

Northumbria Research Link

Citation: Elmassri, Moataz, Abdelrahman, Mahmoud and Elrazaz, Tariq Strategic investment decision-making: A theoretical perspective. *Corporate Ownership and Control*, 18 (1). pp. 207-216. ISSN 1727-9232

Published by: UNSPECIFIED

URL:

This version was downloaded from Northumbria Research Link: <http://northumbria-test.eprints-hosting.org/id/eprint/55132/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



UniversityLibrary



Northumbria
University
NEWCASTLE

STRATEGIC INVESTMENT DECISION-MAKING: A THEORETICAL PERSPECTIVE

Moataz Elmassri^{*}, Mahmoud Abdelrahman^{**}, Tariq Elrazaz^{***}

^{*} Roehampton Business School, University of Roehampton, London, the UK; Faculty of Commerce, Accounting Department, Zagazig University, Zagazig, Egypt

^{**} *Corresponding author*, Newcastle Business School, Northumbria University, Newcastle upon Tyne, the UK; Zagazig University, Zagazig, Egypt

Contact details: Newcastle Business School, Northumbria University, 242-City Campus East, Newcastle upon Tyne, NE1 8ST, the UK

^{***} College of Business and Economics, United Arab Emirates University, Abu Dhabi, the UAE; Faculty of Commerce, Accounting Department, Zagazig University, Zagazig, Egypt



Abstract

How to cite this paper: Elmassri, M., Abdelrahman, M., & Elrazaz, T. (2020). Strategic investment decision-making: A theoretical perspective. *Corporate Ownership & Control*, 18(1), 207-216. <http://doi.org/10.22495/cocv18i1art16>

Copyright © 2020 The Authors

This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). <https://creativecommons.org/licenses/by/4.0/>

ISSN Online: 1810-3057

ISSN Print: 1727-9232

Received: 07.09.2020

Accepted: 26.10.2020

JEL Classification: D70, D91, G11, G32, M41

DOI: 10.22495/cocv18i1art16

There is a stream of research that has introduced strategic investment decision-making (SIDM) through case studies and organisation-based fieldwork. However, a systematic theorisation around SIDM processes and practices still under-presented in the literature. This research aims to show how strong structuration theory (SST) could be used as an appropriate theoretical lens to explore how SIDM studies are theorised and conducted. Through employing the parameters and the concepts of SST within the SIDM context, we found that SID is a judgemental decision that is constructed by various influences. SIDs are not isolated from the social, political, and economic aspects. Subjective judgements and the decision-makers' intuition are crucial throughout the process of SIDM. Therefore, SIDs cannot be abstracted as an objective decision-based on applying investment appraisal technical methods. The theoretical lens presented in this paper will enable researchers to drill down into the 'ontic' level to empirically explore in-depth the complex interrelationships between various agents and structures which, arguably, fits the SID context. Furthermore, this paper will help scholars understand how SID is made from SST perspective and guide them to conduct future research to build on and also help executives to be guided by.

Keywords: Strategic Decision-Making, Investment Appraisal, Managerial Judgement, Strong Structuration Theory

Authors' individual contribution: Conceptualization - M.E.; Theoretical Analysis and Discussion - M.E. and M.A.; Writing - Original Draft - M.E., M.A., and T.E.; Writing - Review & Editing - M.E., M.A., and T.E.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

Acknowledgments: We gratefully acknowledge the financial support provided by United Arab Emirates University (UAEU), Grant Code: G00003349.

1. INTRODUCTION

A strategic investment decision (SID) is a means of implementing an organisation's strategy through allocating resources among competing investment projects (Bowman & Hurry, 1993; Elmassri & Abdelrahman, 2020; McGrath, Ferrier, & Mendelow,

2004). Prior studies on SID including Abdel-Kader and Dugdale (2001), Arnold and Hatzopoulos (2000) observed the investment appraisal methods that are applied that represent the traditional perspectives of making SIDs. Another line of literature (Carr, 2005; Emmanuel, Harris, & Komakech, 2010) explores how political, social, behavioral, and cultural aspects influence SIDs. Moreover, Adel and Alkaraan (2019),

Alkaraan (2020) examine the implementation of conventional and emergent analysis techniques in SIDs practices in organisations, in addition to highlighting the influence of contextual factors on the failure and the success of SIDs in projects.

The traditional SID perspective aims to economically rationalise SIDs. Rationality is defined in economics as characterizing those tools and procedures that are most effective in helping the decision-makers achieve their own objectives (Baumol & Blinder, 1985). However, Burgos, Kittler, and Walsh (2020) highlight that budgeting and investing decisions are not only carried under conditions of bounded rationality but also, they suggest a major role of context to understand how bounded rationality is implemented differently towards SIDs.

Investment appraisal methods presumably play this role in optimising the attainment of a pre-determined goal. The process of this economic rationality takes place at an abstracted level, ignoring any contextual and judgemental issues. There is no room for any political, social, and economic influences and also subjective judgements and personal intuition are isolated from any SID. A strategy is a dynamic concept, influenced by many contingent aspects. This is inconsistent with and avoided by the narrow view of the technical perspective on SIDs. It is not rational to simplify very complex decisions by using quantitative analysis (Grundy & Johnson, 1993). This might lead to a gap between SIDs and the company's dynamic environment, so they might lose sight of their strategic context.

Therefore, critics (Dugdale & Jones, 1995; Alkaraan & Northcott, 2006) challenge this economic rationalising, financial, traditional perspective, as it ignores non-financial, strategic considerations embedded within investment proposals. Therefore, certain researchers (Abdelrahman, Masri, & Skoumpopoulou, 2019b; Abdelrahman & Papamichail, 2017; Emmanuel et al., 2010; Elmassri, Harris, & Carter, 2016) view SIDs from a process and people perspective. This perspective considers SID-making as a process that is influenced by many contingencies. Social, political, organizational, contextual, culture, managerial judgement, and other aspects can shape SIDs.

Accordingly, this research views SID as an outcome of structures-agents relationships. The interaction between various structures/processes (e.g., political, social, economic, and technical) and agents/people intuitions and subjective judgement frame agents' understanding of SIDs. Arguably, positioning SID practice in a structures-agents relationship enables us to understand how a range of factors affect SIDs structurally through political, economic, and societal influences on the organisation, and how these influences are differently understood by agents (e.g., decision-makers).

In order to support the structures-agents, we employ the strong structuration theory (SST) as a theoretical lens to explore how SIDs are made. Thus, this paper aims to understand how SID is made from an SST perspective. There are many calls (e.g., Harris, Northcott, Elmassri, & Huikku, 2016) to theorising the SID practice. Thus, this paper extends the prior literature by theoretically contribute to the management accounting and SID literature by employing SST as it is the most suitable theoretical platform to interpret how the interrelationships

between various social structures shape the decision-makers' judgements in making SIDs. This theoretical lens enables the researcher to drill down into the ontic level to empirically explore in-depth the complex interrelationships between various agents and structures which, arguably, fit the SID context.

The structure of the paper is as follows. Section 2 discusses the theoretical perspectives and literature review. Section 3 illustrates the theoretical analysis and discussion. It is followed by the features regarding the appropriateness of strong structuration theory for strategic investment decisions context in Section 4. Section 5 presents the conclusion of this paper followed by the theoretical contribution and the discussion of limitations and further research.

2. THE THEORETICAL PERSPECTIVES AND LITERATURE REVIEW

2.1. Social theories and accounting

There are many social theories that emphasise both agents and structures, for instance, institutional theory. Institutional theory is concerned mainly with the intra-organisational processes of change (Burns & Scapens, 2000). Guerreiro, Lima Rodrigues, and Craig (2020) highlight that "institutions are viewed as shaping every aspect of social life; motivating the actions of individual and collective actors, and supporting the material and symbolic structures that trigger and shape those actions" (p. 7). Lounsbury (2008) argues that new institutional sociology-oriented studies should broaden the scope of their theory beyond isomorphism and symbolic conformity in order to explore the embedded dynamics of intra-organizational micro-processes. Thus, the institutional theory focuses on the process of change within the organisation processes. However, within the SID context, we do not aim to investigate a process of change as such and focuses on the extra-organisational aspects such as political, social, and economic influences on SIDs. In addition, another major strand in contemporary social theory that considers both structures and agency is the actor-network theory (ANT). Latour (1987), one of the leading writers on ANT, argues that systems are constructed through a mix of science, politics, and nature. This mix together is understood as the construction of networks that link actors through intermediaries that anything that defines the relationship that passing across actors (Callon, 1991). It can also be "an entity able to associate texts, humans, non-humans, and money" (Callon, 1991, p. 140). Jones and Dugdale (2001) argue that "the actor-network views relationships between (human and non-human) actors via (human and non-human) intermediaries" (p. 56). Arguably, the process of making SIDs do not aim to investigate the relationship between non-human agents and structures. However, it aims to understand how contextual influences are differently understood by human agents and also how they are constructed by them.

Arguably, SST is the most suitable theoretical framework for making SIDs. This section introduces and defines the main themes of SST. In doing so, this section begins by addressing what structuration theory (ST) is and how ST is presented in accounting literature. It also justifies why a structuration

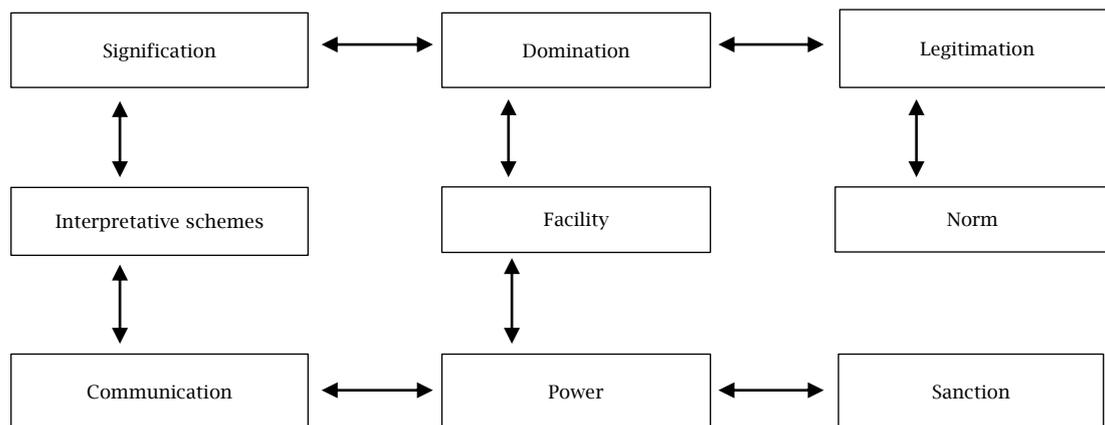
perspective is appropriate for the SID context, especially, why the 'strong' version of ST is considered the best theoretical framework to interpret how SIDs are made. Crucially, SST is not a new theory, rather than it is a strengthened version of ST to be adopted in empirical research (Jack & Kholeif, 2007).

2.2. Structuration theory

Anthony Giddens, a British social theorist, has developed structuration theory (ST) over the past forty years (Giddens, 1979; 1984). Giddens aimed to create a conceptual apparatus that includes a way of understanding the conditions for social institutions' transformation rather than simply explaining them (Macintosh & Scapens, 1990). Giddens tried to incorporate both structure and agents in ST, which depicts institutions as social systems, produced and reproduced through ongoing interactions between agents and structures, underpinned by common rules and norms (Daff & Jack, 2018; Giddens, 1979; Scapens & Macintosh, 1996; Boland, 1993; Conrad, 2005). Structures are produced and reproduced through a process called the "duality of structure".

Giddens (1976) argues that duality of structure means "that social structures are both constituted by human agency, and yet at the same time they are the very medium of this constitution" (p. 121). According to the duality of structure, the constitution of agents and structure cannot be seen as two independent phenomena. Agents and structure are paradoxically independent but related (Macintosh & Scapens, 1990). In this sense, the duality perspective, arguably, fits the SID context, being concerned with how decision-makers understand the various structures and how this understanding affects the process of framing SIDs. The process of production and reproduction (see Figure 1) between agencies and structures takes place through three dimensions. These dimensions represent the procedures that mediate between the (*virtual*) structure and the (*situated*) social interaction; Giddens refers to them as "modalities of structuration". There are three modalities: interpretative schemes, facility, and norms that mediate the social interaction between the three virtual structures (signification, domination, and legitimation) and the situated social interaction (communication, power, and sanction).

Figure 1. Structuration theory



Source: Giddens, 1984, p. 29.

2.3. Structuration theory and accounting literature

Many accounting studies (Macintosh & Scapens, 1990; Laughlin, 1990; Scapens & Macintosh, 1996; Uddin & Tsamenyi, 2005; Scapens, 2006; Jack & Kholeif, 2008; Coad & Herbert, 2009; Elmassri et al., 2016; Makrygiannakis & Jack, 2018) employ ST. Most studies that adopted ST are management accounting and management control studies, for example, management by objectives (Dirsmith, Heian, & Covaleski, 1997; Alam, Lawrence, & Nandan, 2004), costing system (Jack, 2005), budgets (Collier, 2001; Uddin & Tsamenyi, 2005), enterprise resource planning (Jack & Kholeif, 2008), supply chain (Free, 2008), organisational change (Conrad, 2005; Joseph, 2006) and performance appraisal (Cowton & Dopson, 2002).

This trend started with Roberts and Scapens (1985), who introduced structuration theory into accounting research, by studying the role of ST as an appropriate paradigm for exploring accounting as organisational practice. Roberts and Scapens (1985) propose "accounting as a language" to illustrate the signification, legitimation, and

domination structures. Accounting terms such as cost, income, return on investment, etc. represent a structure of meaning which can be drawn upon by agents to orient their actions. These meanings are always subject to contestation and negotiation, so these meanings themselves are constantly evolving and changing. For example, the term "cost" is unlikely to be fixed in time and space for accounting purposes; its meaning is always produced and reproduced. Jack (2020) highlights that, "Drawing on strong structuration theory (Stones, 2005), active agency in an accounting context is primarily acts of communication and communication practices" (p. 240). Moreover, accounting practice provides a moral ordering of reciprocal rights and obligations; it involves the communication of a set of values, ideas of expected behaviour, of what is approved and what is disapproved, and notions of what should happen. Furthermore, Warren and Jack (2018) emphasise that management accounting can offer and extend several numerical techniques that can help and assist capital budgeting for decision-making in such a project. Budgeting is an example, whereby what has happened is

evaluated in terms of expectations as to what should have happened, which involves relations of power between superiors and subordinates.

Since then, a line of research (Roberts, 1990; Macintosh & Scapens, 1990; Boland, 1993; Uddin & Tsamenyi, 2005) argues that accounting can act as the modalities of structuration. Accounting can be seen as an interpretative scheme (Roberts, 1990); a sanctioning device (Conrad, 2005); a resource or a facility for the exercise of power (Macintosh & Scapens, 1990). Comprehensively, Englund et al. (2011) argue that ST “allows us to explore how accounting simultaneously may work as an interpretative scheme, a set of norms and ideals, and as a facilitator for the exercise of power” (p. 505). Macintosh and Scapens (1990) also argue that although the three dimensions of modalities are separable analytically, they are inextricably linked.

In particular, Macintosh and Scapens (1990) claim that MAS can act as the three modalities of Giddens’ ST. MAS are interpretative schemes that managers use to take actions. MAS also can act as a set of norms and behaviours that underpin the accounting concepts and financial discourse to legitimatise what is approved and unapproved, by presenting facilities and resources through which management can exercise their power to control subordinates.

The intertwining between the three structures enabled us to understand how the decision-makers construct their SIDs, how the power of certain agents can push the decision-makers to communicate their interpretative schemes in reproducing/resisting technical structure. Especially in the uncertain business context, the uncertainty embedded in the political, social, and economic structures provides a unique opportunity to examine how the meanings, relative values, and power capacities of agents and structures are re-constructed throughout the process of making SIDs.

2.4. The call to strong structuration theory

Despite the contributions of ST in accounting and management research, it is subject to criticism (Stones, 1991; Jones & Dugdale, 2001; Stones, 2005). For instance, the replacement of “dualism” with “duality” is problematic in its treatment of agency and structure (Cohen, 1989). Duality assumes that agency and structure are independent, and production and reproduction exist through their interplay. However, dualism defines agency and structure as mutually intertwined, but still conceptually independent. Jones and Dugdale (2001) argue that “this transformation may be difficult - if not impossible - to achieve” (p. 54). This is due to methodological differences of ST, Giddens (1984) argues that institutional analysis and strategic conduct analysis are both components of ST and may be conducted separately as a form of methodological bracketing. Strategic conduct analysis is “social analysis which places in suspension institutions as socially reproduced, concentrating upon how actors reflexivity monitor what they do; how they draw upon rules and resources in the constitution of interaction” (Giddens, 1984, p. 378).

In contrast, institutional analysis is “social analysis which places in suspension the skills and awareness of actors, treating institutions as

chronically reproduced rules and resources” (Giddens, 1984, p. 375).

Strategic conduct analysis is interested in hermeneutic ways in which agents reflect upon their understanding of the structure of signification, domination, and legitimation, which approaches the heart of structuration theory (Stones, 2005). However, institutional analysis “cannot grasp structures as a medium of the agent’s practice. Neither can it know which structuration outcomes are links between structures at the most abstract level and more substantive notions of structure” (Stones, 2005, p. 44).

The institutional analysis does not seem to be able to explore the duality of structure and process, as it does not hold space for the structures-agents nexus of ST (Giddens, 1984; Jones & Dugdale, 2001, Conrad, 2005). Rather, it considers the constitutive social structure as a chronologically produced feature of social systems (Giddens, 1979; Stones, 1991). Stones (2005) argues that institutional analysis fails to frame the meaning from within which agents understand the external structuration process, so it fails to consider the influence of the agents’ context. This is inappropriate to the SID context, as examining the agents’ context is crucial in understanding how the SIDs are constructed.

Moreover, Stones (2005, p. 7) argues that Giddens’ treatment of ST is directed towards establishing a general set of concepts, “*ontology-in-general*”, that holds definitions of ST’s concepts at the abstract and generalising levels to incorporate all structures all agents, and all structures across all times and in all spaces, missing the distinction between the substantive and philosophical level. Stones (2005) claims that in order to understand a specific particular social practice at a given time and space, we should move to “*ontology-in-situ*” or the “*ontic*” level to develop bridging constructs between the philosophical and substantive level of structuration, so we are able to explore social phenomena at a particular time and space. The ontic is the “level at which the empirical can be sought”, which enables researchers to understand the practices and the dispositions of agents (Jack & Kholeif, 2007).

Stones (2005, p. 116) argues that the strength of SST is that it can translate the ontology of ST into the epistemological understanding required by scholars on the ground by moving from the abstracted ontological level to the meso-level, which is suitable for designing and interpreting substantive empirical work. The structures-agents relationship in the SID context cannot be explored at an abstract ontological level. There is a need to slide down through the ontological meso-level to understand how political, economic, and social structures shape the agents’ subjective judgements and intuition in their making of SIDs.

The second contribution of Stones to strengthen the ST is adopting Cohen’s (1989, p. 210) definition of “position-practices”. Giddens (1979, p. 117) used the term “social identity”² to define social positions that carry with them a certain range of prerogatives and obligations within a network of

¹ *Ontology-in-general* explains at an abstract level how structure and agency are interrelated, being a duality in which neither can exist without the other (Jack, 2017, p. 211).

² Social identity refers to the ways that people’s self-concepts are based on their membership in social groups. Examples include sports teams, religions, nationalities, occupations, sexual orientation, ethnic groups, and gender (Leaper, 2011, p. 338).

social relations (Giddens, 1984). However, Jack and Kholeif (2007) argue that “social identity may explain how structures persist but not how the actions of the incumbents of the positions reproduce those identities” (p. 212). Equally, Cohen (1989, p. 208) argues that the concept of social positions does not explain how social identities are fully reproduced in the duality of structure. The structuration process should not only hold social identities positions (e.g., rights, obligations, task, etc.) but also should hold a set of patterns of behaviours, practices, which are conducted by knowledgeable incumbents (Cohen, 1989). Therefore, Bhaskar’s (1979) “position-practice” notion conceptualises social positions as the empirical fulcrum for pivoting between agency and structure (Busco, 2009).

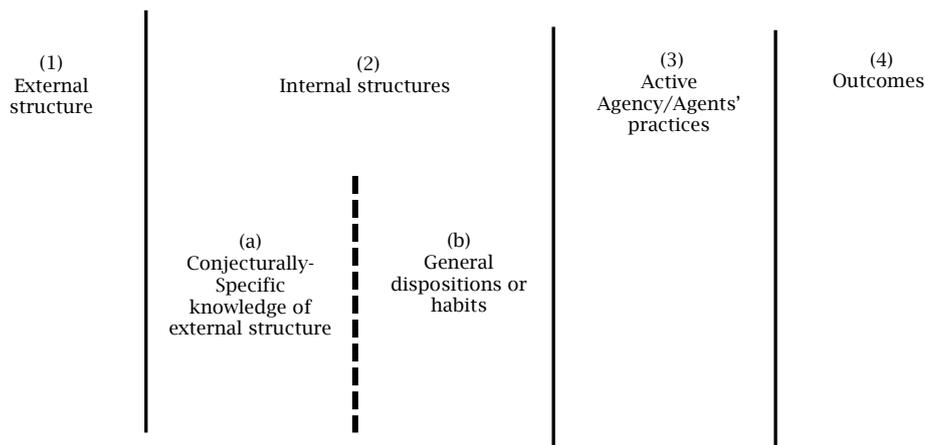
A study by Coad and Glyptis (2014) illustrates the use of the positions-practices perspective in accounting and management control research. This study advocates that the positions-practices perspective focus on the more concrete aspects of structuration, such as the articulation of patterns of social behaviour in relations between agents over time; unlike most structuration studies (Macintosh & Scapens, 1990) which focus on the analysis of virtual structures: signification,

legitimation, and domination. The position-practices perspective “more clearly sensitises accounting and control studies to how agents, situated in time-space contexts, draw upon their knowledge of situated practices when engaged in the exercise of power, acts of communication and the imposition of sanctions” (Coad & Glyptis, 2014, p. 158).

2.5. Strong structuration theory framework

This paper employs a strong version of ST introduced by Stones (2005). In addition to its ability to explore the inter-relationships between various structures and agents. Stones translates his contributions to Giddens (1979) approach through introducing an analytical framework, which he called “The quadripartite nature of structuration” (see Figure 2). The framework consists of four components: external structures, as conditions of actions, the internal structure (within the agent), active agency, and outcomes (Stones, 2005, p. 84-85). The relationships between the four components of the quadripartite nature of structuration are very complex and are “involved in successive cycles, each of which involves both hermeneutic and structural moments in interplay with each other” (Stones, 2005, p. 187).

Figure 2. The quadripartite nature of structuration



Source: Stones, 2005, p. 85.

Stones (2005) claims that in order to conceptualise external causal influences on agents, two types of occurrences to external structures should be encompassed. The first is described as independent causal influences because the occurrence is entirely dependent on the agents, while the second is irresistible since external structures are autonomous and influence social practice regardless of the agents' own desires (Stones, 2005, p. 111). Coad and Herbert (2009) argue that irresistible does not mean that agents have not the capacity to resist; however, they feel unable to do so, resulting in a feeling of powerlessness. Agents, in order to resist the pressures of external structures, have to exert sufficient power to do so, which depends on their positions-practices and their power capacity.

As examples of why SST fits SID, the works of Carr, Kolehmainen, and Mitchell (2010) and Quinn (1980) are informative because they explore the value of external influences. Carr et al. (2010)

found that SID practices in the USA, the UK, and Japan are different due to contextual influences. Quinn (1980) argues that making SID is constructed by a variety of external influences arising from past events, present circumstances, and perspectives of the future. Equally, Elbanna and Child (2007), in the Egyptian context, found that some strategic decisions are shaped by cultural aspects. Equally, Elmassri et al. (2016) found that the post-revolution political, social, and economic Egyptian context with extreme uncertainty influence the SIDs making.

However, this is not a purely external study. It is important to have a framework for the understanding of how agents interpret and react to pressures externally. Stones' identifies two components of agents' internal structures that influence their strategic conduct: conjecturally-specific internal structures, and general-disposition structures or habits' structures which both represent the first axis of agents-in-focus (decision-makers). Conjecturally-specific internal

structure refers to the agents' specific knowledge of particular contexts, which is "knowledge of interpretative schemes, power capacities and normative expectations and principles of the agents within context" (Stones, 2005, p. 91). Furthermore, Abdelrahman, Papamichail, and French (2011), Abdelrahman et al. (2013), Abdelrahman and Papamichail (2017), Abdelrahman et al. (2019b), Abdelrahman (2019) highlight and explore the importance of supporting decision-making processes in organisations by using and sharing their knowledge via using knowledge management systems.

There is a line of research in the management literature (Jack & Kholeif, 2007; Coad & Herbert, 2009) that explores the interactions between general-disposition structures and conjecturally specific internal structures. Coad and Herbert (2009) investigated, in a single business unit within the UK electricity generation industry in 1990, how the engineers act towards a new management practice. The engineers used to maintain their own manual records. However, a new management control affected the financial empowerment of engineers that a conflict between the engineers' general dispositions and their external structural context which led them to be receptive to changes in management practices.

Moreover, the third component of Stones' framework is an active agency; it is the "active, dynamic moment of structuration" (Stones, 2005, p. 86). The combination of two components of internal structures can routinely and pre-reflexivity, or critically and strategically influences the agents. The active agency models the process of internal structure interactions and takes this interaction to the final shape of the interaction process (Mouzelis, 1991, p. 198). Stones (2005) argues that "doing of interactions in specific time and space is not reducible to virtual, latent, perspectives, conjecturally-knowledge, dispositions

and capabilities of internal structures" (p. 101). However, this interaction is motivated by consciousness and unconsciousness motivations of agents' conduct (Stones, 2005); rationalisation of action against the background of agents' reflexive monitoring of their conduct hierarchy of purposes (Giddens, 1993, p. 90). According to these various motivations, agents produce their outcomes, which is the fourth component of Stones' framework. Outcomes show the differential influences of actions and interactions between internal and external structures, which can include "change or elaboration or reproduction and preservation" of certain structures (Stones, 2005, p. 85).

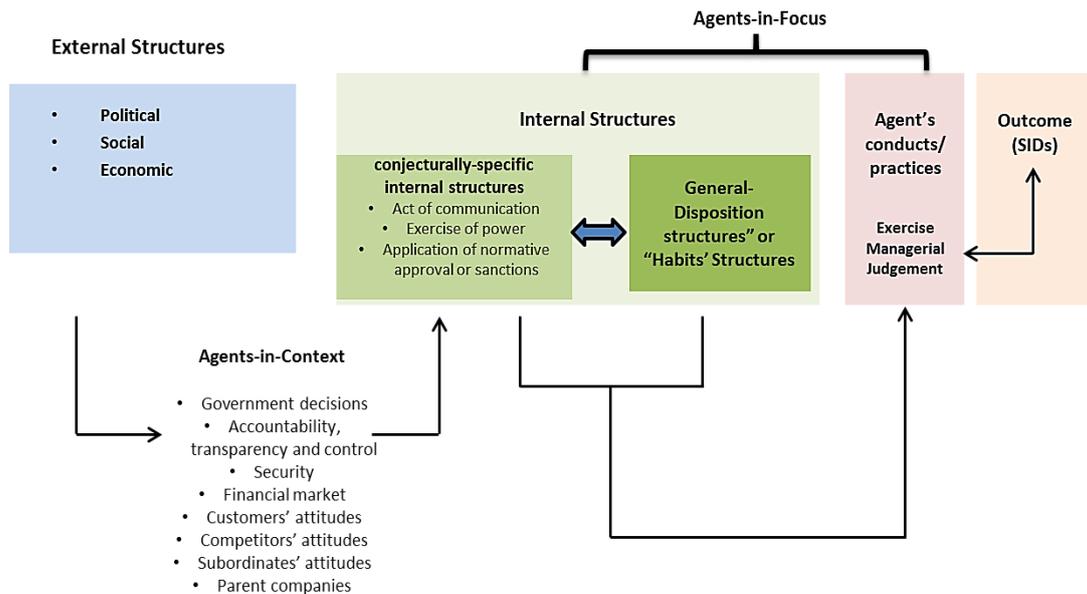
The strong version of ST, arguably, is the most suitable theoretical framework for the SID context. Stones' approach explores the role of external structures in re-constructing the structures-agents relationship. Although Stones (2005) claims that external structures are independent causal influences, they are value-dependent influences. This means that external structures have influences because an "existing subjectivity is influenced (in a duality of structure and agency) by independently existing external structural constraints and pressures" (Stones, 2005, p. 112). This subjectivity is a crucial dimension in making SIDs, reflecting how the political, social, and economic can shape the agents' subjective managerial judgements.

The next section discusses the implementation of the SST framework on the process of making SIDs.

3. THEORETICAL ANALYSIS AND DISCUSSION

Given the process and people's perspective, making SIDs can be presented as a holistic process of structure-agent relationship. This section defines the four analytical frameworks of SST, and justify why this theoretical lens fits the SID context.

Figure 3. The quadripartite framework within SID context



Note: Adapted from Stones (2005, p. 85).

The components of the quadripartite framework: the external structure, internal structures analysis of within the agents structures, agency practices, and outcome (see Figure 3). Based on the definitions of agents-in-focus and agents in context. Agents-in-focus are the people who are involved in the process of making SIDs (e.g., business owners, managers, Investment directors, chief financial officers, etc.). Kostyuk and Barros (2018) highlight that “the strategic committee should play a more important role in the ex-ante preparation – in conjunction with consultancies and executive directors – of the strategic plans that the board must be discussed more deeply” (p. 26).

Since the revolution and due to chaos and uncertainty, agents-in-focus try to expand their agency context in order to grasp a better understanding of external structures (Stones, 1991; Stones, 2005; Jack & Kholeif, 2007; Kholeif & Jack, 2019).

Thus, agents in context can be represented by customers, competitors, government decisions, subordinates, government reports, security, accountability, transparency and control, financial markets, and the parent company (Stones, 2005; Coad & Herbert, 2009). Given the uncertain business context, the main external structures are the political, social, and economic structures, which are characterised by a high degree of instability. The four components of the framework are not seen as sequential, but as interacting together at the same time. There are multiple decisions (outputs), so the understanding of agents-in-focus is constructed through a continuous judgemental relationship between agents and structures.

SIDs are made through sets of interactions across the four themes of the external structure, internal structures analysis of within the agents structures, agency practices, and outcome at the same time. Agents-in-focus understand structures according to agents' context and the power relationships in these social interactions. This understanding draws upon agents' stock of knowledge (*habitus*) and conjecturally-specific internal structures, which construct a new meaning of SIDs. This meaning is reflexively monitored by agents in accordance with new position-practice of agents in context, and so on. Thus, SIDs are made at a specific time based on agents' subjective judgements in understanding the relationships between agents and structures. It was also found that in an uncertain context, making SIDs does not rely on system trust, however, personal trust is emphasised throughout the process of making SIDs. The contextual uncertainty and dependence on personal trust both push certain agents to have relatively powerful positions-practices.

Stones (1991) argues that strategic context analysis has two dimensions: technical and hermeneutic. Agents-in-focus should first adopt the technical dimension which is abstracted from any political balances of power, and then they should adopt the hermeneutics dimension to understand the social practice in its context. Inconsistent with Stones, Elmassri et al. (2016) revealed that agents-in-focus do not adopt any technical analysis and they rely more on the hermeneutics analysis in making their SIDs. They, also, use their hermeneutics framework to determine whether to report the technical methods or not, without using these methods in the process

of making SID. Arguably, the reproduction of technical structure is not based on the level of agents' knowledge; rather, it is based on the power relationships between agents and structures.

4. THE APPROPRIATENESS OF SST FOR SID CONTEXT

Arguably, the SST framework fits the SID context, due to the following features:

- SST moves from the abstracted ontological level to the meso-level which is suitable for designing and interpreting substantive empirical work, which fits the SID context through understanding how various structures shape the agents' practices.

- SST explores the influence of external structures in the making of SIDs. It is important in a SID context to examine how the political, social, and economic pressures also shape the hermeneutics framework of agents and construct their subjective judgements in making such decisions. Each country/organisation has its own specific culture that can shape the agents' understanding of SIDs the role of taken-for-granted technical structures in making SIDs (Abdelrahman, Kurt, & Papamichail, 2019a).

- SST classifies internal structures into conjecturally-specific internal structures, and general-disposition structures or habits structures. This classification of agents' internal structures fits the SID context. It is important to understand the interactions between agents' habits and their specific-knowledge of a particular context. This explores how agents' judgements are processed, how the interactions between their general dispositions and the new meanings of normative values and power capacities, in their context, influence the process of making SIDs (Abdelrahman, Papamichail, & French, 2013; Abdelrahman et al., 2019b).

- SST constructs the concept of position-practice of various agents, which enables the researchers to conceptualise the meso-level institutional link between structures and agency (Stones, 1996; 2005). Within an uncertain business context, the position-practice of certain agents is changed, which changes their power capacities. This leads to an examination of how the positions-practices of certain agents enable them to re-construct the structures-agents relationship to frame the meaning of SIDs.

5. CONCLUSION

SID is a judgemental decision that is constructed by different influences. SIDs are not isolated from the social, political, and economic aspects. Subjective judgements and the decision-makers' intuition are crucial to reflect external and internal influences into SIDs. Therefore, SIDs cannot be abstracted as an objective decision-based on applying investment appraisal technical methods.

SIDs are made through sets of interactions between the four components of Stones' framework. Agents-in-focus understand structures according to their agents-in-context and the power relationships between them. This understanding is reflected upon agents' stock of knowledge (*habits*) and the conjecturally-specific internal structures which

construct a new meaning of SIDs. This meaning is reflexively monitored by agents in accordance with the new position-practice of agents in context, and so on. This continuous process occurs many times in an extremely uncertain context, as the meanings of certain structures are rapidly changing. Thus, SIDs are made based on the decision-makers' subjective judgements in understanding the relationships between agents and structures.

There is a theoretical contribution of this study, although employing SST is under-presented in the SID context, it is the most suitable theoretical platform to interpret how the interrelationships between internal and external structures shape the decision-makers' judgements in making SIDs. The interaction between the agents' habits and their conjecturally-specific knowledge of the external structures provides a perfect insight into how agents process their judgement after considering both internal and external structures. This theoretical lens enables the researcher to drill down into the 'ontic' level to empirically explore in-depth the complex interrelationships between various agents and structures which, arguably, fits the SID context. SST constructs the concept of positions-practices of various agents which emphasises the influence of external structures in reproducing/resisting certain structures.

Furthermore, one of the main limitations of the research, is that the SST framework gives a considerable emphasis on external structures, and

in some contexts, they can be extremely uncertain. However, the development of globalisation heightens the uncertainty in the business environment generally. Harris and Elmassri (2011) argue that "both the practice of investment appraisal and academic thinking about this problem has developed considerably over recent times, reflecting the increasing complexity, globalisation, and uncertainty in the business environment" (p. 352). There is a level of uncertainty embedded in political, economic, and social structures in any context, maybe the level of uncertainty varies from one context to another, but it exists, and the rapid development of globalisation emphasises that.

In light of the study's findings and limitations, one of the ideas for future research can be employing SST to explore the SIDs-making in both less developed countries (LDCs) and Western contexts. There are cultural, political, and social differences between the developed countries and LDCs, personal intuition and experiences are also different. Accordingly, it is important to examine under more stable political regimes and relatively lower levels of uncertainty how various internal and external influences affect SIDs structurally through political, economic, and social influences on the organisation, and how these influences are differently understood by both agents-in-focus and agents in context. This might emphasise why/how technical structures are still being reproduced/resisted in a Western context.

REFERENCES

1. Abdel-Kader, M. G., & Dugdale, D. (2001). Evaluating investments in advanced manufacturing technology: A fuzzy set theory approach. *The British Accounting Review*, 33(4), 455-489. <https://doi.org/10.1006/bare.2001.0177>
2. Abdelrahman, M. (2019). Factors affect knowledge sharing by using knowledge management systems to support decision making processes. *Proceedings of the 25th Americas Conference on Information Systems (AMCIS-2019)*. Retrieved from https://aisel.aisnet.org/amcis2019/global_intnl_cultural_info_systems/global_intnl_cultural_info_systems/3/
3. Abdelrahman, M., & Papamichail, K. (2017). Factors affecting knowledge-based decision support systems in multinational corporations. Paper presented at the 21st Conference of the International Federation of Operational Research Societies (IFORS), Quebec, Canada, July 2017. Retrieved from <http://nrl.northumbria.ac.uk/id/eprint/31217/1/Factors%20Affecting%20Knowledge-based%20Decision%20Support%20Systems%20in%20Multinational%20Corporations.pdf>
4. Abdelrahman, M., Papamichail, K. N., & French, S. (2011). Knowledge management system's characteristics that facilitate knowledge sharing to support decision making processes in multinational corporations. *AMCIS Proceedings*. Retrieved from https://www.researchgate.net/publication/220892288_Knowledge_Management_System's_Characteristics_that_facilitate_Knowledge_Sharing_to_Support_Decision_Making_Processes_in_Multinational_Corporations
5. Abdelrahman, M., Papamichail, K., & French, S. (2013). Assessing knowledge management systems usage in supporting decision making processes in organizations. In Y. Al-Bastaki, & A. Shajera (Eds.), *Building competitive public sector with knowledge management strategy*. <https://doi.org/10.4018/978-1-4666-4434-2>
6. Abdelrahman, M., Kurt, Y., & Papamichail, K. N. (2019a). The effect of organisational culture on KMSs usage, knowledge sharing & organisational effectiveness. *Academy of Management Annual Meeting Proceedings*. <https://doi.org/10.5465/AMBPP.2019.15818abstract>
7. Abdelrahman, M., Masri, F., & Skoumpopoulou, D. (2019b). Knowledge management systems characteristics that support knowledge sharing and decision making processes in organizations. In *Implementing knowledge management strategy in the public sector*. <https://doi.org/10.4018/978-1-5225-9639-4.ch004>
8. Adel, N., & Alkaraan, F. (2019). Strategic investment acquisitions performance in UK firms: The impact of managerial overconfidence. *Journal of Financial Reporting and Accounting*, 17(1), 24-41. <https://doi.org/10.1108/JFRA-02-2017-0013>
9. Alam, M., Lawrence, S., & Nandan, R. (2004). Accounting for economic development in the context of post-colonialism: The Fijian experience. *Critical Perspectives on Accounting*, 15(1), 135-157. [https://doi.org/10.1016/S1045-2354\(03\)00006-6](https://doi.org/10.1016/S1045-2354(03)00006-6)
10. Alkaraan, F. (2020). Strategic investment decision-making practices in large manufacturing companies: A role for emergent analysis techniques? *Meditari Accountancy Research*, 28(4), 633-653. <https://doi.org/10.1108/MEDAR-05-2019-0484>
11. Alkaraan, F., & Northcott, D. (2006). Strategic capital investment decision-making: A role for emergent analysis tools?: A study of practice in large UK manufacturing companies. *The British Accounting Review*, 38(2), 149-173. <https://doi.org/10.1016/j.bar.2005.10.003>

12. Arnold, G. C., & Hatzopoulos, P. D. (2000). The theory-practice gap in capital budgeting: Evidence from the United Kingdom. *Journal of Business Finance & Accounting*, 27(5-6), 603-626. <https://doi.org/10.1111/1468-5957.00327>
13. Baumol, J., & Blinder, S. (1985). *Economics: Principles and policy*. San Diego: Harcourt Brace Jovanovich.
14. Bhaskar, R. (1979). *The possibility of naturalism*. Hassocks: Harvester Press Ltd. Retrieved from <https://dl.uswr.ac.ir/bitstream/Hannan/133353/1/The%20Possibility%20of%20Naturalism.pdf>
15. Boland Jr, R. J. (1993). Accounting and the interpretive act. *Accounting, Organizations and Society*, 18(2-3), 125-146. [https://doi.org/10.1016/0361-3682\(93\)90030-A](https://doi.org/10.1016/0361-3682(93)90030-A)
16. Bowman, E. H., & Hurry, D. (1993). Strategy through the option lens: An integrated view of resource investments and the incremental-choice process. *Academy of Management Review*, 18(4), 760-782. <https://doi.org/10.5465/amr.1993.9402210157>
17. Burgos, J. A. M., Kittler, M., & Walsh, M. (2020). Bounded rationality, capital budgeting decisions and small business. *Qualitative Research in Accounting & Management*, 17(2), 293-318. <https://doi.org/10.1108/QRAM-01-2019-0020>
18. Burns, J., & Scapens, R. W. (2000). Conceptualizing management accounting change: An institutional framework. *Management Accounting Research*, 11(1), 3-25. <https://doi.org/10.1006/mare.1999.0119>
19. Busco, C. (2009). Giddens' structuration theory and its implications for management accounting research. *Journal of Management & Governance*, 13(3), 249-260. <https://doi.org/10.1007/s10997-008-9081-6>
20. Butler, R., Davies, L., Pike, R., & Sharp, J. (1991). Strategic investment decision-making: Complexities, politics and processes. *Journal of Management Studies*, 28(4), 395-415. <https://doi.org/10.1111/j.1467-6486.1991.tb00288.x>
21. Callon, M. (1991). Techno-Economic networks and irreversibility. In J. Law (Ed.), *Sociology of monsters: Essays on power, technology and domination* (pp. 132-161). Retrieved from https://edisciplinas.usp.br/pluginfile.php/4621898/mod_resource/content/1/JAW%2C%20John.%20A%20Socialogy%20of%20monsters.pdf
22. Carr, C. (2005). Are German, Japanese and Anglo-Saxon strategic decision styles still divergent in the context of globalization? *Journal of Management Studies*, 42(6), 1155-1188. <https://doi.org/10.1111/j.1467-6486.2005.00537.x>
23. Carr, C., & Tomkins, C. (1996). Strategic investment decisions: The importance of SCM. A comparative analysis of 51 case studies in UK, US and German companies. *Management Accounting Research*, 7(2), 199-217. <https://doi.org/10.1006/mare.1996.0012>
24. Carr, C., Kolehmainen, K., & Mitchell, F. (2010). Strategic investment decision making practices: A contextual approach. *Management Accounting Research*, 21(3), 167-184. <https://doi.org/10.1016/j.mar.2010.03.004>
25. Coad, A. F., & Glyptis, L. G. (2014). Structuration: A position-practice perspective and an illustrative study. *Critical Perspectives on Accounting*, 25(2), 142-161. <https://doi.org/10.1016/j.cpa.2012.10.002>
26. Coad, A. F., & Herbert, I. P. (2009). Back to the future: New potential for structuration theory in management accounting research? *Management Accounting Research*, 20(3), 177-192. <https://doi.org/10.1016/j.mar.2009.02.001>
27. Cohen, I. J. (1989). *Structuration theory: Anthony Giddens and the constitution of social life*. <https://doi.org/10.1007/978-1-349-20255-3>
28. Collier, P. M. (2001). The power of accounting: A field study of local financial management in a police force. *Management Accounting Research*, 12(4), 465-486. <https://doi.org/10.1006/mare.2001.0157>
29. Conrad, L. (2005). A structuration analysis of accounting systems and systems of accountability in the privatised gas industry. *Critical Perspectives on Accounting*, 16(1), 1-26. [https://doi.org/10.1016/S1045-2354\(02\)00212-5](https://doi.org/10.1016/S1045-2354(02)00212-5)
30. Cowton, C. J., & Dopson, S. (2002). Foucault's prison? Management control in an automotive distributor. *Management Accounting Research*, 13(2), 191-213. <https://doi.org/10.1006/mare.2001.0173>
31. Daff, L., & Jack, L. (2018). Accountants' proactivity in intra-organisational networks: A strong structuration perspective. *Accounting, Auditing & Accountability Journal*, 31(6), 1691-1719. <https://doi.org/10.1108/AAAJ-08-2015-2190>
32. Dirsmith, M. W., Heian, J. B., & Covalesski, M. A. (1997). Structure and agency in an institutionalized setting: The application and social transformation of control in the Big Six. *Accounting, Organizations and Society*, 22(1), 1-27. [https://doi.org/10.1016/S0361-3682\(96\)00005-0](https://doi.org/10.1016/S0361-3682(96)00005-0)
33. Dugdale, D., & Jones, R. (1995). Financial justification of advanced manufacturing technology. In D. Ashton, T. Hopper, & R. Scapens (Eds.), *Issues in management accounting* (pp. 191-213). London, UK: Prentice Hall.
34. Elbanna, S., & Child, J. (2007). The influence of decision, environmental and firm characteristics on the rationality of strategic decision-making. *Journal of Management Studies*, 44(4), 561-591. <https://doi.org/10.1111/j.1467-6486.2006.00670.x>
35. Elmassri, M. M., Harris, E. P., & Carter, D. B. (2016). Accounting for strategic investment decision-making under extreme uncertainty. *The British Accounting Review*, 48(2), 151-168. <https://doi.org/10.1016/j.bar.2015.12.002>
36. Elmassri, M., & Abdelrahman, M. (2020). Strategic investment decisions and ownership structure: An exploratory study in Egypt [Special issue]. *Corporate Ownership & Control*, 17(4), 399-416. <https://doi.org/10.22495/cocv17i4siart16>
37. Elmassri, M., & Harris, E. (2011). Rethinking budgetary slack as budget risk management. *Journal of Applied Accounting Research*, 12(3), 278-293. <https://doi.org/10.1108/09675421111187700>
38. Emmanuel, C., Harris, E., & Komakech, S. (2010). Towards a better understanding of capital investment decisions. *Journal of Accounting & Organizational Change*, 6(4), 477-504. <https://doi.org/10.1108/18325911011091837>
39. Englund, H., Gerdin, J., & Burns, J. (2011). 25 years of Giddens in accounting research: Achievements, limitations and the future. *Accounting, Organizations and Society*, 36(8), 494-513. <https://doi.org/10.1016/j.aos.2011.10.001>
40. Free, C. (2008). Walking the talk? Supply chain accounting and trust among UK supermarkets and suppliers. *Accounting, Organizations and Society*, 33(6), 629-662. <https://doi.org/10.1016/j.aos.2007.09.001>
41. Giddens, A. (1976). *New rules of sociological method*. London, UK: Hutchinson & Co.
42. Giddens, A. (1979). *Central problems in social theory: Action, structure and contradiction in social analysis*. <https://doi.org/10.1007/978-1-349-16161-4>
43. Giddens, A. (1984). *The constitution of society*. Cambridge: Polity Press.

44. Giddens, A. (1993). *New rules of sociological method: A positive critique of interpretative sociologies*. Stanford University Press.
45. Grundy, T., & Johnson, G. (1993). Managers' perspectives on making major investment decisions: The problem of linking strategic and financial appraisal. *British Journal of Management*, 4(4), 253-267. <https://doi.org/10.1111/j.1467-8551.1993.tb00062.x>
46. Guerreiro, M. S., Lima Rodrigues, L., & Craig, R. (2020). Institutional theory and IFRS: An agenda for future research. *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad*, 1-24. <https://doi.org/10.1080/02102412.2020.1712877>
47. Harris, E. P., Northcott, D., Elmassri, M. M., & Huikku, J. (2016). Theorising strategic investment decision-making using strong structuration theory. *Accounting, Auditing & Accountability Journal*, 29(7), 1177-1203. <https://doi.org/10.1108/AAAJ-03-2015-2005>
48. Harris, E., & Elmassri, M. (2011). Capital investment appraisal. In *Review of Management Accounting Research* (pp. 343-377). https://doi.org/10.1057/9780230353275_14
49. Jack, L. (2005). Stocks of knowledge, simplification and unintended consequences: The persistence of post-war accounting practices in UK agriculture. *Management Accounting Research*, 16(1), 59-79. <https://doi.org/10.1016/j.mar.2004.08.003>
50. Jack, L. (2017). Strong structuration theory and management accounting research. *Advances in Scientific and Applied Accounting*, 10(2), 211-223. <https://doi.org/10.14392/asaa.2017100205>
51. Jack, L. (2020). From a history of accounting towards a philosophy of accounting communication: A history of corporate financial reporting in Britain, by John Richard Edwards, New York, Routledge, 2018, 380 pp., £ 115/\$140 (hardcover), ISBN 978-1-138-55318-7. *Accounting History Review*, 30(2), 233-242. <https://doi.org/10.1080/21552851.2019.1673197>
52. Jack, L., & Kholeif, A. (2007). Introducing strong structuration theory for informing qualitative case studies in organization, management and accounting research. *Qualitative Research in Organizations and Management*, 2(3), 208-225. <https://doi.org/10.1108/17465640710835364>
53. Jack, L., & Kholeif, A. (2008). Enterprise resource planning and a contest to limit the role of management accountants: A strong structuration perspective. *Accounting Forum*, 32(1), 30-45. <https://doi.org/10.1016/j.acfor.2007.11.003>
54. Jones, T., & Dugdale, D. (2001). The concept of an accounting regime. *Critical Perspectives on Accounting*, 12(1), 35-63. <https://doi.org/10.1006/cpac.2000.0412>
55. Joseph, G. (2006). Understanding developments in the management information value chain from a structuration theory framework. *International Journal of Accounting Information Systems*, 7(4), 319-341. <https://doi.org/10.1016/j.accinf.2006.10.001>
56. Kholeif, A. O. R., & Jack, L. (2019). The paradox of embedded agency from a strong structuration perspective: An illustrative case study of resistance to change in budgeting processes. *Qualitative Research in Accounting & Management*, 16(1), 60-92. <https://doi.org/10.1108/QRAM-03-2016-0027>
57. Kostyuk, A., & Barros, V. (2018). Corporate governance and company performance: Exploring the challenging issues. *Corporate Governance and Organizational Behavior Review*, 2(2), 25-31. https://doi.org/10.22495/cgobr_v2_i2_p3
58. Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge, MA: Harvard University Press.
59. Laughlin, R. C. (1990). A model of financial accountability and the Church of England. *Financial Accountability & Management*, 6(2), 93-114. <https://doi.org/10.1111/j.1468-0408.1990.tb00427.x>
60. Leaper, C. (2011). More similarities than differences in contemporary theories of social development?: A plea for theory bridging. *Advances in Child Development and Behavior*, 40, 337-378. <https://doi.org/10.1016/B978-0-12-386491-8.00009-8>
61. Lounsbury, M. (2008). Institutional rationality and practice variation: New directions in the institutional analysis of practice. *Accounting, Organizations and Society*, 33(4-5), 349-361. <https://doi.org/10.1016/j.aos.2007.04.001>
62. Macintosh, N. B., & Scapens, R. W. (1990). Structuration theory in management accounting. *Accounting, Organizations and Society*, 15(5), 455-477. [https://doi.org/10.1016/0361-3682\(90\)90028-S](https://doi.org/10.1016/0361-3682(90)90028-S)
63. Makrygiannakis, G., & Jack, L. (2018). Designing a conceptual methodology for structuration research. *Meditari Accountancy Research*, 26(1), 70-87. <https://doi.org/10.1108/MEDAR-07-2017-0182>
64. McGrath, R. G., Ferrier, W. J., & Mendelow, A. L. (2004). Real options as engines of choice and heterogeneity. *Academy of Management Review*, 29(1), 86-101. <https://doi.org/10.5465/amr.2004.11851720>
65. Mouzelis, N. (1991). *Back to sociological theory: The construction of social orders*. <https://doi.org/10.1007/978-1-349-21760-1>
66. Pike, R. (1996). A longitudinal survey on capital budgeting practices. *Journal of Business Finance & Accounting*, 23(1), 79-92. <https://doi.org/10.1111/j.1468-5957.1996.tb00403.x>
67. Quinn, J. B. (1980). *Strategies for change: Logical incrementalism*. Homewood, IL: Irwin.
68. Roberts, J. (1990). Strategy and accounting in a U.K. conglomerate. *Accounting, Organizations and Society*, 15(1-2), 107-126. [https://doi.org/10.1016/0361-3682\(90\)90017-O](https://doi.org/10.1016/0361-3682(90)90017-O)
69. Roberts, J., & Scapens, R. (1985). Accounting systems and systems of accountability - understanding accounting practices in their organisational contexts. *Accounting, Organizations and Society*, 10(4), 443-456. [https://doi.org/10.1016/0361-3682\(85\)90005-4](https://doi.org/10.1016/0361-3682(85)90005-4)
70. Scapens, R. W. (2006). Understanding management accounting practices: A personal journey. *The British Accounting Review*, 38(1), 1-30. <https://doi.org/10.1016/j.bar.2005.10.002>
71. Scapens, R. W., & Macintosh, N. B. (1996). Structure and agency in management accounting research: A response to Boland's interpretive act. *Accounting, Organizations and Society*, 21(7-8), 675-690. [https://doi.org/10.1016/0361-3682\(95\)00049-6](https://doi.org/10.1016/0361-3682(95)00049-6)
72. Stones, R. (1991). Strategic context analysis: A new research strategy for structuration theory. *Sociology*, 25(4), 673-695. <https://doi.org/10.1177/0038038591025004007>
73. Stones, R. (2005). *Structuration theory*. <https://doi.org/10.1007/978-0-230-21364-7>
74. Uddin, S., & Tsamenyi, M. (2005). Public sector reforms and the public interest: A case study of accounting control changes and performance monitoring in a Ghanaian state-owned enterprise. *Accounting, Auditing & Accountability Journal*, 18(5), 648-674. <https://doi.org/10.1108/09513570510620493>
75. Warren, L., & Jack, L. (2018). The capital budgeting process and the energy trilemma - A strategic conduct analysis. *The British Accounting Review*, 50(5), 481-496. <https://doi.org/10.1016/j.bar.2018.04.005>