

Structuration Theory: Reflections on its Further Potential for Management Accounting Research

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1. Introduction

In recent reviews of 25 years of management accounting research using Giddens' work, Englund, Gerdin and Burns (2011) and Englund and Gerdin (2014) provide an insightful analysis of the use of structuration theory in accounting literature and directions for future research. They also observe that the community of accounting scholars has scarcely begun to exploit the theory's full potential. One of the threads to emerge from their work concerns the paucity of accounting researchers who engage critically with structuration theory. By this they mean that researchers are insufficiently reflexive in their treatment of the theory and do not explore or challenge its assumptions. They find exceptions in the work of Jack and Kholeif (2008) and Coad and Herbert (2009), which employ a recent development, termed *strong structuration theory*, introduced by the sociologist Rob Stones (2005). Englund and Gerdin (2011; 2014) address the work of Stones briefly in their papers but it is rather dismissed for being in conflict with their tenet of a 'flat and local ontology' of duality, which for them is the very foundation of Giddens' structuration theory.

We would like to provide a challenge to this dismissal because, in our experience, strong structuration theory has a significant amount to offer: addressing the limitations of structuration theory research in accounting to date and opening up the potential of this research for further exploitation. We believe that the ontological objections to strong structuration theory are not as divisive as is sometimes claimed. The strength of the theory lies in its potential for effective research design that underpins both the empirical work and its subsequent analysis, to achieve a more meaningful understanding of the role of management accounting practice.

Bryant and Jary (2011) claim that 'In ... *Structuration Theory* (2005), Stones sets out the most important development of structuration theory since Giddens himself turned to other matters'. He strengthens structuration theory by assimilating the criticisms and extensions of Giddens' work that have arisen since 1979, particularly in terms of ontology; and provides a framework that addresses the concerns of epistemology and methodology that were overlooked or ignored by Giddens himself. Strong structuration theory moves away from the relatively abstract ontology in which Giddens was interested; it explores empirical case studies of particular agents and structures, where individual agents are situated in a web of position-practice relations. Whilst the duality of structure remains its defining concept, Stones (2005) asserts that the duality is best understood through an analysis of a quadripartite framework of interrelated components, comprising external structures, internal structures, active agency and outcomes.

We take as our point of departure the foundations built by Jack and Kholeif (2007, 2008), who introduced the principles of strong structuration theory into management accounting research. In this paper we move forward with the aims of addressing a number of issues raised in the recent reviews by Englund et al. (2011) and Englund and Gerdin (2014). We initially explore concerns of ontology, especially the claim that a flat and local ontology is central to structuration theory. We then move on to argue that strong structuration theory has the potential to overcome a number of limitations of existing structuration research in management accounting. In particular, we focus on how strong structuration theory can meet the calls by Englund et al. (2011) and Englund and Gerdin (2014) to develop our understanding of the nature of agency, the diffusion of management accounting ideas and techniques, the status of accounting artefacts and to improve the research design of structuration studies in management accounting.

In pursuit of these aims, the remainder of the paper is structured as follows. In section two we discuss matters of ontology and in particular examine the view, strongly advocated by Englund et al. (2011), that structuration theory possesses a flat and local ontology. We explore some of the arguments presented that suggest several theoretical disadvantages of such an ontology, and consider why Stones (2005) argues that it is both possible and fruitful to combine the internal and external aspects of structures. Additionally, we suggest how Stones' (2005) concept of external structure can be reconciled with the work of Giddens.

In section three, we examine the observation by Englund et al. (2011) and Englund and Gerdin (2014) on the tendency of accounting researchers to emphasise analysis of the structures of signification, domination and legitimation, which has led to a relative failure to examine the role of agency. They observe that the structuration perspective ‘has the potential to provide novel insights into the larger literature by viewing the daily construction of “social reality and truth” by means of accounting information as a socio-political process where different groups of actors battle against others in order to establish and secure their legitimacy’ (Englund et al., 2011, p. 507). Consequently, in section 3 we demonstrate how the role of agency can be brought to the foreground in structuration studies through the interplay of the internal structures and actions described by Stones (2005), and how the concept of position-practice relations can be used to tease out how ‘different groups of actors battle against others’ in order to gain and maintain legitimacy.

Following our discussion of position-practice relations in the above context, in section 4 we discuss how this concept also contributes to our understanding of the manner in which accounting practices spread throughout organisational fields. Englund and Gerdin (2014, p. 177) observe: “few attempts have been made to explore the processes through which accounting practices spread away from their immediate contexts.” We examine how and why accounting ideas and techniques evident in one organisation become embedded elsewhere, and thereby result in the reproduction of institutionalised practices. We also explore how and why such ideas and techniques may be rejected or adapted, according to contextual circumstances.

In section 5 we address the comment by Englund et al. (2011) and Englund and Gerdin (2014) in respect of the failure of structuration researchers to adequately theorise and examine how accounting artefacts are involved in the production and reproduction of organisational life. They argue that there are largely unexplored articulations between accounting as structure and accounting as artefact. We demonstrate how strong structuration theory might usefully be extended so as to reflect the influence of accounting artefacts and their associated technologies on accounting practices. We argue that material artefacts represent position-practices, which have structuring properties, and form part of an agent’s external structures. Nevertheless, there are recursive relationships between structure, agency and material artefacts which play out through the quadripartite elements of strong structuration theory.

In section 6 we address the question of research design. Since the early work of Roberts and Scapens (1985) structuration theory has been regarded as a sensitising device for accounting research. Englund et al. (2011, p. 506) describe structuration theory as an ontological point of departure for ‘how to understand the reproduction and transformation of accounting practices more generally ... And as such, it neither seeks to, nor provides researchers with more detailed guidance as to how to study and theorize particular practices in different contextual settings.’ Similarly, Englund and Gerdin (2014, p. 177) observe that ‘accounting researchers have not sufficiently enough discussed how to apply ST [structuration theory] in empirical accounting research.’ In response, we show how strong structuration theory can be used to enhance research design and case analysis. Following section 6 we provide brief concluding remarks and some suggestions for future research.

2. Issues of ontology

In the previous section we briefly introduced Stones' (2005) development of the quadripartite model of structuration. Stones addresses and synthesises the critiques by Archer, Mouzelis, Cohen and others to amend recognised deficiencies in Giddens' theory. In this section we consider these amendments to the ontology of Giddens by Stones.

Giddens' (1984) theory of structuration characterises structure and agency as mutually constitutive (and hence inseparable) elements. Englund et al. (2011, p.584) encourage accounting researchers to use this ‘flat and local ontology’. In this sense, a local ontology means there is no such thing as ‘external’ social structures that exist beyond the human mind; whereas a flat ontology suggests that there are no levels of social structures (e.g. micro/macro structures). We follow the lead of Stones (2005), who suggests that the notion of flat and local ontology has several theoretical disadvantages. Foremost among these is a tendency toward what Archer (1988) terms the ‘fallacy of central conflation’: the tendency to see structure as so closely intertwined with every aspect of practice that ‘the constituent components cannot be examined separately ... In the absence of any degree of autonomy it becomes impossible to *examine* their *interplay*’ (pp. 77, 80; emphasis in the original). Archer (1995) argues that Giddens fails to recognise the need to examine the interrelationships between structure and agency. She suggests that if we are to examine the interrelationships

between structural conditioning and social interaction on the one hand, and the patterns of structural elaboration that emerge on the other, it is vital that we hold the categories of agency and structure apart for the purpose of analysis, i.e. to accept analytical dualism.

The ontological position of structuration theory advocated by Englund et al. (2011) has a flat view of human actors, reducing them to effects and denying the embodied, emotional nature of human existence (a criticism also levelled at actor-network theory). It holds that there are no pre-existing layers (such as 'structure' and 'agency') but only 'a single plane of endlessly entangled translations' (Harris, 2005, p.173). We find this flat ontology problematic. For example, Reed (1997) argues against flat ontologies and local ordering, and proposes that critical realism provides the ontological and analytical foundations of a better alternative. For Mouzelis (1995), attempts to eliminate the concept of micro and macro are simply absurd: society does consist of hierarchical arrangements and any attempt to integrate social theory and empirical study needs to acknowledge this. According to Bhaskar (1986), social structures are presupposed by social interactions; they are existentially interdependent but essentially distinct. Giddens' failure to fully address these aspects of his structuration theory is seen as one of its deficiencies by Bryant and Jary (2001, pp. 17-18), as the theory 'has relatively little to say about the formation and distribution of the unacknowledged and acknowledged conditions of action or about the differential knowledgeability of actors'.

Stones (2001) argues that there is more common ground between structuration theory and critical realism than is generally acknowledged, and that it is possible and fruitful to combine the internal and external aspects of structure. As a consequence Stones (2005) introduces his reinforced version of structuration theory and conceptualises the duality of structure as 'four analytically separate components' that he labels 'the quadripartite nature of structuration'. These four components are external structures as conditions of action (which may be either enabling or constraining), internal structures within the agent, active agency (in which agents draw, routinely or strategically, on their internal structures) and outcomes (in which both external and internal structures are either reproduced or changed). Sewell (1992) argues that the role of the knowledgeable agent in Giddens' structuration theory requires the existence of alternative multiple sets of structures. The agent's ability to bring about change represents the ability to choose between sets of structures (Kilfoyle and Richardson, 2011, p.193).

Stones (2005) divides social structures into external structures and internal structures. He argues that external structures are recognised through position-practice relations. Consequently, his position can be reconciled with that of Giddens (1984) because social positioning is concerned with the specification of an 'identity' within a network of social relations. Such a social identity carries with it a range of prerogatives and obligations. Any one individual may occupy several social positions. So, for example, an individual may be a chief executive, a mother, a member of a local choir and so on; all of which are positions carrying their own rights and responsibilities that are institutionalised in expectations about the social behaviour of the person occupying the position.

Moreover, we can begin to recognise here the fallacy of a flat ontology, because social positions may also be analysed at a collective level, where groups of individuals make up *social systems* (Giddens, 1984; Stones, 2005). Once again, these positions comprise institutionalised practices, which locate one group in a particular position relative to other groups. For example we have particular expectations regarding the prerogatives and obligations of an accounting department, an audit committee, a personnel department and so on. At a different, extra-organisational level, we expect particular behaviours from organisations such as banks, regulatory bodies and manufacturing enterprises.

Consequently, our reconciliation of the work of Stones and Giddens arises out of recognition that (internal) structures are virtual and exist only in memory traces, whereas key aspects of individual *social positions* and collective *social systems* are empirically observable. These systems are sustained by institutionalised practices that link agents across time and space in position-practice relations, which constitute what Stones (2005) labels as external structures. During moments of structuration, agents draw upon their (virtual) internal structures, which represent their understanding of (concrete) external structure, as a basis for active agency. It is to the issue of agency we turn in the next section.

3. On the role of agency

In their reviews, Englund et al. (2011) and Englund and Gerdin (2014) have commented that accounting and control studies have tended to emphasise an analysis of structures of signification, domination and legitimation to the detriment of consideration of the role of

agency. This is perhaps unsurprising given the relatively abstract writing of Giddens, who was primarily concerned with the analysis of politics and historical sociology over broad sweeps of time.

Giddens (1984, p. 375, emphasis added) describes his own dominant approach as ‘institutional analysis’, which he defines as, ‘Social analysis which *places in suspension the skill and awareness of actors*, treating institutions as chronically reproduced rules and resources.’ Stones (2005, p. 43) argues that in placing an emphasis on institutional analysis, Giddens adopts a form of methodological bracketing that makes it ‘impossible to even begin to address the duality of structure from within it’, and Giddens never explicitly recognises this. Stones argues that institutional analysis can still be useful when looking at broad (macro) sweeps of history, or at global interconnections, or at analogous fields situated at a meso-level. It allows one to map out systemic relations at these levels, whilst self-consciously bracketing out contextual detail including the ways in which social actors understand and interpret their situations. He has given the label ‘Observer’s External Analysis’ to this kind of perspective (Stones, 2012, p.11), and it is the approach taken by Giddens when he discusses structures of signification, domination and legitimation. In terms of Stones’ idea of a scale of ontological abstraction (ranging from ground-level, ontic, micro studies of individuals in society through to high-level abstract concepts such as war and governance), the concepts invoked in such summaries are pitched at a high level of abstraction, with no consideration of the skills and awareness of actors along with relatively little attention to substantive details and specificities, or to the ways in which different elements of the situation are integrated with each other (Stones, 2005, pp.76–81). Following this reasoning, to produce strong structuration studies requires that greater attention be paid to the strategic conduct of agents in situ, which concentrates on ‘how actors reflexively monitor what they do; how actors draw upon rules and resources in the constitution of interaction’ (Giddens, 1984, p. 373). Such studies demand a sophisticated account of motivation, which avoids impoverished descriptions of agents’ knowledgeability, and require an interpretation of the dialectic of control where agents are studied in relation to other agents and institutionalised practices (Stones, 2005).

In strong structuration theory, active agency arises from the interplay of external structures, internal structures, action and outcomes. External structures are largely understood through position-practice relations, which is the network of situated social identities and resources

that constitute reciprocal institutionalised practices and asymmetric power relations. In structuration the agent draws upon their internal structures, which represent conjuncturally specific knowledge of the strategic terrain and how one is expected to act within it, based upon a combination of the agent's value dispositions and their hermeneutic understanding of external structures, as represented by position-practice relations (Stones, 2005). Increasingly, Giddens' view of social theory became influenced by work in time-geography, to the extent that by the publication of Giddens (1984) he proposed that issues regarding the time-space constitution of social systems stand at the very heart of structuration theory (Cohen, 1989). For him, all social interaction 'depends upon the "positioning" of individuals in the time-space contexts of activity' (Giddens, 1984, p. 89). Hence, all individuals are situated both in time-space and relationally. Whilst '(s)ocial systems only exist in and through the continuity of social practices ... their structural properties are best characterised as "position-practice" relations' (Giddens, 1984, p. 83).

In the management accounting literature, Coad and Herbert (2009) suggest that the concept of position-practice relations can be best understood by setting it within a temporal context. This implies a particular concept of agency where agents live simultaneously in the past, present and future. From the perspective of the present time, agents will look to the past to review position-practices and the repertoires of other agents, and then project hypothetical pathways forward as a basis for adjusting their actions to the exigencies of emerging structures. However, it is here that the importance of power needs to be emphasised. Agents are empowered to act with and against others by structures: they have more or less knowledge of position-practices and some access to human and non-human resources, which gives them the capacity to reinterpret position-practices in ways other than those currently constituted, and to mobilise resources in a purposeful manner. Consequently, whilst we agree with Giddens (1984) that any notion of structure without concern for asymmetries of power is fundamentally incomplete, it is important not to remain at a high level of abstraction but, rather, to analyse these asymmetries in situ. Agency remains profoundly social in manner; the reinterpretation of position-practices, its projection as a theory of action and the mobilisation of resources that constitutes agency always necessitate interaction with particular others in specific contexts. That is, agency requires acts of communication (enabled and constrained by structures of signification), the exercise of power (domination) and the application of normative approval or sanctions (legitimation); thus obliging the agent-in-focus to coordinate his or her actions with and against concrete others, and to monitor the effects on

emerging position-practices as intended or unintended consequences. In this manner, internal structures offer agents interpretive schemes, resources and norms for fashioning a course through particular social worlds whilst simultaneously providing the basis for recursive interpretation of intended and unintended consequences of action.

4. The diffusion of accounting ideas and techniques

In addition to more clearly addressing the issue of active agency in the duality of structure, the concept of position-practice relations provides an analytical vehicle to deal with another of the limitations identified by Englund et al. (2011) and Englund and Gerdin (2014), of current structuration studies. They argue that too few structuration studies provide insights into 'how and why accounting ideas and techniques may spread within organisational fields ... That is, through threading outwards in time and space, accounting researchers could specifically analyse how practices followed in a particular organisation are/become embedded in wider contexts, and thereby contribute to the reproduction of institutionalised practices' (Englund et al., 2011, p. 508).

Giddens (1979; 1984) argues that agents are both knowledgeable and reflexive, and identifies three modalities (interpretive schemes, facilities and norms) that represent rules and resources that agents draw upon to perform purposeful action. One of the key sources of knowledge for this action resides in organisational practices, which represent a store of background capabilities upon which actors consciously or unconsciously draw as part of everyday life. They may be embedded in practitioner, academic and consulting tools such as budgeting, the balanced scorecard, and value-based management. Practices may also be organisation-specific, embodied in local routines, operating procedures and cultures (Whittington, 2006).

But how do management accounting practices become established, institutionalised and normal bases of knowledge for organisational activity? Furthermore, how do they diffuse throughout organisational fields? Two sets of explanations to these questions have tended to dominate the literature. The first has its origins in economic theory and builds on the rational-actor model. It suggests that new practices will be adopted if they are in the economic interests of organisations (Rogers, 1995). The second has its foundations in institutional theory, and posits the view that organisations sharing the same environment will come to

adopt similar practices through processes of imitation (Sturdy, 2004). Most prior studies of diffusion have tended to group on one side or the other, with rational approaches emphasising a technical imperative for adoption, and institutional approaches emphasising social imperatives. However, structuration theory encourages us to move away from such a dichotomy, so as to recognise that *both* social and technical imperatives may be at work.

From the perspective of strong structuration theory we can envisage organisational fields as external structures comprising position-practice relations. In order to examine the diffusion of management accounting practices in position-practice relations, it is helpful to make use of four concepts: prototype versions of practices, the degree of organisational fit, the adaptation of practices and evidence of institutional learning (see also Ansari et al. 2010).

Prototype versions are early forms of management accounting practices that may subsequently be copied or modified. Examples include the early work of Kaplan and Norton (1992; 1996) on the balanced scorecard and descriptions of value-based management found in the work of Stewart (1991; 1994) and Stern et al. (1996). Such prototype practices contain structuring properties. That is to say that they embody resources, interpretive schemes and norms of behaviour that both enable and constrain the exercise of power, acts of communication and the application of sanctions.

The concept of fit is concerned with the degree to which the structuring properties of a particular practice are consistent with the conjuncturally specific internal structures of particular incumbents in a field of position-practice relations. To ascertain this degree the researchers ask questions, such as whether the resource and technical implications of the practice are consistent with the economic and political interests of incumbents, and whether there is consistency between the norms and interpretive schemes embodied in the practice and those of the incumbents in position-practices. If there is high correspondence between the structuring properties of the prototype practice and the interests of sufficient incumbents, we should expect a number of agents to emerge as advocates and pioneers for the adoption of the practice. Of course, even in these circumstances, we should not expect the adoption of the practice to be straightforward and linear in nature. Rather, we should expect advocacy, the development of alliances and elements of resistance, to produce a complex process of convergent, parallel and divergent activities and outcomes (Ansari et al. 2010). Moreover, where there are contradictions between the structuring properties of a prototype practice and

the conjuncturely specific internal structures of incumbents, three responses can be envisaged. (1) At the extreme, the incompatibility may be so great that there is outright rejection of the prototype practice because none of the incumbents is willing to champion its adoption. Less extreme incompatibility is likely to result in (2) the adoption of adapted versions of the prototype practice, which is brought into closer alignment with the internal structures of incumbents (Lounsbury, 2008, Ansari et al., 2010); and/or (3) learning on the part of incumbents, where their internal structures are modified and brought into closer alignment with the structuring properties of the (modified) prototype practice.

In respect of the adaptation of prototype versions, we agree with recent work by Lounsbury (2008) and Ansari et al. (2010), who argue that too little attention has been paid to it in prior research, the majority of which has involved quantitative studies which assume that unmodified versions of practices diffuse through organisational fields. In contrast, they suggest that adaptation is normal and should be placed at the heart of diffusion studies, and argue that more attention needs to be focussed on the ways in which adopters actively shape the diffusing practice to ensure a good fit with the organisational context.

However, we would go further than Lounsbury (2008) and Ansari et al. (2010), by arguing that learning on the part of incumbents in position-practice relations is also a normal part of the diffusion process. In this respect, the cognitive dissonance created by the contradictions arising out of the lack of fit between the structuring properties of a practice and the conjuncturely specific internal structures of incumbents may, at least in part, be reconciled by changes in their internal structures, which is a very basic form of learning. Only by focusing on *both* adaptation of the prototype versions *and* learning on the part of incumbents, do we begin to acknowledge the duality of the structuring properties of the prototype and the emerging practices at an organisational level.

An illustration of diffusion processes can be found in the work of Coad and Herbert (2009). Their work used strong structuration theory as a framework to analyse a longitudinal case study of the adoption of management accounting practices in the UK electricity power-generating industry. At an organisational field level of analysis, management accounting practices could be observed diffusing throughout many newly privatised utility companies during the 1990s. Nevertheless, by focusing at the level of an individual electricity-generating station, the researchers witnessed the relatively complex processes of misfit, advocacy,

resistance, learning and adaptation of practices over time. Various position-practice relations were identified, and particular relevance was found in the reciprocal relationships between the management accounting department and the engineers at the power station. At an early stage in the study, there were contradictions between the engineers and the accountants concerning the normative expectations of the role of management accounting practices. As might be expected there were high levels of fit between the structuring properties of the management accounting practices and the interests of the management accountants, but the new practices were not in the interests of the engineers. A dialectic of control was evident, because the engineers had sufficient power to resist external expectations for their involvement in contributing to the production of accurate management accounting information, and made use of that power for control and decision-making purposes. Furthermore, they maintained their own local control systems, which they regarded as being more relevant and accurate than the official company systems; this gave them an edge in any power struggle with senior management and management accountants, whose figures they could easily discredit. However, over a five-year period the advocacy of the management accountants, combined with adaptations resulting in improvements in the integrity and relevance of the official systems, came to mitigate the 'them versus us' mentality between the engineers and the accountants, such that the engineers became skilled users of the official management accounting practices and welcomed the intervention and advice of the accountants. Somewhat ironically these outcomes reduced the need for specialist management accountants, as the engineers had themselves learned the effective use of management accounting practices.

The study by Coad and Herbert (2009) provides an interesting comparison with the work of Scapens and Roberts (1993), who observed similar contradictions between the rationalities and understandings of production managers and those of the financial managers who were attempting to introduce a new production control system. Whilst Scapens and Roberts (1993) eventually came to the conclusion that there were different mind-sets affecting the perspectives of both groups of managers in relation to the proposed accounting innovation; much of their early analysis focused on an apparently irrational and emotional resistance to change on the parts of the production managers. We suspect that had Scapens and Roberts (1993) been aware of strong structuration theory during the course of their case study, it would have sensitised them much earlier to the contradictions between the position-practices

of the production managers and those of the financial managers, and the consequently multiple rationalities involved.

5. A comment on material artefacts

The concept of position-practice relations can also be used to incorporate material artefacts in structuration studies. Englund and Gerdin (2014, p. 176) have commented that there are 'highly interesting, yet largely unexplored dynamics between accounting as structure and artefact'. Here, the term "accounting artefact" refers to the embodiment of accounting technologies in formal accounting reports, rules presented in procedures manuals, computerised systems and so forth.

Whilst the relationships between material artefacts and structures have rarely been examined in a comprehensive or systematic manner in accounting literature, it has been of central concern in the literature of information systems. In that literature, research has tended to oscillate between those privileging technological determinism, to those favouring human agency. More recently it has moved onto broader sociological approaches such as structuration theory and actor-network theory (Orlikowski, 2005). However, structural treatments have been criticised for favouring human agency whilst paying insufficient attention to technological agency; correspondingly, it has been argued that actor-network studies have gone too far in their assumptions of equivalency between human and technological agency, and consequently have failed adequately to account for the differences between humans and material artefacts (Rose et al., 2005).

Greenhalgh and Stones (2010) recognise the failure of structuration theory to adequately theorise the interplay between technologies and structures and propose that we should conceptualise technologies and human actors as having position-practices in the same network. We regard this as a very promising direction for the development of strong structuration theory. Although, we are not altogether convinced that it is necessary to draw on actor-network theory, as Greenhalgh and Stones (2010) have done, in order to make the case. Rather, we believe that strong structuration theory already possesses sufficiently rich analytical elements in it to do so.

From the perspective of strong structuration theory, accounting artefacts and their associated technologies represent position-practices that form part of an agent's external structures. Consequently, we can conceptualise both technologies and human actors as being part of the same network of position-practice relations, in which there is a "constitutive intertwining and reciprocal interdefinition of human and material agency" (Pickering, 1995, p. 26). From this perspective, neither material nor human agency is privileged, both exert different influences, and both are temporally emergent from ongoing practice (Orlikowski, 2005). According to Greenhalgh and Stones (2010, p. 1290), this network "evolves over time and is influenced by more macro historical and social forces. These forces – institutional, political, economic and technological – exist more or less independently of the agents who are in-focus within a particular study, and they contribute to the external conditions of action... In addition, social structures are embodied and reproduced by both agents and technologies. Human agents use technologies in particular ways, thereby bringing into being a technology-in-use through which a particular context and social meaning is constituted." In this way, accounting artefacts have structuring properties which both enable work practices but also potentially constrain them.

Nevertheless, we should not lose sight of the recursive relationships between structure, agency and material artefact which plays out through the quadripartite elements of strong structuration theory. There are complex interactions between internal structures (the capabilities of knowledgeable actors) and material artefacts. Whilst the artefacts have an external, actual basis, they also have an internal hermeneutic basis; and the resulting internal structures contain within them *perceptions* of the range of authoritative and allocative power resources, the norms of behaviour and interpretative schemes implied by the structuring properties of accounting artefacts. It also follows that accounting artefacts only become resources, norms and interpretive schemes (the modalities of structuration) when repeatedly drawn upon in action. Thus, it is the "accounting and control in action", rather than their embodied principles that constitute internal structures; and the structuring properties of accounting artefacts may be positively or negatively instantiated when people choose or refuse to use the technology, or modify it in use. Thus, the recursive relationship between structure, agency and technology evolves continuously (Greenhalgh and Stones, 2010).

In accounting research, the role of computers and information technology in producing artefacts is relatively unexplored. Granlund (2011) points out that 'accounting research

largely ignores and is indeed ignorant' about information technology in general. Decision-making in organisations takes place with the use of computer generated artefacts and the lines between machine, actor and artefact can be very blurred (Jack, 2013).

Orlikowski offers 'technology-in-practice' as a way of 'avoiding the erroneous tendency to see technology as embodying (internal) structures'. Rather, structures emerge through 'recurrent interaction with the technology in hand', which in turn shape the use of material artefacts. Should recurrent interaction with technology be piecemeal, disrupted or simply available in other forms, and if the material artefacts required (for instance, reports using comparative analysis) can be obtained in multiple and equally usable ways (regardless of the standard to which they all perform), then logically any one piece of software stands less chance of being institutionalised (Jones, Orłowski and Munir, 2004). This offers us another way into investigations of accounting practice embedded in information systems, and to explore position practices of business partners and the artefacts through which they convey communications about past, present and future performance by clearly delineating the agent-in-focus in terms of position, practices, machines and artefacts.

6. Research design in structuration theory

Bryant and Jary (2011) argue that structuration theory would be still more effective if it were made easier for researchers to move from ontology in general to particular substantive inquiries. Although Giddens discusses empirical work, researchers may be left 'floundering' (Ibid.). For these commentators, who are the most deeply involved with the various developments of structuration theory, one of the strengths of Stones' work is that it addresses the question of how to conduct empirical studies using structuration theory. In particular, Stones looks at how to design data collection and analysis using structuration theory rather than applying the theory to data that has already been collected, although he also demonstrates that the theory can be applied post hoc. Giddens himself used the term 'sensitising device' (1984) for the theory used in empirical analysis but the danger here is that the device can be used to look for evidence in the data that simply is not there.

The question of how social theory and empirical work should be melded together is a problem for sociology and other disciplines as well as in accounting. For the social

philosopher Patrick Baert, the 'representational model of social research leads to intellectual ossification because empirical research is no longer being employed to challenge the theoretical framework that is being used. Instead, research is undertaken to demonstrate yet another applicability of that framework' (Baert and da Silva, 2010, p. 291). Mouzelis has written a number of works addressing the issue of how social theory should be used in empirical research. He distinguishes between theory as a tool/resource and theory as an end product/topic (1995, p. 2). Most representational empirical studies use social theory as conceptual frameworks providing tools and one task is to assess these conceptual tools by showing whether they are useful in empirical research 'negatively, by eliminating confusion; positively, by raising interesting, empirically-oriented issues' (Ibid: p. 151). Given that in management accounting, we are largely engaged in representational case-study work, strong structuration theory offers one way in which that work can be made more robust.

Stones provides three main tools for empirical research: the ontological sliding scale, the quadripartite model of structuration and the concept of the agent-in-focus (Stones, 2005; Jack and Kholeif, 2007). In addition, Stones elucidates the concepts of agent's context analysis and agent's conduct analysis. He says, 'The bracketings of agent's conduct and agent's context analysis provide means whereby particular questions, or objects of investigation, and the more or less discrete ontological insights of structuration are brought together and considered in relation to questions of empirical evidence.' Parker (2006), although an opponent of structuration theory from a critical realist standpoint, does commend Stones for getting back to the 'how, where, why, when, what and who' of social research. The ideas of conduct and context analysis should form a basis for deeper exploration of social situations and their implications, which has only begun to be realised.

We have observed how Stones' (2005) quadripartite framework, the concept of position-practice relations and research at different levels of the ontological scale, has already begun to contribute to our understanding of management accounting practice. As a first step, researchers need to locate their agents-in-focus as being somewhere on a sliding scale from ontic, micro-level, meso or macro, and use this to identify the internal and external structures from the point of view of the agent-in-focus. As we have previously noted, the use of these concepts by Coad and Herbert (2009) highlighted contradictions between the management accounting practices of engineers and those of accountants, and how the active agency of management accountants led to much closer collaboration and shared practices between the

two groups. Similarly Jack and Kholeif (2008) used strong structuration to examine the introduction of enterprise resource planning and a contest to limit the power of management accountants. More recently, Coad and Glyptis (2014) adopted different levels of analysis to demonstrate how asymmetries of power in position-practice relations affected the control practices of a joint-venture, which were significantly influenced by the demands of major oil companies and regulatory bodies. Nevertheless, active agency by one of the joint venture partners over several years led to a change in industry norms, as their control practices were adopted by other organisations. All three of these studies demonstrate the advantages of moving away from the perspective of a flat and local ontology, so as to consider multiple realities throughout a network of position-practice relationships at different ontological levels.

What Stones advocates is the design of research data collection and/or analysis based on strong structuration theory using a series of recurrent steps (2005, pp. 123–124). After locating the agent(s)-in-focus, the researcher should look first at agent's conduct by identifying general dispositional frames of meaning and then at conjuncturally specific internal structures from the viewpoint of that agent. Second, the researcher should look at the agent's context including perceived external structures, position-practice relations, authorities and material resources. This leads to a reflection on the possibilities for action available, and the outcomes which may or may not reproduce structures.

Although there have not yet been many published papers using this approach it is being applied in doctoral theses with promising results. Feeney (2013) had begun collecting data before becoming aware of the work of Stones but, in the early stages of analysis, was able to see that her approach was compatible with the quadripartite framework. This is because she had collected data looking both at the agents' perceptions of their internal and external structures, their conduct and the outcomes of their conduct. The setting was a group of companies and the solution to analysing the data was to tell the story as six case studies using six individuals as separate agents-in-focus. From there, she was able to analyse agent's conduct in new product development by examining their general dispositions and conjuncturally specific internal structures, that is, 'how the agent perceives her immediate external structural terrain from the perspective of her own projects, whether in terms of helplessness or empowerment' (Stones, 2005, p.124).

The findings demonstrate how managers in different circumstances throughout the case group use accounting information in different ways, and often differ in their perceptions of what constitutes accounting information. Feeney concludes that 'rules and routines cannot be examined in isolation from the human beings who draw on them. A manager's use of accounting information is guided as much by his phenomenological perspective as it is by the institutionalised structures he encounters' (2013, p. ix). Finally, following the recurrent steps, she could attempt to identify the possibilities and constraints facing the agent-in-focus. The opportunities to 'act differently' or the reasons for inertia emerge from the analysis. For us, this gives a much more dynamic picture of the processes of structuration and opens up many more possibilities to explore questions of why change is so difficult to achieve and new practices so difficult to embed.

Makrygiannakis (2013) incorporates elements of strong structuration theory into his data collection, through questions designed to elicit knowledge about agents' conduct and context, by using a study of budgeting practices in hotels in Greece following the economic crisis in that country. The semi-structured questions were constructed to obtain knowledge about actions and structure, including matters of fact as well as matters of perception across a number of points in time. With the information from the semi-structured questionnaire, he was able to use NVivo software to analyse the interview data in order to investigate changes in budgetary practice after the financial crisis in Greece in 2008. In addition, the analysis brought questions to the surface about whether or not duality of structure was always evident. At points, actors appeared to stand back from the processes in place and consider their position in a more detached way. Makrygiannakis challenges Giddens' theory by expanding on whether some concept of dualism is needed in certain situational analyses alongside duality: following Mouzelis and Archer he questions whether in some instances it is appropriate for researchers to stand back and so allow dualism at points in time.

Stones (2005, p. 127) acknowledges that 'structuration studies will typically lean toward the deft and careful brushstrokes of an artist intent on capturing the details of her subject'. Englund et al (2011, p. 510) conclude by indicating that they would like to see 'a stronger focus on day-to-day structuration processes' including the integration of artefacts, which we have addressed above, and they seem to concur with Stones' view here. However, Stones (2005) explores the idea that 'broader brush strokes' and larger-scale projects should also be amenable to strong structuration where detail may be lost as wider expanses of time and

space are covered. As Ritzer (2007) and other writers on social theories show, structuration theory is an integrated theory of society. It is at the same time both a grand theory and a theory of everyday life. For example, Mouzelis (1995) makes a strong case for the unavoidability of hierarchies in society, which he sees as negating any 'flat' methodology.

7. Concluding remarks and future research

In this paper we have argued that strong structuration theory has the potential to overcome many of the limitations of structuration studies currently evident in the management accounting literature. Stones' (2005) quadripartite framework represents an ontologically distinct, but nevertheless reconcilable, version of structuration theory compared with the work of Giddens. By means of analytically separating external structures, as represented by institutionalised position-practice relations, Stones (2005) gives greater prominence to spatial relationships and how 'different groups of actors battle against others'. By means of identifying a sliding scale of ontological abstraction, Stones (2005) highlights the potential to use structuration theory in studies ranging from relatively abstract levels over broads sweeps of history, as favoured by Giddens, to a focus on one or more individual agents in situ at the other end of the spectrum.

Stones (2005) also strengthens structuration theory by paying explicit and systematic attention to epistemology and methodology. Whilst the early studies (e.g. Jack and Kholeif, 2007, 2008; Coad and Herbert, 2009) found it useful to use the quadripartite framework for ex post analysis of case evidence, more recent research has much more closely followed the methodological prescriptions of Stones (2005) for their research design, as well as subsequent analysis (e.g. Feeney, 2013; Makrygiannakis, 2013; Coad and Glyptis, 2014). Furthermore, there appears scope for developing our understanding of how accounting artefacts are involved in the reproduction of organisational life, especially if we follow the lead of Greenhalgh and Stones (2010) who argue that technologies and material artefacts are aspects of external structures which both enable and constrain action and represent constituent elements of position-practice relations.

More generally, in this paper we have suggested there are plentiful opportunities for strong structuration theory to contribute to management accounting research. In it, we have placed emphasis on the ontology, epistemology and methodology of Stones (2005). However, we are aware that we may be falling into the trap of what Mouzelis (1995) describes as a phase in the development of a social theory where researchers become engaged in what he calls amateur debates about methodology and philosophy, and get distracted from the work of empirical study or building into the theory more about our understanding of society. So we feel it important to emphasise that we have produced this paper to encourage future empirical work. Whilst we will not attempt the impossible task of providing comprehensive guidance for future research, we will offer three examples where strong structuration theory has obvious potential.

Firstly, concepts such as position-practice relations, structural contradictions and the interplay of external structures, internal structures, actions and outcomes, provide means to explore the contributions made by management accounting systems in stimulating aspects of creativity and innovation in organisations. Stark (2010) argues that creativity is often the result of tensions created through structural folds, where people from different institutional backgrounds are brought into close proximity and exposed to each other's views of the world. The contradictions create "organised dissonance" amongst the participants, which may be resolved by quite radical forms of learning, resulting in new product and new process developments. Management accounting systems are sometimes deliberately designed to produce structural folds, where responsibilities exceed authority, so as to encourage informal interaction between members of different organisational units. Dent (1987) provides an early case example from a computer systems company, in which the profitability attributable to the development departments relies in part on the performance of the manufacturing units and the successes of the regional salesforces. In this way, the responsibility accounting system creates structural folds, organised dissonance, tensions between the departments, informal interaction to resolve the tensions, and creativity in the design, production and marketing of the computer systems. Strong structuration theory is well-suited to examine all of these processes.

A second opportunity for empirical research arises from the intended and unintended consequences of the adoption of management accounting practices in less developed

countries. Here, opportunities to use strong structuration theory to explore the diffusion of accounting ideas and the influence of multiple levels of institutionalised practices, reflected in a sliding scale ontology of macro-, meso- and micro-levels of analysis, come to the foreground. It is frequently the case that loan providers to less developed countries, such as the International Monetary Fund and the World Bank, insist upon the privatisation of state-owned enterprises and the introduction of western-style control systems as conditions of their loans. The intended consequences are economic efficiencies and increased transparency of the management of the privatised companies. Unfortunately, these outcomes may not be realised, often because the privatisations and the control systems fail to recognise long-institutionalised traditions and practices amongst the local communities. In accounting literature, the intentions and outcomes have usually been examined using agency theories or labour process theories (see Hopper et al. 2009 for a useful summary). There is a clear opportunity here to avoid the context-less, history-less, technical-efficiency focus of agency theories, and the structural determinism of labour process theories, by means of approaching research in this area using strong structuration theory.

Our third example of future research makes use of the interplay of structures, artefacts and agents to examine the changing role of management accountants. By focusing on individual management accountants in webs of position-practice relations that involve other human actors and accounting artefacts, we can begin to build a composite picture of how they and other participants in the web see the development (or decline) of their roles. Such information will not only be of interest to practicing management accountants, but also has implications for professional bodies and educational institutions; especially as the position-practices and therefore the status of management accountants is increasingly challenged by other professional groups such as information system specialists and hybrid general managers. As Jack and Kholeif (2008, p. 43) put it, researchers can “explore the difficulties of establishing sustainable structures where there are conflicting dispositions and conjuncturally specific understandings of the roles of different groups of actors...and specifically here the role of management accountants.”

In the preceding paragraphs, we have provided just three examples of potential avenues for research. Overall we envisage many opportunities for strong structuration theory both in the design and the analysis of future case studies of management accounting practice.

Nevertheless, we agree with the observations made by Englund et al. (2011) and Englund and

Gerdin (2014) that there has been a relative reluctance on the part of the community of accounting academics to engage critically with structuration theory, and that most studies in the accounting literature focus primarily on structural analysis to the detriment of considerations of agency. There is a need for accounting researchers to develop their familiarity with the work of the large number of structuration theorists other than Giddens who have continued to debate and refine the theory, long after Giddens moved away from its further development. The full potential of structuration theory research in management accounting will only ever be realised by much greater involvement by the accounting research community in such debates, and we hope this paper has made a contribution to this cause.

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