Corporate sustainability accounting: beyond unfreezing

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Abstract

The adoption of sustainability accounting practices has hardly been examined to date. To facilitate companies in dealing with sustainability issues, an understanding of the challenges in the adoption of sustainability accounting practices needs to be gained. This empirical paper conducts a qualitative analysis on related developments, based on research data collected in 16 companies in the UK and Germany. The paper adopts a change management perspective to identify obstacles in the adoption of sustainability accounting practices and groups these in three stages – unfreezing, moving and refreezing. The analysis clearly classifies the companies to the three stages proposed. Most companies are located in the unfreezing stage, because of the complex challenges identified in overcoming this stage. In consequence, the challenges beyond unfreezing have yet to be addressed. The insights gained shed light on challenges in the process of adopting sustainability accounting practices and contribute to accelerating their adoption.

Keywords

Sustainability accounting, change, progress, unfreezing

1. Sustainability accounting: supporting corporate sustainability management

Corporate sustainability has become a topical issue in various fields of management research such as innovation (Brown & Ulgiati 2002), strategy (Frow, Marginson & Ogden 2005), and management control (Henri & Journeault 2010); and has also gained importance in practice (e.g. Schaltegger, Gibassier & Zvezdov 2011). For the purposes of this paper, corporate sustainability management is considered to comprise the explicit consideration of social and environmental issues in order to improve the performance of the company and enable it to contribute to the development of society and economy in general (Schaltegger & Burritt 2005).

Recent research provides evidence that tackling sustainability issues can contribute towards the long term success of companies (e.g. Wang, Choi

& Li 2008). Yet, addressing these issues poses various challenges to managers, who struggle to develop an understanding of the linkages between sustainability management and financial performance (e.g. Schaltegger & Wagner 2006). Furthermore, successful corporate management not only needs to understand existing linkages but also how to create new ones. This is where sustainability information can play a decisive role. Corporate sustainability accounting has been identified as one approach to generating, providing, and using such information (Schaltegger & Burritt 2010).

Corporate sustainability accounting, earlier referred to as social or environmental accounting, has been widely discussed in a growing body of literature (Burritt & Schaltegger 2010; Parker 2005; Schaltegger, Gibassier & Zvezdov 2011). Two streams of environmental, and later on, sustainability accounting literature have been distinguished (Schaltegger & Burritt 2010). The critical social accounting perspective has questioned the contribution of management accounting to sustainable development (e.g. Gray 2010). The management approach to sustainability accounting, on the other hand, has been developing the discipline to support corporate sustainability management (Burritt & Schaltegger 2010). In its latter interpretation, sustainability accounting has been attributed numerous functions – from being an empty buzz word, through an umbrella term, to a holistic approach towards measuring and managing sustainability performance (Schaltegger & Burritt 2010, p. 379).

Engaging with sustainability accounting poses numerous challenges beyond the technical aspects of accounting, such as understanding how such activities can contribute to improving performance and overcoming resistance. Thus, to facilitate the adoption of sustainability accounting practices, a broader understanding of the adoption process and related challenges is required.

Based on an analysis of the data collected in 16 companies with good sustainability reputations, the following paper depicts the adoption of sustainability accounting practice, thereby pointing out current and upcoming challenges that management has to consider for the successful adoption of such activities.

The paper is structured as follows. The following section outlines the status of dissemination of corporate sustainability accounting and highlights the need for better understanding of the challenges in adopting sustainability accounting practices. Section 3 gives an overview of the research approach adopted in investigating the above research question. Section 4 presents the results and discusses the findings. The concluding section points out the importance of the findings with regard to the transfer of knowledge in the field and highlights the need for further research.

2. Adoption of sustainability accounting in the context of change

2.1 Perpetual change in management accounting thinking

Change has been recognised as the normal condition of business (Hopwood 1990). Perpetual change in management accounting has been documented throughout more than a century of modern management accounting history (e.g. Burns & Scapens 2000; Burns & Vaivio 2001; Parker & Ritson 2011). The dynamics of accounting change in terms of new practices, routines, institutions, power and politics have been investigated (e.g. Burns 2000). One conclusion drawn by this through research is that within – as well as beyond – the accounting context, change has been used as synonym for progress (Siti-Nabiha & Scapens 2005). Therefore, investigating the progress in accounting in the light of corporate sustainability is of increasing relevance for supporting informed decision-making.

2.2 Sustainability accounting as innovation

Initially popularised by Rogers (1962, 2003) diffusion of innovations has been a topical field in explaining how, why, and at what rate new ideas and technology spread through cultures. Rogers (1962) proposes five innovation adoption categories: innovators, early adopters, early majority, late majority, and laggards. This model has been further developed in identifying innovation success in the business context (Abrahamson 1991, 1996).

Several authors have described the diffusion of (sustainability) accounting practice based on this notion (e.g. Firth 1996; Schaltegger & Burritt 2010). Numerous case studies on the implementation of environmental accounting have been produced (e.g. Burritt, Herzig & Tadeo 2009; Larrinaga-Gonzalez & Bebbington 2001; Schaltegger, Viere & Zvezdov 2012). These serve as an indication of the diffusion of sustainability accounting practice.

Although research in the field has been on the agenda for over four decades (e.g. Gray 2001), the latter of two of which adopted a managerial perspective (Schaltegger, Gibassier & Zvezdov 2011), the empirical evidence in the field has been mainly based on case studies (Schaltegger, Gibassier & Zvezdov 2011). Few studies have captured and analysed the adoption of sustainability accounting in practice (Bennett, Schaltegger & Zvezdov 2011). Therefore, this paper focuses on the progress of sustainability accounting adoption in companies.

2.3 Mapping out progress in sustainability accounting

Numerous theoretical approaches have been applied to observe and describe change in organisational and accounting practice. Kezar (2001)

proposes six main categories of theories of change that assist in understanding, describing, and developing insights about the organisational change process: (a) evolutionary, (b) teleological, (c) life cycle, (d) dialectical, (e) social cognition, and (f) cultural. This contribution observes corporate practice from the life-cycle perspective of Lewin's change model (Lewin 1947), whereby a three-stage model of unfreezing, moving and refreezing is proposed. Although over 60 years have passed, his model is still discussed (e.g. Fernandez & Rainey 2006; Ong & Wang 2011; Schein 1996) and applied widely (e.g. Andrews & Chompusri 2005; Bargal 2006; Goodman & Truss 2006; Ho 2000; Kotter & Schlessinger 2008; Sauser & Sauser 2002), also in the field of management information (e.g. Cooper & Zmund 1990; Grover et al. 1995; Ginzberg 1978). In addition to its popularity, this framework also provides a neat and simple measure of progress. In particular, the latter aspect allows a relatively straightforward categorisation of available data and thus suits the needs of this research adequately.

In order to support the analysis of the stages of the sustainability accounting adoption in companies with good sustainability reputations, progress was measured against the framework developed by Lewin but expanded into sub-stages and translated to the adoption of sustainability accounting practice as described in Table 1.

Table 1: Stages in corporate sustainability accounting (based on Fernandez & Rainey 2006; Kotter & Schlessinger 2008; Lewin 1947)

Stage	Sub-stage	Definition in sustainability accounting context
Unfreeze	Diagnose	Understand how and what sustainability information can contribute to managing sustainability performance
	Prepare people	Identify how various professionals can be involved in sustainability information collection, provision and use
Move	Implement changes	Reorganise information flows, include sustainability KPIs in performance measurement, etc.
	Overcome resistance	Overcome resistance resulting from new evaluating performance schemes, additional tasks, etc.
Refreeze	Institutionalise	Integrate sustainability accounting in business as usual

The three stages of the original model can be broken down into further steps to be used as a proxy for whether the step has been realized and/or approached yet. Several authors have approached this challenge (e.g.

Fernandez & Rainey 2006; Kotter & Schlessinger 2008), proposing the above five intermediate steps.

Diagnosing the situation not only requires the realization that the status quo of practice is no longer a suitable approach to managing corporate performance but also requires understanding of how and what sustainability information can contribute to managing sustainability performance (e.g. Schaltegger & Burritt 2000). This arises from the fact that sustainability information can vary greatly (Burritt, Hahn & Schaltegger 2002), depending on the needs of its users (Schaltegger & Burritt 2000). Diagnosing also requires that examples are produced to point out the linkages between sustainability management and corporate (financial) performance (e.g. Klassen & McLaughlin 1996; Schaltegger & Wagner 2006).

The challenges of *preparing people* arise from several perspectives. On the one hand, how various professionals can be involved in sustainability information collection, provision and use needs to be identified. To date, the collection, provision and use of sustainability information have, however, not been subject to extensive research (e.g. Burritt, Schaltegger & Zvezdov 2011). Thus companies are forced to approach the issue on a trial-and-error basis.

Implementing change in sustainability information management is related to numerous operational challenges. Among these are reorganizing information flows (Schaltegger & Burritt 2000), designing and implementing sustainability KPIs for performance measurement (Adams & Frost 2008; Schaltegger 2011), and assigning responsibilities (Bennett, Schaltegger & Zvezdov 2012). In particular, in times of information overload (Edmunds & Morris 2000; Eppler & Mengis 2010), it is necessary that the benefit of this information for performance evaluation and decision-making is higher than the resources invested in adopting sustainability accounting practices.

Overcoming resistance has been subject to research within (Hoffman & Bazerman 2007; Kemp, Schot & Hoogma 2007) and outside (Hong & Kim 2002; Poon & Wagner 2001) sustainability management literature. In the management accounting context, resistance has been observed to result from new performance evaluation schemes, additional tasks, etc. (Scapens & Roberts 1993) and to become more apparent after the first wave of enthusiasm has subsided. Furthermore, resistance can also emerge from higher-level management, when their performance is re-evaluated based on the achievement of sustainability key performance indicators (Woodburn 2004).

Institutionalising corporate sustainability accounting falls into the third stage of Lewin's model and thus can be seen as the most advanced stage of development. It can be characterised with the integration of sustainability accounting in business as usual. From a practitioner's

perspective that could mean no separated team in charge of sustainability information is needed. Instead, such a team is leaner and focuses its efforts on supporting the activity rather than being in complete charge of it.

3. Research background and data

3.1 Data collection

In order to explore the corporate practice of sustainability accounting, a research project was set up and conducted in 2009 and 2010, whereby 58 face-to-face interviews with respondents in 16 British and German-based companies took place. One of the objectives of the project was to explore the current stage of development in corporate sustainability accounting in leading companies. Critical aspects of the development and adoption of sustainability accounting practices were expected to be revealed through the focus on companies with good sustainability performance. To qualify as suitable participants in the project, companies had to have a good reputation in the area of sustainability, i.e. they had to (i) have received an award for their sustainability performance or (ii) have been included in sustainability rankings such as Dow Jones Sustainability Index. In addition, (iii) companies had to have an extensive sustainability report that conforms with GRI guidelines.

The lack of research on the practice of sustainability accounting motivated an exploratory research approach to generate indicative findings that could both inform practice elsewhere and indicate potential areas for further research. Sustainability accounting practice was thus examined without a former development of hypotheses. Thus, the focus was on identifying aspects which had previously been neglected, such as the type of information, the methods of data collection and preparation, and the actors involved. Subsequent topics emerged such as the development of corporate practice.

The data was collected in semi-structured interviews. To encourage open communication, the interviews were not recorded. Initial interviews were held in each company with the sustainability manager, whereby subsequent interviewees, providers or users of sustainability information, were identified. For the purpose of data triangulation, corporate data and publicly available information such as reports were used. Further data triangulation was achieved by using (i) the interviewee's perception of their own role, (ii) subsequent interviewees' perceptions of earlier interviewees' roles in each company, and (iii) factual information such as internal documents describing internal responsibilities and tasks.

3.2 Data analysis

The data was analysed in terms of the identified stages of development. Based on the data obtained during the interviews and triangulated with

other available information, each of the five stages in Table 1 was analysed based on four steps, namely whether an issue (a) has been recognised, (b) recognised but not dealt with, (c) recognised and dealt with, and (d) recognised and dealt with successfully. Although the four steps can constitute an iterative process, i.e. once a certain step is concluded, it may need to be revised in the future, the unit of analysis was the whole process of sustainability accounting. For example, some companies reported they had initially implemented changes in their information management system to provide only cost-relevant information. However, with the increasing understanding of sustainability issues over time, the importance of additional considerations became apparent. This in turn required that related information also be collected requiring re-diagnosis of the situation (see Section 4).

The results presented in sections 4.2 to 4.4 are supported by qualitative data gathered in each of the interviews that informs the analysis of the challenges in each stage. In order to qualify as relevant, the narrated explanations and statements had to have been made by at least 1/3 of the interviewees.

4. Results and interpretation

4.1 Where do sustainability pioneers stand?

In order to have experience with sustainability accounting practice, companies chosen for examination were expected to have a good sustainability reputation. Numerous challenges with sustainability accounting had been faced and, in many cases, resolved. Through constant comparison, however, differences in the stage of progress became apparent. Table 2 presents these differences based on Lewin's modified framework.

Each stage of engagement with sustainability accounting presents a different set of challenges for management. Some companies appear to be more advanced in their sustainability accounting practices than others. In turn, different foci of efforts become apparent, depending on what stage the company has reached: a company that has just started looking into sustainability accounting is more focused on identifying relevant performance indicators, figuring out efficient ways of producing the required information and/or looking for ways to make sense of existing sustainability information. More advanced companies, on the other hand, address challenges such as trying to move from project-based activities to a systematic approach to sustainability accounting, in an attempt to secure long-term resources.

Table 2: Results based on 58 interviews in 16 leading UK and German-based companies.

	Stages of engagement with sustainability accounting				
	Unfreezing		**Changing**		**Refreezing**
Company	Diagnose	Prepare people	Implement changes	Overcome resistance	Institutionalise
Company A	✔	●	○		
Company B	✔	✔	✔	✔	●
Company C	✔	●	○		
Company D	✔	●	○		
Company E	✔	✔	✔	●	●
Company F	✔	✔	●	●	
Company G	✔	✔	●		
Company H	✔	✔	●		
Company I	✔	✔	✔	✔	●
Company J	✔	●	○		
Company K	✔	✔	✔	●	○
Company L	✔	✔	●		
Company M	✔	●	○		
Company N	●	●			
Company O	✔	✔	✔	●	
Company P	✔	✔	✔		

Legend: (no sign): the issue has not been recognised as such yet; ○ (an empty circle): issue has been realised but not dealt with yet; ● (a filled circle): issue has been deal with; ✔ (a check mark): a solution has been found and applied successfully.

The above presentation of the results allows several interesting observations to be made. Probably the most straightforward one is the fact that a measurable variance in sustainability accounting practice

development could be captured, despite the fact that a fairly homogeneous population (sustainability leaders) was investigated. Nevertheless, the results show that even among this group, major dissimilarities can be observed.

Second, the collected evidence suggests that the unfreezing stage has been approached and largely tackled in this group. This observation is hardly surprising, given the good sustainability reputation of the sample companies, based on which they were chosen to be involved in the project. It can in turn be expected that the vast majority of companies will be approaching challenges related to this stage, as they are behind the leaders in terms of adoption of sustainability accounting practices.

Third, the movement phase appears to have been successfully approached by only few companies, although almost the complete sample appears to have recognised the need to approach related issues. This suggests that major effort has now been concentrated on that stage, which is in fact of rather technical nature, as argued in Section 4.2.

Last but not least, the process of institutionalizing sustainability accounting could not be observed to have taken place. In fact, evidence of approaching issues related to this stage was collected in only three of the 16 companies. This can be supported by the previous observation that the majority of the companies researched appear to be dealing with the 'moving' phase, therefore effort can be expected to be concentrated there.

Resting on the above observation that different companies are at different stages and thus focus on different challenges, two key points can be made. First, support needs to be provided in dealing with the challenges in each of the stages. Second, the challenges faced by the most advanced companies are likely to be faced by the other companies as they advance. Therefore, greater effort is required to provide support in the final stage, institutionalising sustainability accounting. The rest of this section presents examples of the challenges faced in the companies researched and discusses these in accordance with Lewin's change management model.

4.2 Challenges in unfreezing

In the unfreezing phase, the importance of a clear understanding of the needs of the sustainability accounting was highlighted. Several interviewees shared their experience of having difficulty engaging with sustainability accounting as the purpose of the activities was not clear outside the sustainability department. Many other professionals, who were to be involved later on such as information providers, could not see the benefit of such activities to business and considered them to be in competition with their formally agreed objectives.

The involvement of senior management in particular was also identified as crucial in the stage of planning sustainability accounting adoption. Partly due to the perception of the often conflicting nature of sustainability

management with short-term financial performance, senior management support was in numerous cases reported to be only partially granted. The involvement of senior management was characterized as essential in allocating sufficient resources, motivating people and even reconsidering core business activities.

The need for effective communication that informs various internal stakeholders of the reasons for the change (e.g. for what purpose information needs to be collected), the benefits of successful implementation (what is in it for the company and for that particular person who needs to be involved) was also reported. Interviewees expressed their positive experience with making clear the details of the change so they can be clearly communicated to answer questions such as 'When?' 'Where?' 'Who is in charge?' 'Who is involved?' 'How much will it cost?'

Securing resources was revealed to be another challenge at the unfreezing stage. For example, as the involvement of various departments is needed, it needs to be made sure that capacities for the required tasks are available within these departments. In the sample companies this was not always the case, thus hampering the advancement of sustainability accounting. The concern was also expressed that people were less eager to get engaged if they did not see the long term establishment of such activities.

The need to develop the process in a way that benefits management is also important for the planning change sub-stage. This challenge was reported to have been dealt with by defining measurable stakeholder aims, creating a business case for their achievement (and continuously updating it), and monitoring assumptions, risks, dependencies, costs, return on investment, and cultural issues affecting the progress of the associated work. Providing personal counselling to alleviate any change-related fears was also mentioned as an important factor to consider when planning change to existing management accounting systems.

Preparing employees to be involved in sustainability information flows was identified as a critical factor. Several reasons for this criticality were provided by interviewees. First, employee support was considered indispensable, as they are often the only providers of certain information. For instance, specific detailed information on material consumption was not available in purchasing or bookkeeping, but had a major contribution towards saving resources, once it was provided by a production manager who was aware of the existence and/or relevance of such information. Furthermore, employee involvement was also reported to be essential as employees are familiar with the content behind the information they provide. An example for such a situation from the companies researched was the provision of information on major water consuming activities in production, with major saving potential being neglected as the workers operating the machines had not initially been involved in the water-saving project. Last but not least, it was considered important that all of the

people involved be informed of what the information they are going to provide will be used for. This was observed to have the positive effect of people being actively involved and contributing with their specific expertise rather than 'merely ticking the box'.

On the positive side, engaging people in sustainability information provision seems less challenging compared to other tasks. Interviewees in higher management positions expressed their feeling that it was in fact easier to motivate people to engage in sustainability accounting than in other projects. This was explained with sustainability issues not being considered in the sole interest of the company, but also as a contribution to society, future generations and the natural environment.

4.3 Challenges in moving

The next stage of Lewin's model – moving –was also observed to present a set of issues to be addressed. To start off, devising effective education, training and/or skill-upgrading schemes for the organisation were reported to have been successful in the companies where it was applied. People who were more familiar with the objectives of a company-wide sustainability accounting were reportedly less likely to exercise resistance by not engaging or engaging only as much as required, thereby not effectively using up potential for improvement.

The implementation of changes was also observed to be particularly critical in terms of securing available resources as the operational aspects of development have been documented to be very demanding. As an example of this challenge, two of the companies reported they were experiencing difficulties in computational power, once the volume of sustainability information had grown substantially. This observation reveals the priority of sustainability management in those companies, given the availability of computational power for other (non-sustainability related) activities in those companies.

The frequency of data and information generation was mentioned as a further important aspect to consider. On the one hand, regular data generation, collection and use were expected and/or reported to increase the efficiency of the process. On the other hand, as identified by Burritt, Hahn & Schaltegger (2002), limiting the scope of the system to such information rendered it unable to take into consideration other decision situations.

The implementation of changes also revealed that information flows need to be designed in view of potential providers, managers, and users of the thus generated information. In several of the researched companies, involving departments not only in the provision of information but also in its use was reported to foster improvement. The explanation for this observation was that these professionals also recognisably benefitted from the innovation, e.g. by meeting other (non-sustainability related) goals.

Aligning sustainability accounting objectives with the overall strategic direction of the organisation was also observed to facilitate countering employee resistance. For example, monitoring the implementation and fine-tuning plans and activities to fit the specific requirements of the project was recognised as an effective method of dealing with sustainability accounting related change, whenever discrepancies between the objectives of sustainability accounting and other (already established) activities and objectives occurred.

4.4 Challenges in refreezing

The final stage of the change process model, 'refreezing', aims to re-establish stability of the newly adopted sustainability accounting activities. The measures in this stage aim to take people and systems from a state of being in transition to a stable and productive state. In practice, refreezing can be a lengthy process as transitions seldom stop cleanly. As Table 2 reveals, only a few companies in the sample have addressed challenges in the refreezing stage.

In two companies, this stage was compared with a tug-of-war game, an exercise of relative power, because the process of engaging with sustainability accounting involves numerous and varied stakeholders. Building change into the formal systems and structures was seen as one way of exercising this power. By formalising related activities and integrating them in regular top management agenda, one manager reported the transition in his company had been successful.

Another technique for institutionalising sustainability accounting change identified was ensuring there is no way back, such as, for example hiring new staff, rather than delegating tasks to existing people. Interviewees reported that employing new personnel, lowered resistance to sustainability activities and raised the costs of cutting them back. However, as described in Section 2.3, evidence that such positions need to be spread throughout the company departments rather than being concentrated in a centralised structure was provided. Formal long-term commitments, e.g. to reduce carbon emissions, were another good justification to plan long term sustainability accounting activities and thus formalise them.

Several interviewees indicated that showing people that the new sustainability accounting practices lead to improved sustainability performance, signals their permanency. Showing people these practices were permanent was reported to motivate people to engage with related sustainability accounting activities.

Finally, building sustainability accounting practice into the social fabric was reported to facilitate the institutionalisation of change. Delivering regular internal and external reports, connecting departments, and

introducing titles such as 'head of carbon accounting' conveyed these activities are needed.

4.5 Perpetual change in sustainability accounting practice

Sustainability accounting practice is constantly evolving. In consequence, the unfreezing-change-refreezing process is iterative and tentative, as the next change is already in sight before the current one is finalised. As a result, in practice refreezing does not necessarily need to be achieved, thereby facilitating the next unfreezing.

An example of one drawback of refreezing is that, as awareness of environmental issues and their impact on corporate performance grew, companies established systems to capture, manage, and use related information. Later on, as awareness of certain social issues arose, such as child and forced labour, systems to report such information externally were developed. Thus, some of the companies researched have been through all stages of change in developing and implementing systems to deal with these issues.

5. Conclusion

This study draws on change management literature to identify stages of development with regards to sustainability accounting activities. The results of this exploratory study of adoption of sustainability accounting practice in 16 companies indicate that the majority of the companies, despite being selected to represent sustainability leaders, have only successfully been able to address "unfreezing" challenges. The study thus contributes to facilitating the adoption of sustainability accounting practices by identifying the need to pay attention to challenges such as involving senior management, communicating activities with employees, and securing resources.

With the increasing number of companies demonstrating sustainability engagement, sustainability leaders and followers exhibit different stages of progress with regard to adoption of sustainability accounting practices. Accordingly, each company may face different challenges for businesses in the next step to take in engaging with sustainability accounting for the aforementioned reasons. Against this background, important considerations in tackling this challenge are presented.

Interpretation of the results of the study is limited by the nature of the data collection, which is limited to companies in the UK and Germany. This provides opportunity to extend the research to companies operating in other companies. Also, the sample size restricts the generalizability of the results, which could be extended to cover additional industries. A third limitation arises from the decision made by the researches not to use voice recorders as a part of the data gathering process.

Further research is needed to identify additional obstacles systematically, and more importantly, to identify which of these obstacles play an important role in corporate practice. Based on the above results, subsequent research in the strategies and approaches to overcoming these challenges is needed. Also, subsequent research can identify further specific aspects that need to be considered in the change process as well as examples of good practice.

The results focus on sustainability leaders. This can help later adopters to overcome related problems and challenges. These conclusions provide a basis for managers to consider in adopting sustainability accounting practices.

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