The paradox of embedded agency from a strong structuration perspective: An illustrative case study of resistance to change in budgeting processes

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Abstract

Purpose
This paper uses Stones' Strong Structuration Theory (SST) that combines Giddens' duality and Archer's analytical dualism to deal with the paradox of embedded agency, focussing on resistance, in the budgeting literature. It also applies this framework to an illustrative case study that examines a failed attempt to implement performance based budgeting (PBB) in the Egyptian Sales Tax Department (ESTD).

Design/methodology/approach

We have used SST as an analytical framework. Longitudinal case study data were collected from interviews, observations, discussions and documentary analysis, and from publicly available reports and other media issued by the World Bank.

Findings

The SST framework identifies the circumstances in which middle managers as embedded agency have limited possibilities to change their dispositions to act and identify opportunities for emancipation in the wider social context in which they are embedded. The official explanation for the failure to implement PBB in Egypt was obstruction by middle managers. The findings of this study provide an alternative explanation to that published by the World Bank for the failure to institutionalise PBB in Egypt. It was found that the middle managers were the real supporters of PBB. Other parties and existing laws and regulations contributed to the failure of PBB.

Research limitations/implications

As a practical implication of the study, the analysis presented here offers an alternative interpretation of the failure of the Egyptian project for monitoring and evaluation to that published by the World Bank. This case and similar cases may enhance our understanding of how and when monitoring and evaluation technologies should be introduced at the global level, in order to manage conflicts of interest between agencies and beneficiaries.

Originality/value

This paper contributes to the extant management accounting literature on the use of structuration theory in addressing the paradox of embedded agency in making or resisting structural change. It uses SST to integrate Giddens' structuration theory (ST) with critical realist theory, incorporating duality and dualism in a stronger model of structuration. The SST framework offers a means of analysing case studies that result from interactions and conjunctures between different groups of actors, at different ontological levels. The paper also examines the issue of embedded agency in budgeting research using an illustrative case study from a developing country, Egypt.

Keywords – Embedded agency, strong structuration theory, performance-based budgeting, resistance, Egypt.

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1. Introduction

In their recent review of agency and structure in budgeting research, Kilfoyle and Richardson (2011) argue that agent-centered and structure-centered perspectives has been used as mutually exclusive alternatives. However, the agency or institutional approaches alone are not able to explain budgeting phenomena, especially the paradox of embedded agency in which structurally embedded agents are able to introduce structural change. To escape the dichotomy between agency/structure perspectives, Giddens' ST has been introduced into the management accounting research by Macintosh and Scapens (1990) to understand change in budgeting processes (e.g. Conrad, 2005; Edwards et al., 2005; Ezzamel et al., 2007; Gurd, 2008; Kilfoyle and Richardson, 2011). By treating structure and agency as being mutually constitutive, it captures the dynamic reality of budgeting processes. Based on Giddens' flat and local duality perspective, Englund and Gerdin (2011; 2018) suggest a framework for analysing and unpacking the paradox of embedded agency in budgeting research.

Archer (1982; 1995) has criticised Giddens' ST for what she has dubbed 'central conflation' of structure and agent. Giddens' emphasis on duality, whereby structures exist as memory traces and in the instantiation of practices, means that it is impossible to separate agency from structure and equally impossible to speak of the effect of one on the other (Stones, 2005). Ashraf and Uddin (2015) argue that Giddens does not acknowledge a temporal dimension in the relationship between social structure and agency. Archer's solution to combining structure and agency is to apply 'analytical dualism' that allows one to investigate the interplay between structural conditioning, social interaction and its immediate outcome, and structural elaboration (Archer, 1995). The concept of analytical dualism, in which structure and action work on different time intervals, has been employed by Barley and Tolbert (1997) and later by Burns and Scapens (2000).

Building on the above critics as well as other social theorists' critics, Stones (2005) introduced a reinforced version of structuration theory that combines Giddens' duality and Archer's analytical dualism in one theoretical framework, SST. Ashraf and Uddin (2015: 492) argue that 'Stones incorporates both duality and dualism in his "stronger" model of structuration'. SST is seen by commentators on Giddens as a very significant development in the theory (Bryant and Jary, 2011). Critics of Giddens' ST have argued that his flat approach to ontology is flawed: Mouzelis (1995), in particular, makes a strong case that society is made up of hierarchies and that any analysis must account for these different ontological levels. Kilfoyle and Richardson (2011) argue that the existence of multiple sets of structures opens the opportunity to understand processes of resistance and provides a more nuanced way of understanding the dialectic of control embedded in Giddens (1984; 1979). SST has been proposed as a basis for studies in accounting and management case study research by Jack and Kholeif

(2007) and this paper has been cited as a starting point for anyone generally applying the concepts in empirical research (Bryant and Jary, 2011). Papers using strong structuration theory (Jack and Kholeif, 2008; Coad and Herbert, 2009; Feeney and Pierce, 2016; Harris et al., 2016; Makrygiannakis and Jack, 2016; Adhikari and Jayasinghe, 2017; Daff and Jack, 2018) have been recognised as the few studies in the accounting discipline that engage critically with Giddens' work (Englund et al., 2011; Englund and Gerdin, 2014).

Englund and Gerdin (2016) see duality and dualism as mutually exclusive ontologies. They argue that 'either you adopt an essentialist approach implying that some social structures have particular meanings and causal influences which are independent of human actors (advocated by Coad et al. 2015), or a non-essentialist approach (as in a flat and local ontology) implying that social structures have no existence in and of themselves' (p. 261). Instead Stones (2005) argue that duality and dualism should be used as complementary tools for concrete social analysis (see also Ashraf and Uddin, 2015, p. 492; Modell, 2017, p. 23). The main purpose of this paper is to use Stones' SST to complement Englund and Gerdin's (2011; 2018) flat and local ontology by incorporating external structures and dualism to deal with the paradox of embedded agency, focussing on resistance, in the budgeting literature. The paper also aims to apply the SST framework to an illustrative case study of the failure to implement PBB in the ESTD. As a case study of custom developed accounting software implementation, this is a success story with substantial increases in taxation collected being shown, but although some elements of monitoring and evaluation (M&E) were established, PBB was not implemented. Later World Bank documents blame difficulties and obstacles raised by middle managers for the failure of the PBB project (Mackay, 2007; Schiavo-Campo, 2005; Hassanein, 2005). For example, Mackay (2007: 61) observes that 'Yet efforts to institutionalize M&E in Egypt have been substantially frustrated by mid-level officials who did not buy into this vision of an M&E system'. WBOED (2004: 59) concludes that 'the process has been entirely top-driven. There is no evidence of meaningful participation by staff…the staff reaction has varied from inattention to resistance'. In this case, middle managers are considered embedded agents and Stones' framework is used to analyse when, how and why embedded agents may choose to resist, and/or not resist in certain conjunctures (meaning combinations of circumstances or events).

The reminder of this paper is organised into five sections. The next section introduces Stones' SST as a theoretical framework for analysing the puzzle of embedded agency, focussing on resistance to change in budgeting processes. An outline of research methods is followed by the analysis of the failed attempt to introduce PBB into the ESTD as an illustrative case study and the discussion section. The final section concludes the paper.

2. Theoretical Framework: SST and the paradox of embedded agency and resistance in budgeting research

2.1 Giddens' ST versus SST and the paradox of embedded agency

The paradox of embedded agency refers to the problem of accounting for structural change when the actions of agents are themselves conditioned by social structures that they wish to change (Kilfoyle and

Richardson, 2011). Englund and Gerdin (2011; 2018) provide a framework for analysing this problem. This framework is based on Giddens' flat and local duality perspective. Englund and Gerdin (2011, p. 584; 2018, p. 2) 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). However, this ontology suffers from several theoretical shortcomings (see for more details Stones, 2005; Jack and Kholeif, 2008; Coad et al., 2015). In this section, we use concepts of Stones' SST to complement Englund and Gerdin's (2011; 2018) flat and local ontology by incorporating external structures and dualism to study embedded agency in budgeting research.

2.1.1 Giddens' ST

In respond to Kilfoyle and Richardson's (2011) call for the need to understand the paradox of embedded agency in the context of budgeting research, Englund and Gerdin (2011) propose a framework for analysing the role of embedded agents in making structural change. They identify four origins of structural changes as follows: (1) structural change driven by intentional agency (or knowledgeable and reflexive agents) and caused by endogenous influences; (2) structural change driven by intentional agency and caused by exogenous influences; (3) structural change driven by unintentional agency (or actors who do not actively seek change) and caused by endogenous influences; and finally (4) structural change driven by unintentional agency and caused by exogenous influences.

Englund and Gerdin (2018) further develop their framework for analysing the paradox of embedded agency by identifying six qualities of social structures as sources of embedded agency, namely Generality, Inadequacy, Ambiguity, Multiplicity, Embeddedness and Reflexivity. They refer to this as the GIAMER framework. Structural generality means that social structure is general and may be applied in a range of social situations. Structural inadequacy is a quality of social structures in which they may be perceived as inadequate as a guide for action. Structural ambiguity exists when social structures invite different interpretations. Structural multiplicity refers to the existence of multiple social structures. Structural embeddedness is the degree of embeddedness or the extent to which agents are embedded. Finally, structural reflexivity refers to various forms of reflexivity that are built into social structures.

Recently, Englund and Gerdin (2018) has edited a special issue of Management Accounting Research that has been dedicated to study this paradox (Ahrens and Ferry, 2018; Hiebl, 2018; Horton and Wanderley, 2018). The first paper explores how a UK public sector organisation can act as an institutional entrepreneur. It is based on a field study of budgeting practices in this organisation. Following the radical cuts in local government funding by the central government, Ahrens and Ferry (2018) show how Newcastle City Council not only resisted the cuts, but also used budgeting as an important resource in their attempts to pursue change in the form of increased local authority autonomy. They provide important insights into the paradox of embedded agency by showing how the budget cuts resulted in structural inadequacy as they drastically changed the conditions for reproducing Newcastle City Council's existing operations. This structural inadequacy, in turn, triggered a form of

reflexive institutional entrepreneurs were agents not only resisted the imposed change, but also fought back to transform the power relations that made the imposed change possible in the first place.

The second paper by Hiebl (2018) complements the work of Ahrens and Ferry (2018) by further elaborating on the role of management accounting as a political resource that may assists agents in realising embedded agency and overcoming political resistance by opponents to change. Based on a review of 64 articles covering more than two decades, he identifies, systemizes and discusses six ways in which management accounting can be mobilized so as to initiate and accomplish structural change. Three of these ways relate to how proactive agents can mobilize management accounting as a means of creating structural reflexivity by identifying the need, and gaining others' support, for structural change, while the other three relate to how management accounting can contribute to actually implementing the change. The review shows that the mobilization of management accounting is rarely enough to accomplish structural change. Rather, management accounting typically interacts with a large array of other political resources, such as hierarchical power, discourse and anxiety.

Finally, the third paper by Horton and Wanderley (2018) complements the other two by theorizing the change potential inherent in structural multiplicity. Drawing on social identity theory to develop a conceptual framework that links identity and identity conflict to change related behaviour, they focus on the role of multiple identities and identity conflicts among management accountants as a source of embedded agency. They argue that coexisting, multilevel and nested identities in terms of personal, professional and organizational identities are likely to spark processes of job crafting and identity work through creating commitments to multiple and potentially conflicting interests and values. They also highlight the role of management accountants' job discretion and business involvement in shaping their responses to perceived identity conflicts.

2.1.2 Stones' SST

In recent reviews of 25 years of management accounting research using Giddens' work, Englund et al. (2011) and Englund and Gerdin (2014) provide an insightful analysis of the use of structuration theory in accounting research and directions for future research. They also observe that 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 SST, introduced by the sociologist Rob Stones (2005). Stones (2005) addresses and synthesises the critiques by Archer, Mouzelis, Cohen and others to amend recognised deficiencies in Giddens' ST. In developing his SST, Stones (2005) follows Mouzelis and other critics of Giddens in trying to distinguish between two types of duality (consistent with Giddens' position) and two types of dualism (consistent with critical realists' position).

2.1.2.1 Duality in SST

Focussing on the possible relations between two parts of the structuration process: the internal structures and the agent's conduct in drawing upon them, Stones (2005) distinguishes between two types of duality within structuration theory as two ends of a continuum, drawing on Mouzelis (1991; 2000), namely: (1) taken-for-granted duality, and (2) critical duality. At one end of the continuum, the taken-for-granted duality, is the relation between internal structures and agency that is 'habitual, relatively unreflective, symbiosis in which the two merge into one another in the unfolding process of routinely getting on with life' (Stones, 2005, p. 56). Agents in this category are potentially resistant to structural change as they do not actively seek change and they tend to reproduce the prevailing social orders. Resistance to change as adherence to earlier procedures or routines is observed in previous studies (e.g. Burns and Scapens, 2000; Granlund, 2001; Burns et al., 2003).

The other end of the continuum, the critical duality, refers to 'instances in which the agent has a degree of critical distance from the internal structures, such that she is able to take up a strategic-monitoring relationship to them, or to reflect upon them theoretically' (Stones, 2005, p. 57). Agents in this category potentially initiate or support structural change. They may be institutional entrepreneurs who are knowledgeable and reflexive actively seek change. This is observed in previous studies such as Gooneratne and Hoque (2016), Micelotta et al. (2017) and Ahrens and Ferry (2018). Mouzelis (1991, p. 30) claims that the further the 'analysis shifts from individual to collective action, from micro to macro actions' then there will be a tendency for more critically reflective attitudes towards internal structures to come to the fore. Despite that Mouzelis (1991) presents Giddens' notion of duality as equivalent to taken-for-granted duality, Stones (2005) argues that Giddens accepts the sort of distancing Mouzelis has in mind as he puts much emphasis on agents as skilled, knowledgeable, interpretative, reflexive, and able to do otherwise. Mouzelis (1991) argues that the overall structuration process will be the result of a mixture of types of taken-for-granted duality and critical duality and Giddens (1976) agrees with Mouzelis (1991) that the degree of distancing is variable.

2.1.2.2 Dualism in SST

Stones (2005) argues that the work of Mouzelis (1991) can be seen as complementary to the work of Archer (1982; 1995) in that it provides further refinements to the conceptualisation of dualism, of the relation between external structures and agents. Based on Mouzelis (1991), Stones (2005) identifies two types of dualism within structuration theory as two ends of another continuum: (1) intractable dualism, and (2) modifiable dualism or malleable dualism. At one end of this continuum, intractable dualism represents those external structures that are relatively intractable to the agent-in-focus's actions, that act as constraints and that place limits upon the options open to him (Stones, 2005, p. 66). The individual agent is unable to affect or change those external structures or they are pushed by external influences towards structural change. Under intractable dualism, Stones (2005, p. 111) distinguishes between two types of external causal influences on agents. The first type of influences is independent causal influences, when external structures have complete autonomy from the agents whom they affect and those agents do not have the physical capacity to control or resist. The second type of influences is irresistible causal forces, when agents do have the physical capacity to resist an external influence but

feel that they do not have the ability to resist. Jack and Kholeif's (2008) study provides an example of these types of influences in the context of budgeting implementation.

At the other end of this continuum, modifiable dualism refers to those external structures that the agent-in-focus can significantly affect, structures that the individual agent is able to change (Stones, 2005, p. 66). Agents in this category actively 'absorb' (pull) structural solutions from one social system to another. Linking the types of dualism in SST to the notion of social hierarchies, Mouzelis (1991) argues that there is an unequal contribution of actors to the creation and recreation of social orders. Therefore, intractable external structures to one agent wouldn't be so to another agent differentially situated in terms of positions higher up the scale of a social hierarchy of one kind or another. The latter are known as macro-actors such as directors, vice-chancellors and ministers, whose location enables them to take decisions which extend more widely in time and space, whose power base gives them a capability such that the consequences of their decisions and actions affect the situations of many people (Mouzelis, 1991).

2.2 A systematic comparative analysis of the two structuration approaches

Coad et al. (2015) argue against the flat and local ontology advocated by Englund and Gerdin (2014) and Englund et al. (2011) in extant management accounting research. They discuss how SST may be used to further develop Giddens' ST to better understand management accounting practices. In their comment on Coad et al. (2015), Englund and Gerdin (2016) challenge this critique. In this section, we highlight the similarities and differences between the two structuration approaches.

2.2.1 The existence of internal social structures

Both SST and Giddens' ST acknowledge that virtual social structures exist as memory traces within the agent, i.e. internal social structures. In their GIAMER framework, Englund and Gerdin (2018) identify generality, inadequacy, ambiguity, multiplicity, embeddedness and reflexivity as qualities of internal social structures that constitute the sources of embedded agency. These qualities can be linked to the two types of duality in SST (see Table 1).

Insert Table 1 here

From the above table, embeddedness and reflexivity in Englund and Gerdin's (2018) framework are closely related to taken-for-grantedness and criticalness in SST respectively. They are presented as the two main qualities of internal social structures. The other four qualities in the GIAMER framework are sub-qualities under these two ends of a continuum as follows.

- Structural ambiguity (unambiguous/ ambiguous): When social structures are very explicit and straightforward in their prescriptions (e.g. must-do type of structures), they have particular

meanings that promote homogeneity of action and social structures are routinely reproduced. However, implicit and open-ended social structures allow for different interpretations that promote heterogeneity of action and may lead to more reflexive change of social structures.

- Structural inadequacy (adequate/ inadequate): Social structures may be considered adequate as a guide for action when the conditions for reproduction of social structures are met. In abnormal situations such as intensified competition among organizations or reduced governmental funding, social structures become inadequate and agents distance themselves from, and critically reflect on, the (in)capability of extant structures.
- Structural generality (general/ specific): Some social structures are general dispositions that may have a great time/space extension and are therefore more persistent over time and space, while others are conjuncturally-specific structures that have a more narrow scope and may be relatively flexible and prone to change.
- Structural multiplicity (homogeneous/ heterogeneous): Homogeneous social structures enable agents to routinely reproduce them, while heterogeneous social structures that consist of various elements such as symbolic, normative and cultural-cognitive is likely to spark reflexivity and may lead to structural change.

2.2.2 The existence of external social structures

A main difference between SST and Giddens' ST is that SST recognizes the existence of external social structures that is completely rejected by Englund and Gerdin (2014) and Englund et al. (2011). Englund and Gerdin (2016) argue that '…the strong structuration theory assumes that external structures are *autonomous* from and *independent* of the agents who produce them…structures can never be autonomous from and independent of those who produce them' (p. 259; *original italics*). They emphasize that '…researchers applying a flat and local ontology may … find that some structural elements are *perceived* by actors as objective, taken-for-granted, non-controllable and even "external" to the actors in question' (p. 260, *original italics*). From a SST perspective, Stones (2005) differentiates between intractable external structures and modifiable external structures. Englund and Gerdin (2016) focus only on the first type in which external causal influences are independent and/ or irresistible and do not take into account the other type in which agents can largely influence external social structures.

In his attempt to clarify aspects of Giddens' ST, Stones (2005) has extended ST, drawing on Giddens' notion of position-practice relations that contains many of the real attributes of structures recognized by critical realism (Ashraf and Uddin, 2015). Using this notion, Coad et al. (2015) reconcile the work of Stones and Giddens, arguing that individual social positions and collective social systems are empirically observable and are sustained by institutionalized practices that link agents across time and space in position-practice relations, i.e. external social structures. During moments of structuration, agents draw upon their (virtual) internal structures, which represent their understanding of (concrete) external structures, as a basis for active agency. In this regard, Stones (2005) argues that the differential ability of agents to resist the independent influence of external structures depends on positions within organisational hierarchies and horizontal position-practice relations and also according to other positional social categories such as class, age, cultural capital, sexuality, gender, race, ethnicity, and so on.

2.2.3 The levels of social structures

From a flat and local perspective, Englund and Gerdin (2016: 254) say that it is 'difficult to imagine the social world as comprised by different levels in terms of micro-structures and macro-structures'. 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 need to acknowledge this. One of Stones' (2005) main concerns is the question of the role of ontology in empirical research. Giddens' analysis is largely aimed at an abstract ontology-in-general and lacks guidance on how to apply structuration theory in empirical research, where we need to consider ontology-in–situ. What he attempts to do entails taking ontology-in-general and pointing it towards the ontic, towards the realm of particular concrete and/or situated entities in the world with their particular qualities, relations, shapes, tone, texture, colour and so on (Jack and Kholeif, 2007).

One key element of SST that develops Giddens' ST is the "meso-level" ontological concept. If ontology-in-general operates at an abstract level, and the ontic at the level of concrete details and specificities (Stones, 2005, p. 77), then the value of the meso-level ontology-in-situ is that the researcher can then analyse structure and agency in relative terms: more or less knowledgeability, for example (Stones, 2005, p. 78). This creates effectively a sliding ontological-ontic sliding scale in which to position the agents in focus at some point between macro, meso and micro levels of analysis. Stones builds on his ontology-in-situ to develop the concept of the quadripartite nature of structuration, which is explored in Jack and Kholeif (2007). This extends Giddens' concepts of signification, legitimation and dominance into a framework more conducive to empirical study. The four parts (hence 'quadripartite' rather than 'four-part' or 'four-fold') are: external structures as conditions of action; internal structures; active agency or agent's practices and outcomes. External structures involve position-practices and their networked relations. Internal structures are analysed into the 'conjuncturally-specific' and 'general-dispositions'.

2.2.5 Analytical and ontological separability of structure and agency

The issue of the separability of structure and agency in Giddens' ST is a topic of much debate. Giddens' ST is premised upon an assumption that structure and agency comprise a duality and not a dualism, i.e. the mutual constitution of structure and agency. Giddens' position is described by Archer (1995) as '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'* (Archer, 1988, pp. 77, 80; *original italics*). Archer's (1995) view is that structure and agency are both analytically separable and ontologically separate.

Englund and Gerdin (2011; 2018) advocate Giddens' ontological position in which structure and agency may be separable analytically but they are not separable ontologically. Englund and Gerdin (2008: 1123)

suggest that 'Giddens tries to overcome the dualism between structure and action, whereby structures are conceptualized as detached from human beings, he nevertheless argues that structure and action have fundamentally different properties.' Giddens clearly defines structure (as rules and resources) and agency (as the capability to act) such that they are inextricably interlinked. The very fact that they are defined differently would seem to indicate that structure and agency are seen as separable analytically. However, Englund and Gerdin (2016) reject the ontological independence in which structure and agency are capable of exercising autonomous influences. They argue that 'a flat and local structuration ontology emphasizes that…the notions of social structure and human action…are not to be "viewed as two independently given sets of phenomena"' (*ibid.*, p. 256, emphasis in the original).

2.2.6 Temporality and SST as a processual approach

To address the ontological separation of structure and agency, Archer (1995: 65) insists that structure and action reside in different temporal domains and suggests that they 'can only be linked by explaining the interplay between them over time…without the proper incorporation of time the problem of structure and agency can never be satisfactorily resolved'. However, Giddens does not acknowledge that structure and agency work on different time intervals (Ashraf and Uddin, 2015). According to Bhaskar (1986), social structures are presupposed by social interactions; they are existentially independent but essentially distinct. Giddens' failure to fully address this aspect 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'. Archer (1995) argues that Giddens fails to recognise the need 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.

Consistent with critical realism's analytical dualism, Barley and Tolbert (1997) introduce a temporal dimension in the relationship between social structure and agency in order to develop a model of institutionalization as a structuration process in organization studies. They substitute the notion of scripts for Giddens' notion of modalities. Based on Barley and Tolbert's model, Burns and Scapens (2000) develop their institutional framework for conceptualizing management accounting change. They argue that the notion of scripts could equally apply to the notions of rules and routines. Englund and Gerdin (2008) criticise the use of management accounting rules and routines as modalities and as observable, recurrent actions because there is a risk of conflating virtual structures that generate action and the situated doings of individuals. This could lead to drawing erroneous conclusions about management accounting change and/ or stability. Therefore, the central criticism regarding conflation of structure and agency has not been fully addressed by existing theoretical frameworks.

SST provides a better alternative that incorporates both Giddens' duality and critical realism's analytical dualism, including temporality. In his structuration framework, Stones (2005) analytically distinguish between four separate but inter-linked aspects of the structuration cycle: external structures as

conditions of action, internal structures within the agent, active agency and outcomes. The following figure introduce a temporal dimension in the relationship between the parts [1].

Insert Figure 1 here

From the above figure, the analytical dualism in SST investigates the temporally defined interplay between structure and agency in three different time intervals – between structural conditions (Time t-1), social interactions between agents on the basis of these conditions (Time t) and subsequent structural changes or reproductions arising from the latter (Time t+1). In terms of duality of structure, it should be clear that internal structures are drawn upon as 'medium' of agent's conduct, whilst internal and external structural outcomes represent structure as 'outcome' of conduct. The latter will, in turn, constitute the internal and external structures at time (t-1) for the next round of structuration. By incorporating temporality, SST explores structural change as a process rather than through a snap-shot analysis of outcomes. It is a processual approach that explores the temporal dimensions of structural change, unfolding over time, through reference to the past, the present and the future (Burns, 2000: 568).

2.3 The framework of SST for analysing the paradox of embedded agency and its contribution to the extant management accounting literature

Based on the above comparative analysis of the two structuration approaches, this section presents the framework of SST and explains how it will contribute to the paradox of embedded agency and to previous studies on Giddens' ST and SST in the management accounting literature.

2.3.1 Mutually exclusive or complementary ontologies

From a flat and local structuration ontology, Englund and Gerdin (2016) argue that internal and external structures cannot be combined into one theoretical framework as all social structures are virtual and '*there is simply no room for external structures within a flat and local ontology*' (p. 259, *original italics*). They see that management accounting researchers have to decide which ontology to rely on, i.e. the ontological status of external structures. On the contrary, from a SST perspective it is possible to combine the internal and external aspects of social structures (Stones, 2001; 2005), acknowledging the common ground between Giddens' ST and critical realism (Coad et al., 2015). This perspective contributes to the extant literature on the role of embedded agents in changing management accounting practices, including budgeting, (e.g. Ahrens and Ferry, 2018; Englund and Gerdin, 2018; Hiebl, 2018; Horton and Wanderley, 2018) as understanding the highly contingent interplay between internal and external structures, which is more or less unique to particular social contexts, is vital to envisage which possibilities of change and emancipation may be at hand in such contexts (Modell, 2017). None of previous studies on Giddens' ST and SST in the management accounting literature has explored these possibilities (Jack and Kholeif, 2007; Coad et al. 2015; Englund and Gerdin, 2011, 2016, 2018).

Figure 2 summarises the possibilities of change and emancipation, manifest in the ability of embedded agents to make or resist structural change. The proposed framework is based on duality and dualism as its two dimensions to analyse structural change from a SST perspective (see section 2.1.2 above for detailed explanations of these dimensions).

Insert Figure 2 here

In Quadrant A in Figure 2, the possibilities of change and emancipation will be limited, where the agents-in-focus' propensity for reflectivity are mainly constrained by their internal structures and there are few opportunities for emancipation offered by their external structures that act as independent causal influences. Under such circumstances (mainly constraining internal and external structures), agents-in-focus will be unable to initiate structural changes or even actively participate in the implementation of these changes. The possibilities of change and emancipation will be more moderate where only one of the two types of structures is imbued with mainly enabling effects on agents-in-focus. When internal structures are mainly enabling but external structures are mainly constraining (implied by Quadrant B in Figure 2), agents-in-focus intentionally develop strategies aimed at trying to change their structural contexts and challenge their external structures even though the latter are relatively constraining and act as irresistible causal forces. In Quadrant C in Figure 2, where internal structures are mainly constraining but external structures are mainly enabling, agents-in-focus might unintentionally depart from the existing social structures. Finally, extensive possibilities of change and emancipation might exist in Quadrant D in Figure 2, where internal structures make agents-in-focus highly reflective and external structures provide ample opportunities to take advantage of such reflexivity. Under such conditions, agents-in-focus actively initiate structural changes and actively participate in the implementation of these changes through actively mobilizing resources.

To move from taken-for-granted duality to critical duality on the vertical dimension in Figure 2, on one hand, the embedded agent would require to be able to gain adequate critical distance from their conditions of action in order to take up a strategic stance in relation to a particular external structure and its situational pressures. To move from intractable dualism to modifiable dualism on the horizontal dimension in Figure 2, on the other hand, the embedded agent would require adequate knowledge of relevant external structures, including alternative avenues of possibility, as well as adequate power or capability to resist or transform in-situ external structures, or to alter one's position in relation to such structures. All things being equal, Stones (2005, p. 115) says, 'the greater the possession of these properties (i.e. distance, adequate critical adequate power, adequate knowledge) the greater the embedded agent's ability to regulate, modulate, deflect or erase specific aspects of such external demands and pressures'.

2.3.2 Explanations and end results

At this point, certain readers have asked why SST should be used rather Giddens' ST, which is ostensibly very similar in concept, to analyse the paradox of embedded agency in budgeting research. The key ontological differences, as have been mentioned above, are that whilst the central tenet of Giddens' ST is the duality of structure, SST assert the complementary ontologies of duality and dualism. SST purport to address the ontological weaknesses in Giddens' ST, particularly its tendency to abstraction and difficulty of application to the "ontic" (Jack and Kholeif, 2007). The difference in approach is that whilst, as Parker (2006, p. 132) notes, SST is "strong because restricted" to meso-level studies, Giddens' ST claims to have done away with the need to consider external social structures and the divide between macro and micro-social considerations (Englund and Gerdin, 2016). Here, the authors are not arguing for the superiority of SST over Giddens' ST. They are simply stating that SST is a robust and credible theory for interpretative management accounting research. The case study applying SST in this paper could have been written using Giddens' ST. It would not necessarily have been a better or a worse paper but it would have been a different one that would have produced a different account of the failed attempt to implement PBB in ESTD.

In particular empirical studies of the role of embedded agency in changing management accounting practices, the ontological assumptions about how structure and agency are interrelated will affect end results as well as the underpinning explanations of the phenomena under study. Englund and Gerdin (2016: 261, emphasis in the original) conclude that the ontologies of SST and Giddens' ST 'may well come with similar "end results"' but 'the underpinning "explanations" may be fundamentally different'. We agree with the conclusion that both theories certainly provide different explanations as different ontologies offer different world views, especially with regard to the ontological status of external structures. However, end results may also be different if the ontological separation of structure and agency is not properly addressed in Giddens' ST. As Barley and Tolbert (1997, p. 99) notes, 'unless institutions and actions are analytically as well as phenomenologically distinct, it is difficult to understand how one can be said to affect the other…to reduce the empirical problem of conflating action and institution, one needs a diachronic model of the structuration process as well as longitudinal data'.

As discussed above in Section 2.1.2.1, SST differentiates between two extremes of duality: taken-for-granted duality and critical duality. The taken-for-granted duality is very close to what Archer (1995) means by 'inseparability', 'because 'structure' is inseparable from 'agency'' (p. 97). Stones (2005) argues that this should not be held to signify a weakness for Giddens' ST as this is how things are in this case and the boundaries between internal structures and agency are not clear to the agent-in-focus. In this case, both Giddens' ST and SST will give similar end results. However, in the case of critical duality, the relation between internal structures and agency is not inseparable as Archer (1995) feared and Stones (2005, p. 57) feels that this is the 'harder case' of duality. Acknowledging temporality in SST is one way to address this issue. In this case, both structuration approaches might give different, potentially conflicting end results.

2.3.3 Empirical illustration of using SST to address the paradox of embedded agency

The case study in this paper illustrate the key differences between Giddens' ST and SST in addressing the paradox of embedded agency, mainly the existence of external structures, ontic, meso and macro levels of social structures, analytical and ontological separation of structure and agency and temporality. The key step in strong structuration is to identify the agent-in-focus and their internal structures (Jack and Kholeif, 2007), thereby designating the agents who inhabit their perceived external structures. In Figure 3, our agents-in-focus are the middle managers involved in the implementation of PBB in the ESTD and can be regarded as being at the ontic level. Here, external agents are found at meso-levels - the local senior management and law makers in government – and at the macro level of the supranational agencies. The point is that both are seen here as the external agents by middle management. Temporality is considered by circumstances and events in in three different time intervals: structural conditions prior to the introduction of PBB into ESTD (Time t-1), social interaction during the implementation of PBB in ESTD (Time t) and structural changes or reproductions as outcomes of the implementation of PBB in ESTD (Time t+1).

Insert Figure 3 here

3. Research Methods

3.1 Background about the case study

General sales tax was introduced in Egypt on 3 May 1991 to replace consumption taxes as part of an overarching World Bank/IMF Economic Reform and Structural Adjustment Programme. The ESTD became a revenue generating division of the Ministry of Finance with its headquarters based in Cairo but covering 23 Regions, with 81 Districts and 25 Offices in total. In 2003/2004, the ESTD reported sales tax revenues of more than L.E. 22 billion (approximately more than $3.5 billion). In 2007/2008, (after the customised computerisation project) it collected L.E. 40 billion (about $7.6 billion) [2]. The organisational chart of the ESTD is given in Figure (4). As part of the Central Administration for the Commissioner's Affairs, the General Administration for Change and Development was established in 2004 and was responsible for managing change processes, including the move to PBB.

Insert Figure 4 here

3.2 Data Collection

According to Greenhalgh and Stones (2010: 1289), "the quadripartite study of structuration involves seeking empirical evidence with which to explore and test key concepts and the relations between them, depending on the explanandum at hand. Data sources may be multiple and selected pragmatically (e.g. depending on access and availability) and include combinations of documents, ethnographic field notes, semi-structured and other forms of interviews and surveys, and multi-media such as video or screen capture". For the purpose of this study, a number of three year longitudinal case studies in customised computer systems implementation were carried out in Egypt in 2002-2005, one of which was inside the ESTD. Updates were sought in 2008 by the researcher from a number of the original participants.

The data collection included unstructured and semi-structured interviews, site visits and the collection of documentary evidence. 35 interviews were conducted with 22 interviewees, with interviews generally lasting between 1 and 2 hours. The total length of the interviews is about 60 hours. The work here emerged as an interesting additional factor, developing into a separate study into the implementation of a performance based budgetary system. The researcher was therefore not present in the organization throughout the three years but made a number of visits, following an initial period of being involved in the project as a trainer. Data on the use of accounting for outcomes in the World Bank was conducted through publicly available secondary sources and through a literature review by mainly the second researcher. It should be noted that the analysis of this case study is retrospective and was developed more fully once the World Bank began publishing reports on conditionality, M&E and the Egyptian Project from 2007 that enabled the authors to contextualise the data collected more fully.

According to Yin (2014, p. 199), 'any case study finding or conclusion is likely to be more convincing and accurate if it is based on several different sources of information'. Interviews were conducted with most members of the PBB project team, including accountants, IT developers and top, middle and line-managers. Other data collection methods used include background questionnaires, direct and participative observations, including group meetings with PBB project team, financial accounts and budgets. Using materials collected from various sources or data triangulation, this study proceeds to triangulate the field data used, enabled what Scapens (1990) calls 'contextual validity', the triangulation of evidence by collecting different evidence on the same research issue, collecting other evidence from the same source and working in teams in order to reach an agreed interpretation of a particular case. In this study, the triangulation of interpretations took two forms. Firstly, the two researchers worked as a team to interpret the case study and agreed on interpretations of evidence. Secondly, the study compares and contrasts the researchers' findings with the World Bank's interpretations of the same case and reflects on why the two sets of research diverge.

3.3 Data Analysis

In empirical research, Stones (2005) suggests that the researcher looks at agent's conduct analysis and agent's context analysis in order to draw out the nature of structuration processes and their durability. He explains agent's conduct analysis as a process of 'sifting and sieving' knowledge, motives, desires, purposes, feedback by the agent. It is about the internal processes of negotiation and reconciliation that the agent (or cluster of agents) goes through whilst working on acting and interacting with other agents and other structures. In our study, the data comes from interviews with middle management and others involved at the ground level in the ESTD performance based budgeting project. Such qualitative approach gave participants the opportunity to provide in-depth responses, explain their thoughts and emphasise what was important to them because the researchers sought to understand the participants' experiences, meanings and beliefs. Agent's context analysis, on the other hand, is about 'the terrain that faces an agent, the terrain that constitutes the range of possibilities and limits to the possible' (Stones, 2005, p. 122). The researcher must explore the 'social nexus of interdependencies, rights and obligations, asymmetries of power and the social conditions and consequences of action'. In other words, link the external processes of structuration more clearly with the internal processes which have

‘previously been too little explicated in structuration theory’ (Ibid). Taking the ESTD middle managers involved in the project as our agents in focus, they are involved with other agents-in-context in a network of position-practices (see Figure 5).

Insert Figure 5 here

The qualitative content analysis was used in order to enable the interpretation of interview transcripts, documents and observations to gain a holistic view of the PBB implementation process in the ESTD. It is defined as ‘any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings’ (Patton, 2002, p. 453). It compresses many words of text into fewer content categories based on obvious rules of coding (Weber, 1990; Krippenforff, 2004). In this study, initial coding starts with SST concepts and relevant research findings. Then, researchers are immersed in the data and allow new codes to emerge from the data. During analysis, elements of quadripartite nature of structuration were identified in the interviews’ comments and themes and codes were linked to these components. General-dispositions were explored through themes focusing on the middle managers’ perceptions of how their values and beliefs influenced the ways in which they acted during the budgeting reform. The middle managers’ application of their conjuncturally-specific knowledge was addressed through themes about how their actions changed when they were interacting with different agents-in-context in the implementation of PBB in the ESTD. In relation to enabling and constraining external structures, themes on the opportunities that helped middle managers to act freely and openly and the conditions that inhibited or limited that actions. The outcomes of active agency were gleaned at various points throughout the interviews. The following table presents examples of first-order expressions and associated second-order theoretical concepts.

Insert Table 2 here

4. An illustrative Case Study

4.1. Structural conditions prior to the introduction of PBB into the ESTD

For the analysis of this case, the middle managers (i.e. heads of regions and managers of districts) in the ESTD were chosen as the ‘agents in focus’. This group of managers are responsible for the implementation of the ESTD’s strategy and, therefore, influencing the information flow up, down and within the ESTD. As part of their role, they monitor the achievement of budget targets and estimates, both revenues and expenditures. The main purpose of the Egyptian accounting system, governed by Law No. 27 (1981) and amended by Law No. 139 (2006), is to control the execution of the annual budget approved by the parliament. For this control purpose, budget and accounting numbers are continuously compared and at the end of the fiscal year variances between the budget (ex-ante) and the accounting (ex-post) figures are reported. The Egyptian government accounting system is uniform for the whole governmental sector, including all government units. It is a group of regulations and restrictions that government units have to follow in the implementation of the general state budget, in recording and classifying the financial operations and in preparing the budgetary statements of the government units.

Traditionally, the Sector of General State Budgeting (the central budget office) in the Egyptian Ministry of Finance centrally manages the process of preparing the government budget, governed by the Budget Act No. 53 of 1973 and amended by Law No. 87 of 2005. These structural conditions that middle managers draw upon recursively in order to manage their daily activities represent constraining external structures that limit the choices available to middle managers in the ESTD. The ESTD has a budgeting committee that is represented by two departments in its organisational structure: the General Administration for Revenues and the General Administration for Budget and Encumbrances. The first department is responsible for preparing revenue estimates and monitoring revenue collection. The second department is in charge of preparing expenditure estimates and following up actual expenditures. However, the Ministry of Finance normally does not take into account the estimates made by middle managers in the ESTD. It always expects that there are an overestimation of expenditures and an underestimation of revenues submitted by government units.

Interestingly, almost all middle managers of regions and districts in the ESTD have transposable capacities and dispositions as qualified accountants and can effectively manage their own budgets. They have a sense that their freedom to manage is lacking in current line item budgeting practices. Drawing on his conjuncturally-specific knowledge, one regional head expressed this lack as follows:

> Estimated revenues are imposed on us from the top. We have no say in that. The Ministry of Finance does not ask for our opinions. At the beginning of each year, we submit our needs, whether current expenditures or capital expenditures. However, appropriations sometime do not meet all our needs. Unsatisfied needs are delayed to next year(s). For example, there was a building that was intended to be built to absorb the increase in the number of employees. The employees were 800 and became 1800. However, the facilities have not been changed. To reduce expenditures, we are currently using a four-employee table. I mean that every four persons share one table.

The foregoing quote evinced the constraining nature of the Ministry of Finance as an external structure. Because of this, middle managers have a strong sense of injustice at not being devolved responsibility for their budgets or performance. To cover this sense of lacking in current budgeting practices, middle managers actively deal with these shortcomings. Some middle managers invent their own solutions to resolve problems encountered. Other managers believe that another set of budgeting practices could be supplied to cover the existing lack if only they were understood, accepted or applied properly. A district manager draws on his past stock of knowledge with previously used budgeting practices. He said:

> Before the introduction of the sales tax, we were collecting registered companies' budgets in each district and we were using them as a basis for our estimates for tax revenues. If the companies achieved their budgets we would achieve our estimated revenues.

The above comments reveal the dissatisfaction of middle managers with the existing budgeting practices. The freedom to prepare budget targets and estimates and the accountability for continuous improvement represent important aspects of budgeting that are currently lacking.

4.2. Social interaction: the implementation of PBB in the ESTD

Towards the end of the 1990s perceptions that attitudes in many key economic activities had become lax lead to the termination of the existing World Bank economic reform and structural adjustment programmes in Egypt. Tourism and oil revenues were declining, negatively affected the trade balance. The budget deficit grew from 1.0 per cent of GDP in 1997-98 to 4.7 per cent of GDP in 1999 – 2000 [3]. Furthermore, on 24th May 2001, sales tax was extended to include all wholesale and retail sales meaning that more than 140000 firms became active sales tax participants. This broadening of the base was designed to cancel out differing levels of tax compliance but a more comprehensive computer system was required to cope with the expansion.

Two solutions for the Egyptian financial crisis were introduced. The first solution is an IT reform recommended by the Ministry of Finance. The second solution is a budgeting reform proposed by the World Bank. The Ministry of Finance has initiated an IT project, known as the 'Integrated Automation Project' (IAP), in January 2000[4]. The aim of this project is to support the Ministry of Finance in computerising the government expenditure system. This system is based on building a Government Expenditure Information Network that relates the different sectors of the Ministry of Finance and linking these sectors with other departments in the Ministry of Finance and other related agencies. The new system claims to provide a comprehensive, reliable and timely budget and financial management information and helps the Egyptian government to effectively manage the budget and expenditures and control funds.

Later, the World Bank introduced a budget reform programme to the Egyptian government in September 2000, recommending that they replace current traditional line item budgeting with PBB. The response was the plan to experiment with PBB in the ESTD and then roll out the reforms to the rest of the Ministry of Finance and the Egyptian government. Formal approval was given in 2002 by the Egyptian parliament. A Presidential Decree No. 275 of 2002 was issued to regulate the experimental application of PBB in Egyptian governmental units. A World Bank delegation met with the ESTD's officials in 2002 and the project began shortly afterwards (although informally information systems were already being designed from 2000). As there are scare financial resources to implement the IAP, the IT reform became part of the PBB project. In this regard, the former Minister of Finance acknowledged this fact by saying '[i]n the absence of a management information system, reporting and monitoring systems, results-oriented budgeting will be a dilapidated. So, a necessary requisite for results-oriented budgeting to survive, flourish and succeed is to automate all government expenditures and revenues' (Hassanein, 2005: 4).

In the ESTD, a Principal Committee and a project team were formed following a meeting with the World Bank delegation in 2002. The Principal Committee was composed of the Commissioner (the Project Leader and Manager), helped by two consultants (from the Ministry of Finance and the World Bank). In addition six functional area leaders (Heads of Central Administration or General Managers) led area project teams composed of key users and an IT area developer. After forming the project team, each area project team started implementing its action plan that has been set in its committee's responsibilities. All action plans of different committees have been simultaneously implemented.

4.2.1. Intractable dualism: agents-in-context as constraining and enabling external structures

It is necessary at this point to delineate which actors could be regarded as external structures from the point of view of the agents in focus, the middle managers of regions and districts. In this case, there are a number of external actors, the World Bank consultants, senior Egyptian governmental officials and IT developers.

4.2.1.1. International consultants of the World Bank, the former minister of finance and the former commissioner of the ESTD and as enabling agents-in-context.

The role of the World Bank's international consultants was in the early stages of PBB implementation. In June 2001, they visited Egypt to assess the climate and capacity for building M&E practices in the Egyptian governmental units. Another visit of the World Bank's international consultants was in March/April 2002 to support the Ministry of Finance in its efforts at improving performance orientation in budgeting by conducting a workshop on PBB. In June 2002, a distance learning forum was conducted to raise the awareness of 21 senior officials about PBB and its possible implementation in Egypt. In October 2002, another visit complemented by a workshop was made with a specific focus on PBB and building M&E practices in general. In this visit, local consultants were selected to support the Ministry of Finance on the PBB pilots.

In assessing Egypt's readiness to introduce results-based M&E, the international consultants of the World Bank, Kusak and Rist (2004: 51), identified the former Minister of Finance as a key champion. They mentioned that:

> The Minister of Finance was found to be a key champion for the government of Egypt's move to a results focus. This minister was well versed in the international experience of other countries, such as Malaysia and OECD member countries. The minister underscored the importance of giving increased attention to improving the management of public expenditures by moving forward with a set of pilots to demonstrate how results- based M&E could be used to better manage budgetary allocations. The Minister of Finance will play a key leadership role in any effort to introduce results-based M&E in Egypt.

Other senior top management were optimistic about the abilities of ESTD officials to implement PBB as their version of M&E. The ESTD's former Commissioner pointed out that:

> The Sales Tax Department is the first governmental unit in Egypt that has started implementing this type of budget reform from the fiscal year 2002/2003. The selection of the Sales Tax Department by the Minister of Finance was a proud moment for all the Sales Tax Department's officials. The Sales Tax Department is qualified to implement this budget reform that requires well-trained employees who are capable of using modern technologies and achieving high quality.

All the above comments indicate that the international consultants of the World Bank were key players in convincing senior Egyptian officials to accept and support the move toward PBB, feeling that this budgeting reform is the solution for the Egyptian financial crisis at the end of 1990s. International consultants, the former Minister of Finance and the ESTD's former Commissioner are enabling external structures of middle managers in the ESTD as they facilitate the move to PBB that overcomes the perceived shortcomings in the existing budgeting practices.

4.2.1.2. IT developers, the Ministry of Finance, the Budget Law and the local consultants as constraining agents-in-context

In the ESTD, the IT infrastructure and its applications were completely renewed. The GSTACS (introduced with sales tax in 1991) was upgraded and an on-line tax return filing service was developed to help registrants submit their tax return electronically which came into effect from 1/7/2004. It emerged that the computerization was planned informally before 2002, and was ready to start as soon as the monies were available. The GSTACS system had been effectively programmed before the PBB pilot project had begun. Oracle database version (8) was used to automate the existing government accounting system, governed by Law No. 27 (1981) amended by Law No. 139 (2006). An IT developer commented that:

> The automation seeks to speed up performance, increase accuracy, avoid human errors, and reduce time, effort and cost. The government accounting system was analysed, designed and programmed. … Furthermore, employees were trained on using the computerised system. *We automated the old accounting system because all people are used to using it. [authors italics]*

This quote clearly shows that the actions of IT developers as external agents-in-context negatively affect the move to PBB and constrain the ability of middle managers to change existing structures. Although there was a beneficial move to replace cash-based with accruals based accounting systems, the automation reinforces rather than reforms the traditional line item budget system. This automation reveal the intentions of senior government officials to continue using existing budgeting practices.

Confirming these intentions, a key meeting with World Bank officials was due in September 2004 (which was observed by one of the researchers) and it becomes clear that little progress has been made up to this point. The Minister of Finance Consultant (a university professor) asked the following questions:

> We need to have a performance-based budget for ESTD before the World Bank meeting on 12/09/2004. Is that possible? …The estimated revenues for 2004/2005 are L.E. 26 billion and the appropriations (chapters 1 and 2) are L.E. 260 million. What are the programmes planned to achieve the L.E. 26 billion? … We need a programming and performance budget with L.E. 260 million to collect L.E. 26 billion. If you continue using the old system, you would achieve only L.E. 22 billion (the previous year actual revenues). What are the means to increase the revenues by L.E. 4 billion?

Now, the consultant is clearly using the language of PBB – identifying an outcome and looking for what resources need to be allocated to achieve the outcome. However, the answers received to these questions are revealing. A budgeting accountant responded to the Minister of Finance Consultant's questions in a way that indicates some resistance:

> The use of performance-based budget is currently difficult because the whole government budget is a line-item budget. So it would be difficult that some government units use line item budgets and other units use performance-based budgets.

This was supported by general managers who stated:

> We currently use the line-item budget. If the Ministry of Finance wants us to implement the performance-based budget, it would send the appropriate forms to fill. (The General Manager for Budgeting and Encumbrances)

> The Ministry of Finance should itself implement the performance-based budget. If it has not implemented the budget reform, the current situation would continue for a long period and there would not be integration. (The General Manager of Planning)

From this quote, the actions of the Ministry of Finance reflect the intentions of the senior government officials that reject the change to PBB at the moment as the Ministry of Finance continues its traditional role as constraining external structures by using line item budgeting practices. It appears that at this stage, two years into the project, the desirability of outcomes based budgeting has not yet been transmitted and that there is internal opposition to the idea of the ESTD being a pilot for the Ministry as a whole. However, the Minister of Finance Consultant responds back in a manner that indicates the expectations of the Ministry of Finance:

> The implementation will be gradual and will take from 5 to 10 years, like Malaysia. We cannot change the current budgeting system…What we need is a performance-based budget for 2004/2005, together with the state budget before 12/09/2004… We need to re-allocate the line-item budget for 2004/2005 to programmes according to responsibility centres. What do you need to do this?

This quote clearly reveals that the local consultants as agents-in-context do not have any intention to change the existing budgeting practices in the near future. The underlying problem begins then to emerge. The accounts to control and record distributions of money have not been established on a programme basis nor sub-divided into performance units. It seems clear PBB was perceived by middle managers and other senior officials as a complementary tool to the current line item budget rather than a replacement to it. According to the Budget Act No. 53 of 1973, amended by Law No. 87 of 2005, the government units are required to set their activities in the form of programmes and prepare programme budgets for their activities in addition to the current and capital budgets. This law prevents the Ministry of Finance from taking active actions to move to fully implementing PBB.

4.2.2. Taken-for-granted - critical duality: middle managers as knowledgeable and reflective agents-in-focus

Middle managers draw on their knowledge of existing budgeting practices and critically reflect on it to identify the difficulties in the operationalisation of PBB as indicated in the following issues.

4.2.2.1. The problem of budget estimates

The Budget Act No. 53 (1973), amended by Law No. 87 (2005), requires the current estimation base of both revenues and expenditures using the results of prior three years as a base for predicting the coming year revenues and expenditures. However, there are no clear guidelines for preparing performance-based budget estimates. The Minister of Finance Consultant asked:

> The estimated revenues for 2004/2005 are L.E. 26 billion. There is a planned increase in revenues with L.E. 4 billion this year. What are the spending requirements to achieve this increase?

The General Manager of Planning Department suggests, working on a contrasting logic to the consultant:

> We can analyse the actual expenditures for the previous year (2003/2004). The fundamental appropriations at the beginning of the year were L.E. 215 million and the actual expenditures at the end of the year were L.E. 275 million. Thus there was L.E. 60 million deficit or additional appropriations.

The Consultant tries to bring the reasoning back to being forward looking:

> Is there a relationship for such increase with other variables such as the increase in collected revenues or the increase in the workforce? Or is it just coincidence? What were the reasons for the additional appropriations and the means used to fund them? We can assume that the increase in expenditures would be the same as the prior year (L.E. 60 million).

To which a general manager responded:

> There were a lot of reasons for such increase and we cannot classify them into categories. In addition, your suggestion means that there is an official recognition of the additional appropriations and that the costs have to increase. We can use the basic appropriations for 2004/2005 (L.E. 260 million) as a minimum estimation.

The Minister of Finance Consultant then suggested:

> The budget in Egypt is based on actual basis. What it is supposed to do is show the labour in Egypt as fixed cost except incentives… You can start with prior year actual expenditures (L.E. 275 million) as an initial basis for estimation and, then, add 10% the annual increase in wages and salaries as an inevitable increase.

The existing budget law as external structures limits the choices available to middle managers to prepare budget estimates of the new budgeting system. These discussions indicate that there was no agreement on a unified basis for preparing the performance-based budget or even the starting point for such estimates. Should these estimates be based on current year appropriations and expected additional appropriations by an amount equal to prior year additional appropriations? Or should previous year actual expenditures be modified by only inevitable increases such as the 10% annual increase in wages and salaries? PBB that identifies the activity and then a (reduced) resource allocation again appears to be receding.

4.2.2.2. The Cost Allocation Problem

Another issue related to the implementation of PBB is the problem of cost allocation. The Minister of Finance Consultant asked the following question:-

> Can you convert the line item budget for 2004/2005 into a performance-based budget?

The answers to this question elicited a range of conflicting responses:

> We prepared the current year budget according to the object of expenditure classification as we received the old forms from the Ministry of Finance. We do not have the functional classification of expenditures. (The General Manager for Budgeting and Encumbrances)

> We have the functional classification of expenditures (chapter 1 and 2) on the costing system but for the previous year 2003/2004. We have not prepared the functional classification for the current year because we have not received cost data reports from some districts. (Cost Accounting Department Manager)

The Minister of Finance Consultant then commented:

> Is it possible to prepare both cost classifications together (by functions and by object of expenditure), which allow for allocating the total appropriations to different types of expenditures and different responsibility centres at the same time?

The next response by the World Bank Consultant is significant:

> We are interested in the costs of programmes and their activities. If we get these figures, that's enough and there is no need for relating them to the object of expenditure classification.

The Manager of Cost Accounting Department commented:

> We actually analysed the previous year expenditures according to both cost classifications. The costing software is able to do so.

The Ministry of Finance is still working as a constraining external structure and a real obstacle for the move to PBB. The question arises from these exchanges: what exactly was PBB meant to achieve? Did the World Bank consultant imply that programmes and activity information was enough for now, or for the whole project? What was the long term aim for accountability by outcomes? There was a final, more fundamental problem though that emerged from discussions – who was responsible for performance evaluation?

4.2.2.3. The Problem of Performance Evaluation

Another issue related to the implementation of the PBB is reflected on assigning the responsibility for performance evaluation. The Ministry of Finance Consultant, following World Bank recommendations, stated that there should be a totally separate and independent department for performance evaluation. There appears to have been some resistance to performance evaluation taking place and the decision as to who would be responsible for it was never made. Recommendations that it should be the Planning Department which was in charge of performance measurement ignited a debate about auditability and IT. One IT general manager stated that 'performance evaluators should have sufficient knowledge of IT' and a developer expanded the problem by saying 'currently, persons who audit our work, do not understand in IT. They report only on computers' problems such as the breakdown of a printer or a network'. The World Bank Consultant disagreed:

> Auditors evaluate results. It is not necessary for auditors to understand IT. Auditors can get help from some experts when they do not have such expertise. The Central Agency for Accountability should be responsible for performance evaluation in the organisation as it has experts in different financial, administrative and technical areas.

The Ministry of Finance Consultant agreed with this suggestion, saying:

> The Central Agency for Accountability has permanent auditors within organisations. It is a good idea for performance evaluators to live in the field… There should be performance evaluation units in each district and each region. Moreover, there should be different experts in each functional area such as tax and information systems.

This exchange highlights the fact that PBB became simplified into a more mechanical discussion of auditability and structures, which reflects the accountability for control and assurance internalised by senior Egyptian governmental officials. However, the danger of simplification can be seen the other way, as taking 'managerial freedom' and 'accountability for continuous improvement' to turn them into formulaic processes, which makes middle managers show some resistance to the idea of auditability of performance.

4.3. Structural changes or reproductions: the failure of PBB implementation in the ESTD

4.3.1. Incremental changes in existing budgeting practices

Some incremental changes in the existing structures of middle managers in the ESTD were observed. As an outcome of PBB implementation, the IT reforms to update the computerised systems used to collect sales tax revenues were successful, with significant increases in tax collected. However, performance based budgeting was experimented with and then abandoned in 2006 by a new Minister of Finance, although some level of performance reporting within ESTD was achieved. The ESTD reformulated its mission, principles, strategy, policy and methodology and added three new performance indicators (i.e. productivity, quality and results) to existing efficiency and effectiveness measures. A researcher in the General Planning Department pointed out:

> We have been preparing the annual plan and have been using efficiency and effectiveness measures before implementing the performance-based budget. This helped us to absorb the idea and complete its components. Furthermore, we depend on the existing organisational structure to set programmes for each region and district.

The above measures reveal that the PBB project resulted in incremental changes to existing monitoring and evaluation procedures. What is developed is a system of performance reporting identifying different activities and measuring changes within them, rather than a full system of PBB [5]. Performance data are developed independently of the line item budget and control accounts, and cost figures have not been attached thereto. This system reflects a slight development in the existing planning system adopted by ESTD before the introduction of PBB.

4.3.2. The failure of the enabling agents-in-context in managing the change process of budgeting

A review conducted by the World Bank found that international consultants of the World Banks had not paid sufficient attention to 'defining specific performance indicators in the agencies, the incentives facing staff and the need for change management initiatives' (WBOED, 2004: 18). These matters were left to local consultants who direct the PBB implementation process. The requirements of implementing PBB from the point of view of the World Bank does not appear to have been transferred to local consultants, who took a pragmatic approach to the project, drawing on existing local structures and practices. The outcomes of this were no real change to existing budgeting practices and 'the support of a group of key ministers for M&E has been substantially frustrated by sceptical mid-level officials' (Mackay, 2007: 55 & 56).

The decision to abandon PBB in the ESTD was associated with shifts in the interests and underlying power distributions that have supported and legitimated the institutionalization and sustainability of PBB arrangements. By the end of 2005, the former Minister of Finance (the key champion and the PBB sponsor and initiator) resigned. This put an end to any future development of the PBB system in ESTD or any other governmental unit. In this regard, the World Bank consultants, Kusak and Rist (2004), argue

that 'the role of a political champion is key to ensuring the institutionalization and sustainability of results-based M&E systems' (P. 21) and 'the presence of a national champion can go a long way toward helping a country develop and sustain M&E systems' (P.33). However, the key Egyptian champion had been replaced by 2005 and the new Minister of Finance has changed his priorities and cancelled the PBB project.

In April 2006, the Egyptian Government announced a plan to integrate the Income and Sales Tax Department into a single, unified Egyptian Tax Authority (USAID, 2006). Other governmental units which had begun performance-based systems in c.2002 have since abandoned them through political upheaval and changing priorities. In 2007, the former ESTD Commissioner (the PBB Manager in ESTD) resigned and a new Commissioner was appointed. The new Commissioner of ESTD announced on 11 February 2008 that he is going to replace PBB with a balanced scorecard (BSC) system to link incentives to performance indicators, saying that he no longer believes in the benefits of PBB. However, there is no evidence as yet that the BSC has been implemented.

4.3.3. The success of the constraining agents-in-context in frustrating the change process of budgeting

In 2005, the Budget Law was amended to require the implementation of PBB as a complementary tool rather than a primary tool. Although legislation had been passed to promote PBB, the accounting legislation requiring line budgeting was never repealed and therefore, line budgets were still required from all government departments and ministries. It seems that the IT reform won in the end and the Egyptian government reproduced the traditional system of accountability that relies primarily on centralized command and control systems and focuses exclusively on securing compliance with input control and process and that does not held individuals accountable for their individual performance. The introduction of performance-based budgeting into ESTD has not changed the way of preparing budget targets and estimates or the form of accountability. The ESTD's budget plans and estimates are still centrally prepared by the Central Budget Office in the Ministry of Finance and regional and district managers, the budget programme managers, have no greater freedom to manage or more fair accountability for their performance. One district manager commented that:

> There is a contradiction between imposing estimated revenues on us from top to down and preparing a performance-based plan from down to top. This is not consistent with the accountability principle. The heads of regions and the managers of districts should participate in setting their own budgets to be able to achieve them. The major disadvantage of the performance-based budget implementation so far is that it has not been associated with decentralising the authorities of preparing budgets to the heads of regions and the managers of districts.

As this quote refers to, regional and district managers are always interested in greater freedom to manage and more accountability for continuous improvement, whereby assessments of their performance become demands or stimuli that promote improvements in policy, organisation or management. However, the evidence before middle managers suggests that it is highly improbable that

they will have responsibility for performance or even for participation in budgets or target setting. Perhaps more fairly, regional and district managers do share some PBB principles – that one day they will be allowed freedom to manage as professional managers and accountants and that this will be beneficial – but perhaps the 'incompetent' senior management prevents this from happening by breaking their promises with the World Bank on producing a new system of accountability that increases discretion and assesses individual accountability.

There is an interesting document published on the World Bank website in which the former Minister of Finance who resigned looks back on the attempt to implement PBB in the Ministry. He appears quite belligerent after the experience:

> Never issue a law or decree that would force a move from input to outcomes budgeting on the throats of disinterested parties. Unless you lobby and buy-in the interested stakeholders while convincing them of the fruits of bringing down the budget deficit and bringing welfare to the citizen first, success can be a high risk venture. From my personal point of view, the phrase that should win the day in the move towards results-orientation: 'Bought-in stakeholders FIRST; sustained, incentive-based M&E systems SECOND; and legislation comes LAST.' (Hassanein, 2005)

This view of the former Minister of Finance indicates that the amendment of the Budget Law to force the move from line item budgeting to PBB was wrong as buy-in on the ground was needed. As seeing is believing, middle level officials and other stakeholders at the micro level were not convinced with the budgeting reform as it was not materialized in reality.

5. Discussion: Middle managers as embedded agency in SST terms

In this study, SST is used to complement Englund and Gerdin's (2011) flat and local ontology by incorporating external structures and dualism to analyse the paradox of embedded agency, focussing on resistance to change in budgeting practices. Furthermore, an interpretive case study is used to illustrate this framework. In relation to internal structures, the SST framework identifies two types of embedded agency as two ends of a continuum: taken-for-granted agency and critical agency. Stones' (2005) concept of agents' conduct analysis is used to analyse embedded agency in relation to internal structures. In relation to external structures, SST classifies embedded agency into two categories as two ends of a continuum: agency that is unable to change intractable external structures and agency that is able to change modifiable external structures. Stones' (2005) concept of agents' context analysis is used to analyse embedded agency in relation to external structures.

Using the ESTD as an illustrative case study, middle managers in the case constitute the agents-in-focus or embedded agents at the micro (ontic) level and other agents-in-context are the Egyptian senior

governmental officials the meso level and the supranational agency (the World Bank's consultants) the macro level. These multiple sets of structures give the researchers the opportunity to understand the processes of resistance to the failed attempt to institutionalise PBB in the ESTD from the point of view of middle managers [6]. Based on the concept of position-practices, the middle managers' context analysis covers their relationships with other agents-in-context in different institutionalised positions, particularly the World Bank's international and local consultants, key champions, IT developers and existing laws and regulations enforced by the Ministry of Finance.

Using the SST framework presented in section 2.3 and Stones' (2005) concepts of agents' conduct analysis and agents' context analysis (see Figure 6), external agents-in-context are divided into constraining external structures and enabling external structures [7]. Budget law, government accounting, Ministry of Finance, local consultants, on the one hand, represents constraining external structures in relation to middle managers. They act as intractable external structures that put pressures on middle managers to routinely draw on their internal structure and reproduce line-item budgeting practices, i.e. taken-for-granted embedded agency. International consultants of the World Bank, former Minister of Finance and former Commissioner of the ESTD, on the other hand, are enabling external structures. They also act as intractable external structures but provide opportunities for middle managers to strategically draw on internal structures by criticising traditional budgeting practices and adopting elements of PBB. However, the constraining external structures were more powerful than the enabling external structures in this case study. The outcome was the use of PBB as a complementary tool. This is an example of the circumstances in which 'human beings will have limited possibilities to change their dispositions to act and identify opportunities for emancipation in the wider social context in which they are embedded' (Modell, 2017, p. 24).

Insert Figure 6 here

In order to be able to make or resist structural change, embedded agents require adequate knowledge of alternative possible courses of action and adequate critical distance and adequate power to resist. We can observe in this case that the middle managers as embedded agency were 'sieving and sifting' their knowledge of both the circumstances around PBB and their knowledge of their external agents, and evaluating the possibilities available to them. The conjuncture of events, whereby government ministers had put in place the larger aspirations of PBB but not managed the change project to the extent to which legal, accounting and information technology systems were aligned with those aspirations, was adequately understood by managers. They may support the principles of PBB that would devolve greater responsibility to them, be involved in committees that develop the systems and welcome an alternative form of budgeting that would allow them a greater degree of participation, but they also had knowledge – perhaps more than the senior ministry officials – of the day to day problems they encountered having to comply with requirements of legal and computer systems. The middle managers had critical distance from the World Bank aims, and indeed from the Minister of Finance: they could see very clearly the flaws in the change management process. The consultants – the more immediate external agents – had the problem of convincing the managers that the possibilities offered by PBB would materialise, were factual, real possibilities. Faced with ministers who had not believed their estimates on resource requirements and broken promises of devolved responsibility, middle managers may appear to resist the change. They were unlikely to lose their jobs by not working

sufficiently hard to make sure that PBB was successful – they could resist by simply not co-operating, and had adequate power to do so - but in the end, it was not non-compliance that ended the project.

6. Conclusion

This paper contributes to the extant management accounting literature on the use of structuration theory in addressing the paradox of embedded agency in making or resisting structural change as follows. Firstly, it uses SST to integrate Giddens' ST with critical realist theory, incorporating duality and dualism in a stronger model of structuration to explore the possibilities of change and emancipation that result from the interplay between internal and external structures. The theory offers a wide range of circumstances in which change and emancipation can take place. Stones (2001) reject Archer's (1995) idea that critical realist theory and Giddens' ST are incompatible and mutually exclusive theoretical frameworks. Ashraf and Uddin (2015: 492) argue "Stones' strong structuration theory argues for a distinction between external structures (as represented by position-practice relations – and containing many of the 'real' attributes of structures recognised by critical realist) and internal structures ('virtual' structures in accordance with Giddens' definition)". This paper uses SST to complement Englund and Gerdin's (2011; 2018) flat and local ontology by incorporating external structures and dualism to analyse the paradox of embedded agency in budgeting research. Stones (2005) suggests that the ontological position of Giddens' ST advocated by Englund and Gerdin (2011; 2018) has several theoretical disadvantages, as recognised by Archer, Mouzelis, Cohen, Bhaskar and others. Stones' SST addresses and synthesises these critiques. Using Stones' SST, there are four possibilities of embedded agency: taken-for-granted agency, critical agency, agency that is unable to change intractable external structures and agency that is able to change modifiable external structures. Stones' concept of agents' conduct analysis is used to analyse the first two types of embedded agency and Stones' concept of agents' context analysis is used to analyse the other two types of embedded agency.

Secondly, the paper has highlighted the key differences and commonalities between Giddens' ST and Stones' SST. One of the fundamental differences is the ontological status of social structures, i.e. whether or not some structures are autonomous from and independent of the agents who reproduce them (Coad et al., 2015; Englund and Gerdin, 2016). This key difference has led to other related issues that were illustrated by the case study in this paper such as the existence of external structures, ontic, meso and macro levels of social structures, analytical and ontological separation of structure and agency, temporality, agents' conduct analysis and agents' context analysis. Despite these differences, the two structuration approaches can be reconciled and complement each other. For example, Table (1) above indicates that the GIAMER framework introduced by Englund and Gerdin (2018) can be closely linked to taken-for-grantedness and criticalness in SST. This means that a flat and local ST perspective recognizes differences between more or less taken-for-granted reproduction of structures. It also recognizes that some structures are more or less stable/ fluid structures or more or less resistant to change. For instances, Englund and Gerdin (2016, p. 260) argue that '…researchers applying a flat and local ontology may well find that some structural elements (such as market logics and positions) may be essentially taken-for-granted and thus continuously and unreflectingly reproduced in and through day-to-day social practices. That is, we may also find some structural elements are *perceived* by actors as

objective, taken-for-granted, non-controllable and even "external" to the actors in question…' (p. 260, *original italics*).

Thirdly, this paper also contributes to the extant SST studies in management accounting (Jack and Koleif, 2007; Jack and Kholeif, 2008; Coad and Herbert, 2009; Coad et al. 2015; Feeney and Pierce, 2016; Harris et al., 2016; Makrygiannakis and Jack, 2016; Adhikari and Jayasinghe, 2017; Daff and Jack, 2018). Previous studies in this area have not largely addressed the issue of duality and dualism in SST and its implications for management accounting change and stability. This paper explores the types of duality (taken-for granted vs critical) and dualism (intractable vs modifiable) in SST and applies them to the paradox of embedded agency in budgeting research. The case findings revealed that the highly contingent interplay between internal and external structures was vital to understand the role of middle managers as embedded agents in changing budgeting practices in the ESTD. For example, external structures such as budget law and Ministry of Finance constrained middle managers to routinely draw on their internal structures and reproduce line-item budgeting whereas other external structures such as international consultants of the World Bank and former Minister of Finance enabled middle managers to strategically draw on their internal structures and accept some elements of PBB. The possibilities of change and emancipation under such particular social contexts in which there is an interplay between internal and external structures have not been explored in the extant literature on the role of embedded agents in changing management accounting practices (e.g. Ahrens and Ferry, 2018; Englund and Gerdin, 2018; Hiebl, 2018; Horton and Wanderley, 2018).

Finally, middle managers have been chosen as the agents-in-focus in this study to examine whether they caused the failure of PBB, as the World Bank claimed. A further research opportunity is to consider senior managers as the agents-in-focus and examine their role in making structural changes as they might face different possibilities of change and emancipation. For example, If we re-assess the case taking the senior management – ministers and higher ranking civil servants – as the agents-in-focus, then their capacity to resist the World Bank is based on the knowledge that at this conjuncture, there is only one possibility open to them if they are to obtain World Bank funding, which is to accept the condition that M&E systems are put in place with the PBB experiment in the Ministry of Finance. They have less critical resistance and will seriously compromise their core commitments (to maintain the economy) if they fail to solicit and take the money available for the development of infrastructure. They also have more knowledge of the central aim – to raise finances through taxation rather than the allocation of resources within ministries – which means that they will focus on automation of the tax collection systems first, and always have M&E as a secondary aim. This may have meant that they did not fully analyse the possibilities of failure of the projects, or the need for a more cohesive approach to change management. The context for this level of hierarchy includes external agents both at the macro-level (World Bank) and the more micro-level (the middle managers): simply, unless agents context analysis includes adequate knowledge of the possibilities arising from all surrounding agents and structures, then they are less likely to act differently, and current structures become reproduced rather than agents finally being able to do otherwise. The outcomes ultimately remain the same, rather changing internal structures and action.

Endnotes

[1] This figure has some similarity with some other diagrams in the management accounting literature and the institutional theory literature - see for example Burns and Scapens (2000, p. 9) and Barley and Tolbert (1997, p. 101).

[2] In 2003/2004, the ESTD reported sales tax revenues of more than L.E. 22 billion (approximately more than $3.5 billion). In 2007/2008, (after the customised computerisation project) it collected L.E. 40 billion (about $7.6 billion).

[3] Source: Central Bank of Egypt.

[4] Two phone conversations were conducted with the IAP Director and the Minister of Finance's consultant on 23 November 2004 to explore more details about this project.

[5] Performance-based budgeting goes beyond the performance reporting system. The identification of programmes and the measurement of changes therein are set forth on a cost basis so that performance costs are equal to total costs for budgetary purposes.

[6] As the data were collected mainly from the middle managers as the agents-in-focus about the events and circumstances surrounding the implementation of PBB in the ESTD, the point of view of middle managers means both the opinion of middle managers and the contextual situation of middle managers.

[7] From a SST perspective, external structures are conditions of action or the structural context of action faced by the agents-in-focus (Stones, 2005). They are mediated largely through the notion of position-practice relations. A position-practice is a social position and associated identity and practice, together with the network of social relations which recognise and support it (Greenhalgh and Stones, 2010, p. 1288). Material artefacts such as formal accounting reports, rules presented in procedures manuals, computerised systems represent position-practice relations that form part of an agent's external structures (Coad et al., 2015, p. 158). In the case study, the position-practices of agents-in-context (e.g. Minister of Finance, ESTD's Commissioner, local consultants and international consultants of the World Bank) and material artefacts (e.g. budget law and government accounting system) are considered part of middle managers' external structures.

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Figures

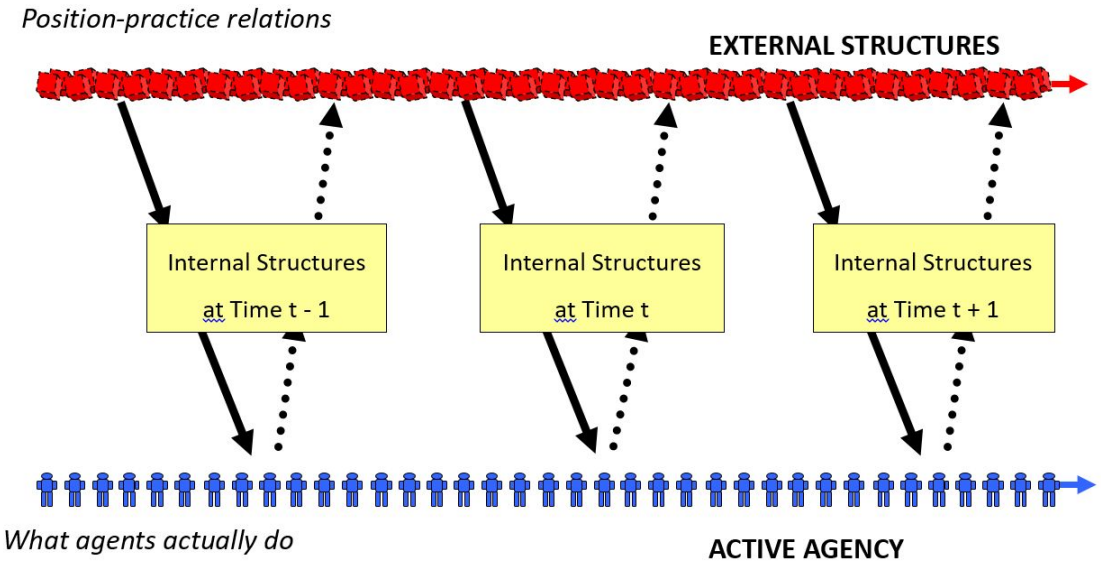

Figure (1): SST and temporality

		Internal structures (IS)	
		Mainly constraining (Taken-for-granted duality)	**Mainly enabling (Critical duality)**
External structures (ES)	**Mainly constraining (Intractable dualism)**	**Quadrant (A)** **Structural context:** constraining IS & constraining ES (independent causal influences) **Emancipation:** limited possibilities **Stability:** agents-in-focus neither initiate nor implement structural change	**Quadrant (B)** **Structural context:** enabling IS & constraining ES (irresistible causal forces) **Emancipation:** moderate possibilities **Intentional change:** agents-in-focus initiate structural change but are not able to implement it
	Mainly enabling (Modifiable dualism)	**Quadrant (C)** **Structural context:** constraining IS & enabling ES **Emancipation:** moderate possibilities **Unintentional change:** agents-in-focus do not initiate structural change but are able to implement it	**Quadrant (D)** **Structural context:** enabling IS & enabling ES **Emancipation:** extensive possibilities **Intentional change:** agents-in-focus initiate structural change and are able to implement it

Figure (2): the ability of embedded agents to make or resist structural change

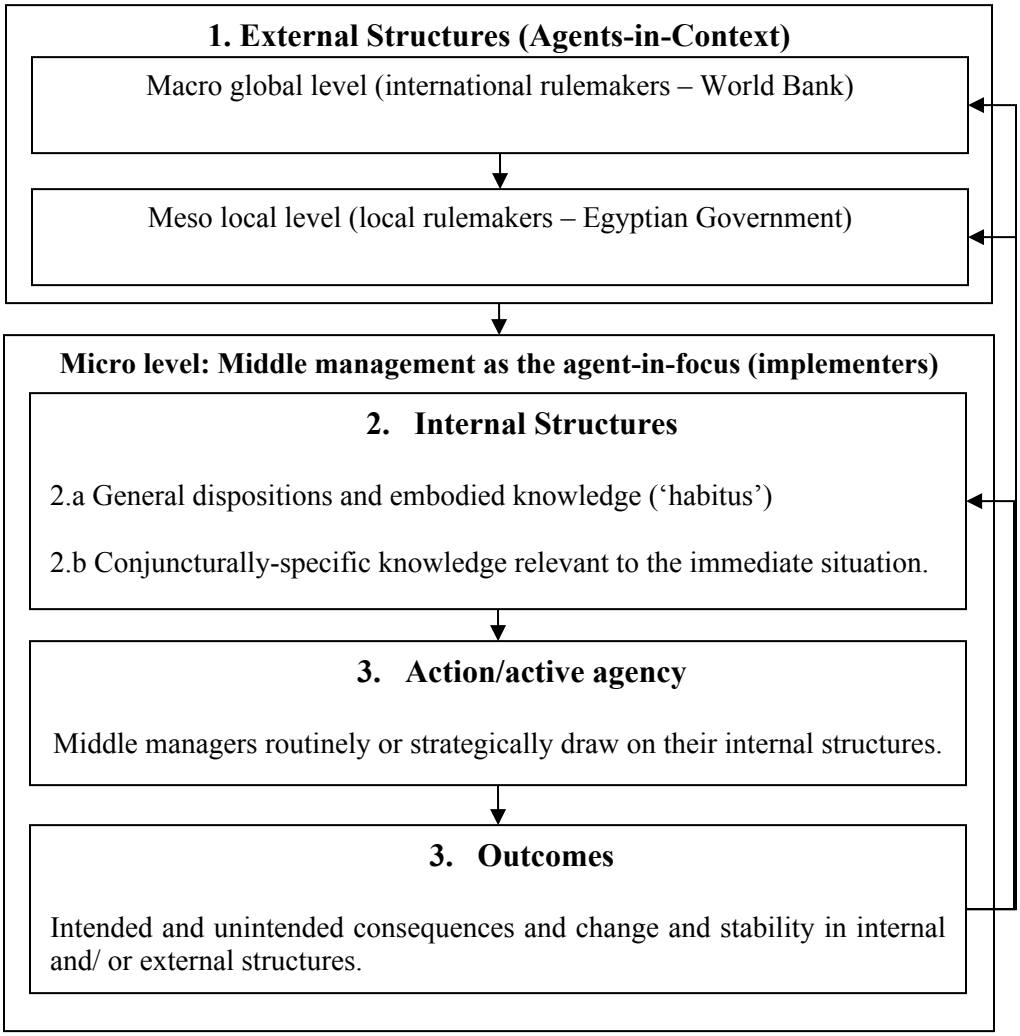

Figure (3) Middle managers as the agent-in-focus within the wider local and global contexts

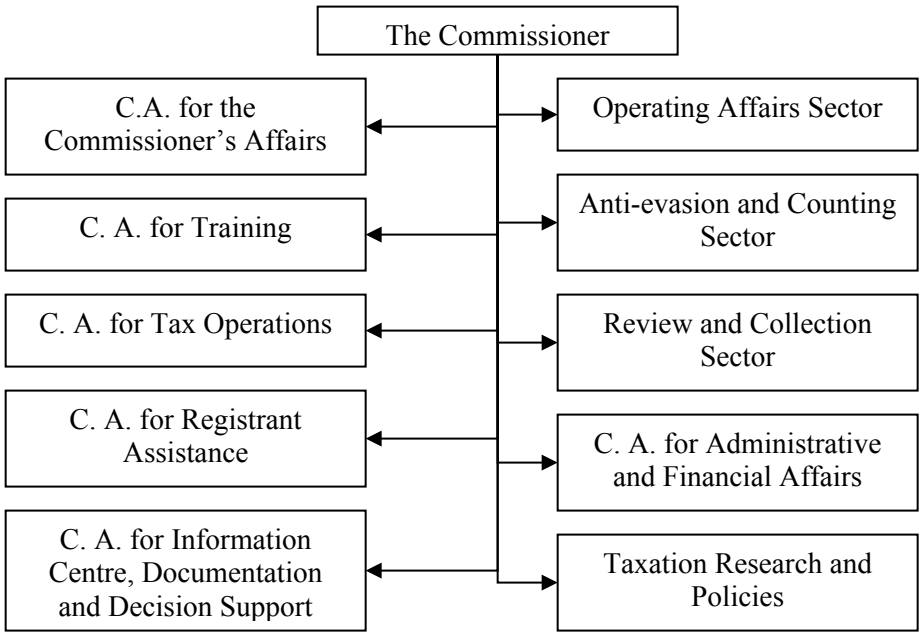

Figure (4): The Organizational Chart of ESTD
Note that C.A. refers to Central Administration

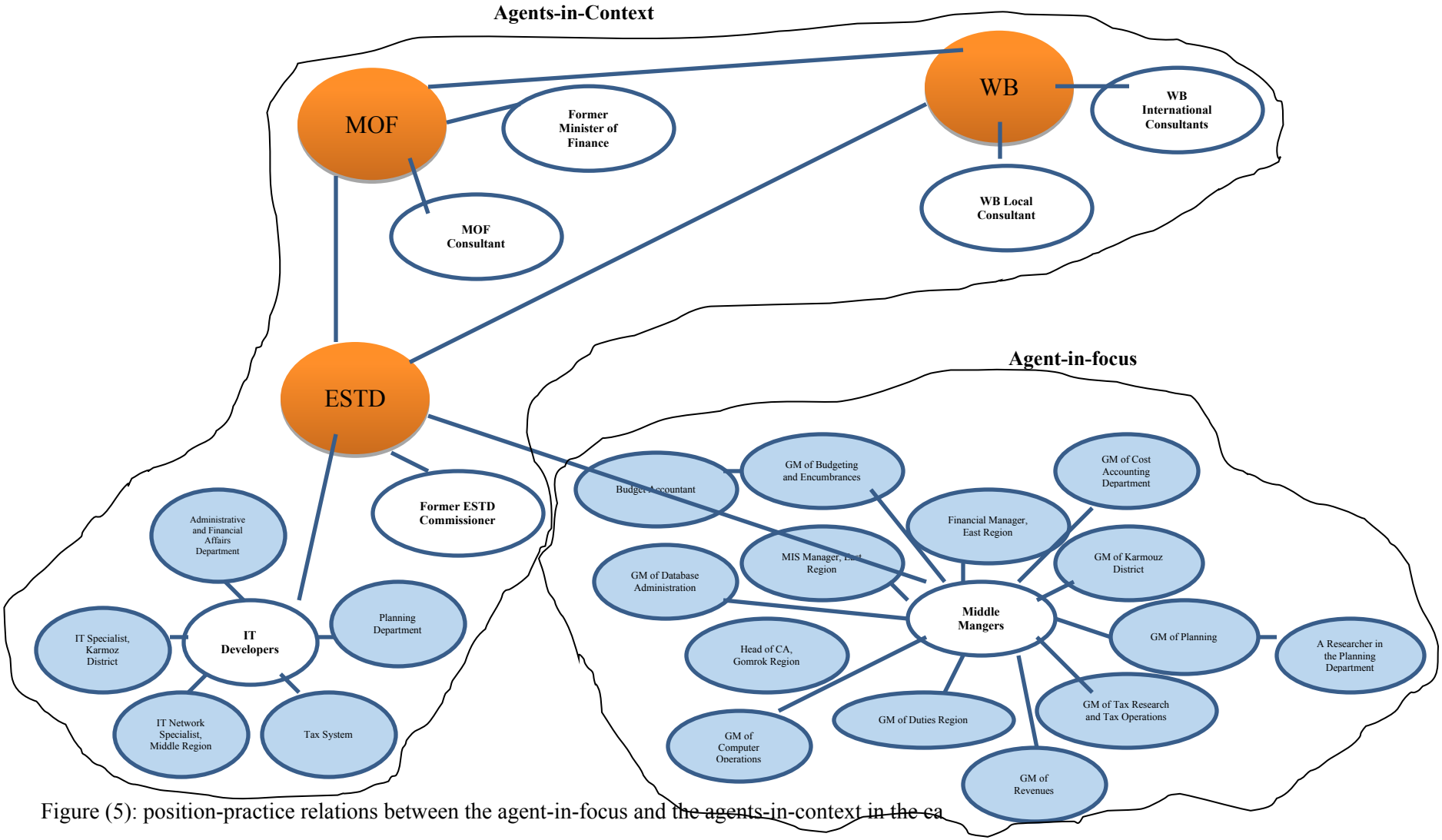

Figure (5): position-practice relations between the agent-in-focus and the agents-in-context in the ca

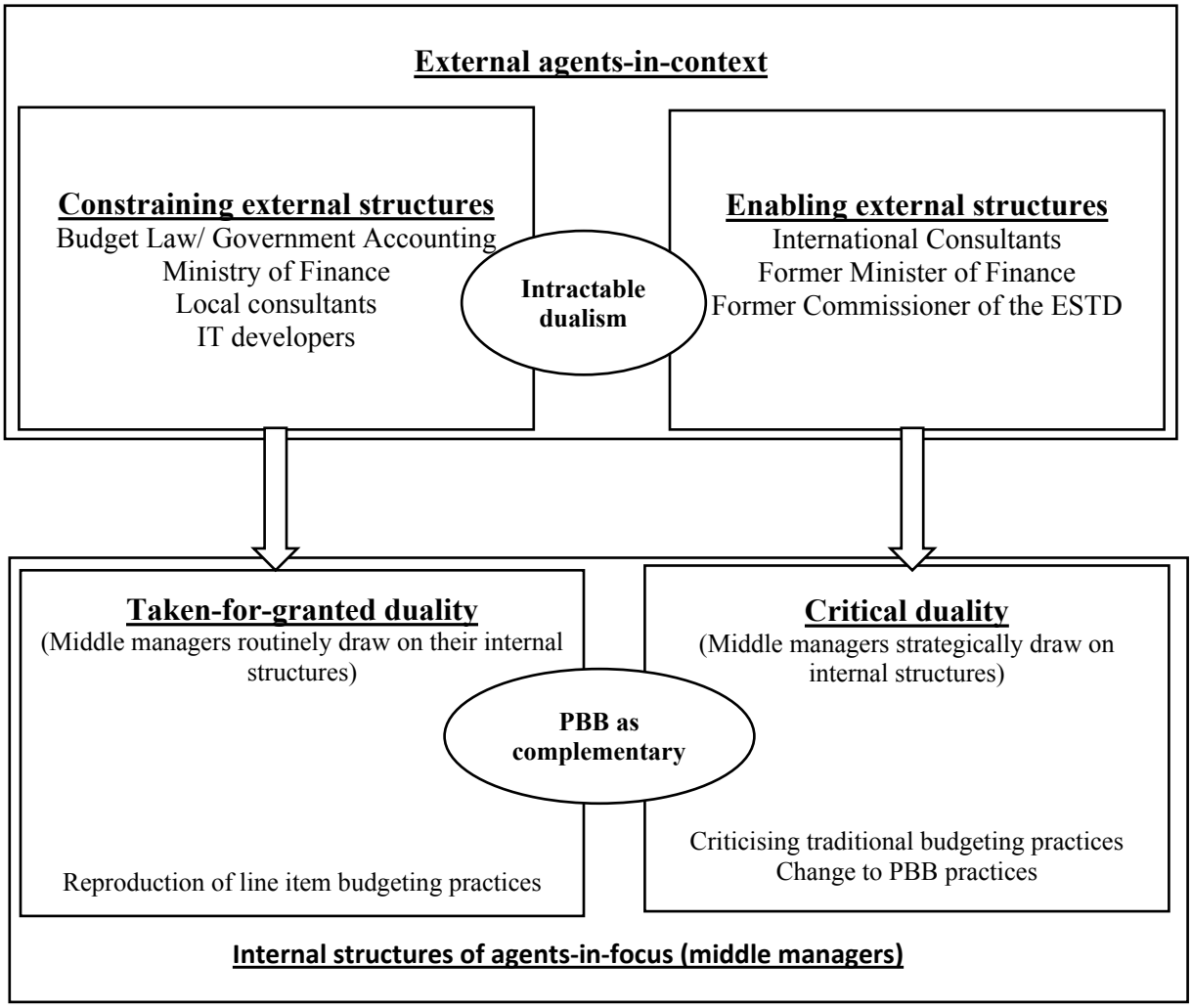

Figure (6): middle managers in the ESTD as embedded agency

Tables:

Table (1): The relation between SST and GIAMER framework

Taken-for-granted duality (Embeddedness)		**Critical duality (Reflexivity)**
Very explicit and straightforward (unambiguous)	Ambiguity	Implicit and open-ended (ambiguous)
Conditions for reproduction are met (adequate)	Inadequacy	Conditions for reproduction are no longer met (inadequate)
A great time/ space extension (general)	Generality	A more narrow scope (specific)
One (homogeneous)	Multiplicity	Multiple (heterogeneous)

Table (2): Examples of first-order expressions and second-order theoretical concepts

First-order expressions	**Second-order theoretical concepts**
- 'The head of regions and the managers of districts should participate in setting their own budgets to be able to achieve them.'	- General-dispositions
- 'Currently, persons who audit our work do not understand in IT. They report only on computer problems such as the breakdown of a printer or a network'.	- Conjuncturally-specific knowledge
- 'Estimated revenues are imposed on us from the top…The Ministry of Finance does not ask for our opinions'. - 'The Minister of Finance was found to be a key champion for the Government of Egypt's move to a results focus'.	- Constraining external structures - Enabling external structures
- 'The employees were 800 and become 1800. However, the facilities have not been changed. To reduce expenditure, we are currently using a four-employee table.'	- Active agency
- 'The implementation will be gradual and will take from 5 to 10 years, like Malaysia. We cannot change the current budgeting system'.	- Outcomes

Response to Reviewer 1's comments
Manuscript ID QRAM-03-2016-0027.R2

Thanks for your constructive feedback to enhance the quality and contributions of the manuscript. Below are our responses:

No	Reviewer's Comments	Responses
	I am now happy that the points I raised in the second review have now been dealt with appropriately, either by amendment of the manuscript or explanation by the authors. The additional materials in the new sections 2.2.6 and 2.3.3 are most helpful as is diagram #1. Just a couple of specifics.	- Thanks for your positive comments.
1	There is some similarity with the diagram in Burns and Scapens (2000), and that had evolved out of certain forerunners in the institutional theory literatures. Perhaps the authors might care to have a look and consider whether some acknowledgement would be appropriate?	- An endnote (endnote no. 1) was added to acknowledge this as follows: "This figure has some similarity with some other diagrams in the management accounting literature and the institutional theory literature - see for example Burns and Scapens (2000, p. 9) and Barley and Tolbert (1997, p. 101)".
2	P9 line 22, 'mush' should be 'much'.	- Corrected.
3	The final sentence of that paragraph could perhaps be more direct, I had to read it 2-3 times. Could I suggest that you take out the 'not only' and replace 'but' with 'and'. I think you are saying that 'Archer (1995) believes structure and agency are both analytically separable and ontologically separate'?	- 'Both … and' were used to replace 'not only … but'.
4	Indeed, the whole paragraph might be clearer (or at least easier to read) if the 'This' on line 24 was restated specifically as 'Gidden's position' as it could be assumed to refer to the last clause only in the preceding sentence. Hope that helps and best wishes for the paper.	- 'This' was restated as 'Giddens'.
	Reference Burns, J. and Scapens, R.W. (2000) Conceptualizing management accounting change: an institutional framework, Management Accounting Research, 11, 3-25.	- Thanks for this.

Responses to Reviewer 2's comments
Manuscript ID QRAM-03-2016-0027.R2

Thanks for your constructive comments. Following your feedback we are able to make the required revision to address your concerns. Below are our responses.

No	Reviewer's Comments	Responses
1	The overall impression is that the manuscript has improved during revision. It now better explains key differences between a flat and local ST perspective and a SST perspective, and the purpose is to "use Stones' SST to complement Englund and Gerdin's (2011; 2018) flat and local ontology by incorporating external structures and dualism to deal with the paradox of embedded agency, focussing on resistance, in the budgeting literature".	- Thanks for your positive comments.
2	While the larger part of the paper is in line with this purpose, I think that the discussion and conclusions have some remainings from the previous versions. For example, section 5.2. seems no longer relevant and the conclusions includes issues related to developing countries, national culture which come a bit out of the blue.	- Section 5.2 & issues related to developing countries and national culture were deleted.
3	Perhaps could these sections focus more strictly on discussing two things (based on the case findings)? First, what are more precisely the key contributions to the extant literature. While you touch upon the work of Englund and Gerdin in the concluding sections, you say very little about how you contribute to Coad, Jack et al., who have discussed the qualities of SST (and ST) at several occasions.	- A new paragraph was added to the conclusion (3rd paragraph in the conclusion section) to show how the paper contribute to the body of knowledge on SST in management accounting. It starts with 'Thirdly, this paper also contributes to the extant SST studies in management accounting …'
4	Second, it would be useful if you could identify and discuss BOTH key differences AND commonalities between ST and SST. For as you say yourself, also a flat and local ST perspective recognizes differences between more or less taken-for-granted reproduction of	- A new paragraph was added to the conclusion (2nd paragraph in the conclusion section) to identify and discuss this. It starts with 'Secondly, the paper has highlighted the key differences and commonalities between Giddens' ST and Stones' SST…'.

	structures (what SST refer to as taken-for-granted vs. critical agency) and more or less stable/fluid structures (referred to as intractable vs. modifiable structures). Furthermore, much if not most of your discussion about external structures concerns whether or not agents are able to affect/change these structures. But as I understand a flat and local ST perspective, it would also agree on this assumption (i.e. that some structures for various reasons are more resistant to change compared with others). It would also agree on that particular social categories such as gender, hierarchical position etc. strongly influence human agency. I think a key difference is the ontological status of social structures, i.e. whether or not some structures could be seen detached from human beings, yet influencing them in a causal way.	
5	Speaking about of structures, please clarify what this the key notion means and implies. You write; "Budget law, government accounting, Ministry of Finance, local consultants, on the one hand, represents constraining external structures in relation to middle managers. They act as intractable external structures that put pressures on middle managers to routinely draw on their internal structure and reproduce line-item budgeting practices, i.e. taken-for-granted embedded agency. International consultants of the World Bank, former Minister of Finance and former Commissioner of the ESTD, on the other hand, are enabling external structures." Does this mean that both artefacts (such a budget law), a practice (government accounting/budgeting) and various types of actors (consultants, ministers, etc.) are structures? Good luck as you continue your work.	An endnote (endnote no. 7) was added to clarify the key notion of external structures as follows:- "From a SST perspective, external structures are conditions of action or the structural context of action faced by the agents-in-focus (Stones, 2005). They are mediated largely through the notion of position-practice relations. A position-practice is a social position and associated identity and practice, together with the network of social relations which recognise and support it (Greenhalgh and Stones, 2010, p. 1288). Material artefacts such as formal accounting reports, rules presented in procedures manuals, computerised systems represent position-practice relations that form part of an agent's external structures (Coad et al., 2015, p. 158). In the case study, the position-practices of agents-in-context (e.g. Minister of Finance, ESTD's Commissioner, local consultants and international consultants of the World Bank) and material artefacts (e.g. budget law and government accounting system) are considered part of middle managers' external structures".