The extended method of classification – seeing "the whole picture" when measuring: The context of sustainability

Terhi Chakhovich, Turku School of Economics

Tuija Virtanen, University of Helsinki

Abstract

Measurement classifies and can thus hide from view the holistic picture. This study describes a case company in which measurement diverts employees' interest into other issues than the primary goal of the company although this goal is measured in many ways. The case company target is that sustainability is inscribed in all company operations, including all performance measures. However, multiple people in the organization seem to think that there are sustainability-related measures and non-sustainability-related measures. Measurement targets at the specific; it divides and classifies and thus makes possible non-sustainability measures, contrary to its purpose. Measuring something leads to its non-achievement, because measurement alters the basic content of that which is being measured. The object being measured, here sustainability, becomes seen as a fluid, ontologically altering object through the process of measurement, instead of being an object with a fixed ontological status. As a result of measurement, the object comes to be seen differently in terms of many details – individual measures, employees, buildings (individual buildings as opposed to multiple buildings or building walls only as opposed to the insides and outsides of buildings), projects, departments, and short term and long term separately – instead of a more holistic picture. These detailed classifications also included sustainability as several (economic, social, environmental, and societal) parts of the whole, ignoring the whole itself, and the right and wrong, a very fundamental classification. This study introduces "the extended method of classification" that provides enhanced understanding on the holistic picture hidden by measurement: it presents the bases of the classifications used, the holistic views that these classifications hide, ways of performing analysis on the holistic views, and the overlapping and competing characteristics of the classifications. The method can be helpful in research, whose purpose is often to classify, as well as in practice, while measuring and classifying in organizational context.

1 Introduction

The proverb "what you measure is what you get" is well-known in performance measurement literature (Kaplan & Norton, 1992; Otley, 1999, p. 368) as well as even in common language. It implies that measurement assists in reaching a target because it directs people's attention towards the target (Bender, 2004). This is contrary to a situation in which a specific organizational goal is rhetorically stated but, left unmeasured, it is not paid attention to by anyone in the given organization.

However, this proverb ignores the capacity of measurement to alter the content and essence of the issue being measured and thus make the original form of this issue more difficult to achieve. Measurement divides, classifies, and organizes. Accounting draws lines between different parts of the organization in order to make this organization more susceptible to management (Chenhall, Hall & Smith, 2013). For example, Vaivio (1999) illustrates how measurement can give structure to and classify the work of sales managers in a new way, and Dent (1991) demonstrates how company operations can be divided into market sectors that can conveniently then be followed with profitability-related measures. Measurements can be organized, for example, along projects (Jørgensen & Messner, 2010), business units (Frow, Marginson & Odgen, 2005), and performance measures such as efficiency and quality (Lillis, 2002, p. 498); focusing on such entities entails attention to be paid not to the "big picture" of company operations but certain dimensions of it. Thus, the research question of the paper is: How is it possible to more effectively see "the whole" in the midst of measurement and associated classification?

This study describes a case company in which there is extensive measurement in the sphere of sustainability, measurement that can hide from view several different "big pictures". The company is a Finnish 100%-state-owned company operating in the field of construction, termed here ConstructCo (anonymized for the purposes of this study). It is responsible for the state's building infrastructure, and its business model is that of project management, relying heavily on subcontractors. Interviews, both with company employees and stakeholders, as well as archival data on the company have been employed in the analysis.

The case company target is that sustainability is everywhere in company operations, it is not only one type of target but it should be inscribed in and be an integral part of all company operations. Thus, there should just be operational performance measures which are all sustainable, not separate sustainability measures at all. However, many employees of the company, even those apparently heavily motivated by sustainability and feeling that sustainability should form a part of all company operations, appeared to think that there were, what could be called, "sustainability-related measures" and "non-sustainability-related measures". Measurement specifies, divides and classifies (Power, 2004) and thus also makes possible non-sustainability measures. Therefore, measurement itself tends to cause problems in achieving sustainability everywhere in the organization. The well-known saying "what you measure is what you get" does not seem to apply here. Measuring something leads to its non-achievement, because measurement alters the basic content of that which is being measured. The big picture can be lost.

Research has shown that people do not blindly follow the measures; they also pay attention to the perhaps more important but vaguer issues, such as work satisfaction, colleague relations, working atmosphere, and coordination (Frow et al., 2005). However, there always remains a lingering concern that measurement does affect people – but the point introduced here is that it also affects the entity measured. The case data illustrates how measurement appears to alter the object being measured in terms of details instead of a more all-encompassing view of sustainability. These details, as specified in the data, are in terms of individual measures, individual employees' work, separate buildings, buildings instead of what takes place inside and outside of the buildings, given projects, and departments. The short term and the long term instead of a more holistic view on "time", the classification of sustainability itself ("economic", "social", "environmental", and, as an addition of the case company, "societal"), and what is "right" or "wrong" in terms of the measurement of sustainability, are also divisions and delimitations that emerged here at a more general level. Complex classification brought certain conflicts into the open and made it difficult to compare matters, such as individual buildings, with each other.

Building on the classification by Law and Mol (2001) and Law and Singleton (2005) of objects into region, network, fluid and fire objects, the current paper introduces one more classification, "layered objects" implying objects that appear different based on the epistemological perspective directed at them. For example, the object "sustainability" is layered; it appears as a fixed region in space, a fixed object, because actors seem to assume that they hold approximately similar ideas of its content, but while it is subjected to measurement, it simultaneously becomes fluid. In this second "layer", it functions as a boundary object (Star & Griesemer, 1989; Power, 2004, p. 768-769; Scott & Walsham, 2005) between the realm of non-measurement and the realm of measurement, demonstrating the characteristics (i.e. classification details, and within those the interest in the "right", emergent conflicts and difficulties in comparison) that are altered when the realm changes. These characteristics are likely to be relevant for other objects as well when they are subjected to a similar change of realm; however, the exception here could be that of the issue of the difficulties in comparison. These difficulties are likely to accumulate slowly while measurement is extended and perhaps thus become apparent only with an extensive amount of measurement.

The paper indicates that while categorization and classification are helpful up to a certain extent, they may hide from sight a holistic view on the issue being measured and classified. This applies for example to the classification of sustainability to economic, social, and environmental, a classification that may make the holistic idea of sustainability to disappear from view. It is also acknowledged that research as such very often classifies instead of reversing the process and moving from a given classification towards the holistic view. In order to assist in seeing "the whole picture" more effectively, the current paper illustrates a novel method, the extended method of classification, for explicitly showing the holistic view while classifying; this illustration is made in the context of the details by which sustainability is classified in the case company, outlined above. The method encompasses identifying the basis on which the classification is achieved and, based on this, explicitly locating the holistic view that the classification has sliced into its component parts; the different holistic views thus found are further analyzed and classified, as are the classifications that tie together with these holistic views, in terms of these classifications being overlapping or competing.

The study is organized as follows. The theoretical section focuses on the research on the relation between measurement and the object of measurement and on sustainability and its measurement, reflecting the context of the study. Methodology and empirical findings are presented after this and the final section of the paper contains discussion and conclusions.

2 Theoretical reflections

2.1 The relation between measurement and the object being measured

Performance measurement and systems related to it have been widely discussed in the accounting literature (Eisenhardt, 1985; Langfield-Smith, 2008; Merchant & Van der Stede, 2007; Ouchi, 1979). Measures have been categorized as financial, non-financial and "hybrid" that include both financial and non-financial measures (Malmi & Brown, 2008; Merchant & Van der Stede, 2007).

The phrase "what you measure is what you get" implies that when you measure something in an organization it will be paid attention to by those being measured (Bender, 2004; Pfister, Jack & Darwin, 2014; Simons, 1995, p. 71) so that the processes and "value drivers" seen as the most vital can be highlighted for organizational members (Kaplan & Norton, 1996, p. 8, 11). Measurement has also been posited to "translate strategy into action" and increase feedback and possibly motivation by facilitating the check-ups on outcomes against prespecified targets (Kaplan & Norton, 1996; Simons, 1995), enforcing accountability (Simons, 2005), making management control possible and effective (Simons, 1995, p. 71), and giving employees structure and certainty (Marginson & Ogden, 2005). It has been claimed to aid people in following their own improvement in certain areas related to their work, creating goal congruence of a person's goals with the goals of the organization (Kaplan & Norton, 1996, p. 13) and enhancing organizational learning (Huikku, 2007). Measurement has thus been claimed to be an effective way of inducing end results, simultaneously allowing for autonomy as to how the results will be achieved (Simons, 1995, p. 70). Thus, measurement has been claimed to increase the attention to be paid to the object of measurement. Measurement seems to imply persistence, exactness, discipline and control.

Measurement impacts and changes the object that is being measured so that the object can become fluid. One of the most fundamental of these effects is that the object is classified and divided in order to be visible and susceptible to management (Power, 2004). Accounting and performance measurement assist in drawing dividing lines between different organizational issues and spheres, making visible objects that would otherwise go unnoticed (Vaivio, 1999), inducing certain issues to be more visible than others (Chenhall et al., 2013, 270) and separating issues between which compromises are drawn (Chenhall el al., 2013). Rowe, Birnberg and Shields (2008) show how

accounting practices imply multiple boundaries in the organization, such as those related to the organizational structure of responsibility centers and the nature of the accounting terminology used (i.e. a difficult terminology can create boundaries between units).

There are also other consequences of measurement: for example, it may increase the persuasive power of the argument relying on the measures, but it also makes the measured more vulnerable by making its characteristics more explicit (Kadous, Koonce & Towry, 2005). This paper focuses on the classification-related consequences. They are more fundamental than, for example, the resulting vulnerability-related issue in the sense of underlying this vulnerability; as an object is classified, it is made clearer and thus becomes increasingly subject to vulnerability. The same argument applies to persuasive power.

Measurement has been claimed to reduce complexity (Power, 2004, p. 767) and has thus been accused of representing a certain reductionism; there are multiple ways to classify a given object and each classification type necessarily ignores multiple individuated features of that object (Power, 2004). Measurement can also lead to the exclusion of instances that are somehow extraordinary and thus could be important to consider, but that do not comply with predetermined standards (Sauder & Espeland, 2009, p. 73-74).

It should be noted that doing strictly what is measured may not always seem like optimal. Literature on target ratcheting shows that people can try to shift their performance level downward if this shift assists in receiving more manageable performance targets for the following measurement period (Indjejikian & Nanda, 1999, 2002; Bouwens & Kroos, 2011). People thus aim at managing the expectations directed at them. Incomplete measures can lead to behavioral dysfunctionalities and anomalies if success in a certain task depends fundamentally on multiple aspects of work and measurement captures these aspects only partially (Simons, 1995, p. 76-77). Management requires more than simply measurement (Power, 2004, p. 779). People do not always and automatically pay increased attention to the measures; sometimes, in case these measures are perceived as excessively subjective, incomplete, and unresponsive to effort, they can be ignored altogether (Simons, 1995, p. 78). Measures are embedded in a complex organizational reality consisting of, for example, team work and associated requirements for cooperation and coordination (Frow et al., 2005), and the complexities surrounding the measures affect any attitudes towards these measures. Formal controls are often perceived as providing untimely or unreliable information, lacking specificity for company management (Pitkänen & Lukka, 2011, p. 125). The literature above thus points out that classifying does not guarantee that all parts of the "big picture" are taken into account.

Several accounting studies show how measurement classifies: for example, in the study by Vaivio (1999) measurement produces structure over the otherwise non-structured world of the sales managers, and Dent (1991) shows how the arrival of a certain "business logic" to a railway company assists in dividing company operations into market sectors to be followed with profitability metrics. Typical categories along which measurement is executed include projects (Jørgensen & Messner, 2010), business units (Frow et al., 2005), profit centers (Tuomela, 2005) and cost centers (Marginson & Ogden, 2005) – measurement enforces the types of divisions of the totality of company operations that these terms imply. Much used performance measures, on the other hand, include efficiency, quality, response time (Lillis, 2002, p. 498), profit, and sales (Alvesson & Kärreman, 2004); as dimensions such as these are forged from "the totality" of company performance that otherwise could remain elusive, they become to define issues "of concern". Classifications can even contribute to hiding "the whole" from sight.

Foucault (1979) has discussed how the modern systems of measurement entail complicated systems of classification meant to curtail those on which the systems are imposed. These systems, however, can also be seen to curtail those objects being measured: with classification, complexity is made

"manageable" and the essence of the objects changes from muddled and un-structured to clear and structured – or so it may seem to the users of the systems. No wonder the proverb "divide and conquer"! However, individuals are never able to account for every single decision or action due to their cognitive limitations (Messner, 2009; Roberts, 2009). Emphasizing transparency as the sole form of accountability can lead to side-effects such as narcissistic self-perfection, deception and blame-avoidance (Roberts, 2009).

The measurement and its associated classification function as follows. Before measurement, there is a certain "whole", a unity whose content may remain obscure due to it being a "black box". When measurement and associated classification is introduced into the picture, they "open up" this "black box" and show a certain interpretation of the contents of that "box", helping us to understand and appreciate these contents more effectively. This is done so that certain parts of the holity are chosen as measured objects so that boundaries are created around them and they are thus made to seem as independent entities (potentially becoming "black boxes" themselves later on). The borders are meant to be made in such a way that the entire original "black box" is divided into its component parts, although this may sometimes be demanding if the boundaries of the "black box" are themselves unclear or contested. While attention shifts to the component parts, "the whole" receives less attention and is hidden from view. It is also possible to have multiple, perhaps competing, classifications of the same "whole", potentially hiding "the whole" from view even more effectively. This paper presents a method that brings back this holity so that the spectator of the measurements is reminded of its existence and perhaps of its original content, potentially lost in measurement. The borders created with measurement are thus abolished with the method. It is worth noting that this may not actually increase understanding on "the whole" because measurement, in fact, was created to better increase this understanding. However, it is also similarly possible that extensive measurement that induces different classification schemes to the original object makes people lose sense of what "the whole" is – or was, before it was measured.

Different ways of viewing objects have been brought up in prior literature (Dugdale, 1999; Law & Singleton, 2005; Law & Mol, 2001). Law and Singleton (2005) and Law and Mol (2001) divide objects into region (occupying an ontologically indisputable and fixed space), network (tied to a network of relations making them visible and usable), fluid (slowly changing shape) and fire objects (changing shape fast and uncontrollably). The relation between measurement and objects can be described as follows: measurement can be targeted towards a region object, making it a network object by connecting it to the measurement process and other measures; measurement can also make a region object a fluid object by changing its form.

A boundary object ties together two groups of actors, institutions or world views (Star & Griesemer, 1989; Power, 2004, p. 768-769; Scott & Walsham, 2005). It is flexible enough in order to be able to connect two or more different realms but still rigid enough to retain its form as a connector so that the connected entities can tie themselves to it (Star & Griesemer, 1989; Power, 2004; p. 768-769; Scott & Walsham, 2005). Whereas the categorization by Law and Mol (2001) and Law and Singleton (2005), region, network, fluid and fire, applies to basically free-standing objects whose character as objects is focused on, the boundary object refers to the use of a given object as a gatekeeper between different realms.[1] A boundary object could thus be situated between the realms

---

[1] In principle, region and network objects could easier be perceived as boundary objects as they are relatively unchanged at least for a certain time period and can thus be recognized and related to by different actors in different spheres. The fluid object could also function in this way if it changes so slowly that it remains easily recognizable. In principle, any object from the categorization by Law and Mol (2001) and Law and Singleton (2005), even a region object, could be flexible enough if its characteristics allow it to connect two or more realms. A network object is in this way the most natural boundary object, emphasizing the object's ties with different realms.

of measurement and non-measurement. The study now turns to sustainability, which could be seen as such a boundary object in the case in question.

2.2 Sustainability and its measurement

Corporate Social Responsibility (CSR) implies that organizations should acknowledge the requirements of stakeholders widely, considering the needs of, for example, creditors, customers and wider communities, not only those of shareholders (Carroll, 1979; Freeman, 1984). CSR has been categorized under three so called pillars: economic, social, and environmental (The GRI Sustainability Reporting Guidelines, 2013). In line with CSR, stakeholder theory also advocates the wide consideration of different stakeholders in an organizational context (Freeman, 1984; Freeman et al., 2010). Stakeholders have been defined as groups or individuals with a stake in the performance of a certain organization (Freeman et al., 2010) or, even in a more all-encompassing way, those who can affect or be affected by what the organization does (Freeman, 1984). Post, Preston, and Sachs (2002) define stakeholders as parties that potentially affect the opportunities of a given company to generate wealth.

Sustainable development has been defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987, p. 43). Sustainability has also been perceived as the impacts of company actions on the external environment and the implications to the future (Aras & Crowther 2009, p. 279; Burritt and Schaltegger, 2010). Similarly to CSR, sustainability is also seen to consist of the economic, the social, and the environmental pillars.

The Global Reporting Initiative (GRI) is perhaps the most influential account of sustainability offered for use at an organizational level (Adams & Narayanan, 2007). GRI's purpose is to develop and spread Sustainable Reporting Guidelines (GRI, 2013) throughout the globe. These guidelines are meant for organizations that wish to voluntarily report on the economic, social and environmental dimensions of their operations (GRI, 2013), the so called "Triple Bottom Line" (TBL) (Gray, 2010; Elkington, 1999).

Sustainability accounting could be introduced as an all-encompassing term for all accounting practices that promote sustainability and include economic, social, and environmental issues (Songini & Pistoni, 2012). The accounting literature has shown a considerable increase in interest in sustainability and to the roles accounting plays in relation to it, demonstrated in sustainability accounting literature (e.g. Burritt 2004, 2012; Burritt & Schaltegger 2010; Epstein & Roy 2001; Ferreira, Moulang & Hendro 2010; Gray 2010; Gray & Bebbington 2000; Henri & Journeault 2010; Hopwood, Unerman & Fries 2010; Schaltegger & Burritt 2010).

Performance measurement systems measuring sustainability have become increasingly popular (Epstein, 2008; Bebbington, 2009; Frame & Cavanagh, 2009; Russell & Thomson, 2009). The economic aspects of sustainability can conveniently be measured in financial terms, whereas the social and environmental can often just be measured with non-financial measures or qualitatively. Moreover, putting up a sustainability-related measurement system can simply direct people's attention to these issues, as performance measures function by directing the attention of those subject to them (Bender, 2004). The GRI Sustainability Reporting Guidelines (2013) suggest a lot of indicators for measuring sustainability and its three dimensions, such as the impact on economies and the economic impact on stakeholders other than shareholders, environmental issues such as those related to nature conservation, and social issues like human rights and corruption (Lamberton, 2005, p. 11; Dillard, 2008). Sustainability balanced scorecard (for balanced scorecard, see Kaplan & Norton, 1996), eco-control (Henri & Journeault, 2010), sustainability management control (Ball & Milne, 2004), and TBL accounting (Elkington, 1999; Gray & Milne, 2002) also support including

sustainability in performance measurement systems. Sustainability balanced scorecard could include sustainability-related dimensions to the more traditional dimensions of the balanced scorecard (Kaplan & Norton, 1996). Sustainability management control means the application of management control, such as target setting, strategy preparation, performance measurement, and rewarding, to sustainability-related issues (Ball & Milne, 2004). The purpose of eco-control is to promote an environment-related strategy (Henri & Journeault, 2010), and TBL forms sustainability accounting with focus on reporting on its three pillars (Elkington, 1999).

It has been suggested that sustainability should be employed as an integral and integrated part of all organizational operations, instead of individual, sporadic measures (Burritt & Schaltegger, 2010; Lamberton, 2005). However, sustainability-oriented performance measures and compensation typically rely on accountability emphasizing transparency and continuous visibility (Foucault, 1979), potentially leading to dysfunctional behaviors such as deception (Roberts, 2009). Measurement can also relate excessively to a managerialist approach targeting at company success instead of sustainability for all. By measurement and its associated classification, the complexity of sustainability can artificially be reduced (Power, 2004, p. 767) and the concept of sustainability as such can be forced to comply with pre-existing standards rather than considering how this concept can encourage fuller innovation (Sauder & Espeland, 2009, p. 73-74).

3 Method

The study uses the case methodology, focusing on in-depth perspectives presented in relation to one selected organization (Eriksson & Kovalainen, 2008). In this case setting, the data used are interviews and archival data.

The case company, termed here ConstructCo, was chosen primarily because it was expected to extensively measure sustainability in the way that "the whole picture" may get lost in the process, thus providing for theoretically interesting material in order to answer the theoretical research question. Because the company is 100% owned by the state, it cannot bankrupt in the way that a privately held enterprise could. Therefore, the company seems to possess ample possibilities to engage in sustainability efforts, not only "greenwashing" – unlike for-profit companies, it does not face the demand of absolutely always having to maintain its financial viability, potentially endangering other sustainability related tasks (Cooper & Owen, 2007). Sustainability is measured in the company in multiple ways and with numerous measures (the company has been acknowledged with multiple nationally well-known awards for its sustainability reporting efforts). The construction industry is also of particular interest in relation to sustainability, as many companies in that industry have been allegedly engaging in rather non-sustainable actions and even outright fraud – resulting in serious quality problems in the industry output. According to stakeholder views, ConstructCo stands out in this industry as clearly a more reliable player than most – simultaneously, it is in a position, due to its state ownership and to being a somewhat acknowledged leader of sustainability efforts in the industry, to take a stand against the non-sustainable practices around it. The data set provided by the company is extensive and there is a lot of material for analysis.

A total of 51 interviews were carried out with company employees and with the representatives of the company's stakeholder organizations. Inside the company, we interviewed employees from multiple levels, from the CEO and management team members to people who execute the day-to-day work in the company. Employees responsible for sustainability reporting and performance measures in these reports as well as for the performance measurement systems were interviewed. Interviews with former employees of the company, similarly from multiple levels of its hierarchy, provided additional insights. The stakeholder interviews allowed us to present the outsider view according to which the sustainability efforts of the company, in terms of the measurement of

sustainability as well as trying to act on sustainability, seemed extensive. Regarding stakeholders, we interviewed representatives of service and materials providers, the state (as the sole owner of the company), customers, competitors, and the external community.

The interview questions were semi-structured so that interviewees could freely express themselves with their own meaning structures and perspectives (Rubin & Rubin, 1995). The interview outline for ConstructCo employees (including both present and former employees) elicited the importance of and experiences about issues such as "sustainability", "CSR", "CSR reporting", "present" and "future" in the work of the employee in question, performance measurement and compensation used, and relations with different company stakeholders. The interview outline for stakeholder representatives differed from this in the way that it focused on the sustainability-related perspectives of ConstructCo by the stakeholder representative interviewed – the performance measurement at ConstructCo was sometimes touched upon in the stakeholder interviews as well. It was not uncommon for a former employee to also be a company stakeholder (i.e. a competitor or a customer) representative, and this being the case we employed interview questions from both, insider and outsider, perspectives. The interview outlines are presented in Appendix A.

All interviews were face-to-face gatherings in which both authors were present (with one exception, in which only one of the researchers was present). All interviews were audiotaped, with the exception of one. The audiotaped interviews were transcribed afterwards. We always enquired at the beginning of each interview whether that interview was permissible to audiotape. There was one interview for which this permission was denied; it was written up while interviewing and this write-up was completed immediately after the interview with both researchers agreeing over the exact interview transcript. As a routine part of each interview, at its end, the interviewee was enquired to suggest other potential interviewees. This network sampling turned out to be very helpful in finding different types of interviewees with varying opinions on the issues studied both in the company and among its stakeholders. It should also be noted that the former employees had generally left ConstructCo so recently that we judged we could trust their recollections, these memories being relevant for the present situation in the company in many ways. The Appendix B details the exact data sources.

We also used archival data in order to provide more perspectives on ConstructCo and to complement the interview content (Vaivio, 2008). These data include the company's CSR reports, internal company documents, company website and materials in there, performance measurement scorecards of many ConstructCo employees, performance measures for the entire company, ConstructCo history and a history on its business (state building works), publications by the focal company directed towards its stakeholders, publications by stakeholders (including building infrastructure information in Finland), National Audit Office publications on the company, the main control documents by the Finnish Ministry of Finance as they relate to ConstructCo (the Government Premises Strategy and the State Real Estate Strategy), and press coverage related to ConstructCo.

The analysis could be described as follows. We initiated a literature review on performance measurement, noting the large prevalence of indications that measurements can lead to classification, which can, for its part, lead to missing "the big picture". When analyzing the data, we located points that seemed to provide supporting evidence regarding this proposition. Moreover, we noted that the measurement of sustainability tied to issues of classification, the "right" thing, emergent conflicts, and the difficulties in comparison. It was then noted that measurement appeared to change the content of "sustainability", to make it fluid instead of being a fixed object, and literature on the fluidity of objects was employed to illustrate this. The inability to see the larger picture for the more clearly-specified measurement took several forms which were all classified by

the researchers. The different holities implied by the different classifications were then further reclassified. All these issues were made notes on in the process of the data analysis. Finally, a method for countering the influence of measurement and its associated classification was considered and analyzed.

<u>ConstructCo</u>

The case company ConstructCo is completely owned by the Finnish state and it focuses on the construction and the maintenance of the building infrastructure of state premises. It forms one part of the Finnish state infrastructure complex, the other parts being the company responsible for non-building infrastructure, such as roads, railroads, electricity grids and airfields, and another company responsible for state land including nature reserves, forests and lakes. The sales of ConstructCo in 2013 were 630 million euro and it employed about 273 people in that same year. It does not directly engage a lot of hands-on personnel but relies much on its subcontractors regarding the actual implementation of work, employing a project management type of an approach. Appendix C outlines the organizational structure of ConstructCo as it appears on the company web site.

4 Empirical findings

<u>Sustainability at ConstructCo</u>

At ConstructCo, many of the executives of the company strongly advocated that sustainability should be everywhere in the company operations. "Sustainability" should not be a separate entity but should be acknowledged as an integral part of all operations of the company. This goal was visibly apparent in that the sustainability director of the company also worked as Chief Operating Officer, functioning as the right hand of the CEO and being responsible for all the operations of the company. The management heavily emphasized that sustainability should not be separated from regular company operations, for example construction should be achieved according to a so called "ecological construction process", the grey economy was not acceptable (i.e. all employees in construction and maintenance sites should have appropriate tax and insurance payments made on behalf of them), and risks in all of the construction and maintenance work should be duly accounted for and guarded against. This was also explicated as follows, in relation to the company operating processes (leasing, maintenance, space development, investment, and sales processes) defined beforehand:

> *It is a part of… you asked about how this social responsibility can be seen in our everyday [work] – well, it is seen in all these five processes. The responsibility-related perspectives have been described in every single process and [these perspectives] are also actively followed up and controlled and gone through. (Chief Operating Officer)*

Previously sustainability had been defined as a separate "process" in the company, but then this "process" had been abolished when it was decided that its contents had already been spread everywhere in the organization and therefore any separate process pinpointed as a "sustainability process" was unnecessary. Moreover, this was not explicitly stated in the interviews but, in case there was a separate process, it is possible to interpret this so that all other processes would then be "non-sustainable". This same idea of avoiding the division between sustainability-related and non-sustainability related issues can be seen in the following quote regarding reporting.

> *The social responsibility report is simultaneously our annual report. It describes our [operations]… sometime earlier we prepared the corporate social responsibility report and then the annual report. We [then] found that we were reporting exactly the same issues [in both reports]. And it is a bit like… we think that…what kind of an*

> *image it will produce [of us]: We have some sustainable operations and then we have some other [non-sustainable] operations as well. Therefore, all [operations] have been included in the same report. (Communications Director)*

This vitality of sustainability emerged not only at the level of rhetoric. Many employees outside the highest management ranks also heavily bought into the importance of sustainability and appreciated the company's heavy investment in it, perceiving ConstructCo as very sustainable. A comment from a former employee illustrates this.

> *If ConstructCo was a citizen, it would go and lift up any tumbled granny. I may sound corny but as I already said earlier, I really "bought" all the values of ConstructCo. (Former Regional Manager)*

Many stakeholders were also appreciative of the company in terms of its sustainability efforts. ConstructCo was acknowledged as the frontrunner in its field in terms of sustainability, the construction field being itself felt to be plagued with non-sustainable, morally lacking, and sometimes illegal practices and processes. The following quote illustrates the commitment to sustainability by the company as experienced by a representative from the service and materials providers; the change in operations described below shows that ConstructCo has been leading the (otherwise slow) trend towards sustainability in the Finnish building industry.

> *I have been in close touch with ConstructCo for 13 years... so, [ConstructCo] has already taken... within the time frame from the beginning of the 2000s to this day, it has taken an infinitely long step forward. So, the former as well as the present CEOs have brought up [sustainability-related] issues, these [issues] are being highlighted and given the value they deserve. So, [ConstructCo] is doing things through sustainability... As you think about single issues, [ConstructCo has] so many facilities and real estate that it has possibilities to really affect these things, so... Let me say, it has made leaps. (Representative of a service and materials provider)*

Measurement of sustainability at ConstructCo

There were measurement systems in the company targeted at employees and based on which bonuses were being paid. The company had in this way bought into the New Public Management[2] way of thinking concerning the relevance of performance measurement in state management.

The measures were designed so that they would relate to the GRI guidelines and the balanced scorecard. The financial measures can be exemplified by the extent of cost performance (of a department, for example) that was under budget as a percentage of the budget, lease income from a property, and savings in energy consumption in a building. Non-financial measures included, for example, employee motivation (in a given department), customer satisfaction (depending on the context, both internal and external customers could be considered here), whether indoor air management groups had been established regarding buildings, perceptions of superior work (in case the evaluated person was a superior), the number of buildings remotely controlled, and attendance in training as well as in project groups. In the administrative departments, non-financial measures could be exemplified by the number of invoices processed during a certain period, and the

---

[2] New Public Management (NPM), recently proliferated management method in the public sector, has been seen as involving the employment of the so called "three Ms": Markets, Managers and Measurement (Ferlie, Ashburner, Fitzgerald & Pettigrew, 1996). Measurement is thus an important part of NPM, although the implications of measurement in a complex operating environment are not always clear and guaranteed (Modell, 2003). In the sphere of accounting academia, strict measurement has been criticized as not providing the correct picture of a measured person's capabilities and efforts (ter Bogt & Scapens, 2012).

implementation of a certain new system (such as information processing or accounting system) on time as planned. All these measures were used in scorecards according to which employees could be paid annual bonuses. Moreover, non-recurring monetary compensation could be awarded for outstanding performance in projects or work that aided the achievement of the major goals of the organization.

It is apparent that the measures described here classify company operations along certain lines. As measurement was typically implemented at the levels of an individual employee, an individual building, an individual project, and an individual department, these were some of the bases for classification employed in the company. The classification bases will be further elaborated on in the section "measurements and the associated classifications".

Measurement had clearly been devoted a lot of attention in the company. In addition to pure scorecards, the company employed "performance trees" (see Appendix D for an example). This "tree" was a collection of measures that showed cause-and-effect relationships between the different measures, organized in a visual format. The measures were generally described at a rather general level in the "tree", and would be defined much more carefully in the scorecards; the purpose of the "tree" was to show the overall picture of different measures and how individual measures fit this overall picture. However, as the "tree" was based on individual measures and issues, it reinforced the ideal of classification instead of providing a holistic alternative to this ideal as such. In addition to the scorecard, the "tree" was designed for every employee; moreover, there was a "tree" built for the entire company.

The managers generally acknowledged that as sustainability was integrally tied to all operations of the company, accordingly, sustainability measurement should also be tied to all the measurement in the company. The following quote from the management illustrates this view in relation to reporting. It can be seen as echoing the saying "what you measure is what you get".

> *I mentioned the performance tree and then the performance scorecard that is based on the balanced scorecard. And only given objectives that particularly should guide the person´s annual work are placed there. And you can find there issues that are directly based on corporate responsibility, always linking to the person's job… and to the unit in which the job is being done… It can appear in somewhat different ways. The property manager may have very concrete [objectives]. And in the case of, let's say, an information and communications technology specialist, it does not appear in his or her scorecard with the same words. So, [the measures] naturally move side by side [towards sustainability], but somewhat different issues will be aimed for. (Human Resources and Development Director)*

It was acknowledged by some in the company that tying performance measurement and compensation to sustainability was basically beneficial as it encouraged attention to be paid to sustainability-related issues, maintaining these issues in people's minds. The following quote refers to the extent of epitomization achieved with performance measurement and compensation.

> *There are measures which are cascaded down to the persons' scorecards…when you cascade objectives in this way, then the issues [related to these objectives] come up very concretely. (CFO)*

However, among the employees, there were two kinds of views on sustainability-related measurement. There were people who felt that sustainability effectively pierced all the utilized measures. However, there were also many employees who felt that there were sustainability-related

measures and non-sustainability-related measures and that these were clearly separate. The following quote shows the opinion according to which all measures were sustainability-related.

> *So, we have certain types of compensation systems, and, in fact, one part of our compensation system is performance measurement. ...We do not have separately some issues that would be linked to sustainability, because [sustainability] is like an umbrella that covers all our operations. But it can be like a perspective in our operations... We have a compensation system with task-based and individual parts. The individual part consists of the evaluation of a person's total performance last year... And of course there are issues [there] that can be said to be sustainable, the word "sustainable" is not necessarily there, but the actions should be like that [i.e. sustainable] during the year. (Human Resources and Development Director)*

Another viewpoint emphasized that there were sustainability-related measures and non-sustainability-related measures. For example, a person working in finance felt that the measures in his department were not clearly sustainability-related due to them being just finance (and accounting) -related. The development of finance and accounting -related processes, he claimed, was not sustainability-related, although they could be seen, according to the other view, as heavily related to the economic and social pillars of sustainability; after all, the streamlining and improvement of these kinds of processes could provide clear monetary benefits (related to the economic pillar) and increase the work satisfaction of employees in the department as well as in other departments serviced by the finance department (related to the social pillar).

In fact, it appeared that those measures that were termed "sustainability-related" were often environmental measures related typically to energy savings; however, social measures such as attacking the grey economy or the improvement of indoor air, were also often mentioned as clearly being sustainability-related. It was sometimes harder to conceptualize financial measures as sustainability measures. As another example, a former employee categorized energy savings as a sustainability-related measure and sales and marketing related measures, as well as measures used for secretaries and the finance department, as non-sustainability-related measures. The following quote also illustrates the existence of sustainability- and non-sustainability-related measures.

> *I have [sustainability-related objectives] because I am the expert on corporate social responsibility, surely all the issues in my scorecard are linked to sustainability. Certainly, this is not the case for all employees, but some [sustainability issues] are found in all [employees' scorecards]. (Leading Expert on CSR)*

Notably, multiple people in the organization and many stakeholder representatives felt that sustainability should not even be measured and compensated for – a sustainable way of working should be in-built to a person's way to work in any case. One interviewee referred to this as "the zeal to work". Another interviewee described this as tying effectively ethics and the company's business together. The following quotes describe this from the point of view of a former employee.

> *If [the scorecard] is a driver for actions..., it must not and should not be the only motive for such an issue [as sustainability]... [Sustainability] has to be already linked to the person's work so that "I want to do things well", you can't promote it only by that kind of a scorecard-related thinking. (Former Regional Manager)*

This same view was pointed out in a stakeholder interview regarding the reward-sanction model of ConstructCo. This model was a system for motivating service and materials providers in the way that if these providers performed well, they would be rewarded, but if they had quality problems or

e.g. employed illegal immigrants, ConstructCo would charge from them monetary sanctions. The following quote illustrates this.

> *The compensation system in this maintenance function is based just on this reward-sanction model at the moment. And it works well and cornerstones of corporate social responsibility are included there through the environmental and quality parts. Well, but, on the other hand, do you need reward systems in order to perform your tasks well? Because, in principle, you are already being paid to do just that... So, to my mind, rewarding is always a good thing, but then, is [there a need for] rewarding based on [issues in] the corporate social responsibility report, I do not recognize such a need. [Sustainability] is anyhow a part of all these operations, so I do not see any reason for [such rewarding]. (Representative of a service and materials provider)*

Measurements and the associated classifications

It was noted that measurement changes/impacts the measured; it becomes more specific, is classified and divided. There were multiple bases for classifications at ConstructCo as elaborated on below. Regarding each classification, the text below will show the basis of classification (such as classification based on different measures) and the holistic picture with its selected characteristics, the picture which the classification scheme has chopped into smaller pieces. Table 1 below elaborates on these classification schemes, showing for each the basis of classification, the holistic view that encompasses the issues being classified, and an example of each classification, more generally and regarding specific measures. This is not necessarily an all-encompassing listing of classification schemes but still demonstrates rather a wide spectrum of different classification bases employed in the organization. It is no wonder that it became difficult to obtain "the full picture" with all the different classifications and their associated measurements in place. The Table 1 is thus part of the extended method of classification: the table shows the different holities that the measurements hide but which can explicitly be brought out. More details on this method will be provided later on.

Title of the classification system	Basis of classification	Holistic view as opposed to the classification	Example	Examples of measures
Measure-based	Measures	Sustainability as a whole, philosophical view of sustainability	Individual measures such as energy, electricity and water consumption vs. sustainability that encompasses all these and much more	Any measures on sustainability
Employee work -based	Employees' work	The entire company operations	Employees focusing on doing their own work vs. employees considering the benefit for the organization as a whole	Measures on individual performance, such as attendance in training or the evaluation of the work of a given superior
Individual building-based	Individual buildings	Multiple buildings	Energy savings from the perspective of one building only vs. many buildings	Measures on buildings such as the energy consumption of a given building or whether the building had been attached to the remotely controlled system
Building-based	Buildings only	Buildings and the insides and outsides of those buildings	The school walls vs. the teaching that takes place in the school and the environment that surrounds the school	Measures on specific buildings, similar to above
Project-based	Projects	Customers	Considering operations on a project-by-project-basis vs. considering all of the projects of the same customer under one heading	Success in specific projects such as in system implementation or training projects
Department-based	Departments	The entire company operations	Certain departments were seen to engage in more sustainability-related work than other departments	Measures on departments, such as the extent to which finances were on budget or the lease income of the department
Time-based	Short term and long term	Short term and long term together, time	Considering the short-term benefits from a compensation system vs. considering the short- and long-term effects of choices together	The measures in the annual bonus system
Sustainability-based	The classification of sustainability: the economic, the social, the societal, and the environmental	Sustainability as a whole	Considering the four classes of sustainability separately vs. considering sustainability in its entirety	Any measures on sustainability
Rightfulness-based	Right or wrong	Right and wrong	Considering whether certain measures measured the "right thing"	Measures considered "right" or "wrong" in terms of company operations

Table 1. Presentation of multiple classification schemes at ConstructCo; the title of the classification, the associated basis for classification, the opposing holistic view that the specific classification can hide from view, and examples.

The first classification scheme was based on different *measures* used in the organization. A stakeholder noted that an outsider could observe that the personnel had presumably certain measures in their performance measurement scorecards and that those measures were especially paid attention to, while other issues considered important for the stakeholder representative were not considered in company operations. The stakeholder brought up the "Earth Hour" phenomenon[3] (in which annually an hour is dedicated to saving electricity by turning lights out) which the company representatives could have paid attention to but did not. Similarly, the stakeholder complained about this stakeholder's specific offices being fully lit even during the nights, while it would have been relatively easy to install motion sensors or time-related functionality in the building in order to avoid lighting the entire building for the whole night. The stakeholder representative claimed that these issues were clearly not in the scorecards of the company employees – although they could have been – and thus were not paid attention to. The stakeholder representative remarked with irony that the measurements seemed sometimes to direct the employees excessively in their focuses; resulting in perhaps the big picture of sustainability being ignored while only specific, measured, aspects of it were paid attention to. Other stakeholders also expressed these views about the danger of being obsessed with certain measures and forgetting the bigger picture. The following quote illustrates a stakeholder representative considering how a more philosophical perspective would add to the pure interest in specific measures.

> *Well, [ConstructCo] could launch some new elements [for measuring sustainability], I don't know what they could be, but perhaps something more radical... Easily, it goes to measurable things, so that CO2 emissions or such are too much focused on, there could be more some kind of a philosophical touch, like... this is the big picture, scenarios and so on... I wonder if like [a Finnish philosopher] should be paid, in a way, on really thinking where this world is going... Because the problem both in the indicators and more generally in the property ownership is that you look only at water consumption, electricity, heat and so on, it is like staring at the back mirror, but you do not think on the larger scale those issues that would really change [the situation]. (Representative of a competitor, former employee)*

ConstructCo employees were also aware of this issue. In an interview with an employee of ConstructCo, measures such as electricity or energy consumption were referred to as "technical details" whose attainment could be encouraged with compensation tied to performance measurement, unlike a more general sustainability-related mentality that would naturally be more inherent in a given person's way of thinking. The use of "the performance tree" with its aim to show the overall picture from which the specific measurement derived can also be seen as evidence of such an understanding. The following quote from inside the organization of ConstructCo also shows that the tradeoff between individual measures and the holistic picture was considered within the organization.

> *So, if we look at short-term issues, in any case, there is a risk that if compensation has been tied to the short-term actions, it does not lend support to this sustainability thinking. Perhaps you could say that it is a bit, by definition, so that actions done because of themselves are valuable and the reward comes afterwards, as human beings do not do good things because of rewards but because of the actions themselves. And the reward comes afterwards from doing them. Therefore, if I try to think what kind of measurement is not sustainable, perhaps if we, for instance, linked our scorecards to measure only the absolute energy consumption and put all the other things aside. That would lead us to some peculiar situations, we might invest*

---

[3] Organized by the World Wide Fund for Nature (WWF).

incredible amounts, resulting in an inferior financial situation, and on the other hand we could adjust the indoor conditions in the premises to be unbearably bad. Thus the measures have to be balanced, linked to each other in order to make a holistic picture... We can't pick up only one issue and promote it over all others. Or to analyze these measures one by one, but they have to form, it may sound somewhat trivial, this kind of a balanced scorecard. So, all the elements have been taken into account in a balanced way, only then it can be sustainable. (CEO)

The potential lack of the holistic picture was also seen in the purpose of the organization being not entirely clear as many employees there had divergent objectives depending on what they themselves considered as relevant. A former employee described how employees in the company could be rather effectively shielded from each other so that the knowledge and understanding of each other's work and situation was rather fragmented. This kind of a classification scheme was thus based on individual *employees' work tasks*. Here the opposing holistic thinking could be thinking concerning the entire ConstructCo and all of its operations. The following quote from another former employee elaborates on this.

In a way to be honest, I think that ConstructCo is quite a big ship and if you look at it from the outside it seems that it does not always quite exactly know where it is going. And what kind of a role it should have. And probably, perhaps during the time I was working there [right before leaving], in a way, I thought that there were quite a few employees trying to invent work for themselves. If you have such a large property mass, you can always find some issue you can start upgrading. It could be accessibility or indoor air or energy management or anything else, you can always find targets for improvement and issues you could do like this and this and in a better way. So that if every property manager made this kind of an Excel sheet where all these issues have been illustrated, and if they were followed up. But there are many different accountabilities in terms of different issues concerning construction, the black economy[4], indoor air or whatever, and as each of these issues has a different person in charge and they burden these people doing the daily work in maintenance or construction, so these people become overloaded with their tables full of paper, they should report on waste, fill in order forms or think about some other issues. So, [the goal] has perhaps become unclear to them. If you go and ask anyone in ConstructCo what the most important goal of ConstructCo is, you will surely get a different answer from every employee. Instead, if you ask employees in a listed company what the most important goal of the firm is, every employee can definitely tell it. It is because the message from the top management is so clear. So, I would suggest that there is some kind of inefficiency [at ConstructCo] related to implementing sustainability and all other responsibilities. It is because they do a bit too much in a way. (Representative of a competitor and former employee)

The following quote shows a classification based on individual *buildings* and how this classification differed from "a bigger picture" with additional buildings, perhaps all of those managed by the organization, included in the analysis. Here it is also seen how the interviewee brings up the importance of getting the "right" result out of the calculations as the consequence of presumably "right" measurements; this issue will be elaborated on in greater detail below.

Now we have such a challenge, as the efficiency of the premises and space is continuously being increased, if we have, for instance, [one specific] building, and it

---

[4] The "black economy" is also referred to in this paper as the "grey economy".

will now be compacted by increasing its capacity by one or two hundred people, then the efficiency of space increases substantially. But then the energy consumption increases as air conditioning has to be increased and the electricity consumption rises, because the people bring devices and machines there. So, in a way, if we look at that one building, its energy consumption has increased but if we look at the efficiency of space, it has decreased per person. Then we notice that the premises from which the 100-200 people moved out has been renounced… we have been able to put it for sale, so it has, in a way, totally fallen out from [our] energy consumption grid. So, you have to look at the indicator and the measure with a larger perspective than only regarding one building. That is perhaps one point we are a little wrestling with at the moment. What we measure and how and how we control it in order to get the right result. (Leading Expert on CSR)

There was also another classification scheme related to buildings. A stakeholder brought up that often in the sphere of operations of ConstructCo, the focus was on buildings, and not on other issues connected with buildings such as the operations that took place within the buildings or issues wider than the buildings such as the scenery. For example, there could be a distinction between school building walls on the one hand and the teaching as well as the external environment surrounding the school on the other hand. The classification would take place only in terms of buildings but the holistic view would include the other issues, the internal and external environment of buildings, not only the "walls" of the buildings. The quote below explicates this view.

As the cultural environment was discussed in public, for instance, as our properties were discussed, the fatal question seemed to be how the museums and museum buildings of the National Board of Antiquities and Historical Monuments are managed although in reality this issue forms only a margin of the entire cultural environment or cultural heritage. And if we are managed and our resources are allocated exclusively based on this narrow perspective, then the operations that are not a part of the walls of the building, may come to be in a difficult position. But then again, if you think about the totality of the cultural heritage, the intangible and tangible objects and scenery and buildings and the environment, the holistic picture will be formed, this kind of a holistic picture towards these issues by the National Board of Antiquities and Historical Monuments. However, this picture could not come true in the same way in any other part of the public administration. And perhaps I support this holistic picture, despite the potential internal interest conflict. Now, this talk was politically incorrect … well, this is quite a sensitive issue. (Representative of a customer)

Another way of classification was based on individual *projects*. Here the classification was made based on the company's projects, which might be measured as separate entities, and the holistic view would be that of the "total benefit" occurring to a given customer. The quote below illustrates the difference between individual projects and the more holistic view on customers.

Concerning our customerships we highlight this kind of a total view of the state and the views of the different administrative sectors. We aim to have this kind of a holistic understanding on the customer. And in this role we have possibilities for that, as we are an in-house operator of the state. We can… at the moment one guy has been leased by us to the ministry to do them space concept issues, space strategy issues and so on, we are quite, we have a strategic view on the customer, not only in purchasing and selling, but we are at a level on which we do not get any rewards in euro, but instead we perceive that the work we do gives long-term benefits to the end users. For our customer and for us ourselves through having usable buildings for correct

purposes... This is thinking about the total benefit. It does not come up in the form of the profitability of a single project, but as long-term holistic thinking. (Chief Operating Officer)

The classification that was sometimes brought up was that between different *departments*. An alternative, holistic view could have been to see the company operations in their entirety. As stated earlier, people working in a certain department were sometimes considered as not having sustainability-related measures because sustainability was not an "issue" in that department. The quote below illustrates this and the division to departments that seemed relevant in terms of measured issues at ConstructCo.

If I think about [performance measurement and compensation] from the point of view of the people in the finance department, I have such a view on this issue that these kinds of [sustainability-related] issues do not necessarily play a significant role in the performance measurement of the people in the finance department. The [performance measurement at the department] is, instead, rather centrally linked to how those people have fared with their daily tasks and the financial processes otherwise, that is how I would see this. (CFO)

Measuring sustainability also made employees aware of the well-known conflict between, in principle, longer-term sustainability-related measures and short-term financial incentives. As the result of measurement and compensation, this conflict was raised out in the open, and *the long-term issues and short-term issues* were classified as separate instead of considering them as integral parts of "time" as such. The following quote shows the division that was related to the short and long terms.

Well, there was some competition. Of course, it somewhat varied, perhaps sometimes along organizational units and sometimes along specific people. It seemed to be that often the longer-term aims call for investments and some extra effort and so on, and then it may happen that these shorter-term aims, especially the financial objectives, may somewhat suffer. Or their implementation has to be planned much more carefully and more work has to be done in order to achieve them. So, they are not fully without conflict although people often try to deny the conflict, but the fact is that they have some influence there. In particular, if somebody found, after different kinds of bonus payment systems had been implemented, that he/she would not get the bonus payment because of doing some longer-term job, then the extra effort was not always very eagerly welcomed. (Former Leading Expert on CSR)

A very encompassing way of classification was the one within *sustainability to the economic, the social, and the environmental*. Here it is worth noting that the company had, in connection with the company's impact to its operating environment, added to these a fourth classification element which was referred to as "the societal impact". It differed from the more conventional and well-known category of "the social" in the way that "the social" was seen as the isolated work environments, their healthiness, accessibility, safety and ability to support the work, whereas "the societal" referred to society-wide issues such as the nurturing of the cultural heritage, opposing the grey economy, and affecting the entire structure of the society. The quote below shows this three/four-dimensional classification scheme and how it sometimes felt irrational or unproductive to classify in this way.

Certainly we classify our operations into these three basic parts [of sustainability], but, on the other hand, we and others understand that they go hand in hand and in close cooperation. It is impossible to disentangle only one of the perspectives. If we

take the social perspective, it is always necessarily linked with financial issues and often with environmental issues. Environmental problems cannot be solved without neither finance nor often social views and so on. Perhaps our reporting has now been developed so that we have softened this kind of a tri-division. And it is apparent that we have started to go through these issues by considering their relevance and we have tried to highlight the effects considered relevant on these perspectives. And this societal impact, implying the visible societal result, that is, our part or role in the society and in its development and then, necessarily, for instance, [in issues] related to the environmental loading and to the societal loading and to taking up those matters [considered] inconvenient [by some]. (Chief Operating Officer)

As referred to earlier, measurement also made employees think about whether they were measuring the "right thing". For example, attention was paid to whether measures "truly" encouraged towards sustainability for example in construction sites and regarding the development of (customers') work environment. In effect, this amounted to a fundamental division that measurement made employees consider: the difference between *"right" and "wrong"*. Before measurement, it appeared to have been less likely to really consider if a person was doing the "right thing" in his/her work in the organization and if this work was measured in the "right" way. The quote below illustrates this interest in the "right", and associated interest in the "real".

Well, I would say that [performance measurement systems] did not at any rate hinder [sustainability], but I couldn't see them either as any powerful incentive. While laughing we would sift them and look and look at them and try to invent right measures to measure something like... Because GRI was... as it was something new, we were not sure if it measured just the right thing and so on. And the real incentive did not come from [the measures], but, as I said, I don't think they do any harm either. When they have been formed in a correct and good way, they are of some use and somewhat do motivate. (Former Leading Expert on CSR)

However, despite all the different classifications and elaborations, it was claimed that it was difficult to determine the "right" measures for certain issues. For example, whereas energy consumption was easy to measure, it was more difficult to measure the value of a listed building or otherwise a valued building, to the society. There seemed to be a common understanding that there was (sometimes very high) value in these kinds of buildings, but the determination of an exact number was a challenge. Similarly, measuring "the long term", "feelings" or "soft issues" were real challenges. The following quotes illustrate these difficulties from the point of view of an employee and a stakeholder.

Well, euro is the best measure, you can often also see the responsible business in the form of savings in euro or in more effective operations, so that it is also rational otherwise, and then can be seen in euro, it is thus a measurable issue. But it is also a kind of a value-related issue, [in that] you cannot measure everything in terms of money. It is then challenging to prove [its sustainability]. But there is much to nurture for which it is difficult to find a measure. Energy consumption is easy to measure, how much electricity and heat and water we have consumed, for them quantities can be found, but how do you measure the conservation of a certain valuable building, that value it gives to the society, what kind of a value it has, it is difficult to find indicators and measures for these issues. (Legal Adviser)

Well, I think that a performance measure has to be like... the starting point is that they in general can be measured... All the measures based on an emotional state or something else [like that] are extremely difficult, as everybody well knows. And then,

finding these hard measures, do the measures [measure] something that we want to follow, ConstructCo has discovered these hard measures in terrible amounts, so they are, quite certainly, let me say, they generally exist. All these kinds of reports being done, these hard measures exist, but the difficult part is how to find these other kinds of performance measures, soft measures, it is already like feelings and more subjective views... Difficult issues. (Representative of a service and materials provider)

The classification schemes within the company were thus based on the measures, employees' work, individual buildings, buildings' walls (as opposed to what is inside and outside of them), projects, departments, short term and long term, the sustainability categorizations, and right versus wrong (see Table 1). As noted earlier, this list is not necessarily exhaustive but it is enough to illustrate the complexity produced by extensive measurement and associated classification.

Consequences of the classifications

As noted earlier, measurement contributed to defining certain issues as sustainability-related and others as non-sustainability-related. Regarding this, there were opinions in the organization that those employees who worked in environmental affairs or with other issues that were especially focused on in the name of sustainability, such as the grey economy and indoor air, were receiving additional compensation just because they happened to be working in this "favored" sphere. The classifications thus induced conflicts; for the conflict to occur, it was necessary for a pre-existing classification to exist, and only based on this classification the conflict could then take place. The quote below illustrates such a conflict.

So, [sustainability] becomes concrete [in measures] a bit differently in relation to different people and it can also be a negative thing if somebody sees that the environmental issues are not included in his/her job description... and then some other person gets like extra bonus points from them and for being oriented towards those issues and for part of his/her tasks including them. (CFO)

Surprisingly, it was sometimes felt that classifications made comparisons more difficult; as classifications by measures become increasingly complex, they made the classification of a certain instance (e.g. a building) very demanding because the category in which the building was supposed to be set was not necessarily obvious and thus the comparison between different buildings became complicated. Complexity also made it difficult to see the larger picture of company operations and each building's place in that complexity of operations as different comparisons instead of an integrated whole took up any analytical space in the company. The following quote shows how classifications increased the difficulty of comparisons.

Well, just these follow-up measures we had, such as consumption data and the units used.... like heat, water, electricity consumption, of course, the changes in them were reported and so on. They are, actually, quite a lot like standards in the field at the moment, so you are not able to start to promote [different ones] alone. But it is clear, if you think about some premises occupied from eight to four... although premises only just like that do not exist any more..., and if you compare their consumption data with [the data on] the police station next to them with [daily] use of 24 hours. There are, in practice, for the policemen and -women, the saunas on all the time, because showering possibilities after a working day are included in their employment terms; perhaps it is quite good. Then, as you start comparing them, [it becomes] like "why do you consume so much more water, electricity, heat, you have mismanaged your premises." So, such a classification could be one source [of problems]. And every time as extra elements are added to that kind of an inspection, it always slightly takes away the

> *comparability, in a way that is this included here or here or here… and all that sort of thing. (Former Regional Manager)*

The paper now returns to the point made at the very beginning of the empirical section about the importance of maintaining sustainability as integrated to everything else at ConstructCo. It turned out that this was not as easy to implement as was implied. A person who advertised the importance of maintaining sustainability as integrated to everything, also noted that sustainability was to be "one part of the other work being done"; implying that there could be many other parts in work that were "non-sustainable" or not related to sustainability. This is also shown in the quote below.

> *It was certainly seen that [corporate social responsibility] cannot be executed as any kind of a separate process, it was certainly difficult to manage it [as a separate process], because it was a part of everything, it cannot be implemented separately from other work, it is one sub-part of [our] other operations. (Legal Adviser)*

A stakeholder also felt that sustainability should be an integral "part" of the normal operations at ConstructCo, simultaneously implying that there could be, in principle, other "parts" that were not sustainable. The holistic view of operations being sustainable seemed indeed tricky and there was a tendency to linguistically categorize issues into "sustainable" and "something else" – thus "non-sustainable".

> *I cannot see it so that it would be worthwhile to somehow differentiate sustainability [in the performance measurement and compensation systems]. Well, I think the basic idea is, of course, that it has to be a part of the normal, normal management and normal operations and normal feedback. Perhaps, before all, I would see it, at least preliminarily as a bad issue if there was a tendency to somehow extract it as a single issue and I perceive that it is good to keep it in the same package, and always then, of course, some issues may come up in a certain year, being particularly emphasized, so that is then a different matter. But as a part of the basic operations. (Representative of the Ministry of Finance)*

<u>The extended method of classification</u>

The study now turns more directly to the examination of the extended method of classification and, as a part of it, to the elaboration of the different holities that were presented above. The analysis of the classification schemes exposes a hierarchy of holities; some holities where "larger" than others in terms of their abstraction level. Table 2 below shows this hierarchy, being derived from the column "Holistic view as opposed to the classification" in Table 1. Table 2 is structured as follows. It presents the "largest" holities, sustainability as a whole, right/wrong and time, at the top of the hierarchy. Here thus both space and time come to represent the most all-encompassing holities. The entire company operations are next in the hierarchy, and finally customer- and building-related holities come to be seen as below all of the company operations, representing perspectives to or slices of these operations. Certain holistic perspectives are thus encompassed by others. For example, the holistic view of a certain customer is, although itself being holistic, a part of a larger holistic ensemble such as that of "right" and "wrong"; it can thus become tied to abstract issues such as whether a certain type of measurement of customer profitability is executed in "the right" way.

Holity level 1	Sustainability as a whole	Right and wrong	Short term and long term together, time
Holity level 2		The entire company operations	
Holity level 3	Customers	Multiple buildings	Buildings and the insides and outsides of those buildings

Table 2. Presentation of the classification scheme hierarchy in terms of abstraction level at ConstructCo; sustainability, right/wrong and time as the most all-encompassing and abstract, company operations at a level lower than them, and customer- and building-related holities as parts of the company operations.

The hierarchy in terms of abstraction level is not the only way of classifying the holities. Another way of classification could be implemented in terms of whether the classification schemes represent the realm of ideas or the realm of the material, or both (Table 3). Here "right/wrong" and "time" could be seen to reside mostly at the level of ideas, whereas "buildings" could the most clearly be related to the material. Company operations could be very material, like shoveling the snow, or at the level of ideas, while planning the Finnish infrastructure and its future use and servicing. Company operations can also reside in the realm of ideas in the sense of the company being a juridical, a rather idea-related entity, itself. Customers could represent very material, individual customers as individual persons, or organizations functioning as customers, more at the level of ideas. Similarly, sustainability could be related to the very material, energy used, or non-concrete ideas about sustainability.

The ideas		Right and wrong	Short term and long term together, time
Both ideas and material	Sustainability as a whole	The entire company operations	Customers
The material		Multiple buildings	Buildings and the insides and outsides of those buildings

Table 3. Presentation of a way of classifying the holities at ConstructCo on the basis of material versus ideal: right/wrong and time as related to the realm of the ideas, sustainability, company operations and customers as both idea- and material-related, and building-related holities as the most material.

With the extended method of classification, the borders that have been drawn between different entities are abolished. For example, when sustainability was divided into different measures, dividing lines were drawn between different measures to indicate that they are separate, and the holistic view clarifies these borders before removing them. The method shows that "sustainability" was divided in two different ways in the case company: first, as measures, and second, as the distinction between economic, social, environmental and societal. These measurements could, in fact, be juxtaposed so that measures could be divided into the four categories, some of them more explicitly and some more implicitly. These two classification schemes could thus be partly overlaid

on top of each other. However, there were also measures that could be related to more than one of the four categories, such as the energy consumption that could be tied to the economic and the environmental, and the number of invoices processed, that could be related to the economic (larger efficiency saves costs) and the social (larger efficiency also produces happier internal customers); the two classification schemes were thus competing in such situations. Table 4 shows some of these overlapping and competing classifications in the case, building on Table 1.

Basis of classification	Holistic view	Overlapping classifications	Competing classifications
Measures The classification of sustainability: the economic, the social, the societal, and the environmental	Sustainability as a whole	Measures that are e.g. mostly purely economic, such as the net profit	Measures that encompass e.g. both the economic and the social, such as the efficiency of an internal service department
Employees' work Departments	The entire company operations	Departments determining employee work: all employees in a given department have similar work	Departments not determining employee work: employees in a given department have partly similar but partly different work

Table 4. Presentation of overlapping and competing classifications when classifying either sustainability or the entire company operations of ConstructCo.

Similarly, Table 1 shows that the entire company operations were divided into two, individual employees' work and departments. These were again overlapping in the sense that probably many employees who functioned in the same department had similar ideas about their work. However, it would probably be inaccurate to assume that the department completely determined each person's work, and these were thus also competing classifications in that way (see Table 4).

The contents of the extended method of classification can be summarized as follows. It implies first that different classifications used in a given entity, such as an organization, or regarding a given entity, such as sustainability, are shown (Table 1, column 2). Second, the whole that each of the classification schemes keeps hidden, is shown (Table 1, column 3). Third, the holities are organized in different ways in order to more effectively show their contents (Tables 2 and 3). Here the holities were organized in two different ways, regarding their hierarchy in terms of abstraction, from operations inside the company to very general questions of the right and the wrong, and in terms of the ideal and the material. These two classification schemes are close to each other and partly overlapping and their relations could potentially be analyzed further. Overall, different bases for organization can be further elaborated on based on the different holities in question. Fourth, the different overlapping or competing classifications are shown (Table 4).

The extended method of classification openly acknowledges both the benefits and drawbacks of classification. Classification hides "the whole" from view and the method shows this hidden entity. On the other hand, the method itself classifies both these hidden entities (see Tables 2 and 3) and the classifications themselves (in terms of whether they are overlapping or competing, Table 4). Classification is not used when it is the most appropriate to show the whole, and classification is applied when the holities need to be analyzed with the help of the classification. For this reason the method is termed "extended"; it uses classification when it is necessary and removes it when it is not, thus reaching an extended acknowledgement of the benefits and drawbacks of classification.

5 Discussion and conclusions

The paper has provided evidence on how measurement alters the basic content of that which is being measured while functioning as a funnel through which the object of measurement is being hauled. This funnel changes the basic characteristics of the target: it divides, classifies and specifies it, losing the holity of it. The measurement of sustainability in a sustainability-oriented case company was illustrated to show this and the different holities that re-emerged with the extended method of classification.

How does the object of sustainability change? First, it was claimed that measurement induced concern over minor details and over those issues that could be measured, instead of a wide-reaching view of the entire sustainability sphere. The terms in which these details were classified were individual measures, individual employees' work, buildings (individual buildings as opposed to multiple buildings, and buildings as a general category as opposed to what lies beyond or within the walls of those buildings), separate projects, individual departments, time as short term and long term, the well-known classification of sustainability as economic, social and environmental, plus an added category, that of the societal, relevant to the specific case company, and finally the classification between "the right" and "the wrong". Interestingly, measurement thus induces the consideration of "the right thing", what is "right" and what is not, and whether measurement corresponds to this "right thing", simultaneously as measurements are being assumed to exist outside of this "right thing". Such a preoccupation with the "right", and thus with the "real", was not to be seen anywhere except in relation to measurement. Second, conflicts around sustainability emerged with measurement: it appeared that there were feelings of inequality in the company as those working in spheres that were considered as the most clearly recognizable as "sustainability-related" were felt to be given extra bonuses only due to the spheres in which they happened to work. Third, comparisons and commensuration were very demanding – due to the complexity of classification.

Law and Mol (2001) and Law and Singleton (2005) have classified objects into region, network, fluid and fire objects (in the process of classification, changing the nature of these objects themselves; the paper returns to this point later). The present paper adds another category to these, namely "layered objects", implying objects that seem different depending on the different epistemological viewpoint. For example, the object of "sustainability" is layered in the sense that it appears as a fixed region object, remaining the same whether it is measured or not, but it also seems to be a fluid object in the sense that a deeper investigation shows that its essence changes as it is subjected to measurement. The first layer of this object is fixed region whereas the second layer is fluid; these are two layers of ontology for the principally same object.

Sustainability seems to function here as a boundary object (Star & Griesemer, 1989; Power, 2004, p. 768-769) in the way that it ties together the different parts of the company, the managers, the employees, and the different departments, meant to be working together for sustainability. It also ties together the stakeholders; service and materials providers and customers; in efforts to achieve this objective of sustainability together.

However, there is also a more unusual sense of the term boundary object by which sustainability functions. It works as a connector between the realm of non-measurement and the realm of measurement. It is initiated in the realm of non-measurement, being an important objective in the company, but takes its clearer shape in the realm of measurement, changing fluidly as measurement is imposed onto it; becoming tied to concerns with "the right", with certain visible conflicts, and with details instead of a holistic view. This fluid change does not impact its use as a boundary object by the different participants in this situation; it still remains recognizable as basically a

similar object. However, the fluid change makes it a different boundary object; it becomes an object that travels from the realm of the non-measureable to the realm of the measureable and, in the process, renders visible the basic features that are altered with this realm change, its "layers". It is highly likely that these features could be relevant in many different settings in which measurement is imposed on an object and thus could be generalizable to these kinds of settings.

The research criticizes the classification of sustainability into the three components, economic, social, and environmental, as this may categorize the phenomenon of sustainability and thus make its achievement as a whole, not in separate parts, more difficult. It is suggested that a fourth level is introduced, that of sustainability as a whole, comprising the three components and their interrelations as well as other issues that seem to fall between the three issues. This would assist in including all relevant parts of the whole, despite the specific classification scheme employed. Here it is worth noting that the specific way of classification can impact the view of "the whole" and what is included in it. For instance, the case company had divided its social impact into "social" and "societal" – a classification choice that could affect the way sustainability was perceived in the company; for example, one result of this naming could be more emphasis put on the "social/societal" axis than the other two.[5]

In research, classification is also often the goal more widely, not solely in relation to sustainability. In strategy research, strategies are classified; in accounting research, accounting methods are classified; and in organizational control research, different techniques for this control are classified – and these are only very specific examples of all the possible research executed on all the possible topics there are. The current paper itself relies on the studies on the classification of objects by Law and Mol (2001) and Law and Singleton (2005). Research as a whole thus maintains the same classification focus as the case company and many companies similar to it.

As shown above, this focus could lead to an obsession with the parts as opposed to the sum of the whole. The measurement of objects alters their basic content, making them parts not representing the whole. When analyzing objects, this specification is highly necessary, as objects are made visible in this way. Without any classification, they would remain "black boxes" without explicit content. However, it is important to note that in the process of classification, a "holistic" view on the objects, and the specific features of an object connected to this view, can become hidden. For example, when buildings are being classified separately, they can become seen as separate, and synergies between different buildings and between their renovations can disappear from view.

Classification also reproduces a certain way of looking at the classified issues, excluding others. As an example, the classification by Law and Mol (2001) and Law and Singleton (2005) has affected how the readers of their articles perceive the nature of these objects themselves; in addition to the specific characteristics of objects presented by them, relating a lot to the ways in which the objects alter, these objects could be classified according to their use, to their movements in physical and/or abstract spaces, to their relations to other objects and/or to the users of these objects – even, as a trivial example, according to their color – and all these classification schemes make us pay attention to different parts and sides of the objects, excluding others.

In fact, the current research is as guilty of classification as any research piece. The different classification schemes have duly been classified here based on research standards (see Table 1) and parts of this classification have been further reclassified based on their abstraction hierarchy and the ideal/material (see Tables 2 and 3). These classification schemes fall under the general phenomenon of classification; however, the classifications in this paper differ from the usual classification schemes in that alongside each of the schemes presented is explicitly shown the more holistic view

---

[5] In the context of the case company, the introduction of "a fourth level" would thus imply the addition of a fifth level.

that the classification in question would normally obscure (see Table 1). This practice is advocated here as a part of the extended method of classification providing opportunities for alleviating the potential problems of classification and measurement (Power, 2004; Sauder & Espeland, 2009, p. 73-74). It is thus suggested that each classification in research and otherwise would also include and explicitly show the holistic view on the classified issue so as not to forget about it in the face of the pressures to divide and classify (the holistic view could be shown as illustrated with Table 1). The extended method of classification is further elaborated on with the analysis of the different extents of "holisticness" as illustrated by the different holistic viewpoints pertaining to the different classifications (see Tables 2 and 3). It is shown that not all that is "holistic" is such to the same degree and that the classification-related analysis can be enhanced with the analysis of the different "wholes", showing that what appears as "holistic" in relation to a certain classification (such as customer as opposed to individual projects) can form a part of another, more encompassing "whole" (such as customer focus being part of sustainability more generally). Overlapping and competing classifications are then analyzed, as in Table 4.

How could the extended method of classification be used? First, it could be employed when a research piece presents its findings as classification(s); it would be helpful to simultaneously acknowledge the bases of the classification(s) so that these do not become hidden right after the classification(s) are shown but remain in the reader's mind. This encourages both thinking about "the big picture" and the addition of other kinds of classifications, potentially creating a more complete picture of the phenomenon in focus. Second, the method could be used in practice, again in order to remind about the big picture that measurements and associated classifications can otherwise hide in organizational context. This could assist in reducing the impact of measurement in fragmenting the view on the phenomenon in question.

An example on how to use the method in research will be provided next. The study on identity construction carried out by Gendron and Spira (2010) found four empirical patterns for identity work by former members of Arthur Andersen: disillusion, resentfulness, rationalization, and hopefulness. It would be interesting to relate these patterns to those found in other settings, such as those by Fearon and Laitin (2000) on the social construction of ethnic identity. Fearon and Laitin (2000) distinguish between two types of constructs: (1) constructs created by individuals and tied to rationalist, strategic analysis and (2) constructs generated by cultural systems and tied to culture. The combined reading of these two studies poses questions such as: Is "rationalization" as posited by Gendron and Spira (2010) part of "rationalist analysis" suggested by Fearon and Laitin (2000), and do the other patterns proposed by Gendron and Spira (2010) reflect "culturalist" ideas proposed by Fearon and Laitin (2000), or some other, higher level pattern not analyzed by either study? On the other hand, if the constructs in the two studies are completely unrelated, is it because the underlying phenomena are so different? If this is the case, one begins to question more generally in which types of cases the separation of different empirical phenomena is so wide that constructs related to these phenomena are separate enough not to be granted a similar abstract basis.

Here an analysis based on the extended method of classification (see Appendix E for a more formal presentation), would show that the bases of classification, in the context of Gendron and Spira (2010), appear as phases of individual experience or attitude, whereas the bases of classification, in the case of Fearon and Laitin (2000), are the difference between rationalism and culture, or between individuals and larger masses (corresponding to the column 2 in Table 1)[6]. The identity work as detailed by Gendron and Spira (2010) relates to the holity of the individual identity work in a

---

[6] One more basis would be that Gendron and Spira (2010) seem to discuss identity work in process, whereas the bases of classification, in the case of Fearon and Laitin (2000), represent a more or less constructed identity as a "ready" construct. This difference is omitted here due to space constraints.

company context, whereas the identity constructs by Fearon and Laitin (2000) relate to the holity of ethnic identity (these two kinds of holities correspond to the column 3 in Table 1). These kinds of identity work are expected to be separate in this way. The two holities of individual identity in a company, and ethnic identity, can be further analyzed, as in Tables 2 and 3: perhaps they could be nested, so that the ethnic identity is a more all-encompassing phenomenon, whereas the individual identity is contained within it. Finally, the analysis on whether the classifications are overlapping or competing parallels Table 4. Here the holity analyzed is taken as "identity", encompassing both ethnic and individual identities, so that the competitions and overlaps can be more effectively analyzed (the holities analyzed in Table 4, based on Table 1, were based on two holities being similar, whereas here the two holities are different and can only be made similar by raising the abstraction level). The classifications could be competing regarding culture, because in the case of ethnic identity, culture is a defining characteristic, whereas in the case of a failed company, its culture is not expected to wield a defining influence on the identities of its former members. However, a deeper analysis suggests that for example rationalization and hopefulness could represent the more positive aspects of Arthur Andersen culture and thus fall under the phenomenon of culture as well. On the other hand, all of the empirical patterns shown by Gendron and Spira represent a certain individual way of looking at the issue at hand. The classifications are thus potentially competing.

When classifications such as these are connected to the underlying big picture, their position in this "big picture" is easier to ascertain. When the scope of such ambiguities is decreased by linking the empirical patterns to more abstract representations, a bridge can be built towards the empirical findings of other studies. The holistic view or "big picture" found in different studies can be compared and different studies can easier be contrasted.[7]

Similarly, accounting research has found multiple steps for the implementation of accounting systems such as activity based costing, balanced scorecard, budgets, or even disclosure. These implementation steps often remain unconnected to more general steps of implementing any wide-ranging system within an organisation. As a result, research begins to swarm with different sets of implementation steps, sets whose connection with each other remains unstructured. The analysis of the steps is aided when they are seen within a wider framework. They can potentially augment this framework and future researchers are able to position their suggestions of implementation steps within a framework, where they immediately see which parts of the framework they address and which are left unaddressed: i.e. what is the larger framework in which the research is situated.

In the future it would be relevant to further investigate the extended method of classification and its potential applications in order to determine in which settings its use would be the most effective. There are many objects in accounting, such as performance measures, rules and regulations, routines, calculative spreadsheets and associated formulas, ledgers, and multiple objects of calculation such as market sectors, divisions, and departments. Future research is encouraged on the essence of objects and their classification schemes in the sphere of performance measurement and accounting in general and how these classification schemes could be managed with the extended method of classification.

---

[7] See Chakhovich (2013) for a strategy of connecting empirical patterns to more abstract discussions in other spheres. The present paper extends that discussion by considering the "largest" abstraction, that of the "big picture", "the whole".

References

Adams, C., and Narayanan, V. (2007). The standardisation of sustainability reporting. In: Bebbington, J., Unerman, J. and O'Dwyer, B. (Eds.) 71-85. *Sustainability Accounting and Accountability.* London: Routledge.

Alvesson, M., and Kärreman, D. (2004). Interfaces of control. Technocratic and socio-ideological control in a global management consultancy firm. *Accounting, Organizations and Society* 29: 423-444.

Aras, G., and Crowther, D. (2009). Corporate sustainability reporting: a study in disingenuity? *Journal of Business Ethics Supplement* 87: 279-288.

Ball, A. and Milne, M.J., (2004). Sustainability and management control. In: Berry, A.J., Broadbent, J., and Otley, D. (Eds.), *Management Control. Theories, Issues and Performance*. 2nd edition. New York, NY: Palgrave Macmillan.

Bebbington, J. (2009). Measuring sustainable development performance: Possibilities and Issues. *Accounting Forum* 33: 189-193.

Bender, R. (2004). Why do companies use performance-related pay for their executive directors? *Corporate Governance* 12 (4): 521-533.

Bouwens, J. and Kroos, P. (2011). Target ratcheting and effort reduction. *Journal of Accounting and Economics*, 51, 171-185.

Burritt, R.L. (2004). Environmental management accounting: Roadblocks on the way to the green and pleasant land. *Business Strategy and the Environment* 13 (1): 13-22.

Burritt, R. L. (2012). Environmental performance accountability: planet, people, profits. *Accounting, Auditing & Accountability Journal* 25 (2): 370-405.

Burritt, R.L., and Schaltegger, S. (2010). Sustainability accounting and reporting: fad or trend? *Accounting, Auditing & Accountability Journal* 23 (7): 829-846.

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review* 4 (4): 497-505.

Chenhall, R.H., Hall, M. and Smith, D. (2013). Performance measurement, modes of evaluation and the development of compromising accounts, *Accounting, Organizations and Society*, Volume 38, Issue 4, p. 268-287.

Chakhovich, T. (2013). "Perceptions of share price: long-term or short-term oriented?", Accounting, Auditing & Accountability Journal, Vol. 26, Issue 1, p. 133-155.

Cooper, S.M. and Owen, D.L. (2007). Corporate social reporting and stakeholder accountability: The missing link. *Accounting, Organizations and Society*, 32, 649-667.

Dent, J.F. (1991). Accounting and organizational cultures: A field study of the emergence of a new organizational reality. *Accounting, Organizations and Society*, Volume 16, Issue 8, p. 705-732.

Dillard, J. (2008). An ethic of accountability. *Research on Professional Responsibility and Ethics in Accounting* 13: 1-18.

Dugdale, A. (1999). Materiality: juggling sameness and difference, in J. Law and J. Hassard (Eds) *Actor Network Theory and After*, pp. 113-135 (Oxford, UK: Blackwell Publishers).

Eisenhardt, K. M. (1985). Control: Organizational and economic approaches. *Management Science* 31 (2): 134-149.

Elkington, J. (1999). Triple bottom-line reporting: Looking for balance. *Australian CPA* (March): 19-21.

Epstein, M. J. (2008). *Making sustainability work: best practices in managing and measuring corporate social, environmental, and economic impacts.* Sheffield, England: Greenleaf Publishing.

Epstein, M. J. and Roy, M.-J. (2001). Sustainability in Action: Identifying and Measuring the Key Performance Drivers. *Long Range Planning* 34: 585-604.

Eriksson, P. and Kovalainen, A. (2008). *Qualitative Methods in Business Research*. London: Sage Publications Ltd.

Fearon, J.D. and Laitin, D.D. (2000), "Violence and the Social Construction of Ethnic Identity", International Organization, Vol. 54 No 4, pp. 845-877.

Ferlie, E., Ashburner, L., Fitzgerald, L. and Pettigrew, A. (1996). *New Public Management in Action*. Oxford: Oxford University Press.

Ferreira, A., Moulang, C. and Hendro, B. (2010). Environmental management accounting and innovation: an exploratory analysis. *Accounting, Auditing & Accountability Journal* 23 (7): 920-948.

Foucault, M. (1979). *Discipline and Punish: the Birth of the Prison.* London, UK: Penguin Books.

Frame, B., and Cavanagh, J. (2009). Experiences of sustainability assessment: An awkward adolescence. *Accounting Forum* 33: 195-208.

Freeman, R. E. (1984). *Strategic Management: A stakeholder approach*. Boston: Pitman.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L. and de Colle, S. (2010). *Stakeholder theory – the state of the art.* Cambridge: Cambridge University Press.

Frow, N., Marginson, D. and Ogden, S. (2005). Encouraging strategic behaviour while maintaining management control: Multi-functional project teams, budgets, and the negotiation of shared accountabilities in contemporary enterprises. *Management Accounting Research*, 16, 269-292.

Gendron, Y. and Spira, L.F. (2010), "Identity narratives under threat: A study of former members of Arthur Andersen", Accounting, Organizations and Society, Vol. 35 No. 3, pp. 275-300.

Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability…and how would we know? An exploration of narratives of organisations and the planet. *Accounting, Organizations and Society* 35: 47-62.

Gray, R., and Bebbington, J. (2000). Environmental accounting, managerialism and sustainability: Is the planet safe in the hands of business and accounting? *Advances in Environmental Accounting & Management* 1: 1-44.

Gray, R. and Milne, M. (2002). Sustainability reporting: Who's kidding whom? Chartered Accountants *Journal of New Zealand* 81(6): 66-70.

GRI. (2013). *Global Reporting Initiative*: The G4 sustainability reporting guidelines. https://www.globalreporting.org/reporting/g4/Pages/default.aspx.

Henri, J-F., and Journeault, M. (2010). Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society* 35: 63-80.

Hopwood, A., Unerman, J., and Fries, J. (2010). Introduction to the Accounting for Sustainability Case Studies. In: Hopwood, A., Unerman, J. and Fries, J. (Eds.). 1-28. *Accounting for Sustainability, Practical Insights.* London, UK: Earthscan.

Huikku, J. (2007) Explaining the Non-Adoption of Post-Completion Auditing, *European Accounting Review*, Vol. 16, No. 2, pp. 363-398.

Indjejikian, R. J. and Nanda, D. (2002). Executive target bonuses and what they imply about performance standards. *The Accounting Review*, 77(4), 793-819.

Indjejikian, R. and Nanda, D. (1999). Dynamic incentives and responsibility accounting. *Journal of Accounting and Economics*, 27, 177-201.

Jørgensen, B. and Messner, M. (2010). Accounting and strategising: A case study from new product development. *Accounting, Organizations and Society*, 35, 184-204.

Kadous, K., Koonce, L. and Towry, K.L. (2005). Quantification and persuasion in managerial judgement. *Contemporary Accounting Research*, 22(3), pp. 643-686.

Kaplan, R. and Norton, D. (1992). *The balanced scorecard – measures that drive performance*. Harvard Business Review, 70(1), p. 71-79.

Kaplan, R., and D. Norton (1996). *The balanced scorecard*. Boston, MA: Harvard University Press.

Lamberton, G. (2005). Sustainability accounting – a brief history and conceptual framework. *Accounting Forum* 29 (1): 7-26.

Langfield-Smith, K. (2008). The relations between transactional characteristics, trust and risk in the start-up phase of a collaborative alliance. *Management Accounting Research* 19 (4): 344-364.

Law, J. and Mol., A. (2001). Situating technoscience: an inquiry into spatialities. *Environment and Planning D: Society and Space*, 19, p. 609-621.

Law, J. and Singleton, V. (2005). Object lessons. *Organization*, 12(3), 331-355.

Lillis, A.M. (2002). Managing multiple dimensions of manufacturing performance – an exploratory study. *Accounting, Organizations and Society*, 27, pp. 497-529.

Malmi, T., and Brown, D. A. (2008). Management control systems as a package — Opportunities, challenges and research directions. *Management Accounting Research* 19 (4): 287-300.

Marginson, D. and Ogden, S. (2005). Coping with ambiguity through the budget: the positive effects of budgetary targets on managers' budgeting behaviours. *Accounting, Organizations and Society*, 30, 435-456.

Merchant, K.A., and Van der Stede, W. A. (2007). *Management control systems.* 2nd edition. Harlow, England: Prentice Hall, Pearson Education Limited.

Messner, M. (2009). The limits of accountability. *Accounting, Organizations and Society* 34: 918-938.

Modell, S. (2003). Goals versus institutions: the development of performance measurement in the Swedish university sector, *Management Accounting Research*, 14, 333-359.

Otley, D. (1999). Performance management: a framework for management control systems research. *Management Accounting Research* 10: 363-382.

Ouchi, W.G. (1979). A conceptual framework for the design of organizational control mechanisms. *Management Science* 25 (9): 833-848.

Pfister, J., Jack, S. and Darwin, S. (2014). Business model change and intended mobilizing effects of performance indicators. Working paper, Turku School of Economics.

Pitkänen, H. and Lukka, K. (2011). Three dimensions of formal and informal feedback in management accounting. *Management Accounting Research*, 22, 125-137.

Post, J.E., Preston, L.E., and Sachs, S. (2002). *Redefining the Corporation: Stakeholder Management and Organizational Wealth.* Stanford University Press.

Power, M. (2004). Counting, control and calculation: reflections on measuring and management *Human Relations*, 57 (6), 765-783.

Roberts, J. (2009). No one is perfect: The limits of transparency and an ethic for "intelligent" accountability. *Accounting, Organizations and Society* 34: 957-970.

Rowe, C., Birnberg, J.G. and Shields, M.D. (2008). Effects of organizational process change on responsibility accounting and managers' revelations of private knowledge. *Accounting, Organizations and Society*, 33, 164-198.

Rubin, J., and Rubin, I. S. (1995). *Qualitative interviewing: the art of hearing data.* Thousand Oaks, CA: Sage.

Russell, S.L., and Thomson, I. (2009). Analysing the role of sustainable development indicators in accounting for and constructing a Sustainable Scotland. *Accounting Forum* 33: 225-244.

Sauder, M. and Espeland, W.N. (2009). The discipline of rankings: Tight Coupling and Organizational Change. *American Sociological Review*, 74 (1): 63-82.

Schaltegger, S. and Burritt, R. L. (2010). Sustainability accounting for companies: Catchphrase or decision support for business leaders? *Journal of World Business* 45 (4): 375-384.

Scott, S.V. and Walsham, G. (2005). Reconceptualizing and managing reputation risk in the knowledge economy: toward reputable action. *Organization Science* 16(3), 308-322.

Simons, R. (1995). *Levers of control – how managers use innovative control systems to drive strategic renewal,* Harvard Business School Press: Boston, MA.

Simons, R. (2005). *Levers of organization design: How managers use accountability systems for greater performance and commitment*, Boston, MA: Harvard Business School Publishing.

Songini, L. and Pistoni, A. (2012). Accounting, auditing and control for sustainability. Guest editorial. *Management Accounting Research* 23: 202-204.

Star, S. and Griesemer, J. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science,* 19(3): 387–420.

ter Bogt, H.J. and Scapens, R.W. (2012). Performance Management in Universities: Effects of the Transition to More Quantitative Measurement Systems. *European Accounting Review* 21, no. 3(2012), p. 451-497.

Tuomela, T.-S. (2005). The interplay of different levers of control: A case study of introducing a new performance measurement system. *Management Accounting Research*, 16, 293-320.

Vaivio, J. (1999). Examining "The quantified customer"*, Accounting, Organizations and Society*, Volume 24, Issue 8, p. 689-715.

Vaivio, J. (2008). Qualitative management accounting research: rationale, pitfalls and potential. *Qualitative Research in Accounting & Management* 5 (1): 64-86.

WCED. (1987). *Our common future*. World Commission on Environment and Development. Oxford: Oxford University Press.

Appendix A

Interview outlines

Interviews within the company:

- the meanings of complex terms such as "short term", "long term", "the present", "the future", and "stakeholders" for the employee
- meaning and importance of "sustainability" for the employee
- the relation of "sustainability" to other complementary terms such as "CSR" and "corporate citizenship"
- meaning of "accountability"
- the history of the implementation of CSR reporting and experiences with it
- current CSR reporting practices
- plans for the development of CSR reporting
- the implementation of sustainability accounting, if any, within the company (its history, current practices and plans for it)
- stakeholder relations
- performance measurement and compensation in relation to sustainability

Interviews with stakeholders:

- the meanings of complex terms such as "sustainability", "CSR", "short term", "long term", "the present", "the future", and "accountability" for the respondent and the relations between these terms
- company relations with stakeholders
- company practices regarding "sustainability", "CSR", "short term", and "long term"
- performance measurement and compensation in relation to sustainability at ConstructCo, if applicable

Appendix B

List of interviewees and archival material

Interviews

ConstructCo, Chief Operating Officer	23.9.2013	2 h 5 min
ConstructCo, Leading Expert on CSR	3.10.2013	1 h 25 min
ConstructCo, Communications Director	4.11.2013	1 h 40 min
ConstructCo, Strategy Director	13.11.2013	1 h 30 min
ConstructCo, CFO	18.11.2013	1 h 35 min
ConstructCo, Head of the Controller Team	21.11.2013	1 h 25 min
ConstructCo, Human Resources and Development Director and Personnel and Development Manager	7.2.2014	1 hour 10 min
ConstructCo, CEO	28.2.2014	1 hour 25 min
ConstructCo, Legal Adviser	10.4.2014	1 hour 30 min
ConstructCo, Investment Director	16.4.2014	1 hour 40 min
ConstructCo, Legal Director	6.5.2014	1 hour 30 min
ConstructCo, Regional Manager	17.6.2014	1 hour 30 min
ConstructCo, Property Manager	23.6.2014	1 hour 35 min
ConstructCo, Property Manager	18.8.2014	55 min
ConstructCo, Controller	5.9.2014	1 hour 45 min
ConstructCo, Property Manager	15.9.2014	45 min
ConstructCo, Property Manager	19.9.2014	1 hour 5 min
ConstructCo, Leading Expert in the Offices field	27.10.2014	1 hour
ConstructCo, Expert on Building Technology	6.11.2014	1 hour
ConstructCo, Leading Expert on CSR (stand-in for the Expert)	6.11.2014	1 hour 10 min
ConstructCo, Account Manager	7.11.2014	45 min
ConstructCo, Manager for Internal Control	4.2.2015	1 hour 30 min
ConstructCo, Development Manager	10.2.2015	1 hour 35 min

ConstructCo, Former Regional Manager	21.10.2013	1 h 20 min
ConstructCo, Former CEO	5.3.2014	1 hour 35 min
ConstructCo, Former Leading Expert on CSR	9.4.2014	1 hour 35 min
ConstructCo, Former Planning Director	16.5.2014	1 hour 50 min
ConstructCo, Former CFO	4.6.2014	1 hour 50 min
ConstructCo, Former Lease Manager	5.6.2014	1 hour 15 min
ConstructCo, Former Work Environment Specialist	26.6.2014	1 hour 20 min
ConstructCo, Former CSR and Quality Manager	6.10.2014	1 hour 10 min
ConstructCo, Former Construction Manager	26.1.2015	1 hour 30 min
ConstructCo, Former Property Manager	3.3.2015	55 min
ConstructCo, Member of the Board, CEO of a service provider	27.3.2014	1 hour 35 min
Ministry of Finance, Budget Counsellor	25.2.2014	1 hour 25 min
Ministry of Finance, Consulting Officer	7.3.2014	55 min
Ministry of Finance, Director of the Administrative Governance and Development	24.6.2014	1 hour 10 min
Competitor A, Vice President, Asset Management, former employee	13.2.2014	1 hour 35 min
Competitor B, Regional Manager, former employee	14.2.2014	1 hour 10 min
Service and materials provider A, ConstructCo Customership Director	28.2.2014	55 min
Service and materials provider B, Project Planning Manager	6.3.2014	1 hour 25 min
Service and materials provider C, Senior Project Manager	4.6.2014	1 hour 5 min
Customer A, Director of Department	5.3.2014	1 hour 30 min
Customer B, Facility Services Manager,		

former employee	8.4.2014	1 hour 25 min
Customer C, Materials Director, former employee	11.4.2014	1 hour 25 min
Customer D, Real Estate Manager	14.5.2014	1 hour
Customer E, Real Estate Manager, former employee	12.6.2014	1 hour 40 min
Customer F, Manager, former employee	3.11.2014	1 hour
Environmental Organization (NGO) representative, Manager	6.3.2014	1 hour 10 min
Consultant in the CSR project	26.9.2014	1 hour 30 min
Municipal Building Control Department, Chief of Architectural Division		
	3.3.2015	55 min

Here "former employee" denotes a former employee of ConstructCo.

Other material

ConstructCo sustainability reports 2002-2013

Other material from ConstructCo websites

History of state building works 1811-2011

History of ConstructCo 1811-2011

Advertisement by ConstructCo's "creative premises"

Stakeholder magazines of ConstructCo

Document of the targets for ConstructCo for 2014, proposal to the state

Measurement scorecards of selected employees at ConstructCo

Sustainability reports by ConstructCo stakeholders

"Responsibility in real estate business", published by KTI Kiinteistötieto Oy, 2013

"Measures and key ratios for real estate ecological and energy efficiency", published by KTI Kiinteistötieto Oy, 2011
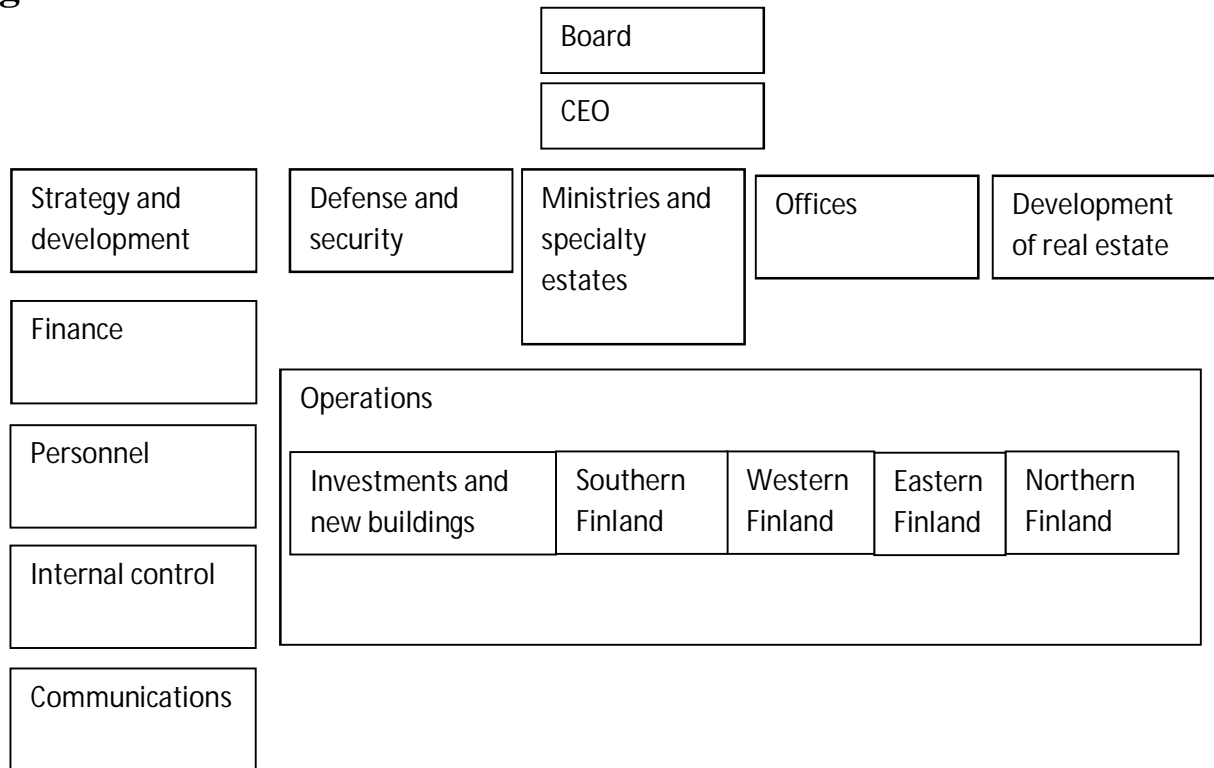

Three National Audit Office's publications regarding ConstructCo

The Government Premises Strategy and the State Real Estate Strategy by the Ministry of Finance


Press coverage of ConstructCo

Appendix C

Organizational structure

```
                                    ┌─────────────┐
                                    │ Board       │
                                    ├─────────────┤
                                    │ CEO         │
                                    └─────────────┘
┌──────────────┐  ┌──────────────┐ ┌──────────────┐ ┌──────────┐ ┌──────────────┐
│ Strategy and │  │ Defense and  │ │ Ministries and│ │ Offices  │ │ Development  │
│ development  │  │ security     │ │ specialty     │ │          │ │ of real estate│
└──────────────┘  └──────────────┘ │ estates       │ └──────────┘ └──────────────┘
                                    └──────────────┘
┌──────────────┐
│ Finance      │  ┌──────────────────────────────────────────────────────────────┐
└──────────────┘  │ Operations                                                    │
                  │ ┌──────────────┬──────────┬──────────┬──────────┬──────────┐  │
┌──────────────┐  │ │ Investments  │ Southern │ Western  │ Eastern  │ Northern │  │
│ Personnel    │  │ │ and new      │ Finland  │ Finland  │ Finland  │ Finland  │  │
└──────────────┘  │ │ buildings    │          │          │          │          │  │
                  │ └──────────────┴──────────┴──────────┴──────────┴──────────┘  │
┌──────────────┐  │                                                                │
│ Internal     │  └──────────────────────────────────────────────────────────────┘
│ control      │
└──────────────┘

┌──────────────┐
│ Communications│
└──────────────┘
```

"Specialty estates" means listed buildings and real estate that otherwise possesses specialized maintenance needs; examples include museums, hospitals, research facilities, or the National Opera. "The development of real estate" implies the development and renovation of existing buildings with the purpose to sell/lease those buildings to others.

Appendix D

A stylized example of a performance tree
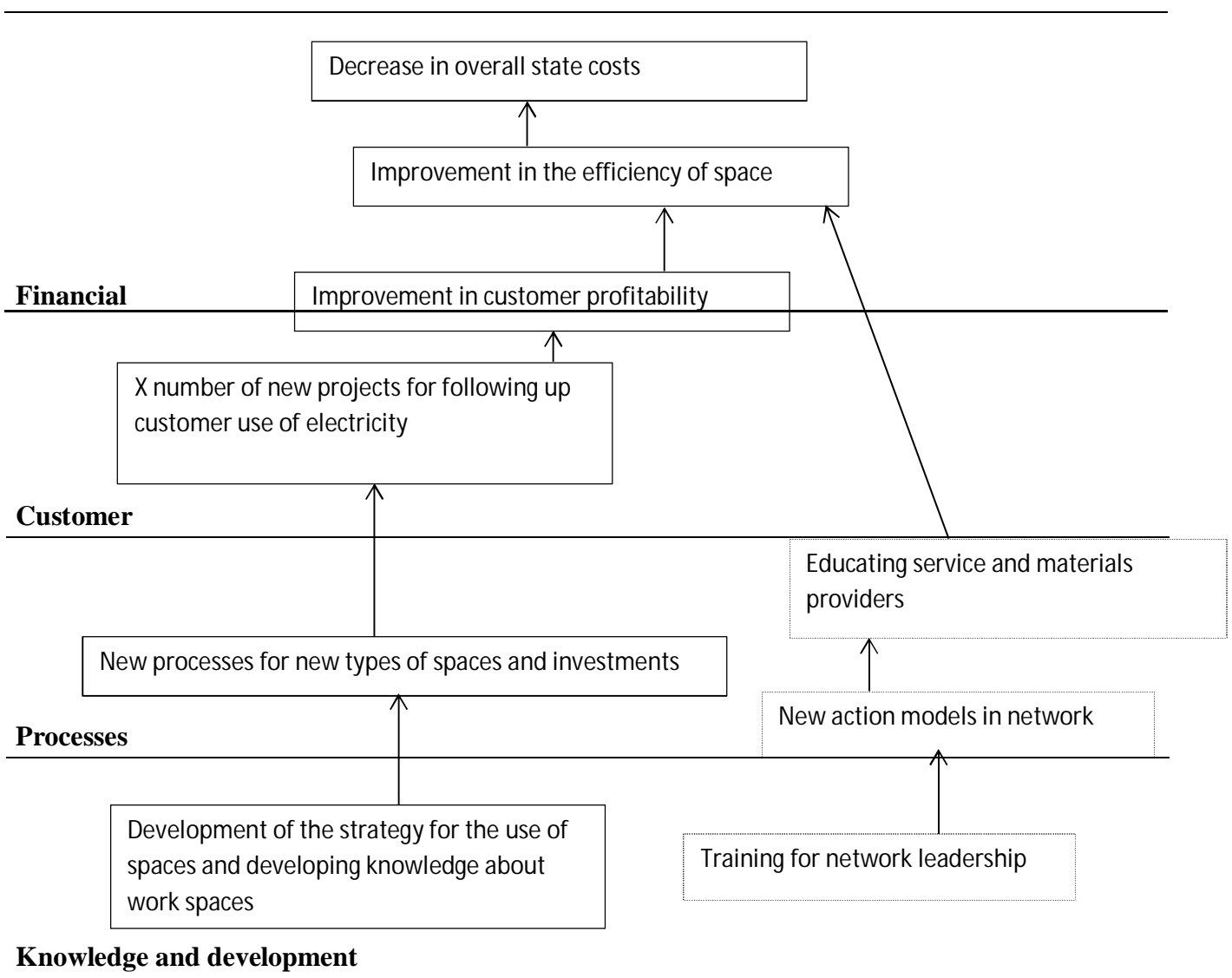
This performance tree has two branches, one with boxes with a solid line and another with boxes with a dotted line. The tree has been constructed based on an actual performance tree used in ConstructCo. However, it has been stylized: many branches have been omitted and the texts in the boxes have been anonymized. It is not necessary for all the boxes to be connected with an arrow, although that is the case with this specific tree. Boxes unconnected to others have looser connections with the overall tree and with the other boxes.

Appendix E

An example on the use of the extended method of classification in analyzing two research studies

Title of the classification system	Basis of classification	Holistic view as opposed to the classification	Example
Gendron and Spira (2010): empirical patterns for identity work by former members of Arthur Andersen	Phases of individual experience or attitude	Individual identity in a company context	Individual rationalization
Fearon and Laitin (2000): the social construction of ethnic identity	Difference between rationalism and culture, or between individuals and larger masses	Ethnic identity	Rationalistic, strategic analysis

Table 1E. Presentation of the classification schemes in the two studies; the title of the classification, the associated basis for classification, the opposing holistic view that the specific classification can hide from view, and an example on each classification (parallels Table 1 earlier).
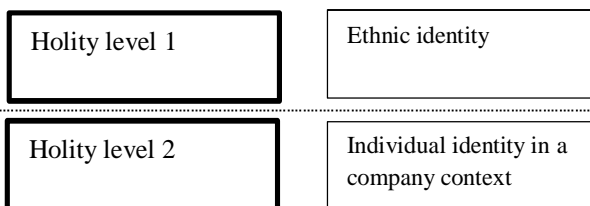
Holity level 1	Ethnic identity
Holity level 2	Individual identity in a company context

Table 2E. Presentation of the classification scheme hierarchy of the two studies: ethnic identity could be assumed to encompass individual identity (parallels Table 2 earlier).

Basis of classification	Holistic view	Overlapping classifications	Competing classifications
Phases of individual experience or attitude	Identity	Culture underlying individual experiences	Individual experiences versus culture
Difference between rationalism and culture, or between individuals and larger masses			

Table 3E. Presentation of overlapping and competing classifications when classifying identity in the two studies (parallels Table 4 earlier).