

1           **Title: Clarifying the Epistemology of Corporate Sustainability**

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1 **Abstract**

2 Business research is placing increasing focus on the relationship between the natural environment  
3 and the political concept of sustainable development. Within this nexus, one area, labelled  
4 'Corporate Sustainability', emphasizes the interactions between economic, environmental and  
5 social values. The need to consider multiple values has contributed to a blur in the conceptual  
6 landscape. This is partly due to the fact that authors often address epistemological challenges on an  
7 implicit level. Moreover, hidden ideologies, e.g. the profit maximization paradigm, can explain the  
8 conceptual obscurity.

9 The contribution of this article is twofold. Firstly, a conceptual framework is developed based on the  
10 dichotomy of positivism and constructivism. A relation is established between these epistemological  
11 positions and the analytic treatment of environmental and social values. The framework can be  
12 applied to increase transparency on epistemological challenges and thereby strengthening  
13 construct validity in the field. Secondly, an analysis of the most influential literature from the last 50  
14 years shows that there is a trend of clustering theoretical positions and value constructs without  
15 any critical awareness of their philosophical assumptions. The authors hope that acknowledgement  
16 of a multi-paradigmatic approach can help to clarify the epistemology of the research area by  
17 establishing pluralism as an explicit position.

18 **Key words:** Construct Validity; Corporate Sustainability; Epistemology; Ideology; Pluralism; Value  
19 Constructs

20

## 1 **1. Introduction**

2 An ongoing debate in business research challenges the traditional view of economics, based on a  
3 linear model of resource consumption, with the circular system thinking of ecology (Spangenberg,  
4 2015). Furthermore, the political concept of sustainable development represents increasing societal  
5 expectations for business conduct (Baumgartner and Ebner, 2010), and the United Nation's new  
6 Sustainable Development Goals (SDGs) are planned to act as frame conditions for the global  
7 economy in the years to come (Griggs et al., 2013).

8 A specific stream of literature, called 'Corporate Sustainability' (CS), is especially interesting in the  
9 debate between traditional economics and a systemic ecological perspective since it deals directly  
10 with the role of business, i.e. economic value creation, when it comes to ecological and social  
11 concerns. This calls for a multi-paradigmatic perspective (Bansal and Hoffman, 2012, p. 19), which  
12 poses epistemological challenges related to how to address values and ideologies (Söderbaum,  
13 1999). The seminal work by Gladwin et al. (1995) assert that traditional business research suffers  
14 from an 'epistemological crisis' because the natural world is excluded in the study of human  
15 organizations. When investigating contemporary debates, several scholars point to similar  
16 fundamental dilemmas when it comes to the level of analysis (Hahn et al., 2015), along with the  
17 choice of value constructs (Van der Byl and Slawinski, 2015) in the area of CS.

18 On one hand, authors such as Whiteman et al. (2013) and Costanza et al. (1997) stress that the  
19 analytical premises of CS are given by environmental science, which assumes that reality is  
20 objective. On the other hand, researchers must consider inter-subjective processes such as human  
21 decision-making, and thus acknowledge factors related to values (Hemingway and Maclagan, 2004)  
22 and power (Mitchell et al., 1997) in the generation of knowledge. Because of this dilemma, and  
23 since values are often related to ideologies, this article seeks to investigate epistemological

1 challenges in CS by applying the positions of *positivism*<sup>1</sup> and *constructivism* found in the philosophy  
2 of science (Robson, 2011).

3 This article engages in the ongoing debate in Ecological Economics regarding the epistemology of  
4 'sustainability economics'(see Söderbaum, 2015, Remig, 2016). Emphasis is placed on CS and the  
5 role of social and environmental value constructs. The chosen approach aligns with, for example,  
6 Dembek et al. (2015), who explains why research areas addressing business and its relationship to  
7 societal values need to clarify epistemological assumptions. The research topic is operationalized  
8 through two specific questions:

9 1) How can the epistemology of CS be analyzed?

10 2) What are the epistemological trends of the most influential literature in CS?

11 Question 1 is approached in this article through a conceptual analysis grounded in two distinct  
12 positions within epistemology, i.e. positivism and constructivism. A framework is developed by  
13 evaluating the relation between epistemological positions and the value constructs found in CS.  
14 Question 2 is answered through an analysis based on the framework. The main finding is that the  
15 most influential literature from the last 50 years contains implicit clustering in terms of theoretical  
16 value constructs. Finally, the article discusses resulting epistemological challenges. A remedy is  
17 proposed through a pluralistic epistemology, which asserts the role of value-based discourses in the  
18 field of economics (Söderbaum, 2015).

19 The following section introduces the concept of CS by explaining the historical background, along  
20 with recent trends in the literature. Moreover, the first research question is approached through a

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<sup>1</sup> It is symptomatic that business literature does not distinguish between the two positions 'positivism' and 'post-positivism'. We have chosen to use the term positivism in this article, since it is commonly reflected in the literature even if some articles comprise post-positivist aspects. However, we discuss differences between the positions in the philosophical analysis in section 2.2.

1 philosophical analysis. In section 3, the second research question results in an analysis of top-cited  
2 literature in CS. Section 4 discusses epistemological challenges by synthesizing the contributions of  
3 the two previous sections. Finally, section 5 presents concluding reflections along with future  
4 implications for researchers and practitioners in the field of CS.

## 5 **2. Philosophical anchoring of corporate sustainability**

6 This section provides an overview of CS, along with a historical account of its central concepts. Such  
7 exercise elucidates why and how the research area has become anchored in fundamentally  
8 different values, i.e. environmental, social and economic concerns. Further, a philosophical analysis  
9 is conducted in order to demonstrate how underlying tensions in CS are connected to  
10 epistemological aspects. This results in a conceptual framework that can be used to analyze the  
11 epistemology of knowledge contributions in the area of CS.

### 12 **2.1. Conceptual background**

13 Drawing on the historical account by Bansal and Hoffman (2012), it is clear that CS as a research  
14 area has evolved since the 1960s through a series of major changes in values, beliefs and norms. A  
15 relevant example is how ecological economics has emerged as an alternative position to neo-  
16 classical economics. CS can be seen as a new paradigm – the practice and motive that define a  
17 scientific discipline (Kuhn, 1970).

18 Historically, knowledge development has been linked to core theoretical concepts in business  
19 research – Regulatory Compliance, Strategic Environmentalism and (Corporate) Sustainability. In the  
20 1960s and 1970s, emphasis was placed on regulation, and new governmental agencies were formed  
21 in response, forcing industry to focus on legal compliance and technical aspects. Most scholars  
22 acknowledge Rachel Carson's 1962 publication of Silent Spring as an important starting point for

1 such regulatory focus. The book's main assertion is that chemicals adversely affect the environment  
2 and society (Carson, 2002). In the next phase of scientific development, during the 1980s and 1990s,  
3 environmental issues were elevated to a strategic concern for business through principles such as  
4 pollution prevention and product stewardship. Stuart L. Hart's 'Natural-resource-based view'  
5 (NRBV) was an important contribution to strategic management literature, and emphasizes how  
6 firms can enhance their competitive position while simultaneously securing ecological values (Hart,  
7 1995). The contemporary debate is centered on the concept of sustainability, which, in a business  
8 context, reflects upon how firms can contribute to development that recognizes the needs of future  
9 generations by ensuring social standards and safeguarding the natural environment. State-of-the-  
10 art literature conceptualizes this as 'corporate sustainability' (CS) (Baumgartner and Ebner, 2010,  
11 Lozano et al., 2014). It should be noted that the political underpinnings CS originate in the United  
12 Nations, and especially in the publication Our Common Future (Brundtland, 1987).

13 An important conceptual grounding for CS can be found in system theory, the interpretation of  
14 sustainability as the ability of the human system to adapt to the ecological system (Holling et al.,  
15 2002). The system perspective has received increasing attention in the sustainability debate  
16 because it addresses the complexity present when dealing with different underlying values and sub  
17 systems. Furthermore, several authors argue that the solution to sustainability is to adopt a holistic  
18 view, in order to analyze the qualities that emerge from the interactions within the whole, instead  
19 of breaking the system down into parts. Griggs et al. (2013) have received significant attention for  
20 this way of thinking, and suggest a new paradigm where Earth's life-support system is the basis for  
21 all human activity. This aligns with the logic of Holling et al. (2002), which emphasizes the  
22 embeddedness of human systems in the slower-changing ecological system. Such paradigm

1 represents a fundamental understanding of the human and environmental systems at hand,  
2 providing a useful theoretical context.

3 The macro perspective of Griggs et al. (2013), however, is not directly applicable to change  
4 processes at the organizational level, which are the core focus of CS. The model provided by Hahn  
5 et al. (2015) is therefore appropriate because it simultaneously takes into account different levels of  
6 analysis, namely the individual, organizational and systemic (Figure 1). The purpose of the model is  
7 to provide scholars and decision makers a theoretical lens to analyze the underlying tensions  
8 related to change for sustainability at the business level. The model illustrates a dynamic aspect by  
9 including the temporal dimension of the context in which change takes place. For example, the  
10 temporal dimension highlights how short-term financial concerns can be a barrier to the long-term  
11 orientation of social and environmental concerns because they are perceived as having more value.  
12 Another example can be conflict between the individual motivations of employees and the  
13 company's organizational goals, which illustrates the need for different levels of analysis (i.e.  
14 individual, organizational and systemic).

15 <FIGURE 1 HERE>

16 The model can be used to summarize the basic concepts in CS. First, the dimensions of change, i.e.  
17 economic, social and environmental values, are linked strongly to differing societal interests.  
18 Second, the level of change reflects the systemic nature of sustainability, and the intersection  
19 between the ecological, economic and social areas. Finally, the context has fundamental  
20 implications. One aspect reflects temporal aspects where short-term profit orientation is a barrier  
21 to long-term investment, in environmental technology for example. The second aspect reveals  
22 spatial elements such as how companies divide their activities between developed and under-  
23 developed regions in the world with different social standards and environmental technologies

1 (Hahn et al. 2015). To summarize, CS is an area that deals with multiple perspectives and knowledge  
2 disciplines, something which generates latent tensions in change processes both at organizational  
3 and systemic levels.

4 The topic of tensions in CS, and particularly the inter-relations between social, environmental and  
5 economic values, can be seen in relation to two distinct positions in sustainability science. According  
6 to proponents of 'strong sustainability,' there are fundamental differences between the three  
7 constructs. This rests on the premise that natural capital represents a unique contribution to  
8 societal welfare, which cannot be substituted by human or financial capital (Ekins et al., 2003).  
9 Moreover, natural capital cannot be understood purely through quantitative techniques since there  
10 are qualitative differences between ecosystem services and their influence on social systems (p.  
11 176). 'Weak sustainability,' on the other hand, treats the three forms interchangeably with the  
12 assumption that the aggregated amount of capital is to be allocated in an optimal manner. As an  
13 example, CO2 emissions to the atmosphere are not a damage to human welfare as long as other  
14 forms of capital are created, e.g. machineries and roads (Pelenc et al., 2015). In other words, this  
15 position makes it possible to conduct trade-offs between social, environmental and social values.  
16 On the whole, there are different philosophical issues to consider when analyzing the conceptual  
17 grounding in CS. Hahn et al. (2015) have made an important contribution here because their model  
18 indicates how CS draws on different disciplines and underlying value constructs. Overall, the model  
19 supports discourses aimed at fundamental epistemological challenges, which are illustrated in the  
20 following section.

## 21 **2.2.Philosophical analysis**

22 A field's philosophical anchoring is typically determined by assumptions within ontology, the  
23 philosophic study of reality, and epistemology, the philosophic study of knowledge. The classic



1 philosophic dichotomy between positivism/post-positivism<sup>2</sup> and constructivism (Robson, 2011,  
2 Cunliffe, 2010), is useful for our purpose. A premise for this usefulness is that theoretical concepts  
3 and empirical observations are central parts of the positivism/post-positivism vs constructivism  
4 scholarly debate.

5 Main features of positivism are that knowledge is based on experience, research means gathering  
6 evidence about reality and that any 'transcendent' knowledge claims are refuted ('Positivism',  
7 Encyclopaedia, 2016). Ontologically, positivism sees reality as an objective realm, independent from  
8 human mind, but accessible through, for example, research. Epistemologically, access to reality is  
9 achieved by observing and collecting data. Research reflects an objective nature with the goal to  
10 explain, predict and control phenomena under inquiry (Guba and Lincoln, 1994), and to verify  
11 theories. Critiques of positivism state, however, that there is no guarantee to get a true picture of  
12 an objective world since all collected data are necessarily incomplete (Popper, 2005). Post-positivist  
13 Popper thus introduced the 'falsification principle' claiming among others that data that to refute a  
14 hypothesis is far more decisive than data that support it. Post-positivists (see also 'critical realism',  
15 Alvesson and Sköldbberg, 2009) acknowledge reality is not understandable with absolute certainty,  
16 however, research and experiments make it possible to approach truth (Guba and Lincoln, 1994,  
17 Willis and Jost, 2007). An important difference for this article is also the post-positivist  
18 acknowledgement that collected data are not neutral (as positivists believe), but to some degree  
19 influenced by the researcher's decisions and values.

20 Positivism/Post-Positivism is linked to the elements in Figure 1. On the systemic level and in the  
21 environmental dimension, knowledge is based on the assumption that a natural world exists, and  
22 that reasoning can be justified with the help of empirical observations and/or experimental testing.

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<sup>2</sup> We have chosen to use the term 'positivism' in this article except in section 2.2 where we also discuss 'post-positivism'.

1 This is for example visible in methods such as 'Material Flow Analysis' (MFA), which assesses  
2 environmental impacts of materials in a system and predicts changes with help of algorithms - a  
3 combination of empirical data collection and mathematics. However, knowledge about factual  
4 circumstances/reality is here connected with researchers' decisions and values, and thus a post-  
5 positivist position seems appropriate for the systemic level/ environmental dimension. In a MFA,  
6 this means that sources of material input in the system for example from production facilities are  
7 based on the researcher's selection. Missing knowledge, missing data or the ignorance of a source  
8 can result in a wrong prognosis, besides the fact that data collection can be challenging since actors  
9 may be reluctant to reveal correct figures. Also one has to consider that temporal and spatial  
10 aspects are not universal, new knowledge will result in revised prognosis and the results might be  
11 limited to a certain geographic area. According to Post-positivism these uncertainties can only be  
12 mitigated by constant testing and application of scientific methods and revision of hypotheses.

13 Focusing entirely on interpretations and values, constructivism claims that knowledge is always  
14 relative and context dependent. Moreover, the individual values of the researcher and participants  
15 become an integral part of knowledge development via hermeneutic interpretation (Høiseth et al.,  
16 2014). Consequently, constructivist-based reasoning relies on the interpretation of qualitative data  
17 in order to explore and explain how human actors attach meaning to phenomenon and objects.  
18 Constructivists perceive reality as mental constructions, socially and experientially based, local and  
19 specific in nature, although often shared among many individuals. 'Truth' can never be claimed and  
20 even if there be an external world, it is not possible to approach it. Ontologically, constructivism can  
21 be described as relativism, epistemologically as 'transactional and subjectivist', its methodologies  
22 being interpretivist and hermeneutical (Guba and Lincoln, 1994).

23

1 Related to Figure 1 one can connect constructivism from an epistemological, as well as ontological,  
2 perspective with the individual level and the social dimension. Reality is socially constructed, based  
3 on (inter-)subjective values and norms, experienced subjectively and decisions are 'negotiated'  
4 through transactions. Intersubjective values are for example visible in principles of social  
5 sustainability such as to achieve well-being for those living and their descendants (Chiu, 2003).  
6 Rather than referring to an objective necessity, minding future generations' well-being is based on a  
7 (contemporary) value of care, which is individually experienced ('my children should have a good  
8 life as well') and up for intersubjective debate. In contrast to positivism and to a certain degree also  
9 to post-positivism, constructivism is not considering any objectivized notions of time and space. On  
10 the contrary, knowledge generation is per se contextual i.e. related to certain historical and cultural  
11 place-bound circumstances. Temporal and spatial dependencies are thus not seen as uncertainties,  
12 but as conditions for analysis.

13 Finally, the organizational level and in the economic dimension in Figure 1 will most frequently have  
14 elements of both constructivism and positivism/post positivism, which appear to be  
15 interdependent. For example, dealing with the allocation of natural resources in a decision-making  
16 context, or relating to a company's internal negotiations among individuals on how to prioritize  
17 time and resources, includes positivist and constructionist elements. A positivist element relates  
18 here to information and data collection on infrastructure and technology, and to underlying  
19 temporal conditions, such as estimated production- and distribution time. Spatial aspects that vary  
20 in different countries would be local resource availability and access, and infrastructure conditions  
21 such as taxes and salaries. A constructivist element is reflected in companies', employees' and  
22 societal values, which are grounded on (inter-)subjective interpretations. This relates to issues such

1 as when and where to work, mobility and productivity, and favorable local settings for production  
2 facilities.

3 <FIGURE 2 HERE>

4 The philosophical analysis has considered all the dimensions (economic, social and environmental),  
5 levels (individual, organizational and systemic) along with contextual aspects (spatial and temporal)  
6 of Figure 1. Moreover, we have argued relations with epistemological positions found in  
7 constructivism and positivism. Figure 2 shows how an analytical framework can be developed by  
8 applying this logic. The framework emphasizes the three underlying value constructs and how they  
9 are premised upon the set of philosophical assumptions explained previously. As a result, one can  
10 identify a fundamental epistemological difference between the environmental and social  
11 dimensions because the former assumes objectivity, while the latter implies a relative approach and  
12 context-dependency of knowledge.

13 Figure 2 represents a framework for analyzing the epistemology of CS, i.e. the first research  
14 question of this article. An application is presented in the next section, and this process aims to  
15 answer the second research question along with facilitating critical discussion on the philosophic  
16 underpinnings of CS.

### 17 **3. Analyzing the most influential literature in corporate sustainability**

18 It is appropriate to adopt a broad scope when conducting analysis in the field of CS because the  
19 theoretical foundation draws on different perspectives and disciplines (as in e.g. Hahn et al., 2015).  
20 Consequently, this article analyzes the literature without further specifying thematic boundaries.  
21 Relevance, in terms of scholarly citations, was selected as the main criteria when sampling the  
22 literature.

1 An analysis of the most-influential literature in the field, based on the framework developed in the  
2 previous section, was selected as the main method. Hoffman (2011) conducts a review of most  
3 influential articles in CS, and is one of the main authors of the Oxford Handbook of Business and the  
4 Natural Environment (Bansal and Hoffman, 2012). His review is based on the 874 articles covered in  
5 the handbook. Hoffman’s list ranks the articles based on normalized citations in Google Scholar,  
6 which take into account the fact that older articles will gather more citations than recent ones. The  
7 top 20 articles on Hoffman’s list are analyzed in this article.

8 An important aspect is the criteria applied in the analysis. They were created through the  
9 application of Figure 2, and the value constructs linked to the social, environmental and economic  
10 dimensions. The process of analysis was to investigate how these constructs were applied within  
11 the individual articles on the list. The logic of this approach is grounded in the concept of ‘construct  
12 validity’ as means of scientific quality. This criterion concerns “(...) how well information about the  
13 constructs in the theory being built are measured in the research” (Healy and Perry, 2000, p. 124).  
14 For example, when scholars in CS applies the construct of ‘corporate social performance’, construct  
15 validity implies that the information at hand must represent something ‘social’. The remaining part  
16 of this section presents the results of the analysis and provides examples of the classification  
17 process.

18 Table 1 presents the 20 article sample of the most-influential literature in the field of CS. The  
19 literature is classified based on the usage of underlying values (social, environmental and  
20 economic), which varies between single and multiple constructs. Examples are provided in the  
21 following paragraphs on the different combinations. Moreover, the analysis reveals a multitude of  
22 approaches when it comes to the explicit application of the three value constructs.

23 <TABLE 1 HERE>

1 Articles are grouped into three main clusters. The one with the fewest articles concerns an explicit  
2 focus on the economic and environmental dimensions. Costanza et al. (1997) adopts a systems  
3 perspective on how natural ecosystem services can be valued in terms of monetary constructs,  
4 as shown by the following statement: “We have estimated the current economic value of 17  
5 ecosystem services for 16 biomes, based on published studies and a few original calculations” (p.  
6 253). Porter and Van der Linde (1995) use a qualitative approach and focus on the effect of  
7 environmental regulation on the competitiveness of business organizations. ‘Social benefits’ are  
8 mentioned as a topic (p. 98), but the social value construct is treated implicitly as an economic  
9 variable.

10 The second largest cluster of articles concerns the constructs of social and economic values. The  
11 general trend among the seven articles is that the environment is regarded as a social value.  
12 This is typical for quantitative-oriented articles that focus on the concept of ‘performance’ (e.g.  
13 Waddock and Graves, 1997, Wood, 1991), where relationships between social and economic  
14 performance are analyzed. An exemption is Mitchell et al. (1997), who deal with qualitative  
15 negotiation processes between social actors. The environmental dimension is indirectly regarded as  
16 a social stakeholder, as illustrated by the following statement: “Persons, groups, neighborhoods,  
17 organizations, institutions, societies, and even the natural environment are generally thought to  
18 qualify as actual or potential stakeholders.” (p. 855). Moreover, the economic dimension in this  
19 cluster is qualitatively represented through emphasis on management strategies.

20 The largest article cluster addresses all three value constructs. The meta-analysis by Orlitzky et al.  
21 (2003) is a good example because it defines social, environmental and economic variables explicitly.  
22 Moreover, it clarifies the inter-relations between social and environmental variables in the chapter  
23 on methodology (p. 410). The overall construct includes both environmental and social values, and

1 is called 'corporate social performance' (CSP). In the quantitative analysis, however, statistical  
2 results are calculated through a breakdown of social and environmental dimensions. This variable is  
3 discussed in relation to 'corporate financial performance' (CFP). It should be noted that several of  
4 the other articles (e.g. Margolis and Walsh, 2003, Matten and Moon, 2008) apply a qualitative  
5 approach within which they explicitly state that the social dimension is interpreted to include  
6 environmental values.

7 The analysis clarifies how inter-linkages between value constructs are treated in the literature.  
8 Some authors explicate, both quantitatively and qualitatively, the social, environmental and  
9 economic dimensions as distinct elements. Others make an implicit clustering, for example when  
10 the natural environment is regarded as a social stakeholder. In general, there is a tendency to use  
11 the constructs of social and environmental interchangeably, and especially to assume that the social  
12 dimension also includes environmental concerns. The next section aims to discuss the  
13 epistemological implications of these methodological trends.

#### 14 **4. Discussion**

15 Transparency in terms of underlying philosophical assumptions is necessary to uncover hidden  
16 values and to secure scientific development in a field in general (Alvesson and Sköldbberg, 2009).  
17 Banerjee (2012) argues, for example, that knowledge development in the area of CS lacks a critical  
18 reflection because the basic assumption of the profit maximization paradigm remains unchallenged.  
19 This is supported by Hahn and Figge (2011), who call for a redefinition of corporate profitability that  
20 takes into account social and environmental capital. In general, publications are not often explicitly  
21 aware of the origin of the epistemological approaches chosen, and units of analysis are tacitly  
22 presumed.

1 The main finding from the analysis of literature is that there seems to exist a clustering of value  
2 constructs, each representing fundamentally different epistemological assumptions. Indeed, there  
3 are several examples from the top-cited literature on how social and environmental dimensions are  
4 combined as a unit of analysis. Remembering the research questions of this article, it is important to  
5 discuss the epistemological implications of this observation. Moreover, the framework depicted in  
6 Figure 2 can be applied in order to discuss the philosophical anchoring of CS. There are  
7 epistemological challenges involved when social and environmental values are combined in  
8 scientific analysis because they relate to the different paradigms of constructivism and positivism.

9 There is a general trend in the literature, namely that the construct based on the social dimension is  
10 typically defined, or interpreted, as including the environmental dimension. This implies two  
11 fundamental challenges. First, positivist-oriented articles typically treat social and environmental  
12 values as a joint construct called CSP. Referring to the logic in Figure 2, there is an epistemological  
13 challenge when social values are treated as objects. For example, who defines social values? Strong  
14 arguments are made that social concerns must be understood through a context-dependent  
15 process of interpretation, along with negotiations between actors. Second, constructivist-oriented  
16 articles tend to interpret the environmental dimension as a social stakeholder, for example through  
17 governmental agencies. This is also problematic because the main-stream epistemology in natural  
18 science assumes objectivity, meaning that the social context should not influence scientific analysis  
19 and understanding. This implies that ideologies and hidden values can influence how environmental  
20 concerns, for example CO<sub>2</sub> emissions, are treated in decision-making processes. On the whole, the  
21 combination of social and environmental values in a single construct implies a fundamental  
22 epistemological challenge.



1 An ongoing debate in Ecological Economics can be related to the insights of this article. Remig  
2 (2015) critically discusses the emerging contributions centered on the topic of 'sustainability  
3 economics.' The author argues the fuzziness and unnecessary complexity of the concept since there  
4 is a tendency to cluster theoretical concepts without specifying boundary conditions and analytical  
5 criteria. As a response, Söderbaum (2015) warns against the notion of "mainstreaming" economics,  
6 and refuses the classic idea that a scientific area must belong to one defined paradigm since values  
7 and ideologies are an inherent part of the scientific discourse. This creates complexity, which he  
8 argues must be met through epistemological pluralism and a multi-paradigmatic approach. It should  
9 be noted, that Remig (2016) supports the pluralist position, but argues: "Yet, pluralism must not be  
10 confused with anything goes." (p.2). His main argument concerns the need of a structured approach  
11 when dealing with multiple methodological approaches.

12 This article acknowledges a pluralist epistemology in sustainability science as advocated by both  
13 Remig and Söderbaum. Indeed, this position may remedy the fundamental challenge that exists in  
14 the area of CS. The classic dichotomy of positivism vs constructivism is useful to apply in order to  
15 explicate epistemological dilemmas, but this frame of reference seems unsuitable to advance the  
16 discussion. Resultantly, a structured approach towards pluralism that synthesizes insights from the  
17 classical paradigms may be a way further. This could increase construct validity when addressing  
18 social and environmental values in traditional business disciplines. One specific topic to investigate  
19 in this regard, is the role of social stakeholders when representing the value of ecosystem services.  
20 This creates a complex setting of negations, where both democratic principles and the inherent  
21 value of nature must be taken into account.

22 The ontological aspects of sustainability, the worldview behind the concept, are not the scope of  
23 this article. However, the analytical findings indicate that the most influential literature in CS

1 resonates strongly with the position of weak sustainability. This means that the three forms of  
2 capital (human, natural and financial) are assumed to substitutable. Such an inference is supported  
3 by the observation that social and environmental constructs are treated on a common scale, for  
4 example through CSP, as explained earlier. An ontological position of strong sustainability would, in  
5 contrast, have assumed that the inherent value of natural capital cannot be traded off with financial  
6 or human capital. On this note, it seems safe to conclude that the core literature of CS represents  
7 the mainstream ideology in economics, namely that financial value creation can be optimized on  
8 the basis of input factors such as natural resources and human capabilities.

## 9 **5. Conclusion and implications**

10 The core elements of CS concern the social, economic and environmental dimensions (as seen in  
11 Figure 1). The overall goal of this article is to increase the transparency of epistemological  
12 challenges that arise when research is conducted within the inter-relationships between these three  
13 distinct constructs. The means towards this goal has been to answer two distinct research questions  
14 that have resulted in the following contributions. Firstly, a conceptual framework has been  
15 developed in order to analyze the epistemological foundation of CS. Secondly, an application of the  
16 framework shows that the most influential literature from the last 50 years adopts mixed and  
17 contradictory positions in terms of epistemology. As a consequence, concepts and philosophical  
18 worldviews are clustered without critical awareness of their implications, resulting in what we  
19 name, 'implicit pluralism.'

20 To remedy the situation, we assert a pluralistic position that makes explicit statements about  
21 underlying value assumptions and their inter-relations, in order to facilitate critical reflection and  
22 scientific development in the field. Further research can apply the groundwork laid in this article for  
23 philosophical transparency related to epistemological and ontological aspects. More specifically,

1 research can be placed within the context of Hahn et al. (2015), whose model represents the  
2 holistic understanding of the interactions between systemic mechanisms anchored in the concept  
3 of sustainable development, and organizational decision-making rooted in inter-subjective values.  
4 We have focused on the triple value construct that represents the conceptual core of CS, but there  
5 are several avenues for further knowledge development. The dynamic and temporal element is  
6 relevant, and especially in the context of micro-macro interactions between the systemic and the  
7 organizational level. The ongoing implementation of the UN SDGs, which will last until 2030, is an  
8 interesting process for scholars to investigate. A fundamental topic is the nature of systemic change  
9 prescribed by the goals, and the philosophical debate between organic and mechanistic worldviews  
10 (Ims et al., 2015). This touches upon the ontological dimension of philosophical analysis, which has  
11 not been scope of this article, but is indeed an area to explore further.

12 In addition to scholars, practitioners and decision makers can utilize the insights of this article in  
13 order to adopt the SDGs in their activities. Others have argued that the 17 SDGs are interrelated and  
14 rife with latent tensions (Nilsson et al., 2016), which makes it even more relevant to consider the  
15 framework's underlying assumptions in terms of social, economic and environmental values. In this  
16 respect, we strongly warn against superficial adoption of the goals, along with the 'cherry picking' of  
17 a few without systemic consideration of all 17. A business organization, for example, must make an  
18 explicit decision on how to deal with the different topics of the SDGs, and specifically take a  
19 principal stance to manage the tensions and conflict that will occur in practical implementation. This  
20 is a natural task for company boards and other high-level governing bodies in organizations, and we  
21 hope our suggestions can facilitate value-oriented discussions that challenge taken-for-granted  
22 assumptions such as the ideology of profit maximization.

23

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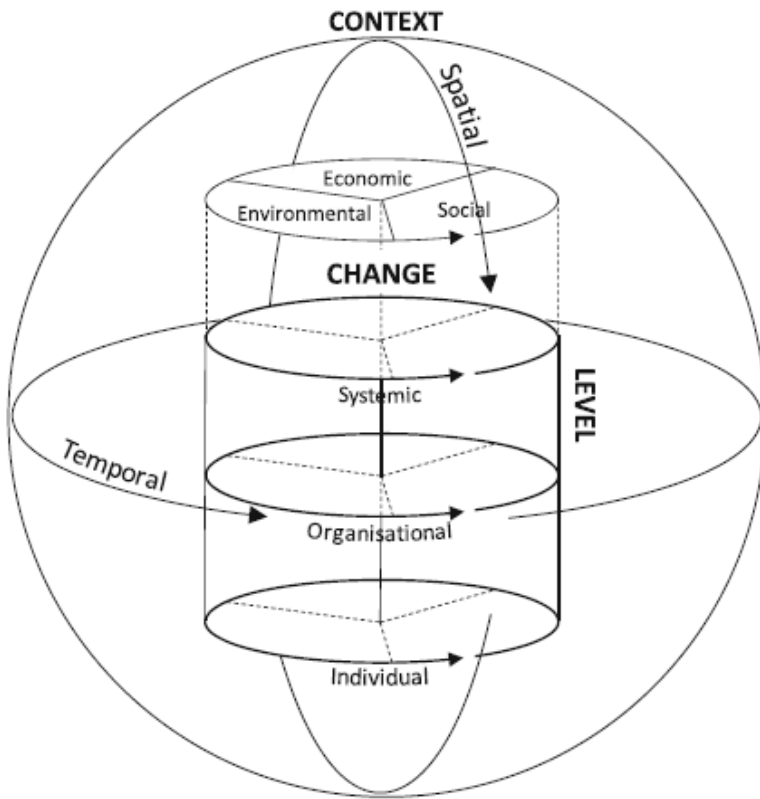
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1 **Figures and Table**

2



3

4 **Figure 1** The fundamentals of corporate sustainability (Hahn et al., 2015)

5

<i>Epistemology</i>	<i>Value constructs</i>		
	Environmental	Economic	Social
Constructivist		X	X
Positivist	X	X	

6

**Figure 2** A framework for analyzing the epistemology of corporate sustainability

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1 **Table 1 Analysis the top 20 literature in the area of corporate sustainability**

Nr <sup>3</sup>	Title	Author and year	Journal	Explicit value constructs
1	The value of the world's ecosystem services and natural capital	Costanza et al. (1997)	Nature	Environmental Economic
2	Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts	Mitchell et al. (1997)	Academy of management review	Social Economic
3	A stakeholder framework for analyzing and evaluating corporate social performance	Clarkson (1995)	Academy of management review	Social Economic
4	Corporate social and financial performance: A meta-analysis	Orlitzky et al. (2003)	Organization studies	Social Environmental Economic
5	Toward a new conception of the environment-competitiveness relationship	Porter and Van der Linde (1995)	The journal of economic perspectives	Environmental Economic
6	Green and competitive – Ending the stalemate	Porter and Vanderlinde (1995)	Harvard Business Review	Environmental Economic
7	Misery loves companies: Rethinking social initiatives by business	Margolis and Walsh (2003)	Administrative science quarterly	Social Environmental Economic
8	Corporate social responsibility: A theory of the firm perspective	McWilliams and Siegel (2001)	Academy of management review	Social Economic
9	The social responsibility of business is to increase its profits	Friedman (1970/2007)	The New York Time Magazine	Social Economic
10	The corporate social performance-financial performance link	Waddock and Graves (1997)	Strategic management journal	Social Economic
11	Corporate social performance revisited	Wood (1991)	Academy of management review	Social Economic
12	A resource-based perspective on corporate environmental performance and profitability	Russo and Fouts (1997)	Academy of management journal	Social Environmental Economic
13	A natural-resource-based view of the firm	Hart (1995)	Academy of management review	Social Environmental Economic
14	Environmental regulation and the competitiveness of US manufacturing	Jaffe et al. (1995)	Journal of Economic literature	Social Environmental Economic
15	A General Framework for Analyzing Sustainability of Social-Ecological Systems	Ostrom (2009)	Science	Social Environmental Economic

<sup>3</sup> The numerical ordering reflects ranking in terms of normalized citations in Google Scholar.

16	The impact of supply chain structure on the use of supplier socially responsible practices.	Pieter van Donk et al. (2010)	International Journal of Operations & Production Management	Social Environmental Economic
17	"Implicit" and "explicit" CSR: a conceptual framework for a comparative understanding of corporate social responsibility	Matten and Moon (2008)	Academy of management review	Social Environmental Economic
18	A three dimensional model of corporate social performance	Carroll (1979)	Academy of Management Review	Social Economic
19	Putting the S back in corporate social responsibility: A multilevel theory of social change in organizations	Aguilera et al. (2007)	Academy of management review	Social Environmental Economic
20	Shareholder value, stakeholder management, and social issues: what's the bottom line?	Hillman and Keim (2001)	Strategic Management Journal	Social Environmental Economic

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