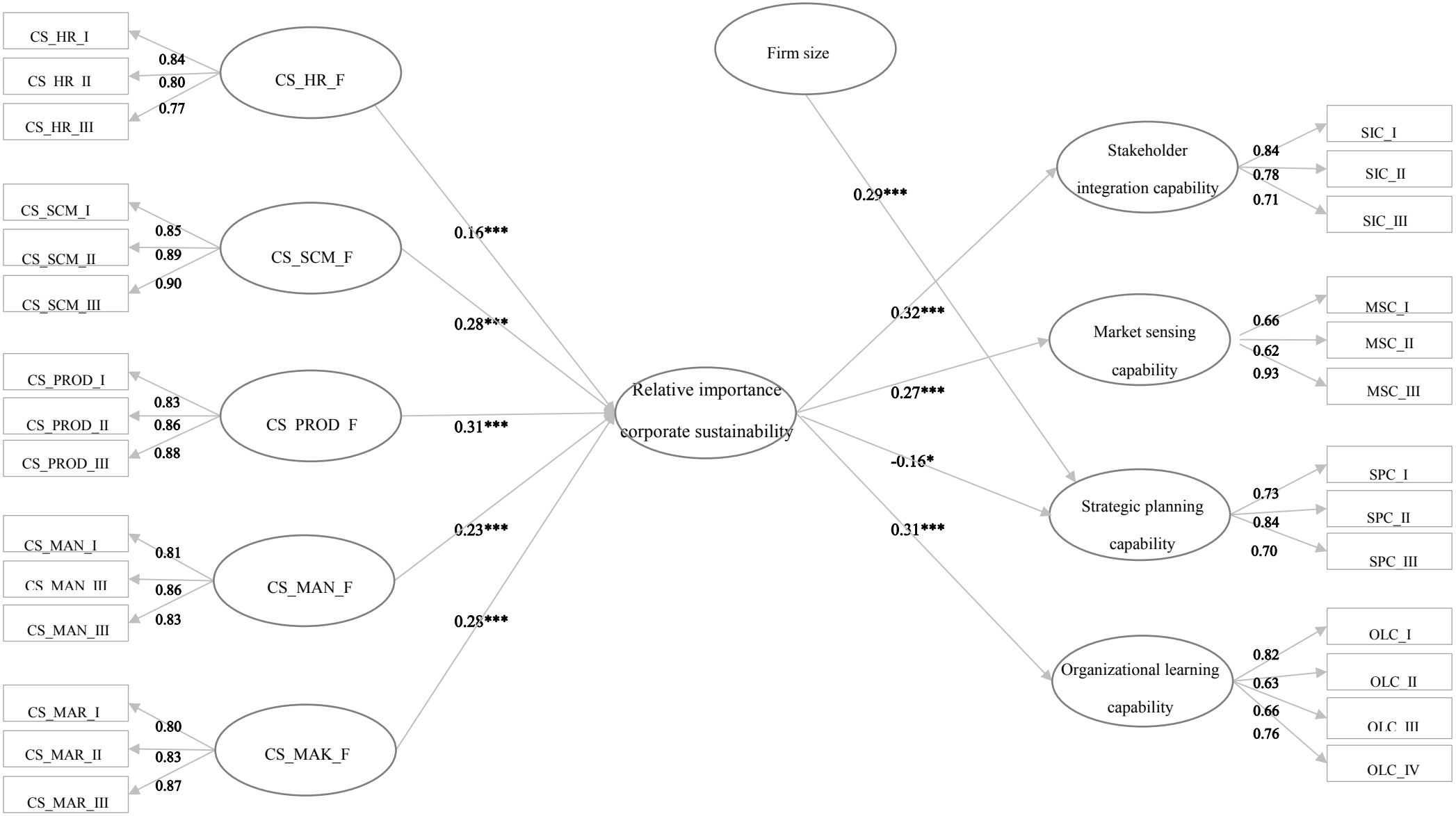

Figure 2. Structural model

RESULTS

PLS model is analyzed and interpreted in two stages. The adequacy of the reflective and formative measurement model is assessed in the first stage and the structural model is tested in the second stage (Hair et al., 2012b).

Reflective measurement model

Indicator reliability is accepted as adequate when standardized indicator loadings are higher than 0.70 (Hulland, 1999). Table 4 shows individual variable loadings on the reflective latent variables for each of the measurement items. All five reflective latent variables for the measurement of the relative importance of corporate sustainability show items with high indicator reliability. The four reflective latent variables for the key capabilities show high to medium indicator reliability. Some items have loadings around 0.62 or higher. Due to theoretical reasoning, we decided to keep all items. *Construct or internal consistency reliability* can be evaluated through Cronbach's alpha or composite reliability (Fornell & Larcker, 1981). Both indicators consider 0.70 as the minimum reliability value (Nunally, 1978). We consider composite reliability as more appropriate for PLS, because it does not assume that each item contributes equally to the construct. All nine reflective latent variables in our model show good construct reliability for an explorative study. *Convergent validity* can be examined through the average variance extracted (AVE) (Fornell & Larcker, 1981). AVE higher than 0.50 is considered as adequate. Also shown in Table 5, all reflective latent variables fulfill this requirement. *Discriminant validity* is measured by the Fornell and Larcker (1981) approach which looks at the square roots of the average variance along the diagonal of the correlation matrix. The diagonal values need to be greater than all other values in the same row and column, for satisfactory discriminant validity. Table 2 supports satisfactory discriminant validity for all reflective constructs.

TABLE 3: Latent variable loadings

	CS_HR_F	CS_MAR_F	CS_MAN_F	CS_PROD_F	CS_SCM_F	SIC	MSC	SPC	OLC
CS_HR_II	**0.84**	0.39	0.39	0.35	0.31	0.06	0.07	-0.06	0.12
CS_HR_III	**0.80**	0.38	0.43	0.34	0.27	0.08	0.01	-0.14	0.04
CS_HR_IV	**0.77**	0.30	0.43	0.22	0.17	0.00	0.00	-0.12	-0.05
CS_MAN_I	0.45	0.43	**0.81**	0.51	0.36	0.07	0.10	-0.03	0.15
CS_MAN_V	0.44	0.53	**0.86**	0.47	0.43	0.13	0.05	-0.06	0.20
CS_MAN_VII	0.39	0.45	**0.83**	0.46	0.45	0.25	0.24	0.02	0.23
CS_MAR_III	0.36	**0.80**	0.43	0.55	0.41	0.12	0.22	-0.04	0.18
CS_MAR_IV	0.37	**0.83**	0.48	0.62	0.50	0.31	0.20	-0.14	0.18
CS_MAR_V	0.40	**0.87**	0.51	0.62	0.48	0.29	0.29	-0.13	0.32
CS_PROD_I	0.32	0.55	0.53	**0.84**	0.51	0.39	0.26	-0.10	0.30
CS_PROD_II	0.29	0.64	0.48	**0.86**	0.39	0.28	0.29	0.03	0.23
CS_PROD_III	0.38	0.66	0.48	**0.88**	0.48	0.20	0.27	-0.17	0.21
CS_SCM_I	0.26	0.50	0.37	0.39	**0.85**	0.20	0.14	-0.15	0.34
CS_SCM_II	0.30	0.45	0.48	0.51	**0.89**	0.21	0.16	-0.12	0.21
CS_SCM_III	0.26	0.52	0.47	0.52	**0.90**	0.23	0.16	-0.13	0.24
OLC_I	0.08	0.22	0.15	0.34	0.21	**0.82**	0.48	0.24	0.40
OLC_II	0.05	0.31	0.11	0.28	0.20	**0.76**	0.42	0.23	0.38
OLC_III	-0.00	0.15	0.18	0.13	0.16	**0.63**	0.48	0.37	0.36
OLC_IV	0.02	0.10	0.08	0.12	0.08	**0.66**	0.33	0.41	0.37
MSC_I	0.07	0.28	0.21	0.33	0.20	0.50	**0.93**	0.26	0.50
MSC_II	-0.03	0.12	0.00	0.13	0.09	0.46	**0.66**	0.27	0.45
MSC_III	-0.03	0.19	0.01	0.16	0.05	0.45	**0.62**	0.36	0.31
SPC_I	-0.07	-0.09	-0.02	-0.08	-0.09	0.34	0.31	**0.75**	0.29
SPC_II	-0.06	-0.12	-0.04	-0.10	-0.15	0.27	0.28	**0.83**	0.21
OPC_III	-0.18	-0.07	0.00	-0.04	-0.10	0.30	0.22	**0.69**	0.15
SIC_I	0.10	0.30	0.23	0.29	0.24	0.45	0.52	0.24	**0.85**
SIC_II	0.02	0.11	0.16	0.18	0.28	0.41	0.35	0.16	**0.79**
SIC_III	-0.02	0.19	0.14	0.18	0.18	0.33	0.39	0.26	**0.69**

TABLE 5: Outer model parameters, reflective indicators

	AVE	Composite reliability	Cronbach alpha
CS_HR_F	0.65	0.85	0.73
CS_MAR_F	0.70	0.88	0.78
CS_MAN_F	0.69	0.87	0.78
CS_PROD_F	0.74	0.89	0.82
CS_SCM_F	0.78	0.92	0.86
SIC	0.61	0.82	0.68
MSC	0.56	0.79	0.66
SPC	0.58	0.80	0.64
OLC	0.52	0.81	0.71

Formative measurement model

The relative importance of corporate sustainability in a firm's organizational cognitive frame is a second-order relative-formative construct and is central in our model. Therefore it is of high importance to assess the quality of this formative measure. A common mistake in PLS research is to evaluate formative measures by using reflective outer model assessments (Hair et al., 2012b). We avoid this by explicitly distinguishing between these two types of latent constructs. In order to evaluate a formative outer model, weights instead of loadings need to be assessed for their suitability. Through bootstrapping, with 5000 number of bootstrap samples, we generated t-values, p-values, and standard errors for the contribution of the first order reflective constructs, which are named in the dataset CS_HR_F, CS_MAR_F, CS_MAN_F, CS_PROD_F, and CS_SCM_F on the overall formative construct of corporate sustainability, considered as relative importance (named RI_CS). Table 3 shows the results and supports the reliability of each reflective construct.

An important concern in the assessment of formative measures is multicollinearity among indicators. Multicollinearity needs to be avoided in order to prevent misinterpretation of the indicators relevance for the formative construct (Diamantopoulos & Winklhofer, 2001). In order to assess multicollinearity, the variance inflation factor (VIF) needs to be smaller than 5 (Hair et al, 2012b). Shown in Table 5, the highest VIF value in our formative outer model is 2.42.

TABLE 4: Outer model parameters, formative indicators

	Original sample	Sample mean	Std. error	t-values	VIF
CS_HR_F -> RI_CS	0.15	0.15	0.03	5.12***	1.43
CS_MAK_F -> RI_CS	0.28	0.28	0.02	12.28***	2.49
CS_MAN_F -> RI_CS	0.24	0.24	0.02	11.83***	1.90
CS_PROD_F -> RI_CS	0.30	0.30	0.02	14.43***	2.39
CS_SCM_F -> RI_CS	0.28	0.28	0.03	10.27***	1.61

*** p<0.01, ** p<0.05, * p<0.1

Structural model assessment

The evaluation of the structural model in PLS focuses on variance-based, non-parametric quality criteria (Hair et al., 2012b). Goodness-of-fit indicator cannot be applied. Instead, the primary evaluation criteria are R^2, effect size f^2, path coefficient estimates and predictive relevance Q^2 (Hair et al., 2012b). Table 7 lists these criteria for our structural model. R^2 is the coefficient of determination and represents the amount of explained variance of each endogenous latent variable. The R^2s for our structural model are rather small with less than 0.10. However, for three out of four endogenous latent variables this effect is significant. The focus of our study is to explore rather than predict, whether the relative importance of corporate sustainability in a firm's organizational cognitive frame can explain the variation in the development of organizational capabilities. With a low but significant R^2, valuable conclusions can be drawn for our context. The same can be applied to the low effect size of f^2 (Hair et al., 2012b), which indicates in our model a low to medium effect (from 0.02 to 0.15) of the relative importance of corporate sustainability. Like f^2, Q^2 assesses an individual construct's predictive relevance. Even though the Q^2s are low in our model, they indicate predictive relevance of the relative importance of corporate sustainability on organizational capability development.

Of highest importance for the assessment of the inner model are the path coefficient estimates. Through applying bootstrapping, with 5000 numbers of bootstrap samples, three out of four paths show high significant results at the $p<0.01$ level. We can see in Figure 2 that hypotheses H_1, H_2, and H_4 are confirmed, but H_3 is not. This means that increasing the relative importance of corporate sustainability in a firm's organizational cognitive frame has a positive significant effect on the development of stakeholder integration capability, market sensing capability, and organizational learning capability. However, our analysis cannot support the positive effect of corporate

sustainability on strategic planning capability; rather we find a negative marginal significant relationship for H_4.

TABLE 6: Inner model parameters, hypothesis testing

	Path	Path coefficient	t-value	p-value	R^2	f^2	Q^2 (included)
H1	Relative importance corporate sustainability -> Stakeholder integration capability	0.32	4.29	0.00***	0.10	0.11	0.06
H2	Relative importance corporate sustainability -> Market sensing capability	0.27	2.57	0.01***	0.07	0.08	0.03
H3	Relative importance corporate sustainability -> Strategic planning capability	-0.16	1.79	0.07*	0.10	0.03	0.01
H4	Relative importance corporate sustainability -> Organizational learning capability	0.31	4.57	0.00***	0.10	0.11	0.05
Control	Firm size -> Strategic planning capability	0.29	3.01	0.00***			

*** p<0.01, ** p<0.05, * p<0.1

Control variables

Firm size shows a positive significant effect on strategic planning (γ=0.29; p<0.01) capability. No association was observed for firm size on stakeholder integration, market sensing, and organizational learning. Neither for the duration of experiences with corporate sustainability nor for the industry type was a statically significant result found. Those two factors are not of relevance and therefore we elaborate only on firm size in the analysis and discussion. However, interesting to note is that all firms show a long tradition of corporate sustainability practices. 19 years is the average time of existing corporate sustainability engagement. This indicates a mature attitude and high valence of corporate sustainability by Danish manufacturing firms and the Danish society.

DISCUSSION

This paper sets out to broaden our understanding of organizational capability development in the context of corporate sustainability (Sharma & Vredenburg, 1998) by developing a theoretical framework building on recent contributions on cognition incapability development (Eggers & Kaplan, 2013) and organizational cognitive frames (Walsh, 1995). In particular, our study focuses on the extent to which corporate sustainability has been internalized in the firm and, as a consequence, guides decision-making of the respective firm.

To date, a significant part of the sustainability literature has tried to establish a direct link between corporate sustainability and corporate financial performance (Aguinis & Glavas, 2012; Orlitzky et al., 2003). In an attempt to find an answer to the question *'Does it pay to be good?'*, these studies have typically tried to link a firm's sustainability activities to financial outcomes (Stefan & Paul, 2008). An implicit assumption underlying this research is that corporate sustainability activities adequately reflect a firm's commitment to the fundamental idea of sustainable development underlying corporate sustainability. However, considering, for example, the case of corporate philanthropic spending it is evident that there may be severe limits to this line of activity-dominated and core business-unrelated reasoning (Halme & Laurila, 2009).

By focusing on the relative importance of corporate sustainability in a firm's organizational cognitive frame and its impact on organizational capability development, our paper opens a new line of inquiry, aimed at complementing existing research (Sharma & Vredenburg, 1998). In particular, with our paper we aim to contribute to the present literature in several ways. We shift the focus from activities towards cognition, arguing that in order to approach the original intention of corporate sustainability its three meta-characteristics need to be internalized in the firm. We characterize this as the relative importance of corporate sustainability in the firm's organizational cognitive frame. In order to gain benefits from corporate sustainability, decision-makers need to increase its relative importance in the firm's organizational cognitive frame so that corporate sustainability serves as a frame of reference in the decision-making process. Put differently, corporate sustainability thinking needs to become an integral part of the corporate identity and central on the firm's strategic agenda, which will then positively affect the development of organizational capabilities.

We also acknowledge that the quest for a direct corporate sustainability – corporate financial performance relationship may remain unsuccessful and inconclusive if we do not open up the '*black box'* to obtain a more fine-grained and textured understanding of how corporate sustainability thinking affects primarily organizational capability development and thus consequentially corporate financial performance. While it is common in the literature to argue that corporate sustainability activities will provide the respective firm with competitive advantage (Porter & Van der Linde, 1995), there is hardly any empirical work available besides the seminal paper by Sharma & Vredenburg (1998) that sheds more light on this claim. However, following the idea of the resource-based view of the firm (Barney, 1991; Barney, 2001), a competitive advantage is based upon a firm's distinct capabilities rather than on its activities. Therefore, our paper has explicitly

taken a cognitive perspective to explore how corporate sustainability directs the development of organizational capabilities. Accordingly, to the best of our knowledge, our study is among the first to empirically investigate the relative importance of corporate sustainability in a firm's organizational cognitive frame and its impact on organizational capabilities.

Our results provide broad support for our theoretical framework and the associated reasoning. It seems that the more corporate sustainability is internalized in the firm, the more firms perceive a gain and benefit in social and/or environmental issues and therefore search for possibilities to actively incorporate them into their decision-making. These firms are more willing to meet potential inherent tensions and challenges associated with the three meta-characteristics of corporate sustainability (Hahn, Pinkse, Preuss, & Figge, 2015). Our findings are in line with previous research on strategic issue categorization (Dutton & Jackson, 1987; Sharma, 2000) that has argued for and found that a firm's response to an issue depends upon its cognitive content and the categorization of issues as either opportunity or threat. The responses to perceived opportunities – which we have argued to be corporate sustainability issues – are likely to be directed towards the external environment by means of intensified inter-organizational collaboration, broader scanning of the environment, and a greater flow of information and learning at the interface of the business and the natural environment. This, however, is likely to improve corresponding organizational capabilities.

Previous work in corporate sustainability (Judge & Douglas, 1998) and organizational cognition (Dutton & Jackson, 1987; Jackson & Dutton, 1988) has shown that perceiving issues as opportunities leads to a greater level of differentiation between and integration of environmental and social issues into the strategic planning process – aimed at obtaining familiarity and comfort with these issues. However, in our study we find no supporting evidence for the positive impact of corporate sustainability on strategic planning. Quite the contrary, our findings reveal a negative – though only marginally significant – relationship. A potential explanation for this unexpected finding might be that strategic planning is an ambiguous term, often understood as programmatic, analytical, and convergent thought process. This may be the case in particular in larger firms where strategic planning is typically formalized and limited to the operationalization of existing strategies (Heracleous, 1998). In this understanding, the purpose of strategic planning is to apply analytical tools to improve financial performance. Therefore, the focus on non-financial benefits along with a higher relative importance of corporate sustainability in decision-making processes might indeed have a negative impact on the aforementioned understanding of strategic planning. Some support for this reasoning is provided in our results. Firm size is the only control variable that has a

significant impact on any of the four organizational capabilities – in particular the strategic planning capability. Another explanation for the unexpected finding could be that the concluded relationship between corporate sustainability and strategic planning is more complex than we initially anticipated, and that it needs further investigation (Judge & Douglas, 1998). From that perspective, the negative relationship could be attributed to a longer time horizon (more than three years) for corporate sustainability to pay off, inconclusive opinions or barriers of communication about the costs and benefits of corporate sustainability, or existing unawareness by managers about the use of corporate sustainability as a strategic planning tool, which, in turn, could cause distraction of the top management (Eccles et al., 2014).

LIMITATIONS AND FUTURE RESEARCH

Finally, the limitations of our paper should be noted. First, the paper is based on a survey, reporting the perception of one representative within each participating firm[2]. A guiding assumption in our research was that top managers' attitudes towards corporate sustainability are of pivotal importance for the actual behavior of the firm (Hambrick & Mason, 1984). Accordingly, we focused on top managers' interpretation and understanding of corporate sustainability in decision-making processes. Self-reported data, however, has its limitations (Podsakoff & Organ, 1986). On the one hand, by voluntarily completing our questionnaire, all respondents show a general awareness and openness regarding the role of corporate sustainability in business activities. Unknown, however, is the opinion and reasoning of non-respondents. Furthermore, the results rely on a single respondent per firm, which is likely to increase common method bias (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003). On the other hand, surveys related to social and environmental behavior are regularly subject to social desirability bias (Podsakoff & Organ, 1986). Respondents tend to be more positive in their answers and to show overconfidence in the assessment of their own resources and capabilities (Armstrong & Shimizu, 2007). In order to reduce the social desirability bias, we ensured anonymity and confidentiality and assessed corporate sustainability using an aggregated second-order formative construct rather than a single-item measurement.

[2] In order to check for common method bias, we conducted a Harman's single factor test, as suggested by Podsakoff *et al*. (2003). All items from the endogenous factors were loaded into a confirmatory factor analysis, to identify whether the majority (>50 percent) of the variance can be explained by one general factor. In our study 34.99 percent of the common method variance is explained by one single factor. This result is acceptable and indicates a satisfactory validation of our survey measure of the four capabilities.

Second, a noteworthy potential limitation of our study is that the results we derived are based on a single country context. Since the Danish context provides a unique European context, it is not clear whether or not the results we obtained are specific for the Danish context and therefore limited with regard to generalization. The findings may, for example, be different in larger economies or regions with another configuration of the industry structure and no enforced regulation on corporate sustainability reporting.

Finally, a third limitation might be the integration of particular social and environmental issues in our theoretical framework and empirical model. In order not to increase the complexity we did not differentiate between specific corporate sustainability issues. Rather, we focused on the relative importance of corporate sustainability – as a general notion – in a firm's organizational cognitive frame and the impact on organizational capabilities. However, different corporate sustainability issues may have different degrees of social legitimacy and are therefore likely to evoke different firm responses and actions (Bansal, 2003). For example, human and labor rights are likely to be more socially legitimate than religious and ethnic concerns.

Some future research directions arise from the aforementioned limitations. As such, in order to avoid common method bias future research may want to repeat our study with multiple respondents for each firm. Moreover, future studies may explore the link between the relative importance of corporate sustainability in a firm's organizational cognitive frame and its impact on capability development by engaging in longitudinal in-depth case studies. Doing so may enable future research to provide a more fine-grained and textured understanding of the underlying mechanisms in the relationship we identified in this paper. In performing such a case study, researchers may also want to try to assess the relative importance of corporate sustainability not by self-reported data but by objective data. Building on the Whorf-Sapir hypothesis (Sapir, 1944; Whorf, 1995) according to which the cognitive categories through which individuals attend to the world are embedded in the words they use, text analysis of firm documents (internal memos, minutes from meetings, etc.) may provide a means to derive such an objective measure of the relative importance of corporate sustainability in a firm's organizational cognitive frame. Future research may also aim at repeating this study in a different country context. Given that Denmark is known for its high standard and rigid enforcement of corporate sustainability related issues, it might be interesting to repeat the findings in a country context with a lower acceptance of corporate sustainability related issues.

Beyond these rather obvious future research avenues, we encourage future research to examine the origin of the development of an organizational cognitive frame (Kaplan, 2008b, 2011) as well as contextual factors (Hahn et al., 2014; Kaplan, 2008a), in particular with respect to how corporate sustainability becomes a dominant part in a firm's organizational cognitive frame. Previous research has shown that organizational cognitive frames are a result of political processes involved (Kaplan, 2008b, 2011). Competition exists between individual actor's cognitive frames and the dominant interpretation of issues, before a predominant collective organizational frame is established. The collective construction of a predominant organizational cognitive frame, through a framing contest (Kaplan, 2008b), opens up the prospect that organizational members act purposefully in this process in order to mobilize support for a project, or in the present context for corporate sustainability. Furthermore, organizational cognitive frames are not only the product of politics and competition involved in the framing contests, but also of managers' demographic characteristics and contextual factors (Kaplan, 2008a). For instance prior education, jobs, and functional experience have been shown to shape a manager's accumulating knowledge, which he/she uses to make a context-specific interpretation of a situation. Consequently, whether a manager holds a corporate sustainability dominated interpretation of a situation may be shaped by his/her personal and professional background. Additionally, the context itself needs to be considered as well. Institutional factors prime and trigger organizational cognitive frames (Kaplan, 2008b; Weber & Glynn, 2006).

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APPENDIX A

Questionnaire items

Relativ importance of corporate sustainability	*Please indicate the extent to which sustainability concerns are included in carrying out the following activities in your firm over the last three years? ("not at all" to "a very great extent")*	
	CS_HR_F (reflective construct)	
	CS_HR_II	Offering training and development of top managers
	CS_HR_III	Internal communication across different hierarchy levels
	CS_HR_IV	Recruiting and hiring new employees at the top management level
	CS_MAN_F (reflective construct)	
	CS_MAN_I	Defining the firm's mission and goals
	CS_MAN_V	Setting the firms top 20 Key Performance Indicators (KPI)
	CS_MAN_VII	Assigning responsibilities and announcing leaders
	CS_MAR_F (reflective construct)	
	CS_MAR_III	Developing and executing advertising programs
	CS_MAR_IV	Customizing of products
	CS_MAR_V	Establishing and maintaining mutual steady communication with all customer groups
	CS_PROD_F (reflective construct)	
	CS_PROD_I	Discovering and developing valuable new products, services and processes
	CS_PROD_II	Assessing the product's impact at all stages of its life cycle
	CS_PROD_III	Managing the portfolio of all products and services offered
	CS_SCM_F (reflective construct)	
	CS_SCM_I	Developing and executing common focus and goals, and sharing of risks and rewards with first tier suppliers
	CS_SCM_II	Communicating with first tier suppliers
	CS_SCM_III	Cooperating with first tier suppliers
Organizational capabilities	*Please indicate how the following strategic capabilities have developed over the last three years in your firm? ("decreased a lot" to "increased a lot")*	
	Stakeholder integration capability (reflective construct)	
	OC_SI_I	Creation of durable relationships with customers
	OC_SI_II	Creation of durable relationships with suppliers
	OC_SI_III	Creation of durable relationships with distributors
	Market sensing capability (reflective construct)	
	OC_MS_I	Ability to retain customers
	OC_MS_II	Knowledge of customers
	OC_MS_III	Effectiveness of advertising programs
	Strategic planning capability (reflective construct)	
	OC_SPC_I	Control of costs and keeping them on a low level
	OC_SPC_II	Raising and budgeting capital
	OC_SPC_III	Resource efficiency and process improvements
	Organizational learning capability (reflective construct)	
	OC_OLC_I	Facilitation of collaborative problem solving
	OC_OLC_II	New product development
	OC_OLC_III	Managing human resource
	OC_OLC_IV	Long-term planning processes

4

– Research article 3 –

BETWEEN BUSINESS CASE AND PARADOXICAL FRAME: DIFFERENT MANAGEMENT APPROACH BUT SAME FINANCIAL IMPLICATIONS

BETWEEN BUSINESS CASE AND PARADOXICAL FRAME: DIFFERENT MANAGEMENT APPROACH BUT SAME FINANCIAL IMPLICATIONS

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Abstract

In this study I investigate how top managers address and make sense of tensions among economic, environmental, and social issues in corporate sustainability and how this affects strategic decisions and the achievement of organizational goals. For this purpose I draw on organizational cognition and paradox theory to adopt the notion of the two existing organizational cognitive frames in corporate sustainability -the *business case* and the *paradoxical frame*-. Whereas the business case has been the predominant frame applied in theory to approach tensions in corporate sustainability, I find evidence that in practice a large amount of firms in Denmark also apply the paradoxical frame. Based on a survey among 119 manufacturing firms in Denmark, I investigate, at an organizational level, differences in managerial practices and financial performance between the business case and the paradoxical frame. In particular, I look at the prioritization of issues, organizational orientation, and strategic intentions. The results show significant differences between the two organizational cognitive frames. However, differences in the management of the business case and the paradoxical frame do not relate to significant difference in financial performance. This seems to make both frames equally favorable for the management of tensions in corporate sustainability and thus challenges the predominant thinking of the business case.

Keywords: Corporate sustainability, cognitive frames, paradox, business case

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INTRODUCTION

In the past, researchers applied, a priori, instrumentally-driven business case thinking towards the management of corporate sustainability issues (Carroll & Shabana, 2010; Hockerts, 2015). Rather than embracing the tensions among economic prosperity, environmental integrity, and social equity – the three dimensions of corporate sustainability - (Bansal, 2005; Hahn, Pinkse, Preuss, & Figge, 2014a; Montiel, 2008), researchers have mainly prioritized the economic dimension over the two others (Hahn & Figge, 2011). Under the business case perspective, the complex and multi-faceted nature of corporate sustainability is reduced to predominantly financial considerations and how firms financially benefit from addressing environmental and social issues (Margolis & Walsh, 2003; Orlitzky, Schmidt, & Rynes, 2003). Dismissed are those situations where tensions occur. Social and environmental issues are discriminated from traditional strategic issues as independent subjects with separate strategic consideration (Gao & Bansal, 2013; Hahn & Figge, 2011).

However, the dominance of the business case thinking on corporate sustainability has led to an oversimplification of the relationship between the three dimensions and an undertheorizing of the true complexity of managing corporate sustainability (Gao & Bansal, 2013). Therefore, several scholars are now paying more attention to strategic cognition and paradox theory to conceptualize alternative views on corporate sustainability; beyond the business case approach and more towards the heart of corporate sustainability and the interdependency of the three dimensions. Most recently Hahn and colleagues (2014a) have introduced the paradoxical frame as an alternative cognitive frame to the business case frame. Drawing on paradox theory (Smith, 2014; Smith & Lewis, 2011) and strategic cognition (Thomas, Clark, & Gioia, 1993), the paradoxical frame accepts the plurality of corporate sustainability issues inside the firm and accommodates tensions and conflicts among the three dimensions. Whereas the business case frame conceptualizes corporate sustainability as either positive or negative to economic objectives (Smith & Lewis, 2011), the paradoxical frame pursues a more ambiguous interpretation of corporate sustainability issues and both/and-approach to tensions (Smith & Lewis, 2011). Managers accept and embrace inherent tensions (Hahn et al., 2014a; Van der Byl & Slawinski, 2015).

The discussion between the business case frame and the paradoxical frame builds on earlier attempts to emphasize the interdependency between the economic, environmental, and social dimensions. Worthwhile mentioning in this context is the research stream about logics in corporate sustainability. Bansal and colleagues (2011), as well as Hahn and colleagues (2011, 2014a) opened

up a discussion between the instrumental and the integrative logic in corporate sustainability, in order to systematically address the relationship among the three dimensions (Gao & Bansal, 2013; Hahn & Figge, 2011; Hahn et al., 2014a). The instrumental logic applies a causal, if-then relationship among the three dimensions, where the environmental and social dimensions are subordinated under the economic dimension (Gao & Bansal, 2013; Hahn & Figge, 2011). In contrast the integrative logic applies a simultaneous relationship where all three dimensions are part of a tightly interconnected system; changes in one dimension cause changes in the whole system (Gao & Bansal, 2013).

Even though several scholars suggest and apply alternative views in contrast to the business case thinking, actually less is known about the existence of these two contrasting ideal types in practice and how they differ in their management of corporate sustainability issues. Therefore, the traditional business case thinking is still dominant in research and practice (Van der Byl & Slawinski, 2015). I address this gap and investigate in the following study the research questions (i) How do top managers address and make sense of tensions among economic, environmental, and social issues under the business case and the contrasting paradoxical frame? (ii) What implications do these managerial differences have on financial performance? While focusing only on the tensions between the three sustainability dimensions, I highlight the managerial differences between the two organizational cognitive frames and how this potentially affects the firm in its attempts to achieve it organizational goals. Through a survey conducted among 119 manufacturing firms in Denmark I obtained data on how top managers manage tensions within economic prosperity, environmental integrity, and social equity. I combine the survey data with available financial performance data in order to explore also financial differences. With this study I aim at contributing to the emerging literature on managing tensions in corporate sustainability in multiple ways. Firstly, I provide some clarification on the current confusion between cognitive frames and logics of corporate sustainability. Secondly, I explore the existence of the business case and the paradoxical frame on a broader scale in practice, which previously has mainly been discussed on a theoretical level. Thirdly, I refine and investigate managerial issues within the two contrasting frames in relation to issue salience, organizational orientation, and strategic intention. Lastly, I additionally inspect potential financial implications of the two contrasting frames, as the business case frame is seen, a priori, as the more profitable approach (Hahn & Aragón-Correa, 2015; Hockerts, 2015; Van der Byl & Slawinski, 2015).

In the following, I begin with reviewing and discussing conceptual differences between cognitive frames, logics, and paradoxes. This is a necessary step as cognitive frames, logics, and paradoxes are often confused with each other and used interchangeably (Van der Byl & Slawinski, 2015). Drawing on literature about managing paradoxes (Smith, 2014; Smith & Lewis, 2011; Smith & Tushman, 2005) and organizational cognition (Bundy, Shropshire, & Buchholtz, 2013), I then highlight and propose managerial differences between the business case and the paradoxical frame. As a next step I empirically explore my propositions through a cluster analysis and test of differences. The findings support the propositions and lead me to some critical concluding remarks about the prevailing dominance of the business case in the discussion section of this study.

COGNITIVE FRAMES, LOGICS, AND PARADOXES

Delimitation of cognitive frames and logics in corporate sustainability

The most recent stream in corporate sustainability research considers tensions in corporate sustainability issues through the theoretical lens of cognition under the business case and the paradoxical frame (Hahn, Preuss, Pinkse, & Figge, 2014b; Hockerts, 2015). However, often confused with the cognitive frame perspective on corporate sustainability (Van der Byl & Slawinski, 2015), an additional research stream exists emphasizing logics in corporate sustainability. These research streams are not identical, but complement each other.

There seems to be consensus in the corporate sustainability literature that two dominant logics exist; the instrumental logic and the integrative logic (Gao & Bansal, 2013; Hahn & Figge, 2011; Hahn et al., 2014a). The instrumental logic solves the tension between business and society by emphasizing the economics dimension over the environmental and social dimension. Environmental and social issues are considered to the degree they contribute to the profitability and the longevity of the firm (Hahn & Figge, 2011). The integrative logic takes into account the complex nature of corporate sustainability and recognizes the interdependencies among the economic, environmental, and social dimensions. Environmental and social issues are considered and valued not only based on their contribution to financial performance but also on their full costs and harmfulness for business and society (Hahn & Figge, 2011).

The two logics in corporate sustainability have been conceptualized historically a few years before the two cognitive frames and are also based on the criticism of the dominance of the business case thinking. Thus in the corporate sustainability, literature cognitive frames and logics seem

related, yet they are different concepts with different meanings. A cognitive frame, which by Walsh (1995) denotes *"a knowledge structure"* (p. 281), reduces complexity and ambiguity of an information set. Cognitive frames are *"schemas of interpretation"* (Goffman, 1974, p.21) that form the space for possible responses to an ambiguous and complex information environment (Hahn et al., 2014b) and by doing so they mediate the responses to information. Therefore, cognitive frames are present in any decision-making situation. Logics, on the other hand, are systems of reasoning (Oxford English Dictionary, 2012). The etymology of 'logic' also shows this; logic comes from Greek 'logos' which means discourse (Macintosh & Quattrone, 2010). A discourse is a *"historically rooted system of knowledge in which particular statements and acts make sense"* (Rossi, 2004, p. 24). Thus, logic is a point of reference of which valid arguments and decision can be made. Therefore, similar to discourse, logics exist as overall epistemic systems that form the system of reasoning within organizations. This implies that when the corporate sustainability literature describes different corporate sustainability logics (Gao & Bansal, 2013), they refer to different systems of reasoning within which certain decisions are rendered valid. In contrast cognitive corporate sustainability frames are individual social constructions that affect the way individuals make sense of ambiguous and complex information (Hahn et al., 2014b; Walsh, 1995). Consequently, logics guide views and behavior. Logics provide available and accessible categories or building block of cognitive frames and cognitive frames are a mechanism by which logics are transformed and translated to the individual level (Thornton, Ocasio, & Lounsbury, 2012). Research questions guided by a methodological concern for logics would lead to a study of rationality, argumentation and the justification of decisions, whereas a study guided by a methodological concern for cognitive frames will concentrate on sensemaking of complex information sets, selection of salient issues, and the responses to them (Bundy et al., 2013; Thomas et al., 1993). The latter approach is what I pursue in the next section, when developing propositions of corporate sustainability issues and managerial responses related to different cognitive frames.

Towards organizational cognitive frames in corporate sustainability

I look at the business case and the paradoxical frame from the organizational level as organizational cognitive frames (Kaplan, 2008; Shrivastava & Schneider, 1984; Walsh, 1995), because they constitute how corporate sustainability issues are signified on the organizational level. Stepping back, cognitive frames are both individually but also socially held at the organizational level (Kaplan, 2008). Individual cognitive frames *"only shape organizational action when they come to*

predominance through group's processes at the time a decision was made" (Kaplan, 2008, p.737). This implies that the way how cognition is connected to strategic decisions and outcomes is through predominant organizational cognitive frames held by top managers. Organizational cognitive frames shape how problems and solutions are defined, they initiate collective actions, and influence the strategic choices made. At the organizational level, cognitive frames are common frameworks of references and shared understandings that influence how firms select, organize, and act on ambiguous and varied information and signals (Bogner & Barr, 2000; Gilbert, 1989; Shrivastava & Schneider, 1984). Organizational cognitive frames are central to strategy-making processes, because they are a core element of a firm's culture and belief system that allow to locate, perceive, identify, and understand events in the environment (Goffman, 1974).

Thus, the predominant cognitive frame of corporate sustainability in a firm is the frame that meets the broadest set of interests and what is at stake in the firm. As this also represents political interests, top managers are the best informants of organizational cognitive frames and they act purposefully to shape the individual frame of others to decrease resistance or mobilize support for a strategic projects and goals. Therefore, I focus in the following on the organizational level of analysis with top management as informants, who are most skillfully engaged in strategic decisions and hence shape and represent the dominating frame that prevails in a firm (Kaplan, 2008).

Cognitive frames and paradoxes in corporate sustainability

Corporate sustainability consists of the three dimensions of social, environmental and economic concerns. As a consequence of the three dimensions' disparity recent research suggests a more paradoxical approach towards corporate sustainability (Hahn et al., 2014b; Van der Byl & Slawinski, 2015). According to Argyris (1988) a paradox is the *"presence of simultaneous opposites or contradictions in effective management"* (Argyris, 1988, p.1). A paradox should analytically not be treated as a dependent variable to be explained, but as an organizational metaphor. Argyris claims that we gain more knowledge about organizational phenomena by studying the metaphor of a paradox in its organizational setting.

To come closer to a conceptual definition of a paradox, Argyris (1988) argues that this is the *"simultaneous presence of incongruent and contradictory patterns"* and *"contradictory, mutually exclusive elements that are present and operate equally at the same time"* (Argyris, 1988, p. 2). This underlines the concern that distinguishes a paradox from other problematizations: in a paradox

both contradictory elements must be accepted and be present, and operate simultaneously. Smith and Lewis (2011) define in accordance with Argyris (1988) a paradox as involving *"contradictory yet interrelated elements that exist simultaneously and persist over time"* (Smith & Lewis, 2011, p.382). A paradox has two components. Firstly there must be some underlying tensions between elements *"that seem logical individually but inconsistent and even absurd when juxtaposed"* (Smith & Lewis, 2011, p.382) and secondly responses in the managerial paradox must embrace these tensions simultaneously.

The reason why cognitive frames are important for organizational studies on paradoxes is because frames are essentially psychological, mental mediators of social interaction and thus they form the cognitive space for responding to the contradictory tensions. The contradictions occur through interpretation and cognition, where cognitive frames are used to decode information and make sense of it. The existence of the business case and the paradoxical frame (Hahn et al., 2014b), as the two ideal types of corporate sustainability cognitive frames, overall constitutes how corporate sustainability issues are signified at the organizational level. However, to label one frame 'the paradoxical frame' could sound paradoxical in itself, because cognitive frames by definition produce reductions of complexity and ambiguity, which a paradox on the other hand embraces. Yet, when using the notion of paradox to label this frame, it implies that the resulting response from making sense of the information is not given; leaders or managers who act in accordance with the paradoxical frame also embrace the inconsistencies and tensions in decisions and their responses. The response in this frame is therefore paradoxical, as the three dimensions of corporate sustainability within this frame are managerially of equal importance (Hahn et al., 2014b).

MANAGING TENSIONS WITHIN THE BUSINESS CASE AND PARADOXICAL FRAME

In order to assess the distinctions between the management of tensions within the two organizational cognitive frames, I develop a series of three propositions from existing literature. These propositions are not exhaustive, but rather intend to reflect some of the main themes that highlight potential differences between the business case and the paradoxical frame. I will explore those propositions further in an empirical context in the next section.

Prioritization of issues

Organizational cognitive frames are mechanism for processing external information and for guiding managers' perception and decisions about the prioritization of strategic issues (Bundy et al., 2013; Narayanan, Zane, & Kemmerer, 2011). They are interpretative frames constraining a manager's ability to make complex decisions and determining which issues receive attention and how they will be integrated (Ansoff, 1980; Daft & Weick, 1984; Walsh, 1995). Organizational cognitive frames capture unique aspects of issue interpretation and influence the salience of issues, as issues become meaningful in relation to a firm's collective beliefs and frameworks (Daft & Weick, 1984; Dutton & Dukerich, 1991). Thus, corporate sustainability issues are interpreted as salient based on their relationship to the organizational cognitive frame (Sharma, 2000). Corporate sustainability issues perceived as related to the organizational cognitive frame and influential to strategic goals have higher salience prioritization, than issues perceived as unrelated.

Corporate sustainability issues are interpreted by assessing different aspects of the economic, environmental, and social dimensions against categories of the predominant cognitive frames within the firm. Managers under the *paradoxical frame* interpret and prioritize the ambiguity of corporate sustainability issues differently than managers under the business case frame (Hahn et al., 2014b). Under the paradoxical frame there is no systematic emphasis of one dimension over another dimension. All environmental, social, and economic issues are considered equally and valued at their full cost, irrespective of how much the social and environmental issues contribute to enhanced financial outcomes. Therefore, managers scan the environment more broadly and are more open to a wider range of aspects and stakeholders (Hahn & Figge, 2011; Hahn et al., 2014b). Managers accept the tensions among the three dimensions of corporate sustainability and know that this cannot be fully solved. Through the multidimensionality of issues managers apply ambivalent evaluation (Plambeck & Weber, 2009, 2010) and prioritize issues not only based on their relevance for business but also on the environmental and social outcomes at the societal level. Both negative and positive aspects for the firm as well as for impacted stakeholder groups need to be considered integratively (Hahn et al., 2014b).

In contrast, the *business case frame* builds on economic attributes and alignment theory (Hahn et al., 2014b; Smith & Tushman, 2005). Under the business case frame the interpretation and integration of social, environmental, and economic issues are biased towards the notion of profitability and economic efficiency (bounded instrumentality). Due to the a priori economic

dominance those corporate sustainability issues are prioritized that explicitly contribute to strategic goals and the longevity of the firm (Hahn & Figge, 2011). Issues by stakeholders with no direct impact on the business, in terms of power, legitimacy, and urgency (Mitchell, Agle, & Wood, 1997), receive less attention. This provides a clear guidance on how to deal with ambiguity in corporate sustainability by applying a dominant focus on financial outcomes, but it also narrow the range of issues perceived. Managers concentrate on a limited variety of corporate sustainability issues with either a clear negative or a clear positive impact on performance. The single-minded orientation on economic predominance makes it less likely that corporate sustainability issues are evaluated ambivalently (Plambeck & Weber, 2010).

Managers assign relevance of issues based on their cognitive frames (Hambrick, 1982). They selectively notice information that align with their cognitive frame and miss information that is contradicting. The more restricted an organizational cognitive frame, the more selective the perception and interpretation. Comparing the paradoxical and the business case frame, the business case frame holds a narrow focus on shareholders as their ultimate stakeholders and other stakeholder groups are only considered to the degree they impact financial performance. Under the paradoxical frame managers consider and prioritize a wider set of stakeholder groups and corporate sustainability issues, in order to enhance the economic value added by the firm in relation to its aggregated ecological and social impact at societal level. Consequently, based on the literature I propose:

Proposition 1: Under the paradoxical frame firms perceive non-shareholder related issues as more salient and shareholder related issues as less salient, than firms under the business case frame.

Organizational orientation

The interpretation of issues and organizational actions are argued to be highly interlinked (Thomas et al., 1993). This means that the perception and assessment of an issue determine the allocation of individual and organizational resources to them. How issues are interpreted and diagnosed impacts the allocation of managerial attention in terms of time, resources, and agenda priority (Dutton, Stumpf, & Wagner, 1990). The more salient a manager perceives an issue, the higher the respective meaning and priority attributes to an issue. As discussed, meaning attached to an issue is situated within cognitive frames. Managers emphasize issues that they perceive as either consistent with their cognitive frame (opportunities) or inconsistent (threats) (Dutton & Jackson, 1987). The

perception of an issue as either an opportunity or a threat restricts the number of organizational actions and thus limits the commitment by top management.

Therefore, the degree of managerial commitment and enforcement of corporate sustainability throughout the firm is mediated by the different cognitive frames that are present among the organizational members and thus have a strong influence on the position that managers take regarding the phenomenon. Firms under the *paradoxical frame* differ from firms with a business case frame in their organizational orientation and the firm's governance of corporate sustainability. Under the paradoxical frame top managers consider responses and actions with a broad scope based on ambivalent expectations (Plambeck & Weber, 2010) of gains for business and society. Corporate sustainability issues are perceived as complex and unique, which implies that they cannot be adequately addressed within existing routines and solutions (Hahn et al., 2014b). The need for alternative responses requires shared actions throughout the firm. Ideally the firm has established an inter-disciplinary team or committee reflecting the joint interests of all stakeholders. Formal responsibility is directly assigned to the top management and board of directors (Eccles, Ioannou, & Serafeim, 2014). The higher degree of cognitive complexity of issues associated with paradoxical thinking demands the top managers' full commitment as well as strong support and orientation throughout the firm by all employees, in order to reduce uncertainties and unpredictability.

In comparison, under the *business case frame* corporate sustainability issues are considered separately and are managed ad hoc e.g. issue-by-issue and stakeholder-by-stakeholder as they occur (Gao & Bansal, 2013). Different issues are handled independently and are managed by different departments and groups. Managers consider social and environmental issues as disconnected and distracted from the core purpose of the firm and thus actions and responses are not systematically integrated in a firm's existing systems and procedures. Only environmental and social issues with immediate relevance for economic objectives are contemplated. In order to reduce complexity and to ensure high sense of control managers are pragmatic and look for workable solutions that require limited incremental adaptation of established routines and response patterns (Hahn et al., 2014b).
Comparing the two organizational cognitive frames, corporate sustainability issues are proposed to have a high degree of resonance and receive higher managerial attention and priority under the paradoxical frame. This is reflected in a firm's organizational orientation and the individual and organizational resources allocated to address tensions among the economic, environmental, and social dimensions. Consequently I propose:

Proposition 2: *Under the paradoxical frame firms show a higher organizational orientation to corporate sustainability, than firms under the business case frame.*

Strategic intention

Whereas under the aspect of issue prioritization I address the phase of accepting and learning to live with conflicting tensions, and under organizational orientation I address the organizational accommodation of tensions throughout the firm, under the aspect of strategic intention I look at the strategic application of tensions by top managers. Managing competing demands in corporate sustainability is of strategic relevance in the way that they stem from a plurality of stakeholder issues resulting in competing strategic goals and prevalent challenges and consequences for a firm's future development (Smith, 2014).

Initially, top managers experience tensions as dilemmas, when having to choose between either one or the other competing tension (Smith & Lewis, 2011). 'Either/or' dilemmas reflect the business case cognitive frame. Under the *business case frame*, top managers apply consistency oriented thinking. They believe in unitary truth (Smith & Tushman, 2005) where inconsistencies cannot coexist. The social, environmental, and economic dimensions are experienced as a trade-off forcing a clear decision on allocating financial resources, human resources, and time to either one of the dimensions. This results in a trade-off between the financial and the non-financial strategic dimensions. Internal and external pressure for consistency and shareholder value push top managers towards choosing only one single strategy with clear focus on the economic dimension (Smith, 2014). Managers assess the internal and external environment, decide on the favored agenda, and then develop an economic focus business model in order to implement the single focused strategy. Thus the strategic intention behind the business case frame is more symbolic in the sense that firms pursue only those corporate sustainability issues with immediate economic business relevance and that do not require any radical changes from existing business practices. Through signaling conformity with more or less symbolic actions, firms may seek to gain legitimacy (Suchman, 1995) and other benefits while following their prevailing self-interest and doing little to change well-established business practice and strategic agendas (Bundy et al., 2013). Building on the instrumental thinking corporate sustainability is more related to cost-benefit thinking rather than being a topic of high strategic relevance for the firms' core business (Gao & Bansal, 2013).

In contrast, the *paradoxical frame* opens up for discussions to consider a 'both/and' – approach (Smith & Lewis, 2011), where managers realize that they cannot chose among competing tensions as those have interrelated needs. Top managers perceive existing tensions as contradicting, however, necessary for the long-term success of the firm. Rather than following a rational, linear logic top managers value distinct strategic domains and stress the synergies and linkages among them. The paradoxical frame creates a context that demands the articulation of multiple distinct goals for the economic, environmental, and social dimensions of corporate sustainability. Recognizing interrelations and potential synergies of conflicting tensions signals opportunities and positive expectations, which reduces conflicts, stress, and anxiety associated with dilemmas among impacted stakeholder groups (Smith & Berg, 1987; Smith & Tushman, 2005). Smith and Lewis (2011) suggest differentiation and integration as approaches to enable balanced strategic decisions about paradoxes. Managers are advised to seek for value differences among competing tensions, while they are also encouraged to identify potential synergies and linkages among them. Thus, top managers develop more substantive than symbolic responses to economic, environmental, and social issues (Bundy et al., 2013). Firms respond to corporate sustainability in a material and strategic manner by devoting substantial resources, efforts, as well as time and energy to it. Corporate sustainability gains collective meaning (Dutton & Ashford, 1993) and becomes deeply embedded in the firm's core business (Aguinis & Glavas, 2013).

Summarizing, firms under the business case and the paradoxical cognitive frame differ in their intention on how strategically to integrate the three dimensions of corporate sustainability. Whereas under the business case frame, managers focus on consistency and legitimacy towards economic goals, managers under the paradoxical frame recognize inconsistencies and complexity between the three dimensions and seek multiple strategic goals. Managers discover the beneficial link between corporate sustainability and financial performance (Aguinis & Glavas, 2012; Grewatsch & Kleindienst, forthcoming) and foster the understanding of the triple bottom lines on organizational strategies (Elkington, 1997). Strategic choices about markets, products/services, customers, and value propositions derive from an integrative perspective on corporate sustainability (Gao & Bansal, 2013). Consequently I propose:

Proposition 3: *Under the paradoxical frame firms perceive corporate sustainability more intimately tied to core strategic decisions and less to cost-benefit decisions, than firms under the business case frame.*

METHOD

Earlier studies about the two different frames have mainly been conceptual in nature (Hahn et al., 2014a; Hahn et al., 2014b), or if empirical based only on a small sample of best practices (Figge & Hahn, 2012; Hahn & Figge, 2011) or on the Kinder, Lydenberg, and Domini & Co (KLD) dataset (Gao & Bansal, 2013). KLD has become the defacto research standard in corporate sustainability (Graves & Waddock, 1994), but only contains public firms in the US and has additionally been criticized for being a problematic measurement of corporate sustainability (Chatterji, Levine, & Toffel, 2009; Graafland, Eijffinger, & Smid, 2004; Sharfman, 1996).

In order to explore in practice the existence and management of these two ideal organizational cognitive frames within a broader set of medium and large public and private firms and also within a European context, I developed and conducted an online survey in Denmark. Surveys have been used before in previous studies about strategic cognition and frames (Narayanan et al., 2011; Thomas et al., 1993). Moreover a survey provides the opportunity to reach out to a large number of firms at the same time and to draw generalizable conclusions about the business case and the paradoxical frame.

Data collection

In 2014 I conducted an online-based survey among the top management of manufacturing firms in Denmark, in order to examine their understanding and management of the underlying tensions in corporate sustainability. I chose Denmark as the country of interest, because due to the introduction of the Act on corporate sustainability reporting (§99a)[1] for the 1100 largest firms in Denmark in 2009, social and environmental issues have received great attention by the top management since then. Denmark can be seen as a country with a mature professional management of corporate sustainability.

Based on the Danish firm register all manufacturing firms with more than 100 employees were chosen (as those firm fall under the Act on corporate sustainability reporting), which lead to an initial sample of 301 firms. Each firm was contacted per telephone beforehand, in order to identify the key person for corporate sustainability in the top management, to explain the purpose of the survey, and to get their permission for participation. I also ensured confidentiality of the sensitive firm information obtained. In total, responses were received from 119 firms, representing a response rate of 39.54 percent, which is a bit higher than the average response rate (35.7 percent)

for studies that utilize survey data collected from organizations directed at top managers (Baruch & Holtom, 2008). A means comparison between respondents and non-respondents indicated that non-included firms in the analysis were not statistically different from included firms in size (numbers of employees), financial performance (return on assets and return on equity), as well as available slack and leverage, based on available data from 2014.

A focus group meeting with MBA students and the consultation of five senior faculty researchers were done before contacting the manufacturing firms, in order to ensure the understanding, reliability and content validity of the questionnaire. Based on this step, the wording of the questionnaire was adjusted and when necessary questions were reordered (Hinkin, 1995).

For additional analyses, I collected the financial data of each responding firm for a three-year period (2012-2014). The financial data for non-listed and listed firms in Denmark are available online through *virk.dk*, the central Danish company register, where every annual report of each registered firm in Denmark is saved.

Measures

Corporate sustainability frames. In order to receive unique insight information on an organization's cognitive frame and its impact on the relevance of corporate sustainability issues, organizational orientation, and intended purposes with its corporate sustainability engagement, I approached one representative of the top management in each firm. The questionnaire sent to the top management included three specific sections focusing on the main propositions about managing tensions mentioned in the theoretical sections. The first section covered the firm's scope of corporate sustainability issues. To identify which issues are most salient for each firm, the respondents were asked to indicate the extent to which their firm emphasizes various corporate sustainability issues, related to main areas in economy, environment, and society (Elkington, 1997). The answer options were provided by means of a five-point Likert scale (Cox III, 1980; Hinkin, 1995), ranging from 'not at all' to 'to a very great extent'. Following up on this, the second section in the survey was intended to identify a firm's applied cognitive frame of corporate sustainability by asking about the relative importance that the top management places on the three, previously asked, main areas of corporate sustainability. This question related to the construct of the corporate sustainability triangle (Kleine & Von Hauff, 2009) and therefore the answer options required each respondent to distribute points from 1 to 100 among the three dimensions economy, environment, and society, whereby the

sum of the three had to equal 100. In this way the three answer options are interrelated and force the respondent to weight each of the three dimensions in relation to the other two. The third section addressed a firm's organizational orientation to corporate sustainability. On a five-point Likert scale, ranging from 'not at all' to 'to a very great extent', the respondents had to indicate the extent of recognition and acknowledgment within the firm for employees responsible for the corporate sustainability program and activities. The fourth section of the survey addressed the purpose of applying sustainability activities in each firm, as an indicator for the strategic intention. Each respondent had to rate the answer options on a five-point Likert scale, ranging from 'not at all' to 'to a very great extent'. Important to note, for all questions in the survey, the respondents were asked to give answers from an organizational perspective rather than from an individual perception. By asking the top management I approached the most knowledgeable sources of firm-level information (Cycyota & Harrison, 2006) and thus ensured that they were able to represent the firm interests and the prevailing organizational cognitive frame.

Financial performance. Due to the mix of listed and non-listed firms in the sample, I decided to include only accounting-based measures in the analysis: return on assets (ROA), return on equity (ROE), EBIT margin, and equity ratio. ROA, measured as the ratio of net income to total assets, as well as ROE, measured as ratio of net income to total shareholders' equity, indicate a firm's profitability. EBIT margin, measured as the ratio of earnings before interest and taxes (EBIT) to net revenues, reflects operational efficiency. Equity ratio, measured as the ratio of total equity to total assets, indicates the leverage and solvency of a firm.

Controls. Following existing meta-analyses in corporate sustainability research (Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013; Orlitzky et al., 2003) I included six control variables in the analysis: firm size in terms of number of employees, industry, age of the firm, years of experiences with corporate sustainability, family owned, and business orientation (business-to-business or business-to-customer) (see Appendix A).

Method of Analysis

As an initial step I developed a ternary plot of the corporate sustainability triangle (Kleine & Von Hauff, 2009), in order to get an overview of the various existing notions of corporate sustainability cognitive frames in the surveyed firms. As little empirical research about the presence of the two

organizational cognitive frames exists in practice, with this approach I am technically able to identify potential organizational cognitive frames in addition to the two established ones in the literature. The ternary plot illustrates the three dimensions of corporate sustainability and the relative emphasis of each single dimension. Figure 1 shows the ternary plot for the sample by classifying firms based on their answers in the second section of the survey.

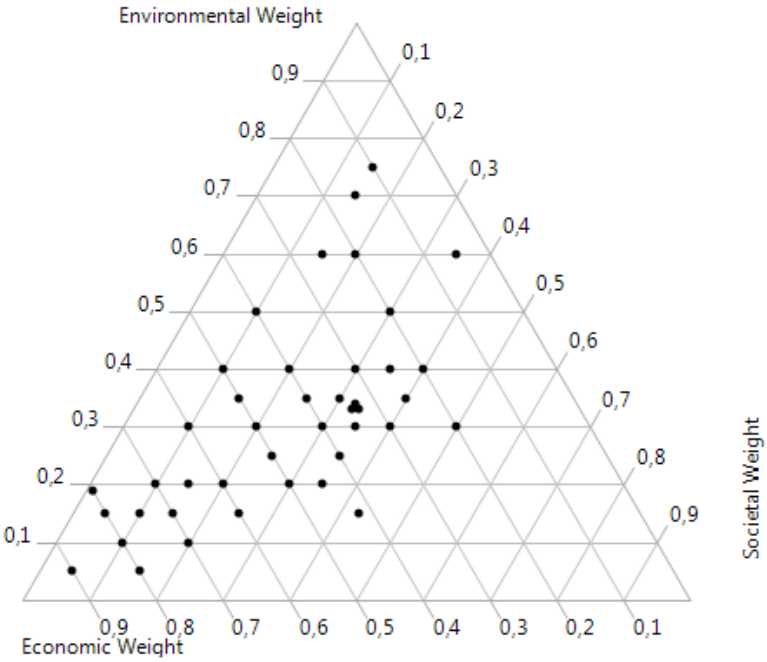

Figure 1: Ternary plot of corporate sustainability across surveyed firms

The ternary plot shows a slight tendency towards two potential clusters, which indicates that, the two cognitive frames of the business case and the paradox actually exist in practice. In order to explore this further and to identify two organizational cognitive frames, I applied a two-stage cluster procedure (Ketchen & Shook, 1996) based on the weights that the responding firms dedicate to the economic, environmental, and social dimensions in section two of the survey. Previous research has confirmed that the two-stage procedure increases the validity of the cluster solutions and, therefore, it has become a widely applied standard in management and organizational studies (Milligan, 1980; Punj & Stewart, 1983). In the first stage of this procedure a hierarchical cluster analysis is performed using Ward's method and the Euclidian distance (Blashfield, 1976; Milligan, 1980) in order to select the appropriate number of clusters and obtain the estimated centroids. To determine the optimal number of clusters, I use the Je(2)/Je(1) ratio stopping criterion

by Duda and Hart (1973), which suggested two clusters as the most appropriate solution. The results are employed in the second stage to a non-hierarchical k-means clustering (where k is the number of clusters chosen) in order to classify the cases into the two clusters identified. Based on this clustering procedure I identify two clusters, whose characteristics I further analyze with a test of difference (a classical two sample mean-comparison t-test) (Eccles et al., 2014), to support the three prepositions.

FINDINGS

Based on the cluster analysis I identified two clusters of firms; those that have a dominant focus on the economic dimension of corporate sustainability and those that consider the tensions among economy, environment, and society by considering the three dimensions as equally important. Table 1 shows the descriptive statics of the two clusters and the distributed means of the three corporate sustainability dimensions in each cluster.

Table 1: Descriptives of cluster 1 and 2

			Economic dimension		*Environmental dimension*		*Social dimension*	
Cognitive frame	Frequency	Percent	Mean	Std. dev	Mean	Std. dev.	Mean	Std. dev.
1 – paradoxical	51	42.85	31.62	9.56	38.1	11.92	30.28	8.13
2 – business case	68	57.14	61.40	11.68	21.82	8.06	16.78	7.34
Total	119	100.00						
ρ-value diff			*<0.001***		*<0.001***		*<0.001***	

†p < 0.1, *p < 0.05, **p < 0.01

In cluster 1 the distribution means are 31.62, 38.1, and 30.28 percent among the economic, environmental, and social dimensions. In other words, firms in this cluster weight the three dimensions to be more or less identical and embrace the tensions among them. I propose that firms in cluster 1 are subject to a paradoxical frame. In contrast to cluster 1, the distribution means are 61.40, 21.82, and 16.78 percent among the economic, environmental, and social dimensions. This indicates that firms in cluster 2 have a strong preference for the economic dimension and view the environmental and social dimensions as subjacent. With such a systematic, a priori, economic predominance, I propose that firms in cluster 2 are subject to the business case frame. Interesting to note are the frequencies in each cluster. 51 firms fall in cluster 1 and 68 firms in cluster 2. The number of firms with a paradoxical frame is higher than expected and occurs nearly as often as the

business case frame. One explanation can be the context of Denmark, where firms in general have a long tradition in corporate sustainability. This might raise the awareness for an integrative mindset and the simultaneous integration of various corporate sustainability aspects without emphasizing one aspect over the two others.

With inspiration from Eccles et al. (2014), I use these clusters of corporate sustainability frames to analyze differences in terms of *prioritization of issues*, *organizational orientation*, and *strategic intention* of corporate sustainability in the focal firms. I do this by applying a classical two sample mean-comparison t-test between the two clusters in order to find differences in managing corporate sustainability related to one or the other cognitive frame.

Table 2: Relevant corporate sustainability issues across the two clusters

	Cognitive frame		Difference
	Paradoxical Mean (Std. dev.)	*Business case* Mean (Std. dev.)	*ρ*-value
Economic issues			
Economic growth	3.18 (1.01)	3.15 (0.89)	0.869
Shareholder value	3.43 (1.08)	3.94 (0.94)	*0.085†*
Taxes paid	2.92 (1.04)	2.93 (1.08)	0.980
Fair pricing policy	2.63 (1.09)	2.68 (1.07)	0.801
Investor relations	2.96 (1.11)	3.31 (1.08)	*0.091†*
Employment creation	3.65 (0.89)	3.04 (0.85)	*<0.001***
Environmental issues			
Air	3.82 (0.87)	3.38 (0.96)	*0.010***
Water	3.69 (1.05)	3.41 (0.87)	0.132
Energy	4.04 (0.75)	3.71 (0.88)	*0.028**
Waste	4.00 (0.78)	3.53 (0.89)	*0.003***
Biodiversity	3.02 (1.19)	2.13 (1.08)	*<0.001***
Land	3.39 (1.08)	3.10 (1.19)	0.168
Social issues			
Labour practice	4.04 (0.72)	3.72 (0.99)	*0.044**
Community impact	3.31 (1.12)	2.81 (0.95)	*0.010***
Human rights & business ethics	3.96 (0.98)	3.88 (0.99)	0.667
Stakeholder practice	3.55 (0.95)	3.50 (0.76)	0.762
Employees practices	4.29 (0.64)	4.18 (0.67)	0.333
Product responsibility	4.55 (0.67)	4.31 (0.63)	*0.050**

†p < 0.1, *p < 0.05, **p < 0.01; Likert scale from 1 to 5

Prioritization of issues. Table 2 shows major relevant corporate sustainability issues subordinated to each of the three dimensions in corporate sustainability. The investigated corporate sustainability issues of interest reflect main issues under the Global Reporting Initiative G4 Guideline (GRI, 2015) in order to ensure that firms have a certain awareness and a common understanding of them. The two clusters show significant differences in the prioritization of issues, which supports proposition 1. Firms with a business case frame show a narrow focus on corporate sustainability issues and prioritize concerns in the economic dimension more than firms with a paradoxical frame. The two issues that prove to be significantly different here are the shareholder value concern and the investor relations concern; issues that can be interpreted as materially supporting or challenging for achieving strategic goals (Bundy et al., 2013). Firms with a paradoxical frame apply a wider stakeholder perspective and prioritize concerns in all three dimensions that show a strong social and environmental orientation. Thus, in the economic dimension it is the social issue of creating jobs, which was measured as *employment creation*. In the environmental dimension paradoxical firms score significantly higher on issues such as *air* (pollution), *energy* (reduction and consumption), *waste* (reduction and recycling), and *biodiversity* (species diversity and endemism). In the social dimension firms with a paradoxical frame show a higher prioritization of *labour practice* (International Labour Organization (ILO) Declaration), *community impact* (engagement, impact assessments, and development programs), and *product responsibility* (customer health and product safety). Overall I find that product responsibility, employee practice, labour practice, energy, and waste are the issues of highest relevance for the firms. The findings indicate that organizational cognitive frames guide the interpretation of corporate sustainability issues and its relevance for the firm. Managers process and respond differently to the constantly growing range of issues raised by stakeholders. While the paradoxical frame guides managers towards the consideration of a wider set of issues, which account for a firm's organizational identity, and its normative and expressive value; the business case frame reflects an instrumental stance and calculative issue relevance aimed at achieving organizational goals and performance outcomes (Bundy et al., 2013

Table 3: Organizational orientation towards corporate sustainability across the two clusters

	Cognitive frame		Difference
	Paradoxical Mean (Std. dev.)	*Business case* Mean (Std. dev.)	*ρ*-value
Sustainability is widely recognized as a very important activity	3.94 (0.79)	3.23 (0.81)	*<0.001***
Colleagues working with sustainability are widely recognized as a very important part of the firm	3.58 (0.96)	2.97 (0.79)	*<0.001***
The sustainability program is highly regarded across the firm	3.64 (1.02)	3.01 (0.74)	*<0.001***
The top management team is personally committed to the development of the firm's sustainability program	3.84 (0.84)	3.10 (0.95)	*<0.001***
The top management team clearly communicates their commitment to the sustainability program	3.68 (1.01)	3.01 (0.92)	*<0.001***
Success of the sustainability program is actively celebrated	3.08 (1.06)	2.279 (0.83)	*<0.001***

†p < 0.1, *p < 0.05, **p < 0.01; Likert scale from 1 to 5

Organizational orientation. Table 3 shows the difference in organizational orientation and commitment among the two clusters. The survey questions are based on measurements by Gruber et al. (2010), and cover the perceived importance of corporate sustainability functions and personnel within the firm, as well as assess the involvement of top management in corporate sustainability. The two clusters show a strong difference of organizational orientation in all items supporting proposition 2. Firms with a paradoxical frame have a higher internal orientation and commitment to corporate sustainability than firms with a business case frame. Especially when it comes to the recognition and commitment by the top management firms with a paradoxical frame score very high. The findings indicate that the two organizational cognitive frames provide a critical lens on commitment and how managers interpret corporate sustainability in relation to their organizational identity and success. By showing a strong commitment corporate sustainability is perceived as satisfying and more attached to a firm's core mission under the paradoxical frame. In contrast, the business case frame shows a lower degree of orientation, which indicates a lower perception of responsibility and involvement by staff personnel and the top management. Corporate sustainability is not seen as important for the firm and its success.

Table 4: Strategic intention of applying sustainability across the two clusters

	Cognitive frame		Difference
	Paradoxical Mean (Std. dev.)	*Business Case* Mean (Std. dev.)	*ρ*-value
To reduce costs	2.80 (1.04)	3.37 (1.12)	*0.005***
To enable higher prices and margins	2.76 (1.05)	3.03 (0.90)	0.151
To enter new customer markets	3.18 (1.05)	3.01 (0.95)	0.390
To differentiate from competitors	3.80 (1.06)	3.35 (1.02)	*0.021**
To reduce business risks	3.37 (1.10)	3.12 (0.99)	0.192
To increase sales volume in existing markets	3.29 (1.01)	2.98 (0.95)	*0.093†*
To increase costumer value through customized products	3.14 (1.11)	3.13 (0.99)	0.980
To do something good for society and the environment	3.86 (0.78)	2.98 (0.91)	*<0.001***
To improve the firm's reputation	3. 88 (0.89)	3.49 (0.88)	*0.016**
To attract more investment from the financial market	2.14 (1.12)	2.24 (1.13)	0.638

†p < 0.1, *p < 0.05, **p < 0.01, Likert scale from 1 to 5

Strategic intention. Table 4 shows significant differences in the strategic intention and purposes of applying corporate sustainability between the two clusters. Supporting proposition 3, the findings point out that firms with a business case frame express corporate sustainability only as a matter of costs (Gao & Bansal, 2013). *Reducing costs* is the primary purpose for them and in this they significantly differ from firms with a paradoxical frame. Managers show a pragmatic stance and focus on one dominant purpose of corporate sustainability with immediate business relevance in terms of concrete measures, such as costs (Hahn et al., 2014). In this sense, corporate sustainability is perceived as a topic of little strategical importance and rather disconnected from the core business within the business case frame. In contrast firms with a paradoxical frame score significantly higher in: *to do something good for society and the environment, to differentiate from competitors*, *to improve the firm's reputation,* and *to increase sales.* The first three objectives have almost the same average mean of around 3.80 (on a Likert scale from 1 to5). The findings illustrate that managers take into account the ambivalence of altruistic and financial benefits related to corporate sustainability. On the one hand, corporate sustainability is approached for altruistic reasons in order to contribute to society and the environment. On the other hand, corporate sustainability is also proactively embedded in the core business as a means that can improve a firm's reputation, existing sales, and competitive positions. In this sense, corporate sustainability is taken into account as an essential strategy to create a competitive advantage for firms with a paradoxical frame. Through

considering and managing the complexity and dynamics among the economic, social, and environmental dimensions, the paradoxical lens enables firms to acknowledge and follow multiple purposes in relation to their business as well as for society.

Additional analysis

Financial performance. In an additional analysis, I looked at the differences in financial performance between the two clusters, in order to evaluate the effectiveness of the two organizational cognitive frames. Such a comparison is particularly interesting, because the business case frame has been dominating in practice due to its direct link to financial benefits for the firm. Meanwhile the paradoxical frame received less attention in the past, due to associated financial disadvantages as a consequence of increased complexity in decision-making (Gao & Bansal, 2013; Kleine & Von Hauff, 2009). Therefore, I applied a test of difference also for the four mainly applied financial indicators EBIT, ROA, ROE, and equity ratio across the years 2012 until 2014.

Based on previous literature (Gao & Bansal, 2013; Hahn et al., 2014a; Hahn et al., 2014b) the two organizational cognitive frames are associated with different financial outcomes for the firm. Under the business case frame, corporate sustainability aspects are biased towards profitability. Social and environmental issues are discarded in case they limit or interfere with enhanced financial performance. Less sustainable options are pursued in case they provide higher financial benefits. The social and environmental dimensions are simply facilitators for economic efficiency and profitability (Hahn & Figge, 2011). In contrast under the paradoxical frame, the economic, social, and environmental dimensions are considered integrative. Business activities are valued and pursued depending on their impact for business as well as for society. Firms under the paradoxical frame seek integration and iterative decision-making in order to reach multiple goals. Managers consider not only social and environmental issues with direct financial benefits, but also issues with unclear or uncertain financial benefits, in case it provides social and environmental outcomes (Hahn et al., 2014b).

Summarizing, the predominant opinion is that there is a difference in the two cognitive frames and that superior financial performance of firms is achieved under the business case frame, as decisions are always justified with priority on economic rather than social and environmental effects. Surprisingly, my analysis reveals that there is no significant difference between the paradoxical and the business case frame. As shown in Table 5, both types reach similar mean

averages in their financial results of EBIT margin, ROA, ROE, and equity ratio. While I am not able to prove any significant differences and thus cannot reject the null hypothesis H0 based on the survey sample, I argue that this underlines the previous findings of table 4, namely that firms in the paradoxical cluster apply corporate sustainability with a high strategic intention and a close relation to their core business strategy. Instead of a pragmatic cost and benefit analysis, they believe that value is generated from reputational increases and differentiation from competitors which is done by seriously integrating the three dimensions of corporate sustainability. This implies that managers approach corporate sustainability issues slowly and carefully, in order to identify and carry out workable solutions at the business and societal level (Slawinski & Bansal, 2012). Due to ambivalence and complexity of corporate sustainability issues, managers apply a more differentiated thinking to make decisions and to search for alternative solutions besides established routines and practices (Hahn et al., 2014b). However, this does not cause significant financial differences or any disadvantages compared to firms with a business case frame, because under the paradoxical lens corporate sustainability is seen as an integrated part of the core business as well as a possibility for new opportunities.

Table 5: Financial performance across the two clusters (2014)

2014	Cognitive frame		Difference	
	Paradoxical Mean (Std. dev.)	*Business Case* Mean (Std. dev.)	*ρ*-value	Cohen' s *d*
EBIT margin	7.58 (9.36)	7.93 (13.35)	0.882	-0.005
Return on assets (ROA)	9.93 (10.39)	9.38 (13.90)	0.818	0.007
Return on equity (ROE)	14.04 (17.65)	19.82 (22.41)	0.137	-0.028
Equity ratio	45.37 (19.12)	45.47 (19.50)	0.979	-0.001

†p < 0.1, *p < 0.05, **p < 0.01

Table 6: Financial performance across the two clusters (2013)

2013	Cognitive frame		Difference	
	Paradoxical Mean (Std. dev.)	*Business Case* Mean (Std. dev.)	*ρ*-value	Cohen' s *d*
EBIT margin	5.62 (12.54)	6.22 (11.68)	0.857	-0.008
Return on assets (ROA)	8.45 (11.22)	9.69 (12.43)	0.632	-0.018
Return on equity (ROE)	10.16 (21.12)	8.05 (49.24)	0.754	0.003
Equity ratio	44.90 (20.43)	43.95 (20.34)	0.805	0.005

†p < 0.1, *p < 0.05, **p < 0.01

Table 7: Financial performance across the two clusters (2012)

2012	Cognitive frame		Difference	
	Paradoxical Mean (Std. dev.)	*Business Case* Mean (Std. dev.)	*ρ*-value	Cohen' s *d*
EBIT margin	6.26 (13.59)	6.15 (13.43)	0.968	0.001
Return on assets (ROA)	8.29 (11.52)	10.05 (12.91)	0.441	-0.024
Return on equity (ROE)	11.26 (21.01)	16.74 (25.58)	0.212	-0.020
Equity ratio	43.77 (20.57)	43.59 (19.56)	0.963	0.001

†p < 0.1, *p < 0.05, **p < 0.01

DISCUSSION

The field of corporate sustainability is not a theoretical domain in itself, rather benefits from integrating insights from other theoretical domains. In the past corporate sustainability literature has been dominated by stakeholder theory (Jones, 1995), resource-based view (Hart, 1995; Russo & Fouts, 1997), and institutional theory (Campbell, 2007). Through the introduction of logics (Gao & Bansal, 2013; Hahn & Figge, 2011), strategic cognition (Basu & Palazzo, 2008), and paradoxical theory (Hahn et al., 2014b) into corporate sustainability research, new and interesting discussions have emerged to challenge the current dominance of the business case thinking. The focus shifts from pure discussions about the direct and indirect relationships between corporate sustainability and corporate financial performance (for a recent review see Grewatsch & Kleindienst, 2015), towards a more detailed understanding and more considerations of inherent tensions and how cognitive frames allow coordinated sustainable action throughout the firm (for a recent review see (Van der Byl & Slawinski, 2015). This study aims at contributing to this research stream by providing conceptual and empirical insights into the nature and challenges of the tensions and how they are managed at the organizational level. In particular, I look at the business case and the paradoxical frame as cognitive frames at the organizational level (Shrivastava & Schneider, 1984; Walsh, 1995). I assume, by drawing on Hahn et al. (2014b), that either the business case frame or the paradoxical frame is predominant in a firm and influences strategy-making (Kaplan, 2008). I emphasize differences in main strategic decisions about the prioritization of issues, organizational orientation, and strategic intention. I also investigate the connection between the two organizational cognitive frames and financial outcomes. Whereas I find significant differences in the management of underlying tensions between economic, environmental, and social objectives, surprisingly, I find no significant differences in financial outcomes. This has great implications for the dominance of the business case and thus will be further discussed here.

Through looking at the differences in financial performance between the business case and the paradoxical frame I cannot prove causation, but divergence between more complex organizational cognitive frames and financial performance. The findings reveal that there are no significant differences between the two, which opens up for preliminary speculations about the decreasing dominance of the business case frame. Over decades, researchers have tried to test the relationship between corporate sustainability and financial performance (Margolis & Walsh, 2003; Orlitzky et al., 2003) in order to provide evidence that an instrumental focus on corporate sustainability realizes financial gains. While looking for the business case between social, environmental, and economic issues, researchers avoided to address the complexity and tensions among divergent sustainability objectives. Thus the business case became the dominant paradigm in research and practice (Van der Byl & Slawinski, 2015). However, with this study I cannot prove that x firms under the business case frame in practice perform financially better than firms under the paradoxical frame. Both seem equally good.

Cognitive *differentiation* and *integration* (Smith & Tushman, 2005) provide explanations for my findings. Cognitive differentiation and integration are two distinct cognitive processes. Differentiation, on the one hand, points towards the recognition and articulation of distinctions and the employment of more independent dimensions. Integration, on the other hand, describes the degree of interconnectedness among dimensions through shifting levels of analysis (Smith & Tushman, 2005). The paradoxical frame is a more differentiated and integrated organizational cognitive frame than the more narrowly focused business case frame. Thus, top managers are exposed to more complex and integrative thinking, in order to recognize and reinforce distinctions between the economic, environmental, and social dimensions of corporate sustainability. Managers need to overcome inertia and commitment to existing strategies. Through a wide prioritization of issues top managers perceive interactions with stakeholders and the environment as opportunities, rather than a zero-sum game. They develop behavioural complexity (Denison, Hooijberg, & Quinn, 1995) in order to better identify and articulate the needs in each dimension, which allows them to better allocate resources and to support the evolvement of each dimension and different sustainability objectives. Top managers are more open to explore new opportunities, new markets, and new skills, which is reflected in their openness towards a more committed organizational orientation on corporate sustainability. Corporate sustainability is not seen as a threat, rather an opportunity to leverage existing and new competencies; moving from a risk-reducing focus towards an opportunity focus. Moreover, through their wider focus on social, environmental, and economic

issues, firms under the paradoxical frame have also access to a higher variation of information, which supports more effective and enhanced strategic decisions. Top managers act beyond existing competencies and market environments, because of a reduced cognitive commitment to the past. Thus, firms under the paradoxical frame also show a higher interest in reputation building, improved competitiveness, and market opportunities through corporate sustainability than firms under the business case frame which are primarily focused on cost reduction. In order to enable balanced strategies, firms under the paradoxical frame also have a higher degree of cognitive integration. Top managers look for possible conceptual connections, synergies, between tensions and contradicting sustainability objectives through shifting levels of analysis; from a functional to an organizational level (Smith & Tushman, 2005). In this study I support this tendency through a higher organizational orientation towards corporate sustainability across all levels under the paradoxical frame.

Summarizing, I find that the paradoxical frame is a more differentiated and more integrated organizational cognitive frame, which achieves financial results similar to the business case frame with its single-minded focus on profit maximization. Therefore, applying a paradoxical frame does not cause a competitive disadvantage for firms rather on the contrary it opens up for new opportunities and competencies. Within the Danish context, I could already identify a large number of firms that successfully apply and manage a paradoxical frame. Thus, I would like to encourage practices to move beyond the business case thinking in order to recognize and reinforce tensions in corporate sustainability. Financial objectives do not surpass social and financial objectives. Managers should think more holistically and not choose financial goals over social and environmental ones. Managers benefit from acknowledging and exploring tensions between the three sustainability dimensions, rather than ignoring them. The same is true for us researchers. My study offers only preliminary speculations and no proof of causation. However, the fact that I find no significant differences between the business case frame and the paradoxical frame provides the foundation for more empirical research in this direction and a diminished focus on the dominance of the business case.

Limitations and future research areas

Finally the study's limitation should be noted. First to mention, I am aware that quantitative research is less common in cognitive research. However, a few studies used survey evidences, in order to collect data and to investigate the phenomenon (Narayanan et al., 2011; Thomas et al.,

1993). I conducted a survey, because I was interested in exploring the existence and management of the two cognitive frames in sustainability on a broader scale and to go beyond interrogating best practices (Figge & Hahn, 2012; Hahn & Figge, 2011). I applied an explorative method of analysis based on propositions rather than hypotheses, in order to leave room for alternative findings. Nonetheless, self-reported data has its limitations regarding common method bias and social desirability bias (Podsakoff & Organ, 1986). The data about each firm's organizational frame was collected based on the perception of one respondent of the top management, which increases the probability of common method bias (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003). However, top managers are focal points and represent the most knowledgeable persons about a firm's overall strategy, as well as the intended alignment among strategy, structure, processes, and environment (Baruch & Holtom, 2008). Besides that, studies about environmental and social behavior generally show social desirability bias and respondents tend to be more positive and overconfident in their answer (Armstrong & Shimizu, 2007; Podsakoff & Organ, 1986). In order to decrease social desirability bias I ensured anonymity and confidentiality to reduce the incentive for an exaggerated assessment by the respondent.

Another related limitation to the application of a quantitative study is the measurement of the two organizational cognitive frames. In order to measure the two cognitive frames, I asked respondents to weight the three dimensions environment, economy, and society when the top management of the firm makes strategic decisions. This is based on exiting concepts (Elkington, 1997; Kleine & Von Hauff, 2009) and on the assumption that either one of the two cognitive frames is predominant at the organizational level (Kaplan, 2008). Notwithstanding I want to encourage future research to develop ideas for other potential methods of measuring the two cognitive frames on a broader scale and under consideration of temporal as well as spatial orientation (Gao & Bansal, 2013; Slawinski & Bansal, 2012). I hope that my approach can also guide future research in the field of organizational behavior and sustainability. Recently scholars in micro-foundation call for more research about issues, drivers, and trajectories linking organizational behavior and sustainability. Factors such as antecedents, moderators, mediators, as well as outcomes also in relation to different levels of analysis are of special interest in this upcoming research stream (JOB, 2015).

CONCLUSION

Based on an explorative approach and a survey among 119 manufacturing firms in Denmark, I find empirical evidence for the existence of two types of organizational cognitive frames related to corporate sustainability – *the business case frame* and *the paradoxical frame* - in practice. I further identify significant differences between the two organizational cognitive frames in managing inherent tensions, particularly with regard to prioritization of issues, organizational orientation, and strategic intention. However, in contrast to previous research, I find no significant differences between the business case and the paradoxical frame relating to financial performance. I assume that the higher degree of organizational differentiation and integration under the paradoxical frame compensate for the single-minded economic focus under the business case frame. As both organizational cognitive frames show similar financial results, I challenge the predominance of the business case in practice and research, and rather encourage a wider application and investigation of the paradoxical frame.

NOTES

[1]§99a requires a firm to report about its corporate sustainability policies, implemented actions, and results. There are no specific requirements on the content and degree of those reported information. Corporate sustainability is still seen as voluntary for firms, but if a firm has no corporate sustainability policy it needs to inform explicitly about this.

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Appendix A: Control characteristics across the two clusters (year 2013)

	Cognitive frame		Difference
	Paradoxical Mean (Std. dev.)	*Business Case* Mean (Std. dev.)	ρ-value
Number of employees	3459.24 (13394.32)	1380.81 (4099.11)	0.293
Years of experience with sustainability	24.94 (29.26)	16.485 (14.83)	*0.063†*
Firm age	73.10 (51.75)	64.573 (41.47)	0.336
Business-to-Business market activities (in percentage)	84.74 (29.83)	79.35 (34.36)	0.368
Family-owned	19	23	0.532
Non family-owned	29	45	
Industries	*Frequencies*	*Frequencies*	*Cumulative*
1 Building and construction	3	5	8
2 Electricity, gas, heating and water	0	3	11
3 Electronics	4	6	21
4 Food, beverages and tobacco	13	9	43
5 Metal and machine	11	24	78
6 Others	4	4	86
7 Paper and graphical	3	0	89
8 Pharmaceutical and chemical	5	7	101
9 Rubber and plastics	3	6	110
10 Wood, cork, and furniture	4	5	119
11 Textile and clothing	0	0	119
12 Stone, clay and glass	0	0	119

5

DISCUSSION AND NEW BEGINNINGS

5.1. Implications on the academic discipline

The aim of this dissertation is to critically evaluate the relevance of the predominant business case thinking in sustainability research and to suggest alternative views on it. In order to address the aspect of relevance, I started with systematically reviewing existing literature on the contingent perspective in the corporate sustainability – corporate financial performance relationship. Based on the systematic literature review and its findings, I suggested and empirically explored alternative views on the business case through (i) adopting the increasing theoretical perspective of organizational cognition, (i) suggesting different approaches and measurements for the independent and dependent variable, and (iii) conducting unique data on corporate sustainability from the Danish context.

However, considering future research and implications, the suggested alternatives do not entail a fundamental critique on the business case of corporate sustainability, because I applied an approach that is rather '*working with the system'* than around it. However, some fundamental critique should be placed on the research domain itself and the ambitions to operationalize sustainability based on economic terms and within a corporate context. Operationalizing sustainability in terms of corporate sustainability and the business case has not been directed towards achieving sustainable development, instead only to help reducing the effect of the firm's unsustainability while most of the firms still practice *'business-as-usual'* (Ehrenfeld & Hoffman, 2013; Fleming, Roberts & Garsten, 2013). The business case of corporate sustainability is, from a pure sustainability perspective, per se undesirable given its profit imperative and its purely objective quantitative rationale. Through the business case thinking corporate sustainability has become a misused term, promising the mislaid belief of doing business almost as usual. Instead of *'Mother Nature'* and the planet, customers and customer satisfaction are still at the core of considerations, which make corporate sustainability strategies only words on a paper with the continuing implicit goal of growth and a better position in the market place (Ehrenfeld & Hoffman, 2013).

Without doubts the efforts towards the business case of corporate sustainability have been needed and became necessary in order to receive general attention and to reduce unsustainability. Without the business case of corporate sustainability, as an academic discipline, corporate sustainability thinking would have been less present in business and society than it is now. However, we need to recall what sustainability actually means and aims at. So far, the sustainability debate has been exploited by corporate language and business interests, which should not go

uncontested any longer. Therefore, as my final concluding remarks on this dissertation, I will open up a more fundamental critical inquiry on the business case predominance and what it actually should mean to be a truly responsible and sustainable firm. For this purpose I will borrow from perspectives that faced similar misconceptions of sustainability in their academic discipline– *sustainability accounting* (Bebbington & Gray, 2001; Fleming et al., 2013; Gray, 1992) and *ecological economics* (Daly, 1996; Daly, Cobb, & Cobb, 1994; Daly & Farley, 2011; Røpke, 2005).

5.2. Learning from other academic disciplines to initiate new, future paths

Sustainability accounting and accountability aims at making firms legally accountable for their social and environmental responsibilities through a system of checks and balances. Sustainability accounting describes accounting systems, rules, and resources in order to neutrally reflect the facts about what has been done in a firm over a certain period. The building principles are transparency and answerability with regard to what actions have been undertaken. Sustainable accountability reflects the system in use, in order to address responsibility and enforceability for carrying or not carrying out appropriate actions (Banerjee, 2006; Bebbington & Gray, 2001).

The sustainability accounting literature has demonstrated a considerable increasing concern for the issues of sustainability and the role accounting plays (Bebbington & Gray, 2001). The essence of the critique is that accounting activities should stay away from nature and sustainability, because little is known about what sustainability actually looks like and accounting cannot provide anything besides reducing sustainability to contingent liabilities, impaired assets, and provisions. Sustainability accounting cannot deliver the *'Holy Grail'*, rather it primarily '*debits'* human capital and '*credits'* non-human capital (Gray, 1992). What has been missed in sustainability accounting and accountability was to consider (i) open rather than closed systems, (ii) to minimize rather than to maximize, and (iii) to keep complex rather than simplified, manageable solutions (Gray, 1992). Accounting in general has a reductionist tendency, because of its economic reasoning that is based on simplifying and reducing the complexity of the world. However, the intention to model complex systems, such as sustainability, violates its structure and overlooks the holistic breadth of it. What has been proposed by critical researchers in the field of sustainability accounting and accountability is to introduce the idea of capital maintenance (Gray, 1992; Daly, 1996). Thereby four types of capital need to be distinguished (1) critical natural capital, (2) renewable natural capital, (3) substitutable capital, and (4) human-made capital. Consequently, a sustainable firm is one that maintains all their four types of capital intact. Moreover it considers, that (i) every individual entity

is connected to the others, (ii) everything needs to go somewhere, (iii) one cannot get anything for nothing from it, and (iv) that *"nature knows best"* (Gray, 1992, p. 406).

Additionally, the *ecological or environmental economic perspective* calls for a reconsideration of economic growth. A similar critical discussion of growth and its inherent dilemma has been missing yet in the context of sustainability literature and the business case of corporate sustainability. The dilemma with growth lies in, that on the one hand, it is the main provider and indicator of wealth and social stability, while on the other hand, it is the initiator of environmental and social disasters (Jackson, 2011). By looking at sustainability through the corporate and economic lens, sustainability is primarily associated with growth, which addresses the qualitative increase of assimilating and aggregating material. However, sustainability in the sense of sustainable development, addresses development and not growth. Development aims at qualitative improvements and the realization of potential (Daly, 1996). The notion of development considers the finiteness of the planet and its resources, and that production as well as reproduction should be for replacement and improvement only. We are facing a steady-state economy of almost zero growth. The economic growth paradigm should stop, while qualitative improvements in technology and ethics continues (Daly, 1980; Daly,1996; Urhammer & Røpke, 2013). According to the ecological economist Daly: *"the path of the future progress is development, not growth*" (Daly, 1996, p.13). Therefore, in order to achieve sustainability the economy and the economic system need a transformation and a redefinition of measures of progress, beyond growth as the ultimate synonym for employment, social stability, well-being, and prosperity (Urhammer & Røpke, 2013).

Both, ecological economy as well as the critical examination of sustainability accounting, developed out of misconception and the almost negligible outcomes given the decades of research pursued in their academic disciplines. Reflecting on this dissertation and its outcomes, I can see the contribution of each single research article, but considering the overall picture I also started to critically reflect on the business case of corporate sustainability as an academic discipline itself. While looking at the financial and non-financial benefits of corporate sustainability for a firm, we forgot to reconsider the idea of firms and what it means to be a truly responsible and sustainable firm. A truly sustainable firm promotes fairness, equality, community cohesion, and ecosystem health. Instead of thinking about waste minimization, pollution prevention, eco-efficiency, and less

harmful products, a truly sustainable firm aims towards caring relationships and not moving beyond regeneration and absorption capacities of the environment (Ehrenfeld & Hoffman, 2013).

As an insightful final conclusion, future research and practices should move away from the economics-based paradigm and a purely quantitative rational underlying the business case thinking. More research and practice are needed on the transformation of the economy and businesses towards a more meaningful paradigm of sustainable development.

5.3. Conclusion

Strategic perspectives on corporate sustainability traditionally address the business case of corporate sustainability. The business case thinking has become the predominant approach to follow the quest of finding financial bottom line related arguments and other beneficial reasons for firms to engage in corporate sustainability initiatives and activities. Despite the long tradition of this academic discipline, findings and theoretical arguments are still inconclusive and fragmented. This is due to persistent missing concreteness in theoretical methodological approaches, which leads to emerging frustration on the relevance of the business case of corporate sustainability among researchers and practitioners. In this dissertation I suggest conceptual and empirical alternative views on the business case in corporate sustainability in order to move this academic discipline forward. These alternatives range from a more contingent perspective on the relationship between corporate sustainability and corporate financial performance, to a more informative cognitive perspective considering different organizational cognitive frames towards corporate sustainability.

However, these are just initial steps towards moving beyond the business case predominance in corporate sustainability. In order to fundamentally address the root causes, this academic discipline would greatly benefit from insights of sustainability accounting and accountability, as well as ecological economics. Both academic disciplines faced similar problems and misconceptions in relation to operationalizing sustainability without losing its original meaning.

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