The reference of original published paper & citations required:

M. Järvenpää and A. Länsiluoto (2016) Collective identity, institutional logic and environmental management accounting change. *Journal of accounting and organizational change*, Vol. 12 No 2., pp. 152-176. (DOI: http://dx.doi.org/10.1108/JAOC-11-2013-0094)

Authors:

Marko Järvenpää

School of Business and Economics, University of Jyväskylä, Jyväskylä, Finland

Aapo Länsiluoto

School of Business and Culture, Seinäjoki University of Applied Science, Seinäjoki, Finland

COLLECTIVE IDENTITY, INSTITUTIONAL LOGIC AND ENVIRONMENTAL MANAGEMENT ACCOUNTING CHANGE

Abstract

•**Purpose:** We examine how collective identity and institutional logic affect the design and use of an environmental performance measurement system.

•**Design/methodology/approach:** We use a qualitative case study with abductive theorizing and empirical data obtained through semi-structured interviews, observation and document analysis.

•**Findings:** The new environmental measures were reshaped by aligning them with the existing and dominant collective identity in the case organization – in other words, cost savings and profitability. Moreover, the institutional logic forced the environmental measures to remain non-strategic and non-bonus criteria in favour of traditional financial measures.

•**Originality/value:** Thornton and Ocasio's (2008) institutional logic is applied and its potential for analysing change in environmental accounting is shown. The study illustrates how collective identity and institutional logic are important mechanisms for reshaping environmental performance measurement design and use, when the existing collective identity is reproduced.

Acknowledgements: We would like to thank the editor of the journal and two reviewers for their valuable comments, which enabled us to improve this research paper. We would also like to thank the case company for its contribution to the study.

Keywords: change, collective identity, environmental accounting, institutional logic, performance measurement systems

JEL: M41

1. Introduction

In a market economy, firms should make a profit and increase their value for the shareholders, and are therefore strictly financially oriented. This typically affects the management and control of companies. Although there are theoretical constructions for how different non-financial measures can also be incorporated into decision-making at the level of the board of directors (Northcott and Smith, 2011), Kraus and Lind (2010 see also Abdel-Kader and Luther, 2006) concluded the dominance of financial orientation in control. They found that financial measures had the highest importance in setting standards and rewards (Kraus and Lind, 2010) as well as performance evaluations (Abdel-Kader and Luther, 2006) in firms.

However, the dominance of a short-term profit-oriented culture has been challenged in the literature in social and environmental accounting and reporting (SEA / SER) and environmental management accounting (EMA) (e.g. Gray 2006, Gray et al. 1995; Mathews, 1997; Schaltegger and Burrit, 2000; Bebbington and Gray, 2001; Bennett, Bouma and Wolters, 2002; Jasch, 2002; Burrit, 2004; Masanet-Llodra 2006, Adams and Frost, 2008; Contrafatto and Burns, 2013; Contrafatto, 2014, Bebbington and Larrinaga, 2014; Tregidga, Milne and Kearings, 2014), and in management accounting change (e.g. Burns and Vaivio, 2001; Yazdifar et al. 2008; Ferreira and Otley, 2009; Ball and Craig, 2010). It has been noticed that the implementation of social and environmental reporting can also be studied using modifications of institutional theory (Contrafatto and Burns, 2013; Contrafatto, 2014). In our study, the concepts of collective identity and institutional logic (Thornton and Ocasio, 1999, 2008) provide one explanation for the dominance of financial measures.

The institutional logic of Thornton and Ocasio (2008) has gained popularity in recent years, and seems to be reasonable for the purposes of this study. First, we share their proposition (2008, p. 121 see also Thornton and Ocasio, 1999; Thornton, Ribeiro-Soriano and Urbano, 2011) that

institutional logic highlights "how the cultural dimensions (e.g. norms, values, legitimacy and justifications, viewing culture as fragmented by institutional orders) of institutions both enable and constrain social action". This indicates that institutional logic is an important mechanism in different change processes. Second, we wanted to apply a novel approach to investigating the effect of a new social phenomenon on the reality of the company in a market economy. The need for this kind of practical investigation is proposed by, for example, Laine (2005, p. 409), who has explicitly recommended "to gain a more detailed understanding of corporate behaviour, researchers should go down to individual companies and analyse their actions in greater detail". Similar thoughts have been presented by Adams (2002), Gray (2005), Thomson and Bebbington (2005), Contrafatto and Burns (2013) and Contrafatto (2014). Finally, we thought this approach had potential for investigating the design and implementation of environmental management accounting systems, or to be more precise, environmental performance measurement systems. Moreover, Arroyo (2012, p. 303) proposes to study how "…sustainability measures become coupled with (or decoupled from) measures utilized in the decision-making process?" We contribute to Arroyo's proposition (2012) when we apply the concepts of collective identity and institutional logic in studying the implementation of the sustainability measures in a case company.

According to Lounsbury (2007, p. 289), institutional logic means the "broader cultural beliefs and rules that structure cognition and guide decision-making in a field". Institutional logic is connected to power because it refers to the power of dominant ideologies and shared worldviews (Hoffman 2011). There can be multiple institutional logics that might be in competition (e.g. Hoffman, 2011; Kitchener, 2002; Kilfoyle and Richardson, 2011; Lounsbury, 2007; Rautiainen and Järvenpää, 2012, Reay and Hinings, 2009). The existence of multiple logics indicates that two institutional logics such as environmental management issues and profit maximization might be in conflict (see Jones, 2010; Rautiainen and Järvenpää, 2012; Thornton and Ocasio, 1999). However, different employees can be influenced by different institutional logics. This kind of situation is

noted by Kilfoyle and Richardson (2011, p. 196), who propose investigating "how does agents' embeddedness in multiple institutional logics affect their experience of values conflict… and how does this affect the way these logics are embedded".

A collective identity is a central concept relating to institutional logic. A collective identity[i] is the cognitive, normative, and emotional connection experienced by members of a social group because of their perceived common status with other members of the social group (Polleta and Jasper, 2001). It is a central mechanism, which affects institutional logic (Thornton and Ocasio, 2008).

In practice, institutional logic may help, delay or even prevent different change processes in firms if they contradict existing values and beliefs. This means that some change processes, such as the implementation of an environmental management system, can be unsuccessful by causing unnecessary costs and delays (or even rejections) in other change programs due to limited resources in firms. Furthermore, the failure of change processes may result in frustration for individuals who cannot achieve their targets. As a result of these practical and theoretical considerations, the main purpose of this study is to investigate *how collective identity and institutional logic affect environmental management accounting (EMA) change in a case company*. This study contributes more broadly to SEA/SER and especially to EMA literature when it focuses on the design and implementation of new environmental performance measurement systems and applies institutional logic as an interpretative theory.

This article has the following structure. First, the theory of institutional logic is introduced and described. Second, we discuss the methods and present the case company and its management systems. Third, we present our empirical results, which are structured around collective identity and institutional logic. Finally, we discuss the results and draw conclusions.

2. Theoretical background

2.1. Environmental management accounting change

The general increase in concern for the environment has created a demand for management accounting in order to cover environmental issues. Environmental management accounting has been a popular research topic in the last twenty years (Schaltegger and Burritt, 2000; Bennett et al., 2002). Environmental management accounting can be defined as the generation, analysis and use of financial and non-financial information in order to optimize corporate environmental and economic performance and to achieve sustainable business (Bennett and James, 1998; Bennett et al. 2002). Environmental performance measures (or indicators) are an essential part of environmental management accounting. They condense extensive environmental data into critical information that allows monitoring, target setting, tracing performance improvements, benchmarking and reporting (Jasch, 2002).

A large number of studies have focused on external reporting or regulation (Parker, 2011). However, it might be possible that environmental issues are externally reported but are not considered internally in practical decision-making or are excluded from controls at the corporate level (see Adams, 2002; Gray, 2005; Thomson and Bebbington, 2005; Adams and Frost, 2008; Kraus and Lind 2010, Bebbington and Larrinaga, 204; Tregida et al., 2014, Contrafatto, 2014). This means that environmental issues might only be an ideological output (Spence et al. 2010 see also Ervin et al. 2013; Stubbs et al. 2012), which tries to respond to external forces by publishing environmental reports.

Although environmental reports can be published, environmental issues can be dealt with by environmental specialists with little connection to decision-making (Stubbs et al. 2012). Spence et al. (2010, p. 85) explicitly state that environmental issues should be investigated as it “is engaged with or not by subaltern groups in order to make changes to actual corporate social and

environmental *practice*". In conjunction with Spence et al. (2010), Burrit and Schaltegger (2010, p. 829) recommend that the "development of sustainability accounting and reporting should be oriented more towards improving management decision-making" (look also Gray et al. 1995; Larrinaga-Gonzalez and Bebbington, 2001; Bebbington and Gray, 2001; Burrit, 2004; Adams and McNicholas, 2006; Tilt, 2006; Perez, Ruiz and Fenech, 2007; Adams and Larrinaga-Gonzales, 2007; Adams and Frost, 2008; Contrafatto and Burns, 2013, Contrafatto, 2014).

To summarize the environmental accounting literature described above, these studies recommend investigating how environmental issues affect actual decision-making and practice. This kind of research need is explicitly raised by Zollo et al. (2013 see also Arroyo, 2012), who propose investigating the process of how firms evolve into a more sustainable type.

The rise of environmental protection issues can be seen in terms of contextual, economic, institutional or regulative factors, which may affect the design of performance measurement systems (PMS) (Ferreira and Otley, 2009 see also Järvenpää, 2009; Starik and Kanashiro, 2013; Contrafatto, 2014). The literature suggests different technical alternatives for integrating environmental issues into PMS (see Figge et al., 2002; Hubbard, 2009; Schaltegger and Wagner, 2006, Yongvanich and Guthrie, 2006). Such technical integration does not automatically mean that the environmental measures would be used in practice, such as the criteria in bonus schemes. According to the model proposed by Henri and Journeault (2010), environmental measures should be used and linked to rewards if they exist in the PMS design.

These earlier EMA and PMS studies imply that published environmental reports or environmental measures in PMS do not lead to automatic practical use in decision-making or criteria in bonus systems. Therefore, a better understanding is required for explaining how environmental measures will be utilized in practice and why some selected measures in PMS might be ignored in decision-making. This study applies an institutional logic approach to gain a better understanding of this situation as is explained in the following section.

2.2. Institutional logic

An institutional logic approach helps us understand how individual and organizational behaviour is located in a social context and social mechanisms. This mechanism has influence on the behaviour in organizations (Thornton and Ocasio, 2008). Over the past decade institutional theory, particularly the Burns and Scapens (2000) framework, has been used in many studies of management accounting change. The institutional[ii] analysis, using "new institutional sociology" (NIS) and "old institutional economics theory" (OIE), has provided many qualitative management accounting change articles and received much recognition. Many OIE studies in management accounting are focused on the process through which management accounting rules and routines can come (or not come) to be institutionalized in the organization – how accounting practices are shaped by the taken-for-granted assumptions which inform and shape the actions of individual actors.

Burns and Scapens (2000) presented a framework for institutional change in accounting by drawing on the work of Barley and Tolbert (1997). This framework describes how institutional principles are encoded into rules and routines, how these rules and routines are enacted, how they are reproduced in organizational action, and how they are institutionalized as "the way things are" over time. Institutions evolve through a process of the routinization of human activity.

Institutions comprise the taken-for-granted assumptions that inform and shape the actions of individual actors; while at the same time, these taken-for-granted assumptions are themselves the outcome of social actions. The institutionalization process starts by encoding where principles are encoded into rules and routines. Rules are formalized statements of procedures, which are normally changed only at discrete intervals. Routines are in a continuous process of change. They are procedures actually in use. Formal management accounting systems, as described, for example, in procedural manuals, can be considered the rules, and management accounting practices the actual routines in use.

In the second phase of the institutionalization process, organizational actors enact the rules and routines. This process may be subject to resistance if the rules and routines challenge the existing meanings and values. After enactment, the repeated behaviour leads to a reproduction of routines, and the patterns of behaviour may be disassociated from the historical situation and become new 'ways of doing things' (i.e. become institutionalized).

Burns and Scapens (2000) noted that not all newly introduced rules and routines will become institutionalized. They may, for example, challenge the prevailing institutions and may not be reproduced and may fail to become institutionalized. The conclusion in some case studies, informed by the OIE is that either the innovations are consistent with the prevailing institutions and are accommodated into the organizations or they challenge the prevailing institutions and tend to be rejected (Ribeiro and Scapens, 2006). In this study, it is possible to study how attempts are made to accommodate environmental ideas and environmental measures, innovations clearly not consistent with the prevailing institutions in the case site, into organizations.

Moreover, Oliver (1991) suggested that organizations do not always blindly follow institutional pressures, but there are several organizational responses to the various institutional pressures surrounding organizations, including *acquiescence, compromise, avoidance, defiance* and *manipulation* (Oliver, 1991). Acquiescence means accepting norms and obeying rules, even habitual adherence to taken-for-granted rules or values, or mimicking others doing so. Compromise includes balancing or pacifying the expectations of multiple constituents, conforming to minimum standards, and negotiating with institutional stakeholders. Avoidance refers to disguising nonconformity, buffering the organization against evaluation (e.g. by decoupling organizational activities), and escaping pressures by changing goals, activities or domains. Defiance includes ignoring explicit norms and values, challenging rules and requirements, and attacking the sources of institutional pressures. Manipulation means importing influential constituents for legitimacy,

shaping values and evaluation criteria, or otherwise dominating institutional constituents and processes (Oliver, 1991).

In accounting studies, Järvinen (2006) implied a sagacious conformity in PMSs adoptions (see also Meyer and Rowan, 1977). This means conforming to the normative pressures in a loosely coupled way. In the terms of Oliver (1991), sagacious conformity resembles compromise, buffering and manipulation, but is a more subtle "understanding of changing fashions and governmental programs" (Meyer and Rowan, 1977), where stability and change may co-exist (also Burns and Scapens, 2000). Hyvönen et al. (2009) observed several of Oliver's (1991) responses in a public sector organization. However, even in some units where the response to accounting change was acquiescence, the new accounting data was actually not used very systematically in management decision-making.

The different organizational responses to institutional pressures (Oliver 1991) may thus allow performance measurement systems (PMSs) to be used in different ways in organizations. Moreover, according to earlier studies, PMSs can confront varying organizational pressures, legitimations and logics (Hyvönen et al., 2009; Rautiainen, 2010; ter Bogt and Scapens, 2009) and organizations may not wish to fully conform to any single pressure (Carmona and Macias, 2001; Oliver 1991).

Institutionally oriented studies have thus raised an important question: How can organizations find a compromise between institutional pressures (such as emergent environmental concerns, as in our study) and current institutions? This kind of dilemma has recently been investigated by Contrafatto and Burns (2013) and Contrafatto (2014). They studied SER institutionalization, and found how SER became an established and taken-for-granted actuality in a case organization. Moreover, Contrafatto and Burns (2013) illuminated how institutionalized assumptions of profit-seeking limit the extent to which broader sustainability concerns become

infused into day-to-day business practice. However, the institutional logic[iii] approach provides greater understanding for the process of environmental management accounting change.

Institutional logic as a concept was introduced by Alford and Friedland (1985) to explain the contradictory practices and beliefs inherent in institutions. They describe capitalism, state bureaucracy, and political democracy as three institutional orders, which have different practices and beliefs (Thornton and Ocasio 2008). For Friedland and Alford (1991), the core institutions of society, such as capitalism, have a central logic that constrain both the means and the ends of individual behaviour, and are constitutive of individuals, organizations, and society.

One important argument in studies of institutional logic is that it focuses the attention of decision-makers on issues and solutions that are consistent with the prevailing logic. Institutional logics focuses attention on issues and solutions through, for example, determining their appropriateness and legitimacy, rewarding certain forms of behaviour, shaping the availability of alternatives, and selectively focusing attention (Thornton and Ocasio, 1999; 2008).

Institutional logic has also received increasing attention in accounting studies (Lounsbury, 2008; Hyvönen et al., 2009; Reay and Hinings, 2009; ter Bogt and Scapens, 2009). It has helped in analysing, for example, that in organizational units the dominant pressures and the subsequent 'control logic' of the field may be different from the control logic in the central administration (Lounsbury, 2008; Reay and Hinings, 2009), or that under competing institutional logics, organizational and accounting developments may be hindered because trust and collaboration between groups with rival logics are unattainable (Rautiainen 2010; Reay and Hinings 2009).

Recently, Ter Bogt and Scapens (2014) revised and extended the original Burns and Scapens (2000) framework and explored the changes that are necessary in light of more recent work in institutional theory. Institutional sociology currently emphasizes practice variations and institutional logics, and old institutional economics debates the relationship between institutions and actions. This extended framework recognizes both external and internal institutions, the role of deliberation

and human agency, and the power of specific individuals and/or groups to impose new rules. By incorporating deliberation within the framework, the importance of logics is emphasized. Importantly for this study, Ter Bogt and Scapens (2014) recognized that in any specific situation there will be multiple logics, which arise from the mix of internal and external institutions. Furthermore, different groups within a given organization may have different logics, and contradictions in these logics can actually be a source of institutional change within the organization.

To summarize the idea of the institutional logic approach, the interests, identities, values, and assumptions of individuals and organizations are embedded within prevailing institutional logics. Moreover, collective identity is a central mechanism, which affects institutional logic. There are a few preliminary studies in management accounting, also pointing out the particular importance of institutional logic in performance measurement development and use. However, there seems to be a request for a study that considers collective identity and institutional issues in the context of environmental performance measures. In this study, these theoretical ideas of collective identity and institutional logic were considered to be valuable for also investigating the design and implementation of *environmental* performance measures within the setting of a profit-oriented institutional logic.

3. Methodology

3.1. Case study method and an abductive mode of reasoning

A case study method (e.g. Ahrens and Dent, 1998; Ahrens and Chapman, 2006; Vaivio, 2008) is applied in this interpretative (e.g. Kakkuri-Knuuttila et. al., 2007, Ahrens et al., 2008) study. We utilize the institutional logic approach (Thornton and Ocasio, 2008) as the interpretative framework. We examine the empirically found events (e.g. selection process of environmental measures and their use) through a theorizing process (Ahrens and Dent, 1998; Vaivio, 2008). The interpretative

approach is also the suggested method when adopting institutional logic (Thornton and Ocasio, 2008).

We apply an abductive mode of reasoning, whereby we start by reading our empirical material to search for empirical findings, rather than from the theory. However, this does not deny the role of prior theoretical knowledge in providing a background to the search for the most plausible explanation of the empirical observations. Abductive reasoning relies on the development of theoretical explanations with the help of everything that is known empirically and theoretically about the issue being examined (Lukka and Modell, 2010, see also Hanson, 1958 and 1961). Abduction has an important role in interpretative research as a means of stimulating researchers' reflexivity in striving to "make sense" of empirical observations (Lukka and Modell 2010; Alvesson and Kärreman, 2007; Lukka, 2014). Therefore, we found institutional logic theory appropriate for explaining empirical findings after considering the strengths and weaknesses of a number of other theories and pondering the empirical findings presented later. This approach to theory selection is also common in the abductive mode of reasoning (Lukka and Modell, 2010; Lukka, 2014).

The empirical data was collected during a preliminary interview (see more Rothenberg, 2007) with the technical director and the quality manager and ten semi-structured interviews in an international Finnish company, and the total number of interviews was eleven. The purpose of the preliminary interview was to present the purposes of the research project, investigate the case company's willingness to participate in the project, explore all potential interviewees and to test the validity of the semi-structured interview questionnaire.

We had two criteria in selecting the interviewees for obtaining the empirical data. First, we wanted to have interviews at the level of group and case company. Second, we targeted those who have implemented environmental performance measurement systems as well as those who are utilizing the resulting data. These criteria led us to interview two business area directors (also members of the executive board of the case company), one business unit manager, one chief

executive officer (CEO) of the group (also a member of the board), another chief executive officer (CEO) of the case company (also a member of the executive board of the group, vice CEO of the group), one controller of the case company, one director of information technology (IT) and controlling (member of the group executive board), one director of quality and product safety (also a member of the group executive board and business area director of FFL). Both the technical director (member of the executive board of the case company) and the quality manager of FFL were interviewed two times: at the preliminary interview and individually using a semi-structured interview protocol.

Both researchers participated in all the interviews, which enabled an investigator type of triangulation (e.g. McKinnon, 1988; Vaivio, 2008). All the interviews (except the preliminary) were audio recorded and transcribed. We usually spent from one to two hours in the case company, with the duration of the interviews varying from forty to ninety minutes. All of the interviews were conducted at the case company's premises. The interviews were carried out and analysed in Finnish. The chosen quotations were then translated into English. In addition to interviews, the empirical data incorporated internal material and public reports (annual reports, environmental reports, the description of management systems, the webpages of the company) as well as different discussions and e-mails (including some follow up e-mails or discussions) during 2006–2008. Therefore, the reliability of the study was improved by gathering and analysing different types of data (McKinnon, 1988; Vaivio, 2008).

3.2. Case description

This study focuses on environmental management accounting change in a case company operating in the food industry. Earlier studies have found that performance measurement was dominated by financial figures in the UK food industry (Abdel-Kader and Luther, 2006, 2008), which concurs with the findings of Kraus and Lind (2010) in other types of industries. Abdel-Kader and Luther

(2006) report that almost half of the companies in their study responded that they "never" or "rarely" used non-financial measures of performance in connection with customers, operations, innovation or employees. Therefore, the findings of Abdel-Kader and Luther (2006, 2008) and Kraus and Lind (2010) indicate that the food industry as an interesting empirical data source for the purposes of the study.

The case site for this study is Finnish Food Ltd (FFL), the largest subsidiary company of the Finnish Food Group Plc (FFG) with a turnover of more than a half a billion euros. The FFG is a food processing company with several well-known brands and is one of the largest food manufacturers in the Baltic region. The FFG employs a few thousand people worldwide and international business generates more than half of the Group's turnover. The case firm, FFL, operates in the domestic market and has several production plants in Finland.

According to the published description of its management system (approved in 2006), the company recognizes its environmental responsibility. It has an environmental programme aimed at controlling the use of natural resources and preventing environmental damage. According to the management system, the Quality Manager is responsible for ensuring that the environmental management system (EMS) incorporates the elements and procedures of the ISO 14001 standard, which was awarded in 1995. The Technical Director and operations engineers are responsible for planning location-specific environmental investments and for monitoring their progress. The Quality and Technical Managers were the key developers of the environmental management program and the environmental measures. From our empirical data, we found two important events, where the effect of institutional logic was observable: the defining of the environmental targets and measures (in 2000), and the development of the balanced scorecard (in 2004).

According to the published environmental program, the goal is to minimize the environmental impact of production and keep expenses as low as possible. The company has set objectives for reducing the use of energy and natural resources, and the first programme including

these objectives was set in 2000. In addition, the EMS continuously seeks to improve the level of environmental protection in its operations.

According to the interviewees, the company decided to implement a BSC performance measurement system (i.e. ARGON) in 2004; that is, several years after the original ISO14001 certification. They decided to include environmental measures in the PMS during the process of BSC implementation. The PMS consists of the four common perspectives (financial, customer, internal processes and learning and growth) and the studied environmental targets and measures were included in the internal processes perspective of the scorecard.

4. Empirical results

4.1. Institutional logic reshapes the environmental measures

In order to set environmental goals, an environmental program was prepared for each production location so that its environmental impacts could be reduced. The environmental goals span a three-year operational cycle, and the company has goals for different financial years. The progress of the program was monitored in the management reviews. According to the EMS principles, FFL carried out an environmental impact analysis and discovered that the major environmental impacts were associated with energy consumption, heat, waste, water, and wastewater.

> "They came up as significant environmental aspects. ... Water is important economically, but particularly it is the sufficiency of water ... And waste describes the process excellence. If you drive a lot of waste to the dump, your processes are working badly. ... Electricity is most linear to economics. That's why the effective usage of electricity is so important. And the heating is another, and oil. The electricity prices are expected to rise 14 per cent during next year, maybe more" (Technical Director)

These aspects are typical environmental issues in many manufacturing companies. However, all these factors represented large costs. High hygiene and product specifications require the use of a lot of energy and heat when the products are manufactured. Furthermore, as a result of the type of

industry (food manufacturing) and hygiene requirements, the use of water in the cleaning process and the resulting wastewater is also notable. Moreover, the amount of waste due to packaging material was considerable. It was therefore reasonable and practical to set objectives to address these financially important issues in particular.

> "These components are expensive. If we use unnecessary electricity, it is immediately in the manufacturing costs. We got some certain issues, like water consumption, which is also a critical issue in the future. If we lose the control, the pipelines are soon not enough. ... These natural resources, and energy, are factors, of which scarcity is a "business usual" nowadays. ... And the cost levels in product calculations 10 years ago were completely different to today. So there is a great incentive. And another every day issue, waste treatment costs, are increasing rapidly." (CEO, FFL)

During the study we found that there was no other option in FFL than to link environmental and financial issues tightly together. It was collectively taken-for-granted that environmental targets became in this way tightly connected with the cost savings and profitability improvements. Therefore, the existing institutional logic (i.e. favouring costs and profits) had a great impact on the selection of environmental measures. The collective identity at FFL emphasized the ultimate importance of profit in the capitalist spirit.

> "The company is extremely euro-driven [€]. All development and operational actions relate to money, money making or saving success. […] All the indicators are linked to money and we know the cost savings or increases what the indicators illustrate…" (Director of Quality and product safety)

> "You can perform these sustainability issues in a better and smarter way and so there is also this economical aspect" (CEO of the Group)

The collective identity at FFL was a mix between the identity of a capitalist enterprise and a cost conscious organizational identity. An interesting epilogue took place a few years later, when the interviewed CEO of the group was fired. According to the official explanation in the media, the reason was strictly and shortly 'unsatisfactory profitability', nothing else.

> The financial statement is, however, at the end of the day, the one, on which the performance of the company is evaluated. It is the financial accounting result … and its importance will always remain superior. (CEO, FFL)

> We have some problems with profits since early this year … let's say that sustainability has not been amongst the most important on my agenda. For me it is putting the profit in condition. Dot. … Operating profit, cash flow…. surely. If we have problems, these are the measures to be followed. Both should be positive. (CEO of the group)

In fact, nobody at the firm was able to say how the company ended up with the institutional logic of connecting the environmental issue so strictly to costs and profitability, so strongly was it part of their collective identity (i.e. profit orientation). The important role of the two managers, the Quality Manager and the Technical Director, was mentioned merely due to their responsibility and amount of work in developing the measures in general.

> "It was the technical manager, quality manager and some middle managers. They did the basic measurement of the waste levels." (CEO, FFL)

The original environmental objectives and targeted reductions by 2005 (compared with 1999) were as follows: Reduce the specific consumption of *electricity* by 2%, reduce the specific consumption of *water* by 3%, BOD_7 of *wastewater* no higher than the level of 1999, reduce the relative amount of municipal solid *waste* by 10%, increase *heat recovery* by 20%, reduce the use of *packaging materials* by 1%.

In 2009, FFL made some changes to measures and target levels for 2009–2012. One major change was that they increased the electricity consumption target by 9% compared to the level of 2005. Furthermore, they changed how they measured the recycled energy components of municipal waste.

Environmental performance indicators were commensurate with output levels, measured on the basis of weight of production. Indicators, relational to the output level were more relevant, while

FFL has constantly increased its production. Through this link, the case company's environmental indicators started to have an extremely strong profitability connection. All of the interviewees strongly emphasized the strict link between environmental performance and financial results and the high importance of this. This indicated the collective identity attached to the profit and cost orientation, which directed their attention to solve the problem of environmental measures in this way.

> "In these kinds of activities, you make these impacts on the environment, but they are also cost factors. When you make these kinds of programs and targets, you always have both sides of the benefits – less environmental impact and less costs. It is actually an important point of view, that these environmental issues are part of the business and not a separate thing." (Director of Quality and Product safety)

The major assumption of the institutional logic regarding the collective identity was that the company is saving costs while consuming less electricity and water, releasing less wastewater and waste, and increasing heat recovery. Based on our data we interpreted this mental mode of aligning environmental measures and profitability as an institutional logic at FFL. This logic was shared amongst the directors, and the business area and unit managers of the company. The logic was based on the original and dominant profit-driven collective identity, which now also captured the novel environmental issues. The institutional logic reproduced the profit maximizing collective identity and this institutional logic aligned environmental issues to profitability in practice. The quality manager provides an explanation for the importance of this connection between environmental and profit issues:

> "The connection between environmental issues and economic issues is based on the low profit margins of this industry. We have never complained about poverty here at FFL, but we have always been very sparing. Facing this fact we have analysed our activities in all sectors and searched for the all possibilities for increasing efficiency." (Quality Manager)

This ‘win-win’ connection of environmental measures and costs was also important for the people advocating the environmental work because any non-profitable environmental issues seemed to be impossible to carry out on a voluntary basis with the exception of the obligatory requirements.

> “If it affects your costs, the people are immediately involved. It helps us, that the costs from water and everything are traced to the departments.” (Technical Director)

This institutional logic emphasized the collective identity of profit orientation and the importance of the causality between environmental indicators and costs in the implementation of the environmental targets. This established collective identity was institutionalized within the FFL management (Barley and Tolbert, 1997; Burns and Scapens, 2000) as the institutional logic of aligning everything with the profits. We consider that the new measures in the environmental performance measurement system (EPM) therefore became mentally adjusted according to the institutional logic to favour the cost and profit connection in their measurement.

The case company had a profit-driven collective identity (Thornton and Ocasio 2008). The only possible solution, the institutional logic of the action, was that the new EPMs be connected to profitability. The new and contradictory practice therefore became immediately aligned with the on-going collective identity. This was observable not just in the interviews, but also in practice; all of the environmental indicators were selected on the basis of how they would affect the company’s costs.

4.2. The BSC reproduced the collective identity again

FFL had previously used several different information systems for reporting. The balanced scorecard was implemented in order to integrate these fragmented information systems. The company made the decision to implement the BSC in 2004. A steering group was established, including the directors of IT, control and logistics, the quality manager, and a group of controllers.

The steering group decided to include the environmental targets and measures in the process perspective of the BSC at FFL. It was a simple and practical approach. This use of a standard

mainstream BSC solution is understandable because FFL was building a general measurement system and not a specific environmental measurement system. Environmental targets were included in the system based on the suggestion of the Quality Manager and the Technical Director.

> "When the quality manager is responsible for measuring quality and environmental indicators, we naturally thought that his [quality manager's] indicators should be integrated into ARGON. The purpose of the integration was to avoid a situation where environmental indicators are 'enclaves' in a different database that nobody gets to see" (Controller)

The steering group of the BSC implementation project drew strategy maps during the BSC process, and these maps were also presented to and accepted by the company board. In addition, some preliminary maps were drawn about environmental performance and financial performance in steering group meetings visualizing the connection between environmental and financial issues.

The BSC highlighted and in particular sharpened the strategic point of view.

> "It is an opinion accepted by the board of directors that these issues are connected to each other. […] In my opinion, (the strategy map) has been one of the most important (aspects) that has supported the argument in favour of ARGON. I claim that without (strategy maps), ARGON is just a tool for illustrating our processes. […] It is a challenge to be able to inform the wider personnel about this way of thinking in a way that everyone will understand." (Director, IT and Controlling)

According to our interpretative analysis, we can argue that the BSC provided a tool for reproducing the collective identity once again. The connection between environmental issues and costs/profits becomes even more sharpened and visualized in an alignment based on institutional logic, highlighting the connection in a concrete and observable way. It also clarified the connection by not just visualizing, but also by providing structured and systematic reporting for the managers (Vaivio, 1999). Moreover, the BSC harmonized the reporting tools into a single system. Thus, when the environmental measures became included in the major reporting media, the connection between environment and profits became both structured and visualized.

4.3. Institutional logic limits both the utilization of the environmental measures and the BSC

FFL is still dealing with implementation issues; in other words, motivating site managers and other employees to take charge of the system and to utilize the environmental indicators to assess how they can affect the level of the indicator. FFL has now executed energy saving investments and decreased the most obvious areas of waste in its environmental management, but it has not had to really change its personnel's behaviour in the organization.

Moreover, the BSC did not become the primary managerial reporting medium. The old reporting practices still existed, meaning monthly management accounting reports, which emphasized the old euro-driven accounting measures. The following excerpts describe the power of the existing institutional logic and the most important performance measures:

> "For essential financial measures we follow net sales, sales growth and gross profit. Then there is (in the customer perspective of the BSC) market shares and reclamations – from customers and consumers … Then we look at fixed costs per net sales and variable costs per net sales. In personnel (perspective) we look at the number of personnel and personnel evaluations … we look at the amount of upper level personnel that are categorized as developing persons or key persons. I'm interested in these figures" (CEO, FFL)

> "Frankly, … we use ARGON in our meat business management very little. We have these traditional financial and managerial accounting reports in use. ARGON has not yet become such a real decision-making tool. … The management accounting report is the most essential tool in our management. We wait for the 15th (report release) day like the rising moon every month" (Business Area Director)

FFL is trying to strengthen employee commitment so that environmental performance is improved in the future.

> "Our goal now is to commit the organization to taking responsibility. This is (currently) a technical issue because it is based on technical operations, waste delivery, the wastewater plant, electricity, heating, and heat recovery [...] now we try to transfer it to the units. We focus on the environmental goals, e.g. in decreasing the usage of energy […] other natural resources. […] and more efficient usage

> of water […] amongst others issues … [...] there are production managers nominated and it is our objective in this cycle that we find these issues with their help, like the right usage habits of process equipment [...] This is not just the responsibility of the technical department, but everybody's responsibility. These goals are everyone's goals. We have divided the monitoring [...] water, electricity, and heating [...] into departmental targets. [...] This is intended to achieve commitment." (Technical Director)
>
> "The commitment in practice in the units, it might not be easy for outsiders to understand. I understand so well that the everyday operational work and making a profit is the number one priority. These are not everyday issues that you think about all the time, in terms of how this should be handled. Maybe the interest has thus remained lower out there in the units. […] This is a very euro-oriented company. Everything that deals with money, money making or savings will succeed here." (Director of Quality and Product Security)

Environmental targets are secondary targets (i.e. not key targets or criteria for bonuses) at FFL, even though they are reported in a routine manner in the BSC. The primary targets still relate to profitability targets.

> "(In monthly meetings) we go through the financial history like we have traditionally done. Actual volumes, actual costs … and profitability. … Environmental targets? … The simple answer is that we do not go through them. … We were not used to doing it earlier either and certain other things have had higher priorities … we have not considered them to be so important. … They have remained secondary issues … it happens to be here in business that it is money in its narrow sense which is important. These environmental issues… even though they are important for the monetary issues, they use to remain in the back stage." (Business Area Director)

The 'power of institutional logic' is illustrated by the taken-for-granted manner the financial measures have been selected for the BSC (the first quotation), and how accounting reports are used instead of the new BSC (the second quotation). In 2007, the BSC was defined as the major reporting tool for FFL by the CEO. He chose the primary measures as the preliminary company level BSC, including the major financial, customer, effectiveness, and personnel figures. This company level system was utilized from the beginning of 2007. However, at this point no

environmental measures were selected as a company level ‘strategic’ scorecard. They are followed in the annual environmental review required by the environmental system. These environmental measures also have a role in lower level performance monitoring. Therefore, the environmental targets continued to have the status of secondary targets. The collective identity reproduced itself again and left the EPMs as non-strategic measures.

From the point of view of reporting, environmental measuring was functioning relatively well. The reporting tools worked smoothly, the figures were reliable and easy to measure, and the historical time series for this information have already accumulated and provide in principle a good basis for monitoring, comparing, and analysing. However, the BSC technically locked the ‘half way enactment’ of the environmental measures as operational, non-strategic, secondary measures, while excluding them from the company level card. In line with the institutional logic, they became measures reported but not important, for example, in strategic decision-making, and they do not have much effect on the daily working activities in the business units.

The interplay between environmental accounting, BSC implementation and institutional logic and collective identity is illustrated in Figure 1. Collective identity, which emphasizes the profit-oriented thinking, led to the institutional logic, which affects both the design of the key environmental measures and their integration into PMS. Although the chosen environmental measures reflect the new and competing institutional logic, the dominant institutional logic (measures are needed and profitability issues considered in the selection) still has a strong effect on their use. The key measures were still financial measures and the process, and these reproduced the collective identity.

PLEASE INSERT FIGURE 1 ABOUT HERE

5. Discussion

The empirical results illustrate how collective identity and institutional logic reshapes the design and implementation of new environmental performance measures. In this process of maintaining and reproducing the collective identity, environmental targets and measures became extremely tightly connected with cost savings and profitability. Profitability represents the capitalist collective identity (Alford and Friedland, 1985; Friedland and Alford, 1991; Jones, 2010), which was also highly valid in our case company. Moreover, in the case company, the ultimate cost consciousness was a taken-for-granted collective identity as well. Therefore, the collective identity of the company was a mixture of universal capitalism and company specific identity (Thornton and Ocasio, 1999 and 2008). One additional explanation for the profit orientation can be the industry type. For instance, Abdel-Kader and Luther (2006, 2008) reported a high emphasis on financial measures in their UK-based food industry study. Kraus and Lind (2010) found a similar financial orientation also in other types of industries, but in the food industry and particularly in the case company, the profit margins are narrow and cost consciousness is therefore high.

When a new contradictory managerial practice, such as environmental performance measures, was brought into the company, it immediately became interpreted through the lenses of the existing collective identity and handled according to the institutional logic. Without any serious questioning the environmental measures became tightly connected through the institutional logic to the costs and profit aspect of the collective identity of the case company (Thornton and Ocasio, 2008). The institutional logic applied two mechanisms in structuring attention: it generated a set of values that ordered the legitimacy, importance, and relevance of issues and solutions based on profitability and low costs; and it provided decision-makers with an understanding of their interests and collective identities as suggested by Ocasio (1997).

Institutional logic focuses attention on issues and solutions that are consistent with the existing collective identity – the profit orientation and cost consciousness at FFL. Generally, institutional logics help to find acceptable solutions through determining their appropriateness and legitimacy, shaping the availability of alternatives, and selectively focusing attention (Thornton and Ocasio 2008). According to our interpretation, this also happened in the case of the design and implementation of the environmental measures at FFL.

The firm implemented the Balanced Scorecard several years after the environmental management system. Now the collective identity was reproduced again after implementing the BSC. The environmental measures were included in the BSC; however, the BSC even further strengthened the earlier connection between environmental performance and decreasing costs, and reproduced the existing collective identity once again (Thornton and Ocasio, 2008). According to the institutional logic, the EPMs were set up as non-strategic measures, as they were excluded from the top managers' scorecard and were only monitored at lower levels of the firm. The top management scorecard emphasized (Ocasio, 1997; Thornton and Ocasio, 2008) the financial measures, which is again in line with the institutional logic and existing collective identity (profit orientation). Moreover, environmental measures were left out of the bonus scheme, where the profitability measures were the only incentive criteria. In addition, the BSC itself was challenging to implement because the managers used the old management accounting reports, which only included financial information. This reliance on financial information also clearly demonstrated the power of the institutional logic to highlight profits and connect other aspects with it in the case company.

Overall, the study shows the extensive effect of institutional logic and the collective identity behind it in the process of environmental management accounting change. The institutional logic was capable simultaneously of prohibiting and advancing the new managerial practices. Thus, the institutional logic may act as an important mechanism in the environmental PMS change process. The recognition of the underlying mechanism of institutional logic(s) enables us to identify the

factors, which may have an effect on the environmental PMS change process. Even though the people might be interested in environmental issues (a new collective identity), the selection criteria and use of key measures (institutional logic) also have considerable power and a strong effect on the reproduction of the collective identity.

6. Conclusions

This study shows the importance of institutional logic and collective identity in better understanding environmental management accounting change projects. More broadly, our results illustrate that integrating environmental issues into part of the practical decision-making and operating activities may be much more challenging than is expected in earlier environmental integration literature, which has been more technically focused (e.g. Figge et al. 2002; Epstein, 2007; Hubbard, 2009; Schaltegger and Wagner, 2006). This indicates that although environmental performance and profitability can be seen as two factors which both relate to efficiency values (see Starik and Kanashiro, 2013), the existing collective identity (e.g. profit orientation) may hinder or reshape the rise of new collective identities (e.g. sustainability and environmental issues).

The study contributes to the results of Arroyo (2012) by highlighting institutional logic as an important mechanism, which has an effect on how environmental issues are noted in decision-making and operations in practice. This finding in regard to institutional logic may help us gain a better understanding of why implementing new measures (particularly EPMs, which carry new and contradictory meanings) is even more challenging than can be assumed from several earlier MA change studies (e.g. Ferreira and Otley, 2009; Henri and Journeault, 2010 see also Abdel-Kader and Luther, 2006; 2008; Northcott and Smith, 2011).

Our study implies that the relationship between EPMs and actual decision-making is much more complex than earlier environmental studies imply (e.g. Adams and Frost, 2008; Burrit and Schaltegger, 2010; Contrafatto and Burns, 2013; Contrafatto, 2014). Therefore, we provide new

observations for da Silva Monteiro and Aibar-Guzmán (2010), who found that accounting had a minor impact on the process of organizational change in the environmental context. Overall, the study contributes to earlier BSC studies such as Northcott and Smith (2011). The study shows that BSC measures will not be used in practice if they are not consistent with the existing collective identity, although the measures are derived via the mechanism of institutional logic.

Institutional logic was a crucial context for environmental performance measurement at FFL. It was an invisible reshaping mechanism behind the change process. This was observable when all the environmental measures were selected according to their cost saving potential. In this way the environmental measurement reproduced a collective identity that again valued profit and costs in the case site. Furthermore, environmental measures were not included in the company (top) level scorecard and bonus criteria, again manifesting the institutional logic. Moreover, managers still relied on management accounting reports about costs. In this sense we may conclude that the new environmental measures merely reproduced the existing collective identity at FFL, with only minor win-win compromises with new and contradictory collective identities. Therefore, our results provide support and further insights and understanding about recent notions presented by Contrafatto and Burns (2013) on how institutionalized assumptions of profit orientation limit the extent to which sustainability concerns become infused in day-to-day practices.

In this sense, our study presents a case where the environmental measures did not become taken-for-granted figures in the organization, but instead, the taken-for-granted assumption was that they should be linked to financial performance, and not used in the decision-making by the top management as part of the BSC and not incorporated into the incentive system. Therefore, our study provides different results to the institutionalization process compared to Contrafatto (2014). Moreover, while Contrafatto and Burns (2013) used the OIE approach, and Contrafatto (2014) both the NIS and OIE approaches in his study, we have deepened the analysis by taking advantage of the concepts of institutional logic and collective identity.

This study provides one explanation for why financial measures are so persistent, stable and difficult to substitute (Laine, 2005; Gray, 2006) with environmental performance measures if they are not aligned with the institutional logic to support the existing and dominant collective identity. Furthermore, if environmental measures are used, they may still do nothing more than reproduce the original institutional profit orientation of the collective identity as found in this study.

The study also points out some noteworthy avenues for future research. It implies the potential of the institutional logic approach in interpreting management accounting change in general and environmental measures in particular. Much more research on different management accounting systems or different environmental measures in different contexts, employing the institutional logics approach, is however needed in order to develop a better understanding of these changes and to facilitate these change processes in order to connect management accounting and environmental measures with managerial decision-making and enable the desired organizational changes – being more sustainable. Advances in terms of different institutional theories in general in the area of environmental management accounting are in their infancy (Contrafatto 2013 and Contrafatto and Burns 2014) and we encourage authors to continue on this promising path. It would be interesting also to study what kinds of internal and external factors are required if the collective identity and institutional logic really do change in the context of environmental management accounting change. This kind of research could also investigate how long this process takes, which forms it takes and how these different factors affect the duration and forms of the collective identity change process. Moreover, interventionist (Suomala et al. 2014) or engagement (Adams and Larrinaga-Gonzales 2007) studies may engage researchers and organizations in order to jointly facilitate these changes even further in practice. Furthermore, while this paper provides only single case evidence in one specific industry, quantitative studies may provide us a wider picture of the design, implementation and use of environmental measures in different institutional and organizational contexts.

To conclude, collective identity (profit orientation) and institutional logic have a great impact on the implementation of new issues (such as PMS) and their effect on decision-making in reality, which is the main managerial implication of the paper. Therefore, this study contributes to earlier studies (e.g. Zollo et al., 2013) by explaining how challenging a process it is to change firms so they adopt a genuinely sustainable format, referred to by authors such as Gray (2005), Bebbington and Gray (2001), Milne, Tregidga and Walton (2009), Bebbington and Larrinaga (2014), and Tredigda et al. (2014). This kind of investigation of the change process has been much less common than studies, for example, on the motivation behind environmental change (Zollo et al., 2013).

Notes

[i] Collective identities emerge out of social interactions and communications between members of social groups. Individuals are likely to follow its norms and prescriptions and seek to protect the interests of the collective and its members against contending identities (Thornton and Ocasio, 2008). As collective identities become institutionalized, they develop their own distinct institutional logic, and these logics prevail within the social group (Jackall, 1998). Institutional logics may affect the allocation of attention to alternative schemas for perceiving, interpreting, evaluating and responding to environmental situations (Ocasio, 1995). In allocating attention, institutional logics provide individuals and organizations with a set of rules for deciding which problems get attended to, which solutions get considered, and which solutions get linked to which situations (March and Olsen, 1976; Thornton and Ocasio, 1999; 2008).

[ii] Burns and Scapens (2000) defined an institution as a "way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people".

[iii] We contribute to earlier institutional logic studies by focusing on a private company (cf. Hyvönen et al., 2009; Rey & Hinings, 2009; ter Bogt & Scapens, 2009; Rautiainen & Järvenpää, 2012). This is a substantial difference to earlier studies because the primary purpose of private and public companies deviates. This study investigates how environmental issues were connected to management accounting, which is another contribution to earlier studies focusing on management accounting in general (cf. Hyvönen et al., 2009; 2011; Lounsbury, 2008; Kilfoyle & Richardson, 2011; Reay & Hinings, 2009; Rautiainen & Järvenpää, 2012). This investigation of environmental issues is justified as a result of its increased attention during recent years (look e.g. Gray, 2006; Hopwood et al., 2010). The institutional logic approach is applied less frequently in the environmental context. The focus of these studies of institutional logic has been on climate change (Hoffman, 2011) rather than environmental management accounting, which is the contribution of this study.

References

Abdel-Kader, M. and Luther, R. (2008), "The impact of firm characteristics on management accounting practices: A UK-based empirical analysis", *The British Accounting Review*, Vol. 40 No. 1, pp. 2-27.

Abdel-Kader, M. and Luther, R. (2006), "Management accounting practices in the British food and drinks industry", *British Food Journal*, 108(5), pp. 336-357.

Adams, C. A. and Frost G. R. (2008), "Integrating sustainability reporting into management practices", *Accounting Forum*, Vol. 32 No. 4, 288-302.

Adams, C.A. and Larrinaga-Gonzales, C. (2007), "Engaging with organizations in pursuit of improved sustainability accounting and performance", *Accounting, Auditing & Accountability Journal*, Vol. 21 No. 3, pp. 333-355.

Adams, C.A. and McNicholas, P. (2006), "Making a difference. Sustainability reporting, accountability and organizational change", *Accounting, Auditing & Accountability Journal*, Vol. 20 No. 3, pp. 382-402.

Ahrens, T., Becker, A., Burns, J., Chapman, C.S., Granlund, M., Habersam, M. Hansen, A., Khalifa, R., Malmi, T., Mennicken, A., Mikes, A., Panozzo, F., Piber, M., Quattrone, P.and Scheytt, T. (2008), "The future of interpretive accounting research", *Critical Perspectives on Accounting*, Vol. 19 No. 6, pp. 840-866.

Ahrens, T. and Dent, J.F. (1998), "Accounting and Organizations: Realizing the Richness of Field Research", *Journal of Management Accounting Research*, Vol. 10, pp. 1-39.

Ahrens, T. and Chapman, C. (2006), "Doing qualitative field research in management accounting: Positioning data to contributing the theory", *Accounting, Organizations & Society*, Vol. 31 No. 8, pp. 819-84.

Alford, R. R. and Friedland, R. (1985), *Powers of Theory: Capitalism, the State, and Democracy*, Cambridge University Press, Cambridge.

Alvesson, M. and Kärreman, D. (2007), "Constructing mystery: Empirical material in theory development", *Academy of Management Review,* Vol. 32, pp. 1265–1281.

Arroyo, P. (2012), "Management accounting change and sustainability: an institutional approach", *Journal of Accounting & Organizational Change*, Vol. 8 No. 3, 2012, pp. 286-309

Barley, S.R. and Tolbert, P.S. (1997), "Institutionalization and Structuration: Studying the Links between Action and Institution." *Organizational Studies.* 1/1997, 93-117.

Ball, A. and Craig, R. (2010), "Using neo-institutionalism to advance social and environmental accounting", *Critical Perspectives on Accounting, Vol.* 21 No. 4, pp. 283-293.

Bebbington, J. (2001), "Sustainable development: a review of the international development, business and accounting literature", *Accounting Forum*, Vol. 25 No.2, pp. 128-157.

Bebbington, J. and Gray, R. (2001), "An account of sustainability: failure, success and a reconceptualization", *Critical Perspectives on Accounting*, Vol. 12 No. 5, pp. 557-587.

Bebbington, J. and Larrinaga, C. (2014), "Accounting and sustainable development: An exploration", *Accounting, Organizations and Society*, (in press).

Bennett, M., Bouma, J. & Wolters, T. (2002), "The Development of Environmental Management Accounting: General Introduction and Overview", in Bennett, M. , Bouma, J. and Wolters, T. (eds.) *Environmental Management Accounting Informational and Institutional Develoments.* Kluwers Academic Publishers, Netherland.

Bennett, M. and James, P. (1998), "The Green Bottom Line", in Bennett, M. and James, P. (eds.*) The Green Bottom Line: Environmental Accounting for Management - Current Practice and Future Trends*, Greenleaf Publishing, UK, 30-60.

Burns, J. and Scapens, R.W. (2000), "Conceptualizing management accounting change: An institutional framework", *Management Accounting Research,* Vol. 11 No. 1, pp. 3-25.

Burns, J. and Vaivio, J. (2001), "Management accounting change", *Management Accounting Research*, Vol. 12 No. 4, pp. 339-402.

Burrit, R. L. (2004), "Environmental management accounting: Roadblocks on the way to the green and pleasant land", *Business Strategy and the Environment*, Vol 13 No 1, pp. 13-32.

Burritt R.L. and Schaltegger, S. (2010), "Sustainability accounting and reporting: fad or trend?", *Accounting, Auditing & Accountability Journal*, Vol. 23 No. 7, pp. 829-846.

Busco C., Quattrone P. and Riccaboni A. (2007), "Management Accounting: Issues in interpreting its nature and change", *Management Accounting Research*, Vol. 18 No. 2, pp. 125-149.

Carmona, S. and Macias, M. (2001), "Institutional Pressures, Monopolistic Conditions and the Implementation of Early Cost Management Practices: the Case of the Royal Tobacco Factory of Seville (1820–1887)", *Abacus*, Vol. 37 No. 2, pp. 139–159.

Chenhall, R.H. and Euske, K.J. (2007), "The role of management control systems in planned organizational change: An analysis of two organizations", *Accounting, Organizations and Society*, Vol. 32 No. 7-8, pp. 601-637.

Contrafatto, M. (2014), "The institutionalization of social and environmental reporting: An Italian narrative", *Accounting, Organizations and Society*, (in press).

Contrafatto, M. and Burns, J. (2013), "Social and environmental accounting, organizational change and management accounting: A processual view", *Management Accounting Research*, 24, 349-365.

Ervin D. Wu J., Khanna M., Jones C. and Wirkkala T. (2013), "Motivations and Barriers to Corporate Environmental Management", *Business Strategy and the Environment*, Vol. 22, No. 6, pp. 390–409. DOI: 10.1002/bse.1752

Ferreira, A. and Otley, D. (2009), "The design and use of performance management systems: An extended framework for analysis", *Management Accounting Research*, Vol. 20 No.-4, pp. 263-282.

Figge, F., Hahn, T., Schaltegger, S. and Wagner, M. (2002), "The Sustainability Bal-anced Scorecard - linking sustainability management to business strategy", *Business Strategy and the Environment*, Vol. 11 No. 5, pp. 269-284.

Friedland, R. and Alford, R. R. (1991), Bringing society back in: Symbols, practices, and institutional contradictions. In Powell, W.W. and DiMaggio, P.J (eds.), *The New Institutionalism in Organizational Analysis*, University of Chicago Press, Chicago, pp. 232–263.

Giddens, A. (1984). *The Constitution of Society*, University of California Press, Berkeley.

Gray, R. (2006), "Social, environmental and sustainability reporting and organizational value creation? Whose value? Whose creation?", *Accounting, Auditing & Accountability Journal*, Vol. 19 No. 6, 793-819.

Gray, R., Walters, D., Bebbington, J. and Thompson, I. (1995), "The greening of enterprise: an exploration of the (non) role of environmental accounting and environmental accountants in organizational change", *Critical Perspectives on Accounting*, Vol. 6 No. 3, pp. 211-239.

Hanson, N. R. (1958), *Patterns of discovery*, Cambridge: University Press.

Hanson, N. R. (1961), Is there a logic of scientific discovery?. In H. Fiegl and M. Grover (Eds.), *Current issues in the philosophy of science*, Holt, Rinehart and Winston, New York, pp. 398-409.

Henri, J.-F. and Journeault, M. (2010), "Eco-control: The influence of management control systems on environmental and economic performance", *Accounting, Organizations & Society*, Vol. 35 No. 1, pp. 63-80.

Hoffman, A.J. (2011), "Talking Past Each Other? Cultural Framing of Skeptical and Convinced Logics in the Climate Change Debate", *Organization & Environment*, Vol. 24 No. 1. pp. 3-33.

Hoque, Z. and Adams, C. (2011), "The rise and use of balanced scorecard measures in Australian government departments", *Financial Accountability & Management*, Vol. 27 No. 3, pp. 308-334.

Hopwood, A.G., Unerman, J. and Fries, J. (2010), Introduction to accounting for sustainability case studies. In Hopwood, A.G., Unerman, J. and Fries, J. (eds.), *Accounting for Sustainability*, Earthscan, London, pp. 1-28.

Hubbard, G. (2009), "Measuring organizational performance: beyond the triple bottom line", *Business Strategy and the Environment*, Vol. 18 No. 3, pp. 177-191.

Hyvönen, T., Järvinen, J., Pellinen, J. and Rahko, T. (2009), "Institutional logics, ICT and stability of management accounting", *European Accounting Review*, Vol. 18 No. 2, 241–275.

Hyvönen, T., Näsi, S. Järvinen, J., Pellinen, J. and Rahko, T. (2011), "Developing Public Sector Cost Accounting Systems – Case Finnish Defence Forces", *Journal of Modern Accounting and Auditing*, Vol. 7 No. 2, pp. 97-110.

Jackall, R. (1988), *Moral Mazes: The World of Corporate Managers*, Oxford University Press, New York.

Jasch, C. (2002), "Environmental Management Accounting Metrics: Procedures and Principles." in Bennett, M., Bouma, J. and Wolters, T. (eds.) *Environmental Management Accounting Informational and Institutional Develoments*. Kluwers Academic Publishers, Netherland.

Jones, M.J. (2010), "Accounting for the environment: Towards a theoretical perspective for environmental accounting and reporting", *Accounting Forum*, Vol. 34 No. 2, pp. 123-138.

Järvenpää, M. (2007), "Making business partners: A case study on how management accounting culture was changed", *European Accounting Review*, Vol. 16 No 21, pp. 99-142.

Järvenpää, M. (2009), "The institutional pillars of management accounting function", *Journal of Accounting & Organizational Change*, Vol. 5 Iss. 4, pp. 444-471.

Järvinen, J. (2006), "Institutional Pressures for Adopting New Cost Accounting Systems in Finnish Hospitals: Two Longitudinal Case Studies", *Financial Accountability & Management,* Vol. 22, No. 1, pp. 21–46.

Kakkuri-Knuuttila, M.-L., Lukka, K. and Kuorikoski, J. (2008), "Straddling between paradigms: A naturalistic philosophical case study on interpretive research in management accounting", *Accounting, Organizations & Society*, Vol. 33 No. 2-3, pp. 267-291.

Kelman, H.C. (2006), "Interests, Relationships, and Identities: Three Central Issues for Individuals and Groups in Negotiating Social Environment", *Annual Review of Psychology*, Vol. 57 pp.1–26.

Kilfoyle, E. and Richardson, A.J. (2011), "Agency and structure in budgeting: Thesis, antithesis and synthesis", *Critical Perspectives on Accounting*, Vol. 22 No. 2, pp. 183-199.

Kitchener, M. (2002), "Mobilizing the logic of managerialism in professional fields: The case of academic health centre mergers", *Organization Studies*, Vol. 23 No. 3, pp. 391-420.

Kraus, K. and Lind, J. (2010), "The impact of the corporate balanced scorecard on corporate control—A research note", *Management Accounting Research*, Vol. 21 No. 4, pp. 265-277.

Larrinaga-Gonzalez, C. and Bebbington, J. (2001), "Accounting change or institutional appropriation? – A case study of the implementation of environmental accounting", *Critical Perspectives on Accounting*, Vol. 12 No. 3, pp. 269-292.

Lounsbury, M. (2008), "Institutional rationality and practice variation: New directions in the institutional analysis of practice", *Accounting, Organizations and Society*, Vol. 33 No. 4-5, pp. 349-361

Lounsbury, M. (2007), "A Tale of Two Cities: Competing Logics and Practice Variation in the Professionalizing of Mutual Funds", *Academy of Management Journal*, Vol. 50 No. 2, pp. 289-307.

Lukka, K. and Modell, S. (2010), "Validation in interpretive management accounting research", *Accounting, Organizations and Society*, Vol. 35 No. 4, pp. 462-477.

Lukka, K. (2014) "Exploring the possibilities for causal explanation in interpretive research. *Accounting, Organizations and Society*, (in press).

Länsiluoto, A. and Järvenpää, M. (2008), "Environmental and performance management forces: Integrating greenness into balanced scorecard", *Qualitative Research in Accounting & Management*, Vol. 5 No. 3, pp. 184-206.

Malmi, T. and Brown, D.A. (2008), "Management control systems as a package—Opportunities, challenges and research directions", *Management Accounting* Research, Vol. 19 No. 4, pp. 287-300.

March, J.G. and Olsen, J.P. (1976), *Ambiguity and Choice in Organizations*, Bergen, Norway, Universitetsforlaget.

March, J.G. and Olsen, J.P. (1989), *Rediscovering Institutions: The Organizational Basis of Politics*, Free Press, New York.

Masanet-Llodra, M.J. (2006), "Environmental Management Accounting: A Case Study Research on Innovative Strategy", *Journal of Business Ethics*, Vol. 68 No. 4, pp. 393-408.

Mathews, M.R. (1997), "Twenty-five years of social and environmental accounting research. Is there a silver jubilee to celebrate?", *Accounting, Auditing & Accountability Journal*, Vol. 10 No. 4, pp. 481-531.

McKinnon, J. (1988), "Reliability and validity in field research: some strategies and tactics", *Accounting, Auditing & Accountability Journal*, Vol. 1 No. 1, pp. 34-54.

Meyer, J.W. and B. Rowan. (1977), "Institutionalized Organizations: Formal Structure as Myth and Ceremony", *American Journal of Sociology*, Vol. 83, No. 2, pp. 340–363.

Millne, M., Tregidga, H. and Walton, S. (2009), "Words not action! The ideaological role of sustainability reporting", *Accounting, Auditing & Accountability Journal*, 22(8), 1211-1257.

Norreklit, H. (2000), "The balance on the balanced scorecard – a critical analysis of some of its assumptions", *Management Accounting Research*, Vol. 11 No. 1, pp. 65-88.

Northcott, D. and Smith J. (2011), "Managing performance at the top: a balanced scorecard for boards of directors", Journal of Accounting & Organizational Change, Vol. 7 No. 1, pp. 33-56.

Ocasio, W. (1995), "The Enactment of Economic Adversity: A Reconciliation of Theories of Failure-Induced Change and Threat-Rigidity", *Research in Organizational Behavior*, Vol. 17, pp. 287–331.

Ocasio, W. (1997), "Toward an Attention-Based View of the Firm", *Strategic Management Journal*, Vol. 18, pp. 187–206.

Ocasio, W. (1999), "Institutionalized Action and Corporate Governance: The Reliance on Rules of CEO Succession", *Administrative Science Quarterly*, Vol. 44 No. 2, pp. 384–416.

O'Dwyer, B. (2003), "Conceptions of corporate social responsibility: the nature of managerial capture", *Accounting, Auditing & Accountability Journal*, Vol. 16 No. 4, pp. 523-557.

Oliver, C. (1991), "Strategic responses to institutional processes", *The Academy of Management Review*, Vol. 16 No. 1, pp. 145–179.

Parker, L.D. (2011), "Twenty-one years of social and environmental accountability research: A coming of age", *Accounting Forum*, Vol. 35 No. 1, pp. 1-10.

Perez, E.A., Ruiz, C.C., and Fenech, F.C. (2007), "Environmental management systems as an embedding mechanism: a research note", *Accounting, Auditing & Accountability Journal*, Vol. 20 No. 3, pp. 403-422.

Polleta, F. and Jasper, J.M. (2001), "Collective Identity and Social Movements", *Annual Review of Sociology*, Vol. 27, pp. 283–305.

Rautiainen, A.I. (2010) "Contending Legitimations: Performance Measurement Coupling and Decoupling in Two Finnish Cities", *Accounting, Auditing & Accountability Journal*, Vol. 23 No. 3, pp. 373–391.

Rautiainen, A. and Järvenpää, M. (2012), "Institutional logics and responses to performance measurement systems", *Financial Accountability & Management*, Vol. 28 No. 2, pp. 164-188.

Reay, T. and Hinings, C.R. (2009), "Managing the rivalry of competing institutional logics", *Organization Studies*, Vol. 30 No. 6, pp. 629–652.

Ribeiro, J., and Scapens, R. (2006), "Institutional theories in management accounting change. Contributions, issues and paths for development", *Qualitative Research in Accounting & Management*, Vol. 3 No. 2, pp. 94-111.

Rothenberg S. (2007), "Environmental managers as institutional entrepreneurs: The influence of institutional and technical pressures on waste management", *Journal of Business Research*, Vol. 60 No. 7, pp. 749-757.

Scapens, R. and Bromwich, M. (2001), "Management Accounting Research: the first decade", *Management Accounting Research*, Vol. 12 No. 2, pp. 245-254.

Scapens, R.W. and Jazayeri, M. (2003), "ERP systems and management accounting change: opportunities or impacts? A research note", *European Accounting Review*, Vol. 12 No. 1, pp. 201-233.

Schaltegger, S. and Wagner, M. (2006), "Integrative management of sustainability performance, measurement and reporting", *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 3 No. 1, pp. 1-19.

Scott, W. R. (2001), Institutions and Organizations. 2nd ed. Sage, CA.

da Silva Monteiro, S.M. and Aibar-Guzmán, B. (2010), "Organizational and accounting change within the context of the environmental agenda: Evidence from Portugal", *Journal of Accounting & Organizational Change*, Vol. 6 No. 4, pp. 404-435.

Spence C., Husillos J. and Correa-Ruiz C. (2010), "Cargo cult science and the death of politics: A critical review of social and environmental accounting research", *Critical Perspectives on Accounting*, Vol. 21 No. 1, pp. 76-89.

Starik, M. and Kanashiro, P. (2013), "Toward a Theory of Sustainability Management: Uncovering and Integrating the Nearly Obvious", *Organization & Environment*, Vol. 26 No. 1, pp. 7-30.

Stubbs W., Higgins C. and Milne M. (2012), "Why Do Companies Not Produce Sustainability Reports?", *Business Strategy and the Environment*, DOI: 10.1002/bse.1756

Suomala, P., Lyly-Yrjänäinen, J. and Lukka, K. (2014), Battlefield Around Interventions: A Reflective Analysis of Conducting Interventionist Research in Management Accounting. *Management Accounting Research*. 25:4, 304-314.

ter Bogt, H.J. and Scapens, R.W. 2014. "Institutions, Rationality and Agency in Management Accounting: Rethinking and Extending the Burns and Scapens Framework." SSRN: available at at http://ssrn.com/abstract=2464980.

Tilt, C.A. (2006), "Linking environmental activity and environmental disclosure in an organizational change framework", *Journal of Accounting and Organizational Change*, Vol. 2 No. 1, pp. 4-24.

Thornton, P. (2004), *Markets from culture: Institutional logics and organizational decisions in higher education publishing*, Stanford University Press, Stanford.

Thornton, P. H. and Ocasio, W. (2008), Institutional Logics. In Greenwood, Royston; Oliver, Christine; Sahlin, Kerstin and Suddaby Roy (eds.), *The Sage Handbook of Organizational Institutionalism*, Sage, Los Angeles, London, New Delhi and Singapore. pp. 99-129.

Thornton, P.H. and Ocasio W. (1999), "Institutional Logics and the Historical Contingency of Power in Organizations: Executive Succession in the Higher Education Publishing Industry, 1958-1990", *The American Journal of Sociology*, Vol. 105 No. 3, pp. 801-843.

Thornton P.H, Ribeiro-Soriano, D. and Urbano D. (2011) "Socio-cultural factors and entrepreneurial activity: An overview ", *International Small Business Journal*, Vol. 29 No. 2: pp. 105-118

Tregidga, H., Milne, M. and Kearings, K. (2014), "(Re)presenting 'sustainable organizations'", *Accounting, Organizations and Society*, (in press).

Zollo M., Cennamo C. and Neumann, K. (2013), "Beyond What and Why: Understanding Organizational Evolution Towards Sustainable Enterprise Models", *Organization & Environment*, Vol. 26 No. 3, pp. 241-259.

Thomson, I. and Bebbington, J. (2005), "Social and environmental reporting in the UK: A pedagogic evaluation", *Critical Perspectives on Accounting*, 16(5), 507-533.

Vaivio, J. (1999), "Exploring a 'non-financial' management accounting change", *Management Accounting Research*, Vol. 10 No. 4, pp. 409-437.

Vaivio, J. (2008), "Qualitative management accounting research: rational, pitfalls and potential", *Qualitative Research in Accounting & Management*, Vol. 5 No. 1, pp. 64-86.

White, H. (1992), *Identity and Control: A Structural Theory of Social Action*, Princeton University Press, Princeton, NJ.

Yazdifar H., Zaman M., Tsamenyi M. and Askarany D. (2008), "Management accounting change in a subsidiary organization", *Critical Perspectives on Accounting*, Vol. 9 No. 3, pp. 404-430.

Yongvanich, K. and Guthrie, J. (2006), "An extended performance reporting framework for social and environmental accounting", *Business Strategy and the Environment*, Vol. 15 No. 5, pp. 309-321.

Appendix A

Summarized (shortened) semi-structured themes of interviews

Definition of sustainability, forces

1. How you define the sustainability concept? What kind of issues/areas does it include?
2. Why do you measure? External or internal forces or incentives to measure and develop?
3. Stakeholders requirements sustainability reporting? Which stakeholders and what kind of reporting is required?
4. Government role? Preferred role of government.
5. Benefits and disadvantages of sustainability?

Implementation/selection of indicators

1. Selection of the appropriate measures? Describe the process of selection.
2. Participants? The selection of participants? Required qualifications of participants? Did you have any stakeholders?
3. What kind of indicators do you have to measure sustainability? Do you have measures concerning the social, environmental and economic aspects?
4. Do the indicators a) exist at a site/unit and at a corporate level b) differ between sectors?
5. What do business units think about these indicators? How do indicators affect operations?
6. Did you decide the target levels of selected indicators? How?
7. For whom are targets determined? How do the targets affect compensation?
8. Relationship between financial measures and social and environment measures? Have you thought of causalities? If yes, what kind of causalities is found?

Performance management systems (PMS)

1. Why did you start to implement PMS? Steering committee role in the selection of PMS?

2. What kind of experiences do you have? Pros and cons. Challenges during the process? Implementation success according to business units and a steering committee?
3. Selection process of measures and perspectives? Participants
4. Challenges of PMS a) in Future? B) from the perspective of headquarters' steering group & board of company?
5. Steering committee and board of directors PMS utilization?
6. Why sustainability indicators are integrated into PMS?

Change

1. Obstacles/challenges in developing sustainability issues? Structural vs. behavioral?

FIGURES

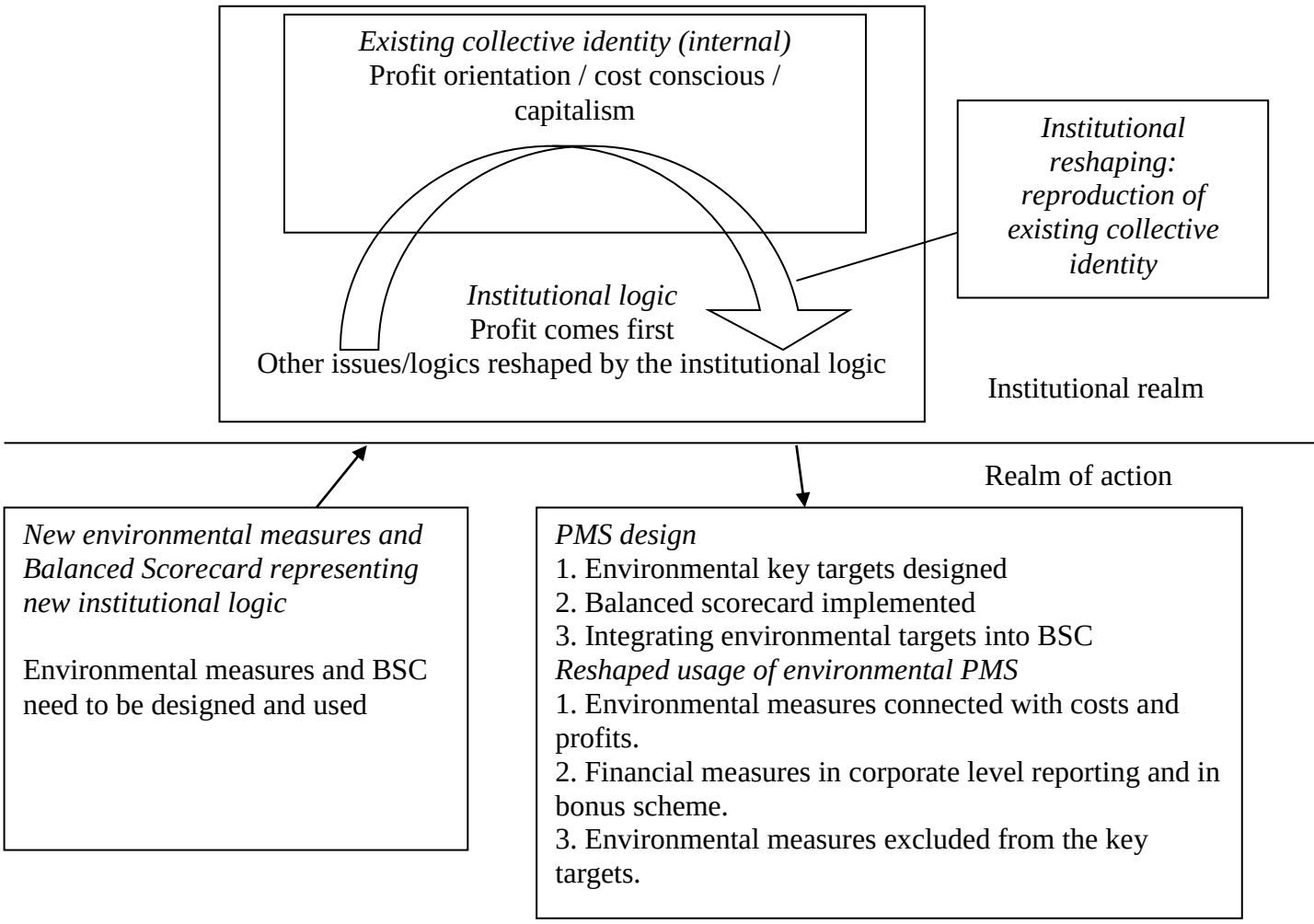

Figure 1 Institutional reshaping: Effects of collective identity and institutional logic on PMS design and use