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Forging cleaner production: the importance of academic-practitioner links for successful sustainability embedded carbon accounting

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ABSTRACT

Climate change related risks are likely to be addressed, where not already, by new governmental regulations, such as the EU Emission Trading System, carbon taxes, new building codes and energy efficiency standards. However, a gap exists between contemporary research into and knowledge of sustainability embedded carbon accounting and application of these techniques by practitioners. This research addresses the gap between 'knowledge generation' of sustainability embedded carbon accounting instruments (research) and sustainability embedded carbon accounting 'knowledge application' through use of tools (practice) by examining their relationship, the characteristics of the gap, investigating who can change the current relationship, what changes are feasible in the near and medium terms, and how these changes can best be introduced to forge ahead with cleaner production. Accountants in academe as 'knowledge generators' have been vociferous in their calls for accountants in practice to use their professional strengths as appliers of instruments to manage the impacts of business on the environment and the environment on cleaner production by business. For many, carbon is the face of sustainability and the accounting for carbon a method of participating in the sustainability agenda, yet prior research indicates that accountants in practice have been slow to engage with climate change and carbon issues being forced upon them by the environmental crisis. Empirical evidence from a survey of professional accounting firms in South Australia finds that many accounting tools related to sustainability developed by academics are ignored and need greater promotion, yet the results also suggest that, unexpectedly, practitioners apply some 'knowledge' tools promoted by researchers confirming that a gap between academics and practitioners exists. The paper concludes that increased collaboration between academic accounting and professional practice will be the only way for evolution of the relationship between research and practice of sustainability embedded carbon accounting in order to forge ahead towards cleaner production.

1. Introduction

As attention moves specifically towards concern for climate change and carbon emissions reduction in a low-carbon economy, both academics and professional practitioners are increasingly attentive because markets are being formed in carbon emissions, different instruments are emerging to control such emissions, and transactions are beginning to affect the financial bottom line of organizations. Accountancy is now being forced to recognise its important role and consider the competitive and public interest aspects of carbon and sustainability accounting issues (Brown et al., 2009; Burritt and Schaltegger, 2010; Schaltegger and Burritt, 2010). Accountants have a dual role to apply technical expertise to the production of business information whilst also providing independent and objective information for the public interest (APESB, 2008). Academic and practitioner accountants need to combine their knowledge generating and knowledge application expertise to move business and society towards sustainability in a carbon-constrained world and overcome the current unsustainability crisis with knowledge deficit at its roots (Ferrer-Balas et al., 2010); which raises the question of whether their symbiotic relationship is as effective as it can be, or whether there is a gap which constraints their joint contribution to helping resolve sustainability and carbon issues, and if a gap exists, how it might be overcome.

The possibility of a gap in sustainability embedded carbon accounting would be no surprise as such gaps are evident elsewhere in accounting. For example, the links between academic accounting and professional practice have been heavily criticized in the wake of management fraud in major corporations such as Worldcom (Enofe, 2010, p. 53) and the 2008 sub-prime banking

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crisis and ensuing credit crunch and global financial crisis (Unerman and O'Dwyer, 2010, p. 5). Unerman and O'Dwyer (2010), highlight two criticisms both of which are vital in any assessment of the relationship between sustainability embedded carbon accounting research and practice. First, is the suggestion that academic accounting research does not provide an effective critique or questioning of key assumptions and practices underpinning prevalent economic and business models. The critique is essentially one of under theorizing and a focus on the short term when long-term thinking is essential where sustainability issues are concerned. Second, curricula of business education establishments are criticized for failing to inculcate a sense of ethical responsibility among graduates. Beyond this, accounting graduates are unarmed with the skills to account for sustainability measures such as carbon accounting (Gray and Bebbington, 2000) as are most graduates of conventional professional programs (Boyle, 1999). In essence, at a time when accountancy has been complicit in the financial problems being faced by the world, the profession is once again under scrutiny and being challenged to make sure it is not complicit in the demise of society through global warming and the unsustainability of business activities upon which accounting provides a window.

There has been significant acknowledgement that carbon accounting will affect the practices of accountants (Bebbington and Larrinaga-Gonzalez, 2008; Lohmann, 2009; MacKenzie, 2009; Jones, 2010; Lovell and MacKenzie, 2011) which indicates there is a demand for relevant research so that accountants are able to undertake carbon accounting for the future of cleaner production. This is an area deserving urgent attention as it occupies the critical space between physical science and economics and legal, political and market incentives (Lohmann, 2009). However, there is literature suggesting a lack of engagement or very slow engagement of members of the accounting profession with sustainability embedded carbon accounting (MacKenzie, 2009; Jones, 2010; Lovell and MacKenzie, 2011) despite the growing pressures from society, clients and professional bodies (Gray and Bebbington, 2001; Lamberton, 2005; Clarke and O'Neill, 2006; Institute, 2008). Therefore, the aim of this paper is to investigate whether there is indeed a gap between the research and practice of sustainability embedded carbon accounting. It approaches this issue by highlighting knowledge generation by academics (also referred to as 'explicit' knowledge) (Grant, 1996, p. 111), and application by practitioners (also seen as 'tacit' knowledge) as well as what would be expected to be 'known' and 'applied' sets of carbon accounting instruments. The paper proceeds as follows: the problem of a gap between sustainability embedded carbon accounting research and practice is investigated through a brief exploration of existing research, followed by investigating what professional accounting practice is in this space. The relationship between knowledge generation of sustainability embedded carbon accounting and application of sustainability embedded carbon accounting instruments is then investigated through an empirical survey comparing and contrasting the perceptions of accountancy firm managers of the 'known' and 'applied' carbon accounting instruments at accounting practices in South Australia. The implications and challenges for academe and the profession are then explored with suggestions made about how changes in current relationships could best be introduced.

2. What is carbon accounting research?

In the western world, where society places high importance on the creation of knowledge, it is recognised that knowledge generation is largely attributable to university research (Godin and Gingras, 2000; Bond et al., 2010). Knowledge can be defined as meaningful information, such as facts, axioms or symbols that have meaning as distinguished from raw data or the informational organisation of that data (Kogut and Zander, 1992). There are two main types of knowledge that can be generated and applied: (1) tacit knowledge embedded in action and experience, is informal (Bond et al., 2010) and difficult to communicate (Polyani, 1983), and (2) explicit knowledge is codified and can be communicated as a formal system of understanding (Rynes et al., 2001). Academic knowledge generation, through research creation, communication and dissemination, has a focus on explicit knowledge and instruments and procedures. It has a universal character and is typified by the processes of research methods used in natural science (Nonaka and von Krogh, 2009). The generation of explicit knowledge instruments through research is essential to the understanding of sustainability problems and generating solutions to them (Baumgartner, 2011). Knowledge generation in the accounting context can be considered to be research and the generation of instruments that are useful to accounting research stakeholders, that is, practitioners and policy makers (AICPA and AAA, 1995) and society more broadly. For the purpose of accounting for carbon, the usefulness of explicit knowledge generated through research is crucial (Blattel-Mink and Kastenholz, 2005; Luks and Siebenhüner, 2007).

The notion of sustainability includes attempts to integrate aspects of social, environmental, and economic disciplines to face the challenges of climate change related costs, risks, benefits and opportunities. Hence, transdisciplinary academic research is at the core of movements towards sustainability (Scholz et al., 2006; Avelino and Rotmans, 2011), including carbon emissions reduction. The understanding that many disciplines will be required to work together for solutions to problems of sustainability (Shin et al., 2008) and with the accounting discipline's connection to business, academic research is examining the pressures on accounting practices to engage with sustainability accounting, particularly for carbon. According to Wickson et al. (2006) transdisciplinary research has three particular characteristics: to solve problems that are complex and multi-dimensional, to use methodologies that are appropriate to the problems under investigation integrated from different disciplines and, finally, collaboration between researchers drawn from different disciplines with stakeholders and the community (Brennan, 2004; Thompson-Klein, 2004) to provide a reality check on research processes and outcomes. Transdisciplinary research in sustainability implies a rethink of the foundations of sustainable economic performance of the clients of professional firms and the integration of strategic and operational decisions in relation to different types of capital – economic, social, natural (Unerman et al., 2007). Importantly, for sustainability, transdisciplinary approaches demand interaction between academics and practitioners so that both can be confronted with new ideas, insights and knowledge (Steiner and Posch, 2006). But perhaps the greatest area of impact for business and where transdisciplinary approaches to sustainability can make the most immediate difference is through contribution to carbon accounting for carbon cleaner production.

Accountants learning to account for carbon is leading to a new form of international dialogue linking business with sustainability. In the Australian context, an Emissions Trading Scheme (AETS) has been the subject of much policy debate (Australian Government, 2008) and the present lack of an accounting standard to prescribe how companies will account for and disclose their carbon emissions (Institute, 2008; Cook, 2009; MacKenzie, 2009; Lovell and MacKenzie, 2011) is creating uncertainty about how to account for short term financial implications resulting from purchased allowances, year-end matching of actual emissions with allowances, and recognition of subsequent assets and liabilities and