

Mobilising management control systems to manage stakeholder relationship and sustainability challenges: An empirical case study of a major construction product company

Abstract

An emerging stream of management accounting research has investigated how management accounting techniques can be used to manage sustainability. Because of the transformative nature of sustainability, the subject area embraces a significant breadth of issues across different research disciplines. While literature suggests there is a lack of definitive texts for thinking about sustainability in management accounting studies, scholars see potential to help organisations identify social and environmental risks and opportunities by using extant accounting mechanisms and engaging with business.

The research identifies literature that borrows insights from Professor Freeman's Stakeholder Theory (1984) and recognises its potential to enrich the current understanding of accounting for sustainability. Therefore, the aim of this research is to augment Simons' Levers of Control (LOC) framework to incorporate greater depth on the role of interactions between managers and stakeholders in the implementation of (sustainability) management control systems.

The research undertakes a qualitative approach that uses empirical case study data from a major construction product company. Using interview data from 29 semi-structured interviews (where 7 interviews were conducted with external stakeholders) and documentary evidence (such as sustainability reports and policy) to provide a useful track of what has happened within the case organisation. LOC is employed as the theoretical lens to investigate how managers use management control systems (MCS) for sustainability-related, strategic decision-making.

The research provides empirical findings that indicate Stakeholder Theory can augment Simons' LOC framework, as an analytic framework that used by the managers. The research responds to calls to investigate the potential of using extant

accounting mechanisms to cope with sustainability challenges through exploring the relationships between: (a) sustainability, (b) MCS, and (c) strategic decision-making. The empirical material is an example used to illustrate the theoretical framework in one case study organisation. Firstly, the research identifies organisational use of MCS to address stakeholders' sustainability requirement for stakeholder management. This study explores a range of MCS used by the case organisation to consider and weigh stakeholders' concerns and expectations in the process of stakeholder management. Aligning with Simons' LOC literature, strong evidence is found to suggest MCS can be used in a dynamic and multi-layered way in managing stakeholders' sustainability requirements.

Secondly, the influences of the external use of MCS on the case organisation's sustainability strategy have been revealed. Empirical evidence provides comprehensive understanding of three key stakeholders' levels of influence – (i) top-down, (ii) mediated and (iii) collaborative relationship, to case organisation's sustainability strategy. Each is provided with specific strategic motivation(s) and is achieved through the mobilisation of MCS between the case organisation and stakeholders.

Lastly, the research comprehends the use of MCS by the managers to manage sustainability-related strategic decision-making. Findings show that MCS are used in a variety of ways to manage strategy formation and strategy implementation. Both positive and negative controls are important for an intended sustainability strategy to be successful. The academic literature suggests that interactive control systems can be deployed to manage strategy formation, as originated by Simons (1995). This research suggests that such systems are also used by external stakeholders, namely for strategic decision-making; and this allows managers to cope with both the fluidity of a sustainability strategy, as well as responding to external changes.

Key words: management accounting; case study research; sustainability; Simons' LOC; management control systems; stakeholders; externalities; strategic decision-making.

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1. Introduction

1.1 Introduction

The purpose of this research is to contribute to the theory and knowledge of management accounting in the context of sustainability. Unerman and Chapman (2014) provide the motivation for this research because they identify the need to review and update theoretical frameworks in use, and to develop novel theoretical framings (p.386). Likewise, Bebbington et al. (2017) note a need for academic enquiry to reflect upon the achievements and challenges of using accounting to engage with the goal of sustainable development. The research identifies literature that borrows insights from Professor Freeman's Stakeholder Theory (1984) and recognises its potential to enrich the current understanding of accounting for sustainability. Accordingly, the aim of this research is to augment Simons' Levers of Control (LOC) framework to incorporate greater depth on the role of interactions between managers and stakeholders in the implementation of (sustainability) management control systems¹.

The research aim has been split and narrowed down in the theoretical framework and literature review chapters (2 and 3) to three research objectives:

1. To identify how the case organisation uses MCS to address stakeholders' sustainability requirements for stakeholder management;
2. To determine the influences of the external use of MCS on the case organisation's sustainability strategy; and

¹ This research acknowledges the specific meaning attached to sustainability management control systems (SMCS/SCS), different from MCS. For example, Gond et al. (2012) includes both but distinguish between them. Consistent with Simons (1991), the authors view MCS as formal controls that contribute to either strategy formation or strategy implementation, with an aim to align organisational and behavioural structures with the economic goals of the organisation. Then, they distinguish SCS to "*incorporate interest of broad range of stakeholders other than shareholders and address environmental and social issues as well as their inter-relationships with financial issues*" (p.208). Findings in this study include much about the economic dimension of sustainability, which is largely governed by MCS. Therefore, the use of (sustainability) MCS is more inclusive. Further details are introduced in section 1.2.

3. To comprehend the use of MCS by the case organisation's management to manage sustainability-related strategic decision-making.

“New spaces have emerged where the academy might explore how knowledge is created, validated and translated (or not) alongside policy and practice settings” (Bebbington & Larrinaga, 2014, p.395). A case study organisation was chosen for this research due to its suitability in relation to the focus on management accounting and sustainability. First, the case organisation is a UK-led construction product company, with a global parent company and had £20bn net sales in the financial year 2017. With a large operational scale, the case organisation benefits from a series of socially-grounded relationships, involving both responsibility and accountability, which responds to a social accounting research context (Gray et al., 1997). In turn, it offers potential to investigate the use of management accounting techniques to cope with the contested and ambiguous concept of sustainability and how such techniques are used to assist with activities.

Second, the case organisation is an economic entity responsible for the extraction of natural resources, processing them into construction products. This creates environmental sustainability issues, on one hand, but also contributes to the development of cities and communities (i.e. social sustainability) on the other. The case organisation is also appropriate here because it is part of a multinational organisation with a long history of pursuing sustainable development. This may be considered best practice, allowing this research to focus on the problem and engage constructively with transformation processes of sustainability (Thomson, 2014). Accordingly, this exploratory case study research, aligning with the interpretive lenses in management accounting research (such as Arjaliès & Mundy, 2013; Contrafatto & Burns, 2013; Figge & Hahn, 2013; Gond, et al., 2012; Rodrigue et al., 2013; Virtanen et al., 2013) can produce a degree of richness to address the research aims.

While acknowledging that management accounting is a broad research domain and that sustainability can be investigated from many different perspectives, the next few sections in this introduction chapter will determine key areas of interest, within the scope and time constraints of this thesis. In section 1.2, the motives for selecting theoretical frameworks to investigate management accounting for sustainable

development are discussed briefly. Section 1.3 provides a brief overview of the context – i.e. Accounting-for-Sustainability. Finally, an overview of the remaining chapters of this thesis is presented in section 1.4.

1.2 Overview of Management Accounting

In a setting such as the case organisation, it is expected that a range of management accounting systems will exist. Therefore, a theoretical lens is needed to guide the investigation of the relationship between management accounting and sustainable development. Focusing on Management Control System (MCS) as a means to investigate the process and practices of management accounting is considered sufficient to address a range of strategic contexts (Bedford et al., 2016; Berry et al., 2009); to support the fit between strategy (Langfield-Smith, 2007; Simons, 2000); and study sustainable development (Gond et al., 2012; Lueg & Radlach, 2016). Specifically, Simons' Levers of Control (LOC) (Simons, 1995), which is operationalised by MCS, is employed to investigate the use of MCS by managers to manage sustainability-related strategic decision-making. This is discussed further in Chapter 2, in which the use of Simons' LOC is justified, highlighting its potential to contextualise sustainability understanding, and also provide a more systematic development of knowledge (Bedford et al., 2016).

Management accounting has evolved, with a variety of 'new' techniques being developed and popularised (Otley, 2016). Conventionally, accounting is considered as a powerful tool (or range of tools) that has been used to seek to optimise the economic performance of organisations, in which management accounting has helped managers to plan and control their activities to achieve organisational goals (Bebbington, Unerman, & O'Dwyer, 2014). Accordingly, this research investigates how management accounting can be put forward from the traditional economic calculator to support the management of external environments (Bromwich, 1990), to capture the full range of impacts that sustainability can have on organisations; and investigate if such tools can be applied more broadly (i.e. to manage, plan and control an organisation's social and environmental decision-making).

Studying the relationship between accounting and decision-making has become a popular focus within accounting research (Mouritsen & Kreiner, 2016). Traditional MCS focuses more on strategy implementation, but Simons' LOC allows MCS to focus on strategy emergence as well. For instance, academic research has highlighted the use of interactive control systems to manage strategy formation (Arjaliès & Mundy, 2013; Bisbe et al., 2007; Chenhall et al., 2014; Kominis & Duda, 2012). While Simons (1995) recognises the use of interactive control systems by managers in the organisation, findings of this research suggest they could also be mobilised by external stakeholders, within corporate strategic decision-making.

In the context of Simons' LOC literature, Arjaliès and Mundy (2013) investigate the use of MCS to manage the strategic process that underpins sustainability. For instance, the LOC model enables managers to identify and manage sustainability-related opportunities and threats. Arjaliès and Mundy (2013) helpfully illustrate the structures and processes underpinning the use of MCS in managing sustainability strategy, and they call for greater consideration of managerial use of MCS to drive sustainability.

Importantly, Gond et al. (2012) theorise about the integration of sustainability into strategy. Building on Simons' LOC, the authors theorise the roles and uses of MCS and SCS in the embedding of sustainability within organisation strategy; and specify configurations are based on both MCS and SCS, while acknowledging the triple bottom line (i.e. economic, social and environmental performances). They clarify that *“prior accounts of sustainability integration do not necessarily take into account the underlying infrastructure that allows making sustainability calculable and thus manageable”* (p.219). That said, SCS can contribute to effective integration of sustainability within strategy only when they inform conventional MCS, rather than when they are used as 'autonomous strategic tools'. If companies wish to comprehensively embed sustainability into strategy, integrating SCS to MCS would be a long-term objective in the organisational context. Their paper uses prior research as a starting point, and proposes two parallel strands of MCS and SCS, but not changing the term from MCS to SCS. While SCS focuses on social and environmental performances, MCS is orientated to improving economic performance. Accordingly, in the process of integration of both MCS and SCS, it could contribute to the integration

of sustainability into strategy, which the integration of the systems is a theoretical contribution of their paper.

The above studies call for a new strategic paradigm to integrate sustainability into accounting, but social and environmental accounting appears unlikely to materialise unless it benefits investors (Arjaliès & Mundy, 2013; Contrafatto & Burns, 2013; Rodrigue et al., 2013). Bebbington and Thomson (2013) suggest stakeholder pressure and externalities threatening corporate legitimacy can encourage business to develop a business case for sustainability. Notably, Rodrigue et al. (2013) make a substantial contribution to understanding how stakeholders influence a firm's selection of environmental performance indicators (EPI). They argue stakeholders are perceived to influence the choice of an organisation's internal environmental performance indicators, which underlie MCS, and thus they can drive a firm's environmental strategy. Rodrigue et al (2013) also provide empirical evidence to demonstrate that the role of stakeholders should be more central in managing sustainability strategy, and that their influences can be captured and communicated through various levers of controls.

Sustainability is a contested and ambiguous concept (Bebbington et al., 2014; Gray et al., 2014) and any strategy that tries to place a greater consideration on the external environment must therefore be suitably "fluid" (Bebbington & Thomson, 2013; Chenhall, 2005; Dillard & Layzell, 2014). There is an ongoing conversation about MCS (and SCS), sustainability and stakeholders identified in the management accounting literature (Hopper & Bui, 2016; Martyn, Sweeney, & Curtis, 2016) which provides a fruitful context for MA researching. As a result, this research puts forward these areas of interest through mobilising Stakeholder Theory (Freeman, 1984) to complement Simons' LOC, enriching our understanding of how MCS can be used to manage fluidity in sustainability strategy.

1.3 Overview of Accounting-for-Sustainability

Scholars in the sciences view the challenges of sustainable development as "*the reconciliation of society's development goals with the planet's environmental limits over the long term*" (Clark & Dickson, 2003). Sustainable development from the socio-

economic and socio-ecology perspectives may be considered, in general terms, as a quest for developing and sustaining “quality of life” (de Vries & Petersen, 2009). This encompasses the subjective dimensions of human well-being and the more objective dimensions of ecological or environmental values, and moves in a transdisciplinary direction. This, in turn, supports the viewpoint that academic research should consider the inter-relationship (Hopwood, 2009) between the three dimensions of sustainability.

Thomson (2014) maps the extant Accounting-for-Sustainability research literature and notes that there is a concentration of publications in selected journals: *Accounting, Auditing and Accountability; Critical Perspectives on Accounting; Accounting Forum, Management Accounting Research, Accounting, Organisations and Society*, etc. The discussions of accounting has extended beyond the needs of capital providers to address issues of stewardship in other areas (Harte & Owen, 1987). Yet, the development of environmental and social themes are comparatively not covered in such depth (O’Dwyer & Unerman, 2016; Thomson, 2014). A possible explanation for this asymmetry, observed by Bebbington and Larrinaga (2014), is that it may be due to accounting researchers’ insufficient exposure to these concerns. This indicates that there is scope to develop research on Accounting-for-Sustainability, specifically environmental and social sustainability, while suggesting that knowledge generated in different ways, for example, through engaging with businesses (see below for the third strand research in Unerman & Chapman, 2014) may also be required.

Thomson (2014) argues that there is a problem with cohesion, focus and persistence of research into accounting-for-sustainability. In other words, there is little research within the accounting-for-sustainability literature that features prior theoretically-informed research. Although a specific framing is unlikely to fully describe a sustainability problem (de Vries & Petersen, 2009), this research supports the use of theoretical framings and subscribes to the key existing strands within the literature, namely Unerman and Chapman (2014), who have suggested there are three strands of academic literature that attend to accounting for sustainable development (p.385):

- (i) considering the elements of sustainability can be highlighted and/or addressed through existing market mechanisms;

- (ii) arguing the way to move towards social and environmental sustainability can best (or only) be done through a radical reform of markets and capitalism; and
- (iii) engaging with businesses to help in identifying a range of social and environmental sustainability risks and opportunities and making changes to the way they operate towards (less un-)sustainability.

While the above acknowledges there is scope to develop research on the inter-relationship between the three dimensions of sustainability, getting sufficient exposure to different backgrounds beyond the academic helps to further academic knowledge among these concerns. Active participation of business in sustainability is essential to its acceptance and further development within society (Moon, 2007). Accordingly, this study subscribes to the third strand, referred to as 'accounting for sustainable development' (Bebbington & Thomson, 2013; Gray, 2002) and seeks to engage with business to make an effective contribution to enhancing social and environmental sustainability via the refinement and advancement of theoretical frameworks.

1.4 Overview of Thesis

The rest of the thesis is structured as follows. In Chapter 2, the theoretical frameworks are introduced. In doing so, overviews of the central concepts of Simons' Levers of Controls (Simons, 1995) and Stakeholder Theory (Freeman, 1984) are provided. Justification of the use of theories and the opportunities for using Stakeholder Theory to complement Simons' LOC framework are presented to introduce how Simons' LOC is helpful to the investigation of management accounting practices and sustainability; and how the adoption of Stakeholder Theory brings new insights to the existing LOC literature. Figure 1.1 provides a roadmap of the first two chapters of the thesis:

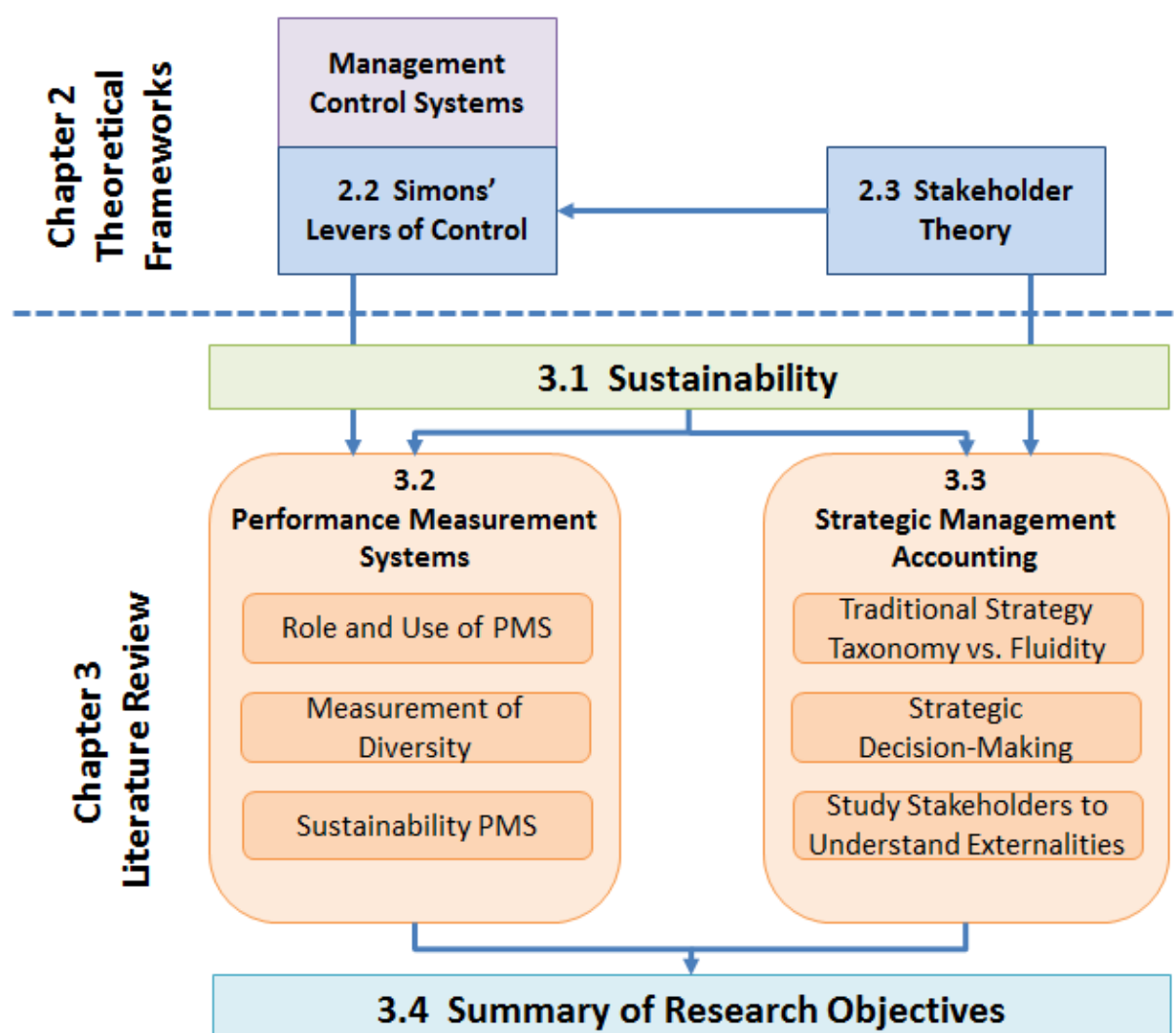


Figure 1.1: An overview of the theoretical framework and literature review chapter

With the theoretical framework in place, Chapter 3 reviews the literature covering the key elements of: (a) sustainability; (b) MCS; and (c) strategic decision-making. This chapter starts with an introduction to sustainability, explaining how the concept evolved, how it is interpreted in practice and academic research, and how accounting offers a useful lens through which sustainability can be researched.

As indicated in section 1.2, researching management accounting in the context of sustainability within the scope and time constraints of this PhD research requires the topic to be sufficiently narrowed down. Accordingly, section 3.2 provides a review of Performance Measurement Systems (PMS), as an example of MCS. This section highlights topics around performance measurement diversity, performance measurability and sustainability PMS, all of which are under the spotlight in PMS and the accounting-for-sustainability literature. Furthermore, as recognised earlier, the fluidity of strategy requires the consideration of the externalities of an organisation, including stakeholders and the external environment. By comparing strategic management accounting literature to the performance measurement literature, the former is more sympathetic to business's externalities, so the use of management accounting techniques to investigate the fluidity of strategy, strategic decision-making and stakeholders is also explained in Chapter 3. The literature review chapter considers the extant literature on PMS and SMA.

In Chapter 4, the research methodology is introduced. The chapter starts with research approaches, followed by a discussion of philosophic assumptions. Justification for the adoption of an exploratory case study is presented along with a brief overview of the case organisation. The research process that was undertaken is also explained which identifies the sources of qualitative data along with the interpretive nature of the analysis, all of which provides a rich data set.

The Findings are presented in Chapter 5. Empirical case study data is presented according to the different Levers of Controls put forward by Simons to reveal the relationship between the three areas of interest as highlighted in the literature review chapter, while retaining a degree of openness to identify emerging topics.

Chapter 6 discusses how the key findings respond to the call to enrich and enhance the body of accounting-for-sustainability research. It begins by restating the research objectives, then expands to cover three distinct areas of interest identified in this research, then relates them back to the literature. First, it discusses a range of MCS used by the case organisation to consider and weigh stakeholders' concerns and expectations in the process of stakeholder management. Second, it reveals a two-way relationship between the case organisation and external stakeholders to emphasise how stakeholders' expectations and requirements on sustainability influence the firm's sustainability strategy. Third, novel insights are offered on the mobilisation of MCS for sustainability-related strategic decision-making. A discussion of the variety of ways that MCS are used to manage strategy formation and strategy implementation to cope with both the fluidity of a sustainability strategy, as well as any externalities, is presented. Finally, the discussion chapter ends by a summary of key discussion point and highlighting the potential of using performance measures to enhance the usefulness of sustainability data.

The final part, Chapter 7, concludes and assesses how the research aim and objectives are addressed throughout the thesis. A summary of the contribution to theoretical development, literature and practice is presented along with a statement to critically evaluate the limitations encountered during the research process. Finally, the thesis ends with an indication of potential areas for future research.

2. Theoretical Framework

2.1 Introduction

In this chapter, the central concepts from and potential for combining two frameworks, Simons' Levers of Control (LOC) and Stakeholder Theory, will be presented in order to present a potential lens to explore linkages between the accounting, sustainability and strategic decision-making of a company. As Simons' LOC is operationalised through management control systems (MCS), section 2.2.3 is developed to introduce a range of MCS in this chapter. More details about performance measurement systems (PMS), as examples of MCS, will be discussed in the literature review chapter (section 3.2). The below figure provides an overview of the process:

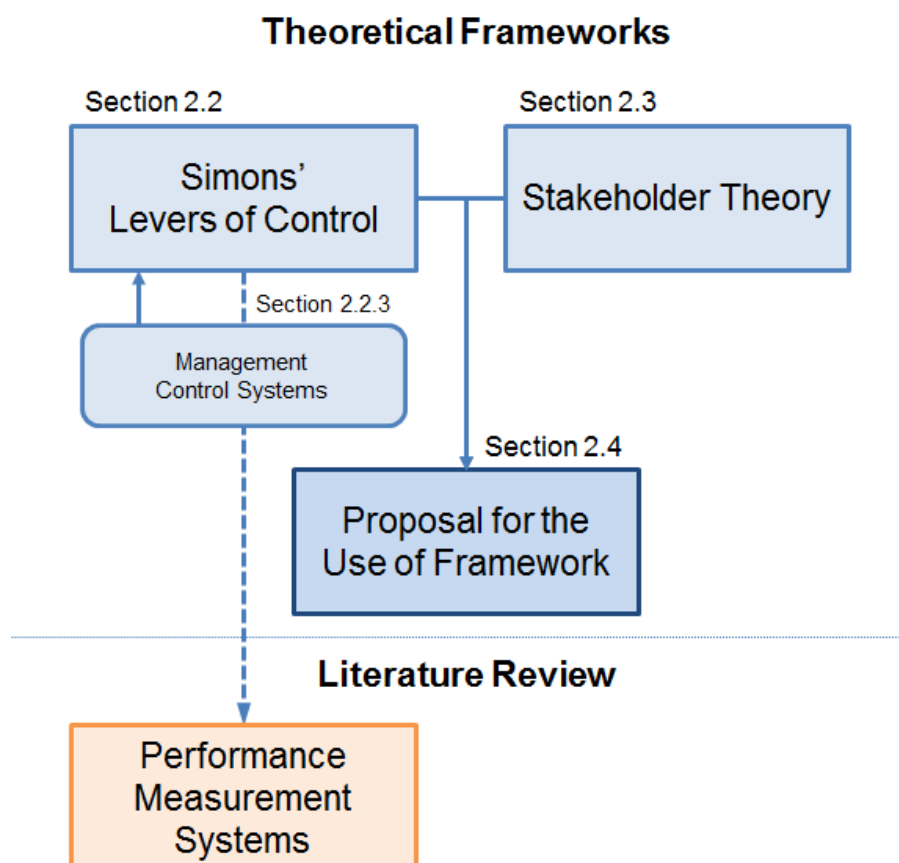


Figure 2.1: An overview of the theoretical framework chapter

This study subscribes to the third strand of the accounting-sustainability literature (Unerman & Chapman, 2014), which seeks to engage with business to identify social

and environmental risks and opportunities in using extant accounting mechanisms. Businesses have experienced dramatic changes in the business environment in recent years (Moll et al., 2006; Unerman & Chapman, 2014). In general, increasing regulation, changes in market forces and operating environment (NCC, 2018); and stakeholders' expectation on sustainability is in no doubt one of the highlighted changes in accounting literature (Bebbington & Larrinaga, 2014; Bebbington et al., 2014). Such changes are examples of externalities – comprising of “*social, environmental and broader economic impacts, arising from the activities of an entity that are borne by others*” (Unerman et al., 2018, p. 498). Specifically, stakeholder influences have been recognised to have impacts on a firm's performance and strategies (Friedman & Miles, 2006; Neely, Adams, & Kennerley, 2002; Pondeville, Swaen, & De Rongé, 2013; Unerman & Chapman, 2014). Therefore, it might be fruitful to investigate how stakeholder influences can be managed through management accounting mechanism.

As recognised in the extant literature, Simons' LOC is found effective to support strategic decision-making (Arjaliès & Mundy, 2013; Mundy, 2010), develop performance measurement (Ho et al., 2014; Simons, 2000; Tuomela, 2005), and progress sustainability practices (Gond et al., 2012; Moon et al., 2011) by academic researchers. By employing Simons' LOC to investigate accounting-sustainability, this study explores different uses of management control systems (MCS) to exert control over the attainment of organisational goals.

Although some studies on Simons' LOC cover the notion of the stakeholder (Arjaliès & Mundy, 2013; Rodrigue et al., 2013), less attention has been paid to the potential of LOC to explicitly incorporate stakeholder concerns in understanding the relationship between the three components in this study (sustainability, PMS and strategic decision-making). This represents a gap in existing literature to augment Simons' LOC to incorporate greater depth of the role of interaction between managers and stakeholders, thereby enriching knowledge on 'Accounting-for-Sustainability' research. In responding to the call from Unerman and Chapman (2014), this study seeks to make an effective contribution into the 'Accounting-for-Sustainability' research through suggesting that the use of the Stakeholder Theory is useful to augment Simons' LOC framework to broaden the base of theoretical framings. Aligning with the literature, the

study employs the two theories that have been widely applied in management accounting research to reflect and synthesise knowledge in different frameworks (Bebbington et al., 2017).

Following this section, the central idea and critical concepts for Simons' LOC and Stakeholder Theory are presented in section 2.2 and 2.3 respectively. Section 2.4 presents a proposal for the use of Stakeholder Theory to augment Simons' LOC and discusses the appropriateness of combining the two frameworks to achieve the aims of this research study. Finally, this chapter ends with a summary in section 2.5.

2.2 Simons' Levers of Control framework

2.2.1 Defining underlying concepts

In this study, Simons' Levers of Control (LOC) (Simons, 1995) refers to the framework put forward by Professor Robert Simons in 1995. LOC has been used frequently in research on business strategies, management control systems, performance measurement systems and accounting (Martyn et al., 2016). This study acknowledges that Simons' LOC is an analytical framework for researchers which is used to analyse the empirical data in the thesis, but is not of itself a management control system used by managers. Accordingly, section 2.2.3 is developed to present literature review that relates to the managerial use of MCS.

Traditional management accounting focuses on strategy implementation (Simons, 2000). With LOC, it embraces different types of management controls and provides a broader perspective by looking at a range of controls employed and allows managers to manage emergent strategy as well (Simons, 1995). In order to successfully implement business strategies to attain organisational goals, Simons suggests four essential constructs (or concepts): core values, risks to be avoided, strategic uncertainties and critical performance variables (Simons, 1995, p.6). Accordingly, Simons identifies a particular system, i.e. levers, to control the above constructs. The four levers of control are belief systems, boundary systems, diagnostic control systems, and interactive control systems, see Figure 2.1 below:

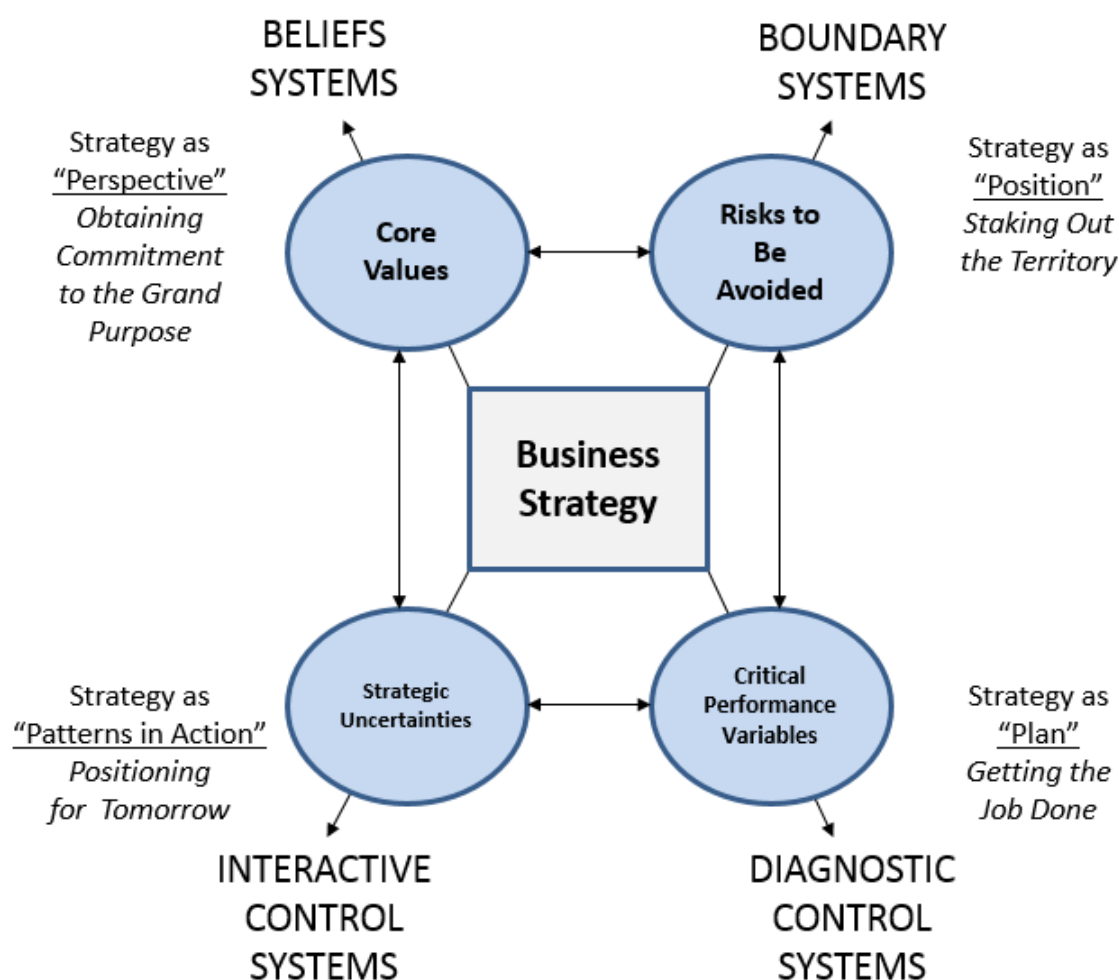


Figure 2.2: Simons' LOC – A dynamic relationship (Source: Simons, 1995, p. 159)

The following sub-sections provide an overview of a range of LOC originated by Simons (1995, 2000), and briefly discuss their deployment in accounting literature. Details of the key areas of discussion and framework development will be introduced in sections 2.2.2 and 2.2.3.

[Belief systems](#)

To begin with **belief systems**, these control the core values of organisations and guide and inspire a creative process of exploring new opportunities, and provide a coherent strategic agenda (Simons, 2000). By definition, these systems are an explicit set of organisational definitions that managers use to communicate and reinforce the basic values, purpose and direction of the whole organisation (Simons, 1995, p.34). Belief

systems attempt to convey information about core values, such as value creating, organisational goals and desirable performance, through the use of different documents. The symbolic use of information is important here, to keep the organisation's purpose clear, and guide an organisation's search and discovery to inspire new means to create value: "*symbols [in documents] produce belief and belief simulates the discovery of new realities*" (Feldman & March, 1981). If there is a problem in strategy implementation, belief systems help organisational members to determine the problem and to search for solutions (Simons, 1995).

Simons (2000) also presents other perspectives of **belief systems**, because they have bi-directional relations with other levers of control systems, i.e. control systems will influence each other. For example, the action flows from mission (i.e. an example of belief systems) through influencing intended strategy, goals and plans, and performance measures (p.32). Widener (2007) argues that there is a lack of evidence regarding the nature of the relationships between the various LOC; yet Bisbe and Otley (2004) and Tuomela (2005) suggest that, used together, interactive control systems and **belief systems** facilitate innovation and promote stability, which in turn increases employee commitment to the organisation's vision.

[Boundary systems](#)

While belief systems motivate the search for opportunities, risks to be avoided are controlled by **boundary systems**, which set limits on opportunity-seeking behaviour (Simons, 1995). These systems establish limits based on perceived business risks. The boundary lever allows researchers to analyse how managers perform their tasks *ex ante* and identify factors for risk avoidance purposes. In literature, the **boundary systems** act to constrain this search by providing structure through delineating the areas which are off-limits to employees (Widener, 2007, p. 782).

Furthermore, **boundary systems** are necessary components in helping to determine organisational structure in a changing society, for example, firms are required to meet legal requirements, and to act as requested by shareholders and stakeholders (Paine et al., 2005). Kerr et al. (2015) finds that organisational use of **boundary systems** (such as quality management systems) can help to maintain zero environmental

incidents, zero lost time injuries, ISO 14001, and compliance with resource consents as ways of minimising sustainability strategic risks. Collier (2005) investigates interaction between belief (culture) and **boundary** (environmental) through a case study. He suggests **boundary systems** aid the shift from internally-focused cash flow to increasingly (external) market share. Such systems are found effective in managing risk first by ensuring that cash flow is sufficient and second by recognising the long-term consequences through market share (p.335).

Diagnostic control systems

Similar to boundary systems, **diagnostic control systems** are designed to constrain undesirable behaviour, such that compliance and organisational goals can be attained. Critical performance variables (or critical success factors) are controlled by diagnostic control systems, whose function is to monitor, assess, motivate and reward the achievement of specific goals. Most discussions of diagnostic control systems have been labelled as *ex post* tools that often engage operating activities and often come with “output controls”, “performance controls” and “results controls” (Merchant, 1985).

Simons (1995) identifies three features that distinguish **diagnostic control systems** (p.59):

- i. *The ability to measure the outputs of a process;*
- ii. *The existence of predetermined standards against which actual results can be compared; and*
- iii. *The ability to correct deviations from standards.*

Those features follow the traditionally mechanistic, cybernetic, repressive control approach (Anthony, 1965; Aldónio Ferreira & Otley, 2009), that fits well with management accounting and performance measurement such as: setting standards of performance, performance measurement, comparison between targets and actual outcomes, and taking corrective actions if necessary. These feedback systems are the backbone of conventional PMS, and ensure goal achievement (Franco-Santos, Lucianetti, & Bourne, 2012; Simons, 1995). They are, however, not useful when facing substantial change in competitive environments (Simons, 1995).

Interactive control systems

Boundary systems and diagnostic control systems act to constrain innovation and opportunity-seeking behaviour to ensure predictable goal achievement, whereas **interactive control systems** produce the opposite effect. Rapidly changing competitive dynamics call for a search of relevant information to control strategic uncertainties to go beyond diagnostic control systems. **Interactive control systems** encourage searching activities and create information sharing networks within the organisation (Simons, 1995, p.92). These systems take an organic, constructive and learning-oriented control approach (Ferreira & Otley, 2009), to stimulate organisational learning and encourage the development of new ideas and strategies (Simons, 1995). Simons defines four characteristics for all interactive control systems (p.97):

- i. *“information generated by the system is an important and recurring agenda addressed by the highest levels of management;*
- ii. *the interactive control system demands frequent and regular attention at all levels of the organisation;*
- iii. *data generated by the systems are interpreted and discussed in face-to-face meetings of superiors, subordinates, and peers; and*
- iv. *the system is a catalyst for the continual challenge and debate of underlying data, assumptions, and action plans.”*

Interactive control systems are formal information systems (but not a unique type of control system) that require involvement across the whole organisation and affect the formation of emerging strategies. Some control mechanisms can favour interactive uses, but ultimately it is the way control systems are used as opposed to their existence that determines their nature (Ferreira & Otley, 2005). Many control systems can be used interactively, given that they fulfil the above defining characteristics, for example: using performance measurement systems (comprising the use of Key Performance Indicators) interactively to demand further attention from managers, and so trigger strategy formation (Groen et al., 2012; Marginson, 2002). Further, using **diagnostic control systems** interactively to create a ‘dynamic tension’ has also received some attention in literature, for examples: creating and sustaining a dynamic tension can produce unique organisational capabilities and competitive advantages

(Henri, 2006; Mundy, 2010; Widener, 2007); encouraging unit managers to engage in social interaction beyond their functional boundaries (Frow et al., 2005). Section 2.2.2 provides further details on '*the balance and tension between multiple control levers*'.

Moreover, interactive control systems demand frequent and regular attention from managers at all levels, including face-to-face discussions on the data generated (Simons, 1995). This requires senior managers (and the highest levels of management) to maintain continual (and regular) personal involvement with internal members in establishing new programmes, reviewing existing progress and action plans, searching and following up on strategic uncertainties. While such extensive efforts devoted to face-to-face challenges and debates across the organisation can play a significant role in sustaining a balance between levers, organisations need to be mindful that managerial efforts could be thwarted by shifting priorities, complex problems, and new information (Mundy, 2010, p. 516).

Positive and negative controls

Collectively, the four levers are able to serve the management control function by helping managers to accomplish organisational goals. However, the single use of a particular LOC may not be an effective way to solve the internal 'tensions' that have been identified by Simons (1995): (i) unlimited opportunity and limited attention, (ii) intended and emergent strategy, and (iii) self-interest and the desire to contribute (p.28), unless it is strongly supported by alternative mechanisms. Accordingly, Simons (1995) further categorises and balances these four levers into negative (coercive) controls (i.e. **boundary systems** and **diagnostic control systems**) and positive (enabling) controls (i.e. **belief systems** and **interactive control systems**) and argues that successful implementation of a strategy requires companies to balance the forces generated from each concept (Figure 2.2). There is considerable scope for research on the development, operationalisation and application (use) of control systems, and also to ascertain the effects of different types of use (Ferreira & Otley, 2005, p. 41).

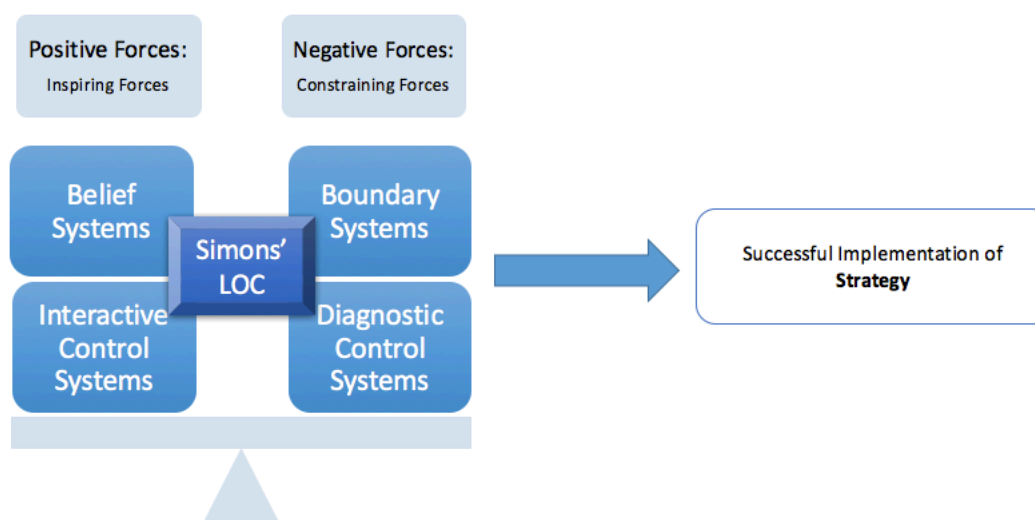


Figure 2.3: Revised Simons' LOC framework (Adapted from Simons' LOC, 1995)

2.2.2 Simons' LOC in the accounting literature

Martyn et al. (2016) conducted a review of the empirical use of Simons' LOC in the 25 years since the theory was published. Their study analysed 45 empirical studies from top academic journals in accounting, general management and strategic management, and found a greater use of the LOC framework in qualitative, rather than quantitative studies. Both types of study contribute to the literature in substantially different ways: qualitative studies have extended LOC's application to broader organisational issues such as sustainability, environmental accounting and interactive controls; whereas quantitative studies have mainly sought to develop insights on the antecedents and outcomes of the use of interactive control systems (p.281).

Further, the authors find relatively few studies have addressed **belief** and **boundary systems** compared to other levers of controls. While Simons (1995) emphasises the importance of the levers working together, **boundary systems** have only been addressed in studies where all four levers were examined (Martyn et al., 2016, p. 290). Similarly, **belief systems** have been mostly studied together with other levers.

In contrast, **interactive control systems** have received the greatest attention, and the use of **diagnostic control systems** interactively is also receiving greater attention in the accounting literature. Figure 2.2.3 below provides an overview of the levers examined in the 45 empirical studies (Martyn et al., 2016).

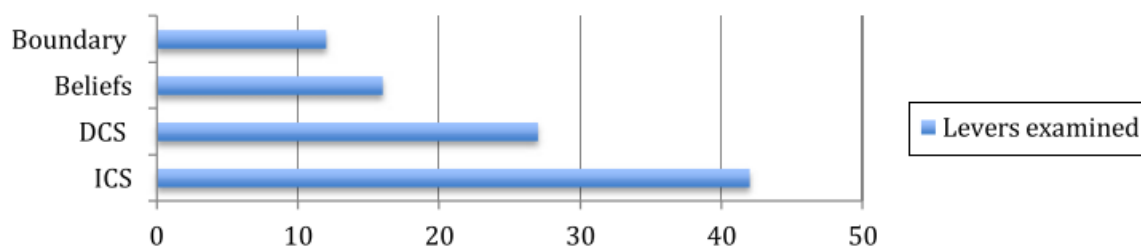


Figure 2.4: Frequency of analysis of LOC, from 45 empirical studies (Martyn et al., 2016, p. 290)

Accordingly, the following sub-sections review the literature employing Simons' LOC. It commences with a focus on diagnostic and interactive control in operationalising LOC. Then, considers the balance and tension between multiple control levers. The sub-section ends with a review literature about the framework development of Simons' LOC.

[The exclusive focus on diagnostic control and interactive control in operationalising LOC](#)

Although the successful implementation of strategy requires consideration of all four levers, academic studies in the accounting domain reveal greater interest in diagnostic control systems and interactive control systems, whereas the remaining two systems are under-developed. The roles and uses of diagnostic controls and interactive controls are of particular interest in the literature on Simons' LOC and management accounting (Ferreira & Otley, 2009).

For example, Su et al. (2015) conduct a survey questionnaire study to examine the suitability of using interactive and diagnostic control approaches to understand the moderating effect on organisational life cycle stages (with organisational performance). They find that the diagnostic use of control was positively (negatively) associated with organisational performance in the revival (maturity) stage. Similarly, the interactive use of control was positively (negatively) associated with organisational performance in the growth (revival) stage. Moreover, Henri (2006) explores effects on strategic capability in terms of market orientation, entrepreneurship, innovativeness and organisational learning by the use of diagnostic and interactive uses of control systems. The author finds a negative effect on strategic capabilities with diagnostic use and a

positive effect with interactive use. However, their study does not cover whether or how different levers influence one another.

In terms of innovation and learning, interactive control systems can be used to stimulate organisational learning and allow the search for new ideas and strategies to respond to these perceived issues. Bisbe & Otley (2004) examine the direction of the relationship for interactive use of management control systems to foster innovation. They find the interactive use of control systems favours innovation only in low-innovating firms, while this effect is negatively associated with high-innovation firms, *albeit* not entirely conclusive. Interactive control systems also control competitive pressure, which is recognised as a catalyst for organisational innovation (Dey, 2007; Porter, 1990; Taylor, 1990). By using these systems, managers are required to continuously reassess their competitive positions by learning and adopting new ideas and focus on how environmental issues are measured, monitored and reported (O'Sullivan & O'Dwyer, 2009).

Employing the LOC framework to ensure compliance of policy implementation in respect of government policy is explored in Kominis & Dudau (2012). The authors argue a possible shift in the government's control system would form an alternative control system to complement a traditional diagnostic control system. Specifically, the authors explore the relationship between the level of uncertainties encountered (or perceived to encounter) by organisations and the use of interactive control systems. They find organisations operating (or perceived to be operating) in an uncertain environment are likely to place emphasis on interactive control systems and to make more use of these systems in order to complement traditional diagnostic control systems.

The balance and tension between multiple control levers

The above studies explicitly employ Simons' LOC as a lens to analyse various subjects, and concur that the essence of management control is the balance between the competing demands of inspiring (positive) and constraining (negative) forces. However, discussion and analysis in the management accounting domain tends to concentrate on interactive control systems and/ or diagnostic control systems. Although many of the LOC literature include all the LOC, the discussion and analysis on belief and boundary systems, however, are under-developed in this research domain. Instead of providing an in-depth discussion of all the levers, scholars tend to investigate the balance and tensions between multiple control levers (notably between positive-enabling and negative-coercive).

In general, scholars have identified difficulties in balancing the uses of management control systems (MCS): managers are surrounded by a variety of complex decisions such that it is difficult to specify what constitutes an optimal balance (Ahrens & Chapman, 2007; Speklé, 2001); and the capacity to balance the use of controls depends on specific individual and organisational attributes and uncertainties, with factors that are difficult to identify and replicate (Alvesson & Kärreman, 2004; Chenhall & Euske, 2007).

- Widener (2007), who suggests that the full benefit of performance measurement arises when the levers are used both diagnostically and interactively, where there is a tension between negative and positive controls. The author conducts an empirical analysis to explore the antecedents of control systems and their costs and benefits. It seems that her work is a discussion of diagnostic control (which focuses management attention on constrained resources) and interactive control in terms of learning. Findings support Simons' arguments that all four LOC should be considered when designing control systems to enhance the effectiveness of control and thus increase organisational performance: the interactive system affects learning through diagnostic systems, where the link between interactive systems and learning does not contain any additional explanatory power (p.783). The author posits that the more a firm emphasises its belief system,

the more the firm will emphasise the other three components of the LOC framework, and argues that the full benefit of performance measurement arises when the levers are used both diagnostically and interactively.

- Kruis et al. (2015) use a quantitative method to examine the concept of balance and provide empirical insights on different balancing arrangements in cross-section of business units. Their work contributes to a more encompassing definition of balance. The authors suggest that *'including all four levers of control in our examination allows us to provide insights on how balance is achieved using a holistic approach to control'* (p.14).
- Tuomela (2005) investigates how the diagnostic or interactive uses of performance measurement systems (PMS)² influence the belief and boundary systems. His study deals with the introduction and use of a new performance measurement system through longitudinal case study. The author finds that in the course of the development process, the main objective of PMS evolved from beliefs system (i.e. communicating a customer focus) through diagnostic control system (i.e. strategy control) to interactive control systems (making sense of strategy and learning the interdependencies of strategy) (p.313). However, his study only outlines the possibility of using PMS to support control through belief systems and boundary systems in addition to diagnostic and interactive controls.

While the above studies investigate the relationship between all four LOC and performance measurement, it is more common to find investigations of the balance and tensions between some interfaces within LOC. A possible cause of this is that the notion of balance is highlighted in the original Simons' LOC framework, but Simons' LOC framework does not explicate what this balance is or should be (Kruis et al., 2015). The reviewed literature below provides good coverage of the "balance and tension" within some of the levers.

- Arjaliès and Mundy (2013) explore the role of the LOC in managing corporate social responsibility (CSR) strategy. They employ Simons' LOC to investigate

² The present research considers performance measurement systems (PMS) as an example of management control systems (MCS), and therefore can be mobilised as different levers of control originated by Simons.

how managers leverage MCS in different ways to drive strategic renewal and trigger organisational change in the CSR/sustainability context. Their study provides insights on the use of LOC by managers to identify and manage CSR-related threats and opportunities. Specifically, the authors investigate the process of combining diagnostic and interactive control to achieve balance between top-down and bottom-up strategies. They suggest a balance between these different uses of MCS is fundamental to the success of sustainability strategy.

- Bruining et al. (2004) conclude management control goes beyond management accounting systems in buy-outs where entrepreneurial opportunities exist (p.169). They find that firms use other MCS to align with a changing marketing environment (in addition to existing formal controls), and suggest that belief and interactive control systems serve as a valuable complement and extension to (but not replacement of) the diagnostic control systems.
- Mundy (2010) investigates the challenges in using MCS simultaneously to direct and empower in practice through balancing the use of control. The author finds that interactive control systems play a significant role in achieving and maintaining balance between the controlling and enabling uses (see below subsection – *Framework Development*) of MCS and suggests interactive control systems seem to have a unique organisational capability in their own right. Notably, the author suggests a combined influence of the diagnostic and boundary control levers, which focusing on the attainment of annual goals has a strong restraining effect on the strategic aims of innovation and creativity that support through belief systems. This provides evidence to illustrate the negative forces from diagnostic and boundary levers of control to constrain the positive dynamics from belief systems. However, there is limited evidence to illustrate what the balance looks like.

In summary, the balance between different levers is considered as an essential component for successful implementation of strategy. Literature investigates the balance of LOC in several ways, including:

- (i) The effect that a balance between LOC has on control and organisational performance (Analoui & Karami, 2002; Barkemeyer, Comyns, Figge, & Napolitano, 2014; Widener, 2007);
- (ii) How the use of a particular control affects (i.e. triggers or hinders) the use of other controls (Mundy, 2010; Tuomela, 2005; Widener, 2007); and
- (iii) The ways to employ balanced control in different contexts or arrangements (Arjaliès & Mundy, 2013; Bruining et al., 2004; Kruis et al., 2015).

However, none of these sources explore what an ideal balance looks like or the challenge to maintain a desirable balance between LOC.

Framework development

Literature focuses on diagnostic control systems and interactive control systems, but the concept of “use” (of **interactive control**) has not been well developed (Aldónio Ferreira & Otley, 2009), although such controls are already highlighted in the quantitative studies of Simons’ LOC (Martyn et al., 2016). The four levers designated in Simons’ LOC framework contribute to improve understanding of the use of control systems, but Bisbe et al. (2007) argue Simons’ definition of interactive control can be seen as a composite of different sub-areas. It is important to have a sound understanding of these to justify and illustrate an epistemic relationship.

Accordingly, attempts have been made by researchers to revise Simons’ LOC (1995) framework. For example, Tessier and Otley (2012) undertake a qualitative approach by using three case studies to illustrate problems with concept definitions, which consists of analysing the internal consistency of the LOC components and comparing them with other similar concepts. They present a revised version of Simons’ LOC, which could improve the concepts of interactive and diagnostic levers of control, and they also explore the less studied positive and negative controls. They suggest a revised framework that focuses on the dual role of controls, but exclude any evaluation of the quality of controls. In other words, the positive (enabling)/ negative (constraining) dimension of control is illustrated by the dual role of controls, however, the dual role of controls does not refer to the inherent quality within the controls (good/ bad) (p.176). Their work clarifies the ambiguities in the literature: the dual roles (positive and

negative) of control provide a description of the different role that a control can play, while the quality of a control is to assess whether a control is good or bad, i.e. the effectiveness and efficiency of a control. In order to avoid confusion caused by the positive and negative controls, which themselves are not neutral, the authors label controls as enabling or constraining. The authors also evaluate the quality of control, i.e. whether managerial intentions are translated into objectives of control; and how controls are presented and shape employees' perceptions.

In comparison to Simon's broad definition of LOC, Tessier and Otley (2012) provide a revised framework with a refined definition of controls. However, this is a relatively new framework developed in 2012, and there is lack of literature referring to their work, apart from Arjaliès & Mundy (2013). While acknowledge their contribution to the clarification of confusion in extant literature regarding the distinction between the dual role of controls and the quality of a given control, this thesis does not build upon their revised framework.

2.2.3 Management Control Systems: A review of literature

Simons' LOC is a framework operationalised through MCS to control strategy implementation towards organisational goals (but not itself a MCS that is used by the managers), and there are a range of MCS that can be employed/ mobilised under Simons' LOC framework. This section aims to introduce the coverage of MCS in this thesis, while details of the mobilisation will be discussed in section 3.2. After introducing the underlying notion and reviewing key literature on Simons' LOC, the following sections present how MCS and performance measurement systems (PMS) are understood within the context of the LOC framework.

Relationship between Simons' LOC, MCS and strategy

Management control itself is a broad research domain, which encompasses decision making for strategic control, performance management and measurement, risk and culture control (Berry et al., 2009). A number of definitions of MCS exist in recent literature, for example, the definition provided from Chenhall (2003) considers management accounting as "*a collection of practices such as budgeting or product*

costing”, and management accounting systems (MAS) as “*the systematic use of management accounting to achieve some goals*”, while “*MCS is a broader term that encompasses MAS and also includes other controls* (p.129).”

Simons’ LOC views MCS as the means used by senior managers to successfully implement their intended strategies (Ferreira & Otley, 2009; Simons, 1995). The position of the LOC framework towards strategy is identified in Simons (2000) as follows: “*control of business strategy is achieved by integrating the four levers of [controls]... The power of these levers in implementing strategy does not lie in how each is used alone, but rather in how the forces create a dynamic tension*” (p.301). The literature on management control and performance measurement frequently seeks to address strategic concerns, which shape organisational members’ practices (Ahrens & Chapman, 2007).

[The use of Simons’ LOC to improve understanding of MCS](#)

Traditional notions of MCS rely on ideas of cybernetic control and management by exception (Ahrens & Chapman, 2004; Anthony, 1965), which are characterised by formal rules, standardised operation procedures and routines, as passive tools providing information to support managers (Chenhall, 2003). The classic view of management control, as defined by Anthony (1965), is “*the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organisation’s objectives*” (p.17). To date, these classic cybernetic controls are still the preferred choice in MCS, but scholars also recognise these predominant notions fail to control for communication-intensive uses (Ahrens & Chapman, 2004) and organisations have advanced beyond them recently (Lueg & Radlach, 2016). Therefore, this classic view of MCS disconnects MCS with the strategic planning and operational control needs of the present day (Langfield-Smith, 2007; Otley, 1999). With Simons’ LOC, it allows managers to focus on strategic uncertainties through interactive debate and dialogue at all levels of the organisation (Simons, 2000, p. 217). By focusing on strategic uncertainties, managers can use interactive control systems to guide strategy formation.

Organisations are moving towards 'organic' operation, in which organisational success is primarily associated with flexibility and free-flowing communication (Ahrens & Chapman, 2004; Burns & Stalker, 1961; Morgan, 1988a; Müller, Holmes, Deurer, & Clothier, 2014). The definition of MCS needs to embrace a much broader scope of information, including external information, predictive information and informal control to support decision-making, personal and social controls (Chenhall, 2003), and broader conceptualisations of control to include factors such as strategic development, strategic control and learning processes (Merchant & Otley, 2006).

Although the framework developed by Anthony (1965) has guided much MCS research and has confirmed the usefulness of MCS in a mechanistic organisation (Bedford et al., 2016), it has also constrained further research because of its underlying model of hierarchical (mechanistic) organisations (Berry et al., 2009).

More recent frameworks, such as the work of Simons (1995), Malmi and Brown (2008) and Ferreira and Otley (2005, 2009) suggest frameworks that go beyond cybernetic controls to cover informal and formal controls, which effectively locates MCS in a much wider field.

The LOC framework puts MCS beyond the classic cybernetic use to four different levers of control. Thus, LOC contributes to a broader role of MCS by creating both inspiring and constraining forces between four levers of control, as discussed in the previous section. The LOC framework provides a more advance conceptualisation, i.e. "the use of MCS to manage behaviour and effect strategic change" (Langfield-Smith, 2007, p. 778).

[Sustainability Control Systems \(SCS\)](#)

Literature on the use of MCS to control sustainability has expanded in the past 10 years (Hopper & Bui, 2016; Martyn et al., 2016). There is a growing interest to investigate the use of MCS to manage sustainability strategy, which is largely due to the criticism that MCS is not sufficient to control for goal achievement beyond profits (Ball & Milne, 2005; Gond et al., 2012; Lueg & Radlach, 2016; Rosanas & Velilla, 2005).

- Rosanas and Velilla (2015) suggest that there are ‘two levels of control’: the control imposed by society as a whole to control the behaviour of the firm and the people in charge; and the top-down control within the organisation to manage the human behaviour on behalf of the organisation (p.84). The first type of control takes place through the market mechanism while the second type of control takes place through the management control function.
- Ball and Milne (2005) argue that traditional accounting-based MCS is not capable of addressing all dimensions of sustainability and would require adaptation.

Accordingly, researchers have shifted their focus to sustainability control systems (SCS), which have become an emerging theme in the MCS literature (Bebbington & Thomson, 2013; Contrafatto & Burns, 2013; Figge & Hahn, 2013; Gond et al., 2012). Notably, as introduced in Chapter 1 (p.16), Gond et al. (2012) expanded the notion that a control system can incorporate social and environmental performances as well as economic performance. The authors establish that MCS and SCS are two parallel systems, in which SCS is a specific control system focusing on the integration of sustainability into strategy; and should not be used as “autonomous” (p.206). They propose a configuration typology to identify elements that should be taken into account to make sustainability calculable and then manageable.

Building upon Gond et al. (2012), Ditillo and Lisi (2016) investigate the integration of SCS with traditional MCS; and explain how this integration is facilitated/ affected by other enablers, such as managerial sustainability orientation. They outline several internal management control issues (enablers), such as organisational arrangements, stakeholders’ engagement, and the availability of resources, which have all triggered variations in the integration of SCS with traditional MCS.

In terms of translating sustainability strategy into sustainability performance, Wijethilake (2017) conducts a quantitative analysis to examine SCS’s effects on the relationship between sustainability strategy and the three pillars of sustainability performance. This study finds a positive association between SCS and sustainability (social and environmental) performance; and, that there is no mediation between SCS and economic strategy.

In summary, there is an on-going conversation in literature about (i) the uses of SCS to manage sustainability strategy; and (ii) the ways to integrate SCS with traditional MCS. Scholars depict the problem in researching sustainability as too diverse that it fails to provide a coherent picture of sustainability, but valuable insights can be obtained through this process (Lueg & Radlach, 2016)

Potential to use MCS literature to complement LOC knowledge

After introducing the link between LOC and MCS, and discussing how Simons' LOC acts as a theoretical framework to better understand MCS, this section aims to review key literature from the MCS research domain to explore the research potential of MCS, again in the context of LOC.

Barkemeyer et al. (2014) find that CEO statements in sustainability reports, which themselves are belief systems, have increased over time. Although their work does not explicitly employ the LOC framework, Widener (2007) argues that the belief control system is embodied in the diagnostic control system because the latter captures the critical success factors as those factors are associated with the core values espoused in the former (p.761). Therefore, it allows such statements to be investigated using the LOC framework. The authors suggest that improvements in sustainability performance require reports to accurately reflect performance. It is reasonable to assume that the more motivated employees are to achieving organisational goals, the more attention will be placed on measuring appropriate critical success factors such that employees' actions are aligned with the firm's strategy (cf Widener, 2007). This applies to the MCS and corporate sustainability literature in a wider sense, and lends itself to qualitative as well as quantitative descriptions of corporate sustainability management (Perrini, 2006).

In responding to the argument that traditional MCS studies focus on a few aspects of control, and unclear findings, Ferreira and Otley (2005) propose a performance management and control framework by integrating Otley (1999) and Simons (1995) (see also Ferreira & Otley, 2009). Their framework was inductively generated from their observation of MCS design and use in practice through elaborating Otley's five issues into twelve questions and integrating them with Simons' LOC.

Collier (2005) reviews different frameworks of management control theory and observes how modes of control have changed over time by using a 10-year longitudinal field study. The author compares the value of Simons' LOC with another management control framework originated by Ferreira and Otley (2005) and finds Simons (1995) framework is more helpful to reflect social control (through belief systems) along with its emphasis of the importance of boundary systems.

Malmi & Brown (2008) suggest viewing MCS as a 'package'. They suggest that organisations use large and complex combinations of MCS, and proposed a MCS package consisting of five types of controls. Ahrens and Chapman (2007) view MCS as independent social practices. These views of MCS in extant literature are still controversial (Lueg & Radlach, 2016): MCS as a 'package' (Malmi & Brown, 2008), a 'unified system' (Grabner and Moers, 2013), or independent social practices (Ahrens and Chapman, 2007)., along with different frameworks proposed by scholars, the LOC framework (Simons, 1995), Otley's operation of MCS framework (1999), the extended framework built upon the previous two frameworks by Ferreira and Otley (2005), revised version of Simon's framework (Tessier & Otley, 2012). Combining all these developments in MCS literature, some frameworks are meant to stand on their own whereas others are built upon Simons' LOC framework, which makes it difficult to portray research on the LOC framework as a coherent body of knowledge.

[Research linking Simons' LOC, sustainability strategy and stakeholders](#)

Importantly, three “bridging” studies frame the investigation of Simons' LOC, sustainability strategy and stakeholders, and combined, provide an important departure point for this thesis. As mentioned in Chapter 1 (p.15) and the above literature review, there is an on-going conversation between these topics. The below table 2.2.1 provide a summary of these studies:

	Sustainability Strategy	Simons' LOC/ MCS	Stakeholders
Gond et al. (2012)	Integration of sustainability within organisational strategy	Conceptualisation of eight configurations of diagnostic and interactive uses of MCS and SCS	Traditional MCSs are seen to be limited in incorporating the interests of a broad range of stakeholders
Arjaliès & Mundy (2013)	<ul style="list-style-type: none"> Identify and exploit CSR opportunities Identify and manage threats Transform organisational practices towards sustainability 	Providing insights into the ways in which MCS are used by organisations to: <ul style="list-style-type: none"> achieve strategic change and renewal; support the attainment of strategic objectives. 	<u>Externalities</u> <ul style="list-style-type: none"> Legal pressures Stakeholder pressures Avoidance of class actions (contingent legal costs)
Rodrigue et al. (2013)	<ul style="list-style-type: none"> Highlight that environmental strategy influences the choice of environmental performance indicator (EPI) Internal EPI are developed based on the environmental issues the firm wants to document (P.306) 	Providing insights about how stakeholders influence the choice of internal EPI	Interactive control systems acknowledge pressures from a firm's external environment, which encompasses a wide variety of groups or constituencies with particular concerns (cf. Freeman, 1984)

Table 2.1: A summary of the key findings of “bridging” studies

Accordingly, this thesis enters this ongoing conversation through:

- Responding to Gond et al.'s (2012) calls for a closer look at the interplay between MCS and SCS, and how organisational moves towards greater sustainability can be enhanced by strategic and simultaneous mobilisation of these two systems (p.209). This study investigates the use/ adoption of MCS in incorporating the interest of a broad range of stakeholders, while acknowledging the authors' viewpoint that traditional MCS is not sufficient to enable the integration of sustainability into organisations' strategy.

- Addressing how a company takes externalities into account in its MCS. Arjaliès and Mundy (2013) suggest that the requirements and interests of a wide range of stakeholders are captured in companies' interactive processes (p.298). This study appropriates and adapts the concept of externalities to include a wider range of stakeholders' expectations on social and environmental performance, and examines the ways that such externalities can be captured through LOC.
- Enriching understanding of the ways in which stakeholders influence a firm's MCS. Rodrigue et al. (2013) have a clear focus on a firm's environmental strategy and find stakeholders can influence the selection of EPI. This study responds to their calls to investigate if such stakeholders' influences can be captured through other means (p.314).

2.2.4 Justification of research opportunities for Simons' LOC

Literature in the area of PMS and MCS increasingly recognises the need for research to be based on coherent theoretical frameworks and shed new insight (Chenhall, 2003). Recent attempts to connect Simons' LOC and MCS criticise the vague and ambiguous definition of each LOC (Bisbe et al., 2007; Chenhall, 2003; Tessier & Otley, 2012). The same concepts are often defined differently by different researchers, which makes it difficult to compare studies and build cumulative knowledge (Malmi & Brown, 2008).

Simons' LOC has potential to be used to contextualise understandings and provide a more systematic development of knowledge (Bedford et al., 2016). In managing sustainability issues, an organisation should define and make sense of what sustainability means in its organisational setting, otherwise employees will be forced to attach their own interpretations of sustainability, which might differ widely from organisational objectives (Durden, 2008). Some belief systems (e.g. mission statements, policies and codes of conduct) foster the sustainability concerns in a top-down direction (Arjaliès & Mundy, 2013; Lueg & Radlach, 2016). A specific focus on PMS, which is an example of MCS, operationalised through LOC, could help to build cumulative knowledge – to make sustainability issues measurable (and commensurable, see section 3.2.5) and thus manageable.

The use of Simons' LOC framework is appropriate for this study for several reasons:

1. the LOC framework focuses on how managers ensure that intended strategies (top-down) are implemented successfully while also remaining open to emerging strategies (bottom-up) from the business environment (Arjaliès & Mundy, 2013; Simons, 1995);
2. sustainability strategies are accompanied by strategic uncertainty, so the use of a framework enables exploration of a firm's strategic decision-making process in a context of constantly changing sustainability issues;
3. the diagnostic and interactive uses of performance measures are apt to improve the quality of strategic management and increase the visibility of actions (Tuomela, 2005). It is possible for this study to extend research on the use of performance measurement systems (PMS) to reveal how PMS integrates sustainability concerns which might (not) translate into the strategic decision-making process;
4. LOC is broad enough to appeal to different stakeholders and to convey the organisation's core values among organisational participants (Rodrigue et al., 2013); and
5. in line with the above, LOC is a flexible framework to allow incorporation with another theoretical lens; in this study Stakeholder Theory is also mobilised to explore strategic decisions and management controls in a sustainability setting.

2.3 Stakeholder Theory

Before defining concepts within Stakeholder Theory (Freeman, 1984), Gray et al. (1997) concludes three dominant ways of theorising the (accountability) relationship between an organisation and its 'outside' world, and recognises the overlaps of the conceptions from a *stakeholder* perspective, an *accountability* perspective and a *polyvocal citizenship* perspective. These three overlapping 'systems' theories³ are perceived by the authors, building up from the "*the "harder", more functional*

³ Additional 'system' theories include legitimacy theory, social contract theory and political economy theory may also be appropriate that they deduce accountability relationship between an organisation and society (Gray et al., 1995). Such theories are acknowledged in this study.

organisation-centred stakeholder perspective, through the slightly “softer”, society-centred accountability perspective, to (perhaps) the “softest”, stakeholder-centred polyvocal citizenship perspective” (p.333). This study acknowledges the inherent similarities (or overlaps) among these perspectives/theories, and distinguishes *stakeholder theory* from its focus on its ‘organisation-centred legitimacy’ position when defining the priorities among the stakeholders, i.e. the identification of ‘salient’ stakeholders (as opposed to ‘latent’ stakeholders) (Hall, Millo, & Barman, 2015; Mitchell, Agle, & Wood, 1997; Ullmann, 1985). Further details about the selection of *stakeholder theory* are discussed in section 2.3.3.

Similar to Simons’ LOC, *stakeholder theory* has been widely employed in social accounting literature. It could be located either in the political metaphor, to consider the organisation’s social contract; the rationalist metaphor, as a result of its rational management link; or the biological metaphor, where it recognises the dynamic and complex nature of the interplay between an organisation and its environment (Gray et al., 2014, p.85).

2.3.1 The underlying notion of Stakeholder Theory

Freeman (1984) defines stakeholder as “*any group or individual [in the company’s environment] who can affect or are affected by the achievement of the organisation’s objectives* (p.46).” Stakeholders of a firm may include shareholders, creditors, suppliers, customers, employees, public interest groups and the government. These groups have a *stake* in the actions of the corporation, and the organisation would cease to exist without support from those groups (Freeman & Reed, 1983, p.89).

Stakeholder theory is based on the concept of the social contract. Shocker and Sethi (1973, p.97) explained the social contract, as:

“Any social institution – and business is no exception that operates in society via a social contract, expressed or implied, whereby its survival and growth are based on:

1. *the delivery of some socially desirable ends to society in general, and*

2. *the distribution of economic, social, or political benefits to groups from which it derives its power.*

In a dynamic society, neither the sources of institutional power nor the needs for its services are permanent. Therefore, an institution must constantly meet the twin tests of legitimacy and relevance by demonstrating that society requires its services and that the groups benefiting from its rewards have society's approval."

From the above definition of social contract, business is regarded as a social institution with different social contracts with its stakeholders. Although the definition provided by Shocker and Sethi (1973) explains the need for organisations to address social demands, there is a lack of comprehensive social responsibility theory to explain sufficiently why and how organisations should engage in social responsibility (Roberts, 1992).

The two variants of Stakeholder Theory

There are two major variants of Stakeholder Theory. The first variant of Stakeholder Theory depicted in Gray et. al. (1996) relates directly to the notion of accountability. It perceives a series of socially grounded relationships between the organisation and its stakeholders as involving both responsibility and accountability. This is an ethical (or normative) approach for the organisation to respond to accountability in a social accounting context (Gray et al., 1997). This branch provides prescriptions of how organisations should treat their stakeholders, and emphasises the responsibilities of organisations.

The second variant of Stakeholder Theory focuses more on empirical accountability. Stakeholder Theory may be employed in a strictly organisation-centred way (Tricker, 1983). This is considered as a managerial (or positive) branch of Stakeholder Theory, and differs from the first variant where stakeholders are identified by society; here, the stakeholders are identified by the '*organisation of concern*'. The identification of stakeholders depends on the extent to which an organisation believes the group needs to be managed in order to maintain the interests of the organisation, i.e. '*salience*' (Gray et. al., 2014; Mitchell et. al., 1997).

[An alternative stakeholder approach – Ullmann's framework \(1985\)](#)

Building upon the stakeholder approach presented by Freeman (1984), Ullmann (1985) developed a conceptual framework of corporate social responsibility activities to explain the relationship among social disclosure and social and economic performance, which suggests a new direction for future research. While Stakeholder Theory (Freeman, 1984) concerns the dynamics of stakeholder influences on the corporate decision-making process, and helps develop strategies to manage stakeholder expectations to ensure organisational goals are achieved, Ullmann's framework suggests configurations of three dimensions to explore how organisations manage relationships with stakeholders.

From Ullmann's model, organisations are not self-contained and self-sufficient. There are external controls and demands of interest groups upon which organisations depend for resources and support (Pfeffer & Salancik, 1978). A three-dimensional model is presented to explain the correlation between social disclosure, social and economic performance: (a) stakeholder power; (b) strategic posture; and (c) firm's past and current economic performance.

The following sub-section outlines the fundamental elements of Stakeholder Theory to illustrate the notion of social contract, and its implications for stakeholders and the organisation.

[Principle of legitimacy](#)

Legitimacy is a fundamental part of Stakeholder Theory, where the notion of "social contract" is central to organisational legitimacy. Dowling and Pfeffer (1975) define *legitimacy* as the state in which: "*the social values associated with or implied by [corporate] activities are aligned with the norms of acceptable behaviour in the larger social system in which [corporations] are a part*" (p.122). Likewise, Deegan (2000) describes legitimacy as it "*assets that organisations continually seek to ensure that they operate within the bounds and norms of their respective societies, that is, they attempt to ensure that their activities are perceived by outside parties as being 'legitimate'*" (p.253).

Society is a “latent stakeholder” with the potential to become an “salient/expectant stakeholder” (Mitchell et. al., 1997). Considering legitimacy at an organisational level, where society is not satisfied that the organisation is operating in an acceptable or legitimate manner, then society will effectively revoke the organisation’s “contract” to continue its operations (Deegan, 2002).

Firms require a long-term ‘license to operate’ in society, which is about the organisation’s future acceptability to survive. There is a (intangible/conceptual) contract that exists between an individual organisation and the society in which it operates (Chen & Roberts, 2010). Approval from stakeholders must be sought which in turn affects an organisation’s activities, such that it can gain that approval (Gray et. al., 1995). This perspective is similar to the concept of ‘social institution’ (Shocker & Sethi, 1973), where an institution must constantly meet with society’s needs to gain approval to operate.

[Principle of resources](#)

Pfeffer and Salancik (1978) stress that organisations enjoy a certain degree of discretion to fulfil stakeholder demands, and hence obtain their monetary support, information, physical resources and legitimacy (p.2). Managers develop strategies to ensure the continued supply of particular resources, which the organisation can also impact or manipulate during the process (Woodward, Edwards, & Birkin, 2001) by perhaps controlling or collaborating with stakeholders, who in themselves are considered to be legitimate (Oliver, 1990). Their argument is reinforced by Ullmann (1985) who said that organisations will tend to be influenced by those who control the resources they require (p.552).

[Stakeholders’ expectations and engagement](#)

“When a disparity, actual or potential, exists between the two value systems [individual organisations and the relevant publics], there is a threat to the entity’s legitimacy.”

(Lindblom, 1993, p.2)

Freeman's Stakeholder Theory (1984) (see also Freeman and Reed, 1983) discusses the dynamics of stakeholder influences on the corporate decision-making process. Freeman develops the stakeholder concept into a new perspective on corporate governance, which includes corporate planning, a business policy model and a model of stakeholder management. These models provide insights on developing and evaluating the approval of a corporate strategy, and suggest that the major role of corporate management is to assess the importance of meeting the expectation of stakeholders in order to achieve a firm's overall objectives.

The expectations from stakeholders to grant legitimacy change continuously. Deegan (2007) describes organisational legitimacy as a social construct that changes over time and place: "... [legitimacy] *is not an abstract measure of the "rightness" of the [organisation] but rather a measure of the societal perceptions of adequacy of [organisational] behaviour*" (p. 128). In order to closely manage while conserving managerial effort, it is important for organisations to implement stakeholder analysis and continuously reassess their legitimacy status: "*stakeholder analysis and a focus on organisational legitimacy have been dominant conceptual foci of the CSR literature and have also been subject to lively on-going debate*" (Bebbington & Larrinaga, 2014, p. 401).

Engaging with stakeholders to manage their expectations is closely related to the second branch of Stakeholder Theory, which emphasises the need to manage particular stakeholder groups, particularly those which have the ability to control resources that are necessary to the organisation's operation, i.e. powerful stakeholder groups (Ullmann, 1985). Stakeholder Theory explicitly accepts that different groups have different views on how organisations should conduct their business and have different abilities to influence an organisation. For example, Arjaliès and Mundy (2013) suggest that companies engaging with CSR activities for compliance or legitimacy purposes experience changes in their organisational practices as a result of demands from stakeholders for evidence of effort and process (cf. Adams and McNicholas, 2007). The theory also helps identify publics relevant to particular management decisions, and guides the organisation to pay more attention to conforming with stakeholder expectations (Friedman & Miles, 2002).

An organisation's legitimacy rests on the perception of managers and therefore has implications for strategy. Indeed, some companies are driven by self-interested behaviour, (i.e. they disregard elements of sustainable development which are not perceived as directly supportive to their business (cf. Gray, 2010; Milne et al., 2006). For example, Arjaliès & Mundy (2013) identify a strand of literature that believes organisations exploit sustainability issues only to gain legitimacy or manage reputation, with little genuine connection to sustainability concerns (p.286).

However, literature also suggests that social and environmental initiatives could provide strong and common identify based on ethics and morality that motivate employees to move towards sustainability goals (Costas & Kärreman, 2013). These ethics, morality and responsibilities are indeed the underlying notion in Stakeholder Theory, i.e. the ethical strand. It is then reasonable to establish a connection between Stakeholder Theory and LOC.

Stakeholders may be somewhat discontented with an organisation's activities but may not act to demand a change in the organisation because the level of dissatisfaction is still bearable (Breton & Côté, 2006). This leads to difficulty in constructing a precise term or clause of the social contract, for sustainability issues *per se*, as different managers might have various perceptions of these terms. Gray et al. (1996) suggest that legal requirements and regulation help to provide the explicit terms of the contract, while other non-legislated societal expectations embody the implicit terms of the contract.

2.3.2 Stakeholder approach in management accounting literature

Deegan and Unerman (2011) (see also Deegan, 2002) describe the role of Legitimacy Theory to explain managerial decision-making. They recognise that most of the early research is designed to answer: "what are companies reporting?" (Choi, 1999; Deegan & Gordon, 1996; Gibson & Guthrie, 1995; Lynn, 1992) and "can social and environmental disclosure practices be linked to other attributes of performance, factors or size?" (Trotman & Bradley, 1981; Ullmann, 1985), but other strands of management accounting literature incorporate a stakeholder approach, as outlined next.

To begin with identifying the “stake” that influences an organisation. Such “stake” can be (groups of) people or issues that require organisations to pay attention to; Hall et al. (2015) ‘who and what really counts’ in influencing organisational practices, which then facilitate value creation. The authors investigate the process to translate stakeholders’ ideas into reliable, systematic and accounting measurement (Freeman, Wicks, Parmar, & De Colle, 2010), and form two propositions (p.928):

1. *“The prioritisation of stakeholder voices in an accounting and reporting system is shaped by managers’ epistemic beliefs; and*
2. *The ability of managers to develop an accounting and reporting system, consistent with their epistemic beliefs, is shaped by organisation’s material conditions (such as the nature of existing data collection and reporting systems, access to financial resources, and access to necessary labour and expertise).”*

In other words, managers’ beliefs on what counts as valid and appropriate data and organisations’ existing practices, systems and expertise shape influence the priority that managers give to different stakeholders. Fitting this into sustainability context, stakeholders may demand more information about a firm’s sustainability performance, but this is up to the managers to prioritise sustainability issues. This aligns with the claim that organisations engage in sustainability practices to pursue a resource-based strategy and to respond to institutional demands (Peloza & Shang, 2011). If such issues are considered as a valid count, those which drive firms to undertake a more proactive sustainability strategy and signal to stakeholders through increasing the transparency of sustainability reporting (Bartolomeo et al., 2000; Burnett & Hansen, 2008; O’Dwyer, 2002).

As the influences of the role of managers and organisation’s existing material conditions influence the prioritisation of stakeholder voices, below paragraphs outline the key studies that bridge (a) stakeholders, (b) managers, and (c) accounting systems.

Rodrigue et al. (2013) explore how managers perceive stakeholders’ influence on the choice of internal environmental performance indicators (EPI), which in turn, influences performance evaluation and managerial decision-making. They explore how EPI is used as an interactive and diagnostic control to manage stakeholder

concerns and society expectations to gain current and future access to natural resources and community trust. Their study focuses on a single firm to investigate the influence of stakeholders through the viewpoint of management to allow an in-depth understanding of the firm's specific context. Also, their work discusses the use of internal environmental performance indicators (EPI) as a set of performance measures to meet stakeholders' requirements, and explore the relationship between stakeholders and corporate environmental management. They suggest stakeholders have direct and indirect influence on a firm's environmental strategies in different ways, via a firm's EPI selection. Three groups of stakeholders (government, community and employees) are perceived to have a direct impact on the choice of a firm's internal EPI. Although their work recognises that some stakeholders are perceived to simultaneously influence a firm's EPI selection and present a rationale to evaluate stakeholder powers, other questions surrounding the concept of stakeholders remain unanswered. Furthermore, their work also identifies elements of the belief system and organisational tension, which contributes to the understanding of the interplay between business and sustainability.

Additionally, Rodrigue et al. (2013) provide a list of concepts used by their case firm that link to legitimacy, including: public image, reputation, visibility, 'license to operate' and future acceptability (p.311). They further suggest sustainability reporting underlines the notion of legitimacy, with sustainability reports often associated with reputation enhancement and the preservation of a firm's license to operate (p.312). Similar findings have been suggested by Bebbington et al. (2014) that many organisations are using claims in public statements as a public relations tool to maintain the approval of their stakeholders (p.5).

Barkemeyer et al., (2014) question whether stakeholders too easily allow these companies to portray themselves as "sustainability pioneers" (for reasons other than their actual sustainability performance); or whether stakeholders can in fact decipher performance from reported information, i.e. how stakeholders evaluate sustainability performance is important to the way that companies report their sustainability issues.

"[Accounting reports] serve as a tool for constructing, sustaining, and legitimising economic and political arrangements, institutions, and

ideological themes which contribute to the corporation's private interests."

(Guthrie and Parker, 1990, p.166)

The use of Stakeholder Theory is very much related to sustainability disclosure (reporting) activities, e.g. how a firm can discharge its accountability via a series of activities (Rodrigue et al., 2013) and organisational disclosure and reporting (Deegan, 2002; Milne et al., 2009). Conventionally, accounting information is considered as a tool that has a primary focus to provide information to internal managers and shareholders (Mitchell et al., 2015), Andon et al. (2015) critique such practices (i.e. mobilise the interests of particular stakeholders over others), and suggest the provision of information in relation to accounting for diverse stakeholders interests make accounting information useful, such as (i) helping the organisation to codify its history and memory; (ii) produce legitimacy; and (iii) facilitate various organisational rituals and routines (p.999).

The need to include stakeholders in accounting is persuaded in management accounting literature and is a fruitful area to undertake further research (Andon et al., 2015; Brown & Dillard, 2015; Hall & O'Dwyer, 2017; Nicholls, 2009). Specifically, Mitchell et al. (2015) argue the problem of broad stakeholder inclusion in organisation decision-making because of inadequate accounting theory and practice. Research on how organisations collect data through the use of management accounting tools to provide information for strategic decision-making is still emerging (CGMA, 2014; Rodrigue et al., 2013).

2.3.3 Similarities between Stakeholder Theory and other 'systems' theories

Although this study subscribes to the Stakeholder Theory originated by Freeman (1984), it also recognises that other 'systems' theories (p.43) covers similar content in extant literature (Deegan, 2002; Gray et al., 1997). From a systems-oriented perspective, an organisation is perceived as being influenced by and, in turns, to have influence upon the wider society in which it operates. For example; *Legitimacy Theory* is considered to be a systems-oriented theory that enables us to focus on the role of information and disclosure between an organisation and society (Gray et al., 1996), it

explains the process for an organisation to gain legitimacy through voluntary disclosures; *Accountability Theory* explicitly defines what accountability (i.e. the duty to provide an account of the actions in which it is held responsible) the organisation itself is willing to recognise and discharge through disclosure (Gray, Owen, & Maunders, 1987). Here, there is an overlap about the information rights among the theories, in which *stakeholder theory* explicitly discusses managerial behaviour in the process of stakeholder engagement (van der Laan, 2009).

Gray et al. (1996) suggest that *stakeholder* and *legitimacy theories* should not be treated as two totally distinct theories: “...*Stakeholder Theory and Legitimacy Theory are better seen as two (overlapping) perspectives on the issue which are set within a framework of assumptions about political economy*” (p.52). Some scholars suggest that *legitimacy theory* takes one of the two major variants of *stakeholder theory* and adds conflict and dissension to form *legitimacy theory* (Deegan, 2002; Lindblom, 1994; Patten, 1992). Likewise, Deegan (2002) states that scholars embracing *legitimacy theory* to discuss concerns of relevant publics are borrowing insights from *stakeholder theory*.

While *accountability theory* is helpful to provide context for the accountability information so reported, this study notes the inherent differences between *stakeholder theory* and *accountability* and *legitimacy theories*: *stakeholder theory* explains the accountability role and managerial behaviour of organisation towards stakeholders at the micro-level, whereas *legitimacy theories* suggest voluntary/social disclosures are part of the process to gain legitimacy (van der Laan, 2009), and provides a foundation to understand how and why managers might use external reporting to benefit an organisation (Deegan, 2002).

In essence, the above mentioned theories rely on the concept of *social contract* (Lindblom, 1994; Shocker & Sethi, 1973) and share similar characteristics from the systems-oriented perspective (Gray et al., 1996). Therefore, this study concurs with Gray et al. (2014), whose approach considers *legitimacy theory* as an extension of (the positive branch of) *stakeholder theory*.

2.4 Proposal for the Use of Theoretical Frameworks

The choice of theory involves a purposeful choice of emphasis. Using a specific theoretical framework has the advantage of framing and highlighting particular matters of concern, where a rich understanding can be obtained through examining studies of that framework. However, the use of a single framework simplifies an infinitively complex world, and therefore necessarily leaves out many other matters of concern (Unerman & Chapman, 2014).

The scope of this study is to explore the relationship between (a) sustainability, (b) performance measurement systems, and (c) strategic decision-making processes, and potentially illustrates the complexity and challenge to commensurate sustainability practices from a management accounting perspective.

Within the management accounting literature, Unerman and Chapman (2014) call for a greater depth and diversity of theoretical frameworks within research on accounting for sustainable development: there is potential for the collective use of a broader base of theorisation to obtain useful insights in the literature on accounting for sustainable development. By doing so, a potential benefit is accrued from trying to examine a particular occurrence, i.e. management accounting for sustainable development, through more than one view (theory) of the world.

In responding to this call, this study intends to combine Simon's Levers of Control with Stakeholder Theory, which uses Simons' LOC as an overarching framework to consider how different levers are deployed for different stakeholders as well as the principles underpinned in Stakeholder Theory.

[Recent attempts to link Stakeholder Theory to sustainability](#)

“Stakeholder theory provides an avenue in which to integrate the hypothesis regarding corporate social responsibility activities into a model of corporate social responsibility disclosure.”

(Roberts, 1992, p.596)

The environment for business operations is in a state of constant change and stakeholders are increasingly concerned with how sustainability issues are measured, managed and reported (Bebbington, 2014; O'Dwyer, 2002; Unerman & Chapman, 2014). *Stakeholder* and *legitimacy theories* are widely adopted (Bebbington et al., 2014; Deegan & Unerman, 2011; Deegan, 2002), and can present insights of the early stages of the development of social and environmental accounting practice, particularly in the social disclosure and reporting area. There is potential to broaden the conventional concept of maximising shareholder wealth to embrace a broader set of stakeholder expectations.

For example: Pruzan (1998) suggests the development of an accounting and reporting system to collect and communicate an organisation's social and ethical activities are the pre-condition of effective stakeholder engagement. The author recognises a major shift in the way organisations choose to observe themselves; and to describe, evaluate and report on their performances. In responding to the great complexity and uncertainty, focusing on just one stakeholder (i.e. the shareholder) and one performance criteria (i.e. profitability) lead to over-simplification. This has been manifested in approaches to deal with a multiple of stakeholders, each characterise by their own values with respect to their interplay with the organisation (p.1379). This provides momentum to the development of 'new' accounting techniques such as social auditing, social accounting, sustainability reporting and Triple Bottom Line (TBL) accounting (Freeman, 1984; Greenwood, 2007). Pruzan attempts to align organisational and stakeholders' values into the management culture (i.e. developing a value-based perspective) and argues this would in turn reflect and reinforce the values, expectations and needs of stakeholders and the environment within which it coexists (p.1390).

Besides, the role of stakeholders towards firm's sustainability assessment has been investigated by Costa and Menichini (2013). Specifically, the authors argue the ways that stakeholders perceive firm's responsible behaviour influence the possibilities to obtain benefits from CSR practice. Therefore, the measurement of stakeholders' perception becomes a key issue in the process of sustainability assessment. The authors propose a multidimensional approach for sustainability (CSR) assessment to demonstrate that business returns from sustainability practices depend heavily on

stakeholders' perceptions on firm's sustainability commitment. Their model has been applied to a cooperative company, with results align with the suggest that stakeholders play a central role in sustainability evaluation: internal managers can better perceive the inner CSR dynamics, whereas external stakeholders are likely to grant a more truthful recognition of the outer CSR conduct of the company (p.158).

Likewise, Frame and Cavanagh (2009) suggest that a transformation of accounting practice to assess sustainability is crucial because the background of accounting for sustainability is not quite mature enough to make its own judgement. The authors suggest stakeholder participation is critical to co-produce knowledge about sustainability (particularly when addressing the subjectivity inherent in the monetisation process). They consider the engagement with a broad range of stakeholders is important to capture all possible impact of sustainability assessment and to facilitate understandings of the factors influencing sustainability. Although they conclude the end result is distant and the maturation process is far from certain or predictable, this engagement promotes acceptance of the final assessment. However, in order to effectively engage stakeholders in developing sustainability assessment, it requires stakeholders to have new forms of expertise (in order to address sustainability issues) in addition to a more traditional forms of expertise. Further, the appropriate level of participation is difficult to identify. Much development is needed around stakeholder engagement and externalities (i.e. external costs) before sustainability assessment can be used independently.

[Extant literature connecting LOC with the concept of stakeholder](#)

Arjaliès & Mundy (2013, p.298) use the LOC framework to extend prior knowledge and conclude that *“organisations use their MCS to achieve strategic change and renewal and to support the attainment of strategic objectives,..., which may encourage managers to give greater consideration to the MCS that they use to drive CSR strategy.”* They advocate that corporate social responsibility (CSR) strategy is an essential element of an organisation's core business, instead of regarding it as an instrumental plan by a corporation to gain legitimacy. Although their study recognises the importance of gaining legitimacy, they do not explicitly refer to the idea of a social contract which is a fundamental element in Stakeholder Theory. Instead, they intend

to connect legitimacy concerns with reputation management and enhancement of shareholder value. There is a gap here, which allows this study to reveal new insights on how organisations seek to advance (or otherwise) sustainability through the use of PMS.

Gond et al. (2012) explore different organisational configurations to theorise the roles and uses of MCS and sustainability control systems (SCS). They highlight various paths toward sustainability integration or marginalisation within organisations and recognise the role of stakeholder expectations and sustainability issues. Although their work explores the ways that MCS and SCS allow a broader set of social and environmental performance to be managed, it does not address the relationship between stakeholders and MCS.

The work from Rodrigue et al. (2013) is guided by the concept of Simons' LOC, and integrates stakeholders' concerns and society's expectations. They show that Simons' LOC framework is able to *"offer a flexible and relevant mapping to understand and define PMS reach within organisations"* (p.314). This argument is supported in earlier MCS literature: management control systems have the ability to support managers by providing information on the use and cost of resources that impact the environment (Bartolomeo et al., 2000). These works help this study to connect Simons' LOC with Stakeholder Theory to better understand management accounting practices for sustainable development.

Although the ability to use Stakeholder Theory to explain sustainability disclosure has been addressed in some literature, there is a lack of literature using different research methods, such as case study research, to examine management accounting practices. Relatively few works on Simons' LOC investigate how a broader notion of social and environmental performance can be managed through incorporating stakeholder influence, excluding Arjaliès & Mundy (2013), Bourne et al. (2013), Gond et al. (2012), Pelozo (2009) and Rodrigue et al. (2013).

2.4.1 A combined framework

“New ideas and tools for management control [...] are essential in the context of a shift toward sustainability.”

(Ball & Milne, 2005, p. 324)

Deegan (2002) recognises that there has been a move by some researchers to use more than one theory to provide an explanation in their studies. This study intends to evaluate the use of Simons' LOC to connect with Stakeholder Theory. As recognised in the above sections, there is some evidence of references applying the notion of stakeholder to LOC literature, although most of them have not explicitly used Stakeholder Theory.

Using a complementary theory might be of interest because it allows interactions between MCS and other practices/systems in the organisation to be investigated (Ennen & Richter, 2010). For example, the design of PMS should be able to capture expectations of and benefits to wider society. Insights might be generated on how PMS, as an internal management accounting tool, can be designed to meet external stakeholders' demands.

Scholars have taken different positions on whether there is any connection between Simons' LOC and legitimacy. Some consider that the interactive controls within Simons' LOC do consider legitimacy concerns (Rodrigue et al., 2013), while others argue that legitimising and learning uses of controls have been excluded from the LOC framework (Henri, 2006; Tessier & Otley, 2012).

2.4.2 Section summary

Literature recognises the need for a more coherent theoretical foundation, to act as a domain for further construction of understanding (Bisbe et al., 2007). Researchers working in this area believe that a rich understanding of a particular matter of concern can be obtained through studying research that focuses on a single framework (Unerman & Chapman, 2014). The alignment of studies with a particular framework benefits theoretical development over time. Therefore, using Stakeholder Theory to

augment the prevalent use of Simons' LOC in accounting sustainability has potential to advance theoretical understanding.

There is a lack of literature on the context surrounding appropriate sustainability control systems (SCS), such as industrial effects. This study undertakes a single case study approach, in which the case organisation is a leading player in the construction industry in the UK (section 4.7 will discuss in detail). Although its commitment to sustainability is demonstrated by certification by various bodies, a profit-seeking motive to ensure economic performance is still of critical importance to the organisation. It is perceived to be important to identify relevant stakeholders, where concepts in Legitimacy Theory are utilised, to allocate companies' resources to pursue particular different sustainability goals. While Simons' LOC provides a theoretical lens in management accounting practices to cope with sustainability practice from either the interactive systems or diagnostic systems, the notion of "relevant publics" under Stakeholder and Legitimacy Theories guides the use of Simons' LOC within the four levers of control.

By combining Simons' LOC with Stakeholder Theory, this study intends to make theoretical contributions by:

1. addressing recent calls in the literature for research to explore the role of MCS to transform organisational practices that contribute to the sustainability agenda (Gond et al., 2012; Gray et al., 2014);
2. investigating how managers evaluate the power of stakeholders, and translate this into the design and implementation of performance measurement systems (which provide information for strategic decision-making purposes). Some current Simons' LOC studies recognise stakeholder influence, but leave stakeholder power under-developed; and
3. providing further insights into the use of the LOC as an analytical tool to understand the management of sustainability activities that in turn support the attainment of organisational goals (Arjaliès & Mundy, 2013; Gond et al., 2012) while exploring how the power of stakeholders is perceived by managers, via Stakeholder Theory.

By considering the justification of why using Simons' LOC framework is appropriate to act as the primary framework in section 2.2.4 and how the adoption of Stakeholder Theory is useful to augment current knowledge in LOC (section 2.3.3), Figure 2.4.1 purposes a potential framework to outline the key components to be investigated in this study as well as to guide the data collection of this research.

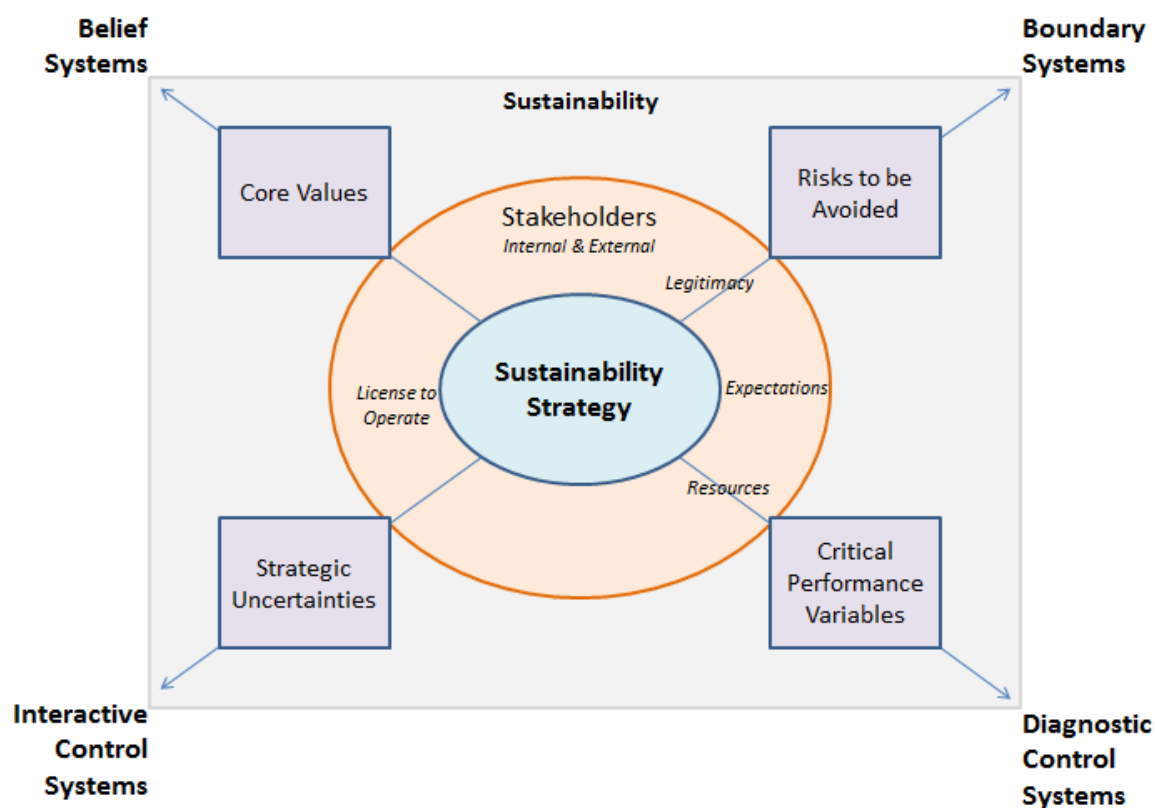


Figure 2.5: Theoretical framework for this research, adapted from Simons (1995).

Accordingly, two research objectives are developed to address the firm-stakeholder relationship (section 3.4 provides a summary of research objectives):

Research objective 1:

To identify how the case organisation uses MCS to address stakeholders' sustainability requirements for stakeholder management.

Research objective 2:

To determine the influence of the external use of MCS on the case organisation's sustainability strategy.

3. Literature Review

Researching management accounting in the context of sustainability within the scope and time constraint in this PhD research requires the topics to be narrowed down. Accordingly, this literature review chapter highlights topics around sustainability, PMS, and strategy management accounting (SMA).

The overview of Accounting-for-Sustainability has been introduced in the first chapter (section 1.4). The first section of this chapter discusses the nature of sustainability and sustainable development accordingly to subjects (section 3.2.2), how it is understood and interpreted in practice and academic research (section 3.2.3), and the roles accounting (and accountant) can play in addressing these issues.

Chapter two has discussed a range of MCS and the interface between MCS and PMS (section 2.2.3). Section 3.2 provides more details on PMS, as an example of MCS, covering the diversity of performance measures and sustainability performance measurement systems. Such topics are under the spotlight in the performance measurement and accounting-for-sustainability literature.

As recognised earlier, in the introduction chapter, the fluidity of strategy calls for a need to consider the externalities of an organisation, which include stakeholders and the external environment. Comparing strategic management accounting literature to performance measurement literature, the former is more sympathetic to business's externalities. This in turn implicates the use of management accounting techniques to investigate the fluidity of strategy, strategic decision-making and stakeholders.

While these two domains provide a means with which to assess the support of research aims separately and collectively, the last section (3.4) of this literature review chapter outlines the research opportunities and frames the research objectives in guiding the subsequent chapters. Figure 3.1 provides an overview of the chapter:

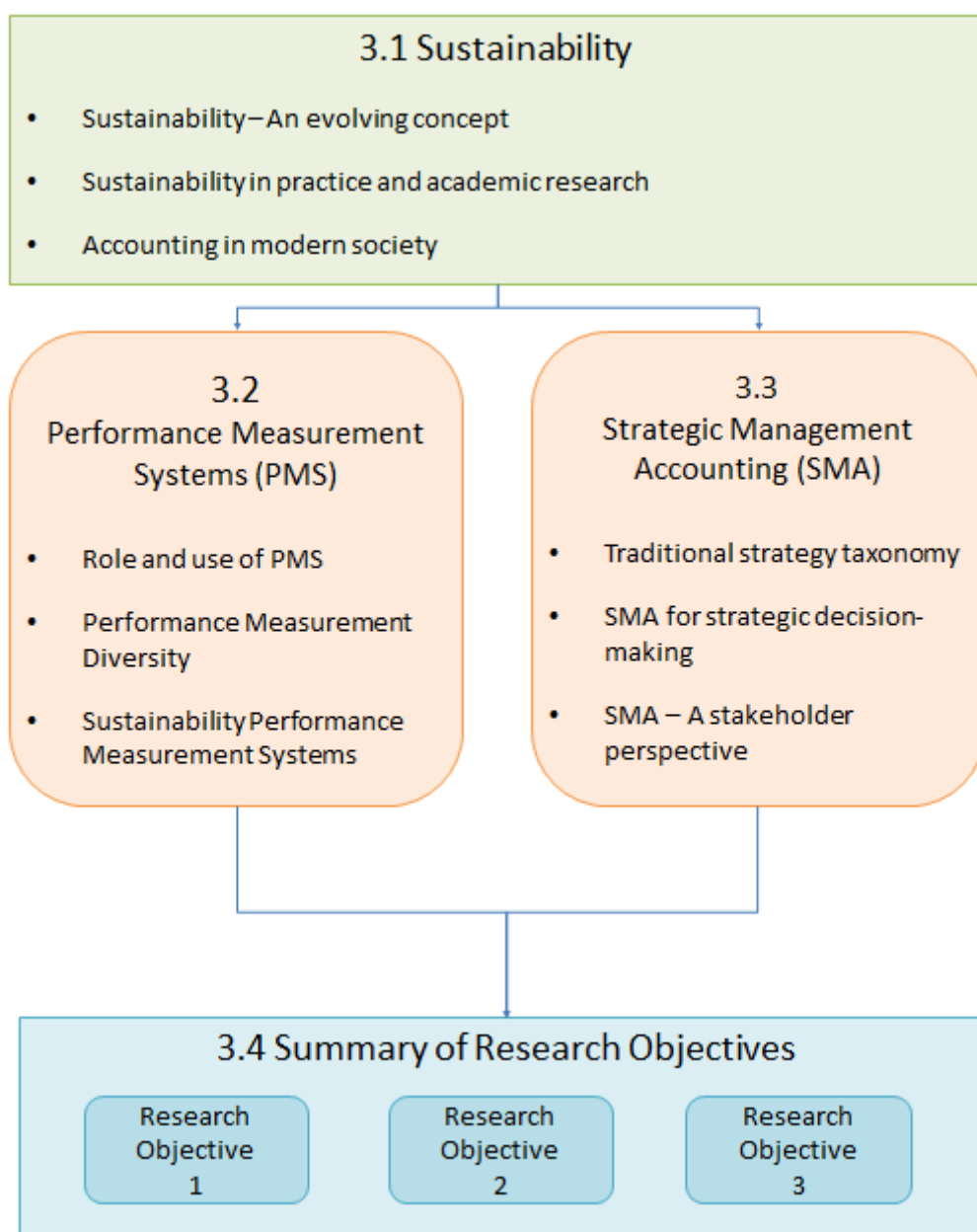


Figure 3.1: An overview of the literature review chapter

3.1 Sustainability

3.1.1 Introduction

“Once the population and economy have overshoot physical limits of the Earth there are only two ways back: involuntary collapse caused by escalating shortages and crises, or controlled reduction of the ecological footprint by deliberate social choice.”

(Meadows, Randers, & Meadows, 2005, p.234)

Global leaders have recognised the unsustainable nature of human living (Dillard & Layzell, 2014; PWC, 2016; Unerman & Chapman, 2014; United Nations Development Programme, 2016), and sustainability is becoming an ongoing journey for all types and sizes of organisations in many countries. An organisation’s performance in relation to society has increasing public sensitivity and businesses are being held more accountable for their behaviours (Dillard & Layzell, 2014).

In order to discharge their accountability, businesses work pro-actively to meet with stakeholders’ expectations and to develop a business case for sustainability (Gray et al., 1997). However, the understanding and management of sustainability are complicated by its defining notions (Cooper & Pearce, 2011), the changes on society’s expectations (Killian & O’Regan, 2016; Parsons, Lacey, & Moffat, 2014), marketplace (Gond, Palazzo, & Basu, 2009), and organisational structures (Keeble, Topiol, & Berkeley, 2003).

More work is needed on sustainability at an organisation level. How sustainability is understood by businesses is still an evolving field that requires much more research to gain an understanding. In particular, the comprehensive concept of sustainability embraces many issues, for example: social responsibility, humanity, carbon emission, bio-diversity, sustainable funding and return, each of which demands specific business practices and an academic research agenda.

Along with discussions about the viability of accounting research, there are calls for academic accounting research to embrace interdisciplinary issues (Bebbington & Larrinaga, 2014; Biehl et al., 2006; Granof & Zeff, 2008; Hopwood, 2007; Oler et al., 2010). How does accounting research contribute to the understanding of corporate sustainability? This section addresses this question through introducing the development of the concept of sustainability through a review of literature and professional reports.

Section 3.1.2 aims to introduce the development of the concept of sustainability. Section 3.1.3 then explores further the definition of sustainability and how it is understood by the businesses and academic researchers. Section 3.1.4 introduces debates about viability of accounting research, the shift of the society, and how the two interact with each other. Finally, the chapter concludes with a summary in section 3.1.5.

3.1.2 Sustainability – An evolving concept

The idea that we should live ‘sustainably’ has become central to different discussion platforms over the past decades. This section aims to explore sustainability issues in business practice through introducing global standards and guidance, and reviewing academic debates.

Findings from scientists and environmentalists continue to suggest that our current lifestyles are clearly ‘unsustainable’ (Rockstrom, 2009; Steffen et al., 2015). For example, previous works suggest that we would need three planets to support the world’s population if China and India obtained the current level of consumption enjoyed in the USA (Dresner, 2002; Meadows, Randers, & Meadows, 2004; see Gray, 2010). The unsustainable behaviours of humans are getting increased public attention, inter alia, from the economic expansion in rapidly developing countries (China and India for instance) and this has attracted attention from both academic research and public institutions.

Development of the notion of sustainability

The notion of sustainability includes environmental sustainability, social sustainability and economic sustainability (Clark & Dickson, 2003; Gray et al., 2014; Henriques & Richardson, 2004). The environmental dimension concerns the stability of the ecosystem and also embraces broader biological issues, such as climate change, biodiversity, biochemical flows and the depletion of oceans, fresh water, the atmosphere and the land system (Baxter, Bebbington, & Cutteridge, 2004; Hoque, 2005; Steffen et al., 2015).

The use of sustainability in institutions can be traced back to 1974. The World Council of Churches (WCC) put forward its concerns about the environment and human beings (social dimension) in the developing world and highlighted suffering from poverty and deprivation (Dresner, 2002). The WCC (1974) as quoted in Dresner (2002, p. 29), identifies conditions to the concept of a sustainable society, which include:

1. *“there needs to be an equitable distribution of what is in scarce supply;*
2. *there needs to be common opportunity to participate in social decisions;*
3. *the need for food is at any time well below the global capacity to supply it;*
4. *the emissions of pollutants are well below the capacity of the ecosystems to absorb them;*
5. *the use of non-renewable resources does not out-run the increase in resources made available through technological innovation; and*
6. *it requires a level of human activities which is not adversely influenced by the never-ending large and frequent natural variations in global climate.”*

Generally speaking, there are three aspects of sustainability, consisting of economic, social and environmental aspects. In addition to their own rights to act as a standalone concept, scholars suggest that interaction and balance between the three perspectives are necessary (Hopwood et al., 2010). For example, social sustainability is expressed in terms of community investment on one hand; and as inter-related to its environment, such as issues of poverty alleviation, education, social justice, gender equity and other political activities on the other. Further, social sustainability also interfaces with

economic sustainability because economic activities affect levels of consumption, wealth and utility, and therefore is likely to interact with corporate activities, liberalism and modernity (for example, United Nations, 2014; UNWCED, 1987).

Therefore, in order to effectively investigate the concept of sustainability, all three of its dimensions should be considered while acknowledging the influence a particular dimension has on the others.

Defining sustainability development

In 1980, the concept of sustainable development was put forward by the International Union of Conservation of Nature and Natural Resources (IUCN), building on the above concept proposed by the World Council of Churches (Dresner, 2002; IUCN, 1980). The most prevalent definition can be traced back to the publication of the Brundtland Report in 1987, as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (The United Nations World Commission on Environment and Development (UNWCED), 1987, p.8). This definition provides an articulation of inter- and intra-generational sustainability and has been widely cited in academic research (Deegan & Unerman, 2011). Besides the UNWCED definition, the United Nations Millennium Declaration has a similar notion of sustainable development: “*we must spare no effort to free all of humanity, and above all our children and grandchildren, from the threat of living on a planet irredeemably spoilt by human activities, and whose resources would no longer be sufficient for their needs*” (United Nations, 2000).

In line with the accounting literature, the definition of sustainable development provided by the Brundtland report (1987) is adopted (Bebbington & Gray, 2001; Bebbington & Larrinaga, 2014) to allow this study to maintain a coherent position.

This study recognises that the three dimensions of sustainability are not well defined in the extant literature and their meaning and importance may vary in different sectors. These three dimensions remain only partly understood. The economic dimension, for instance, has often been identified with financial performance, with less weight being

placed on non-financial compared to financial measures (Cardinaels & van Veen-Dirks, 2010; Henriques & Richardson, 2004).

Further, the notions of 'sustainability' and 'sustainable development' are largely conflated, and their meanings are recognised as highly contestable and complex, *inter alia*, in the organisational context (Bebbington & Larrinaga, 2014; Gray & Milne, 2004). This research subscribes to Gray's (2010) views of 'sustainability' as a state and 'sustainable development' as a process (p.53). More specifically, sustainable development refers to a movement toward or, more accurately, away from an unsustainable state.

3.1.3 Interpretation of sustainability in practice and academic research

In 2000, the United Nations Millennium Declaration was adopted by the United Nations General Assembly, with member states agreeing to contribute to the eight *Millennium Development Goals* (MDGs), i.e. to uphold the principles of human dignity, equality and equity, and poverty alleviation, with a set of measurable time-bound targets to be achieved by 2015 (United Nations, 2000, 2015). As 2015 was the deadline for the MDGs approach and the year for the Sustainability Innovation Forum (SIF15)⁴ in Paris, developing a new framework has drawn attention from the international community, across different sectors. The *Sustainable Development Goals* (SDG) follow and expand targets and indicators on MDGs to aid UN member states to frame their agendas and political policies in the coming 15 years (Ford, 2015; United Nations Development Programme, 2016).

Jerneck et al. (2011) describe the challenges to structure research in sustainability, it being different in both scale (i.e. from organisational level to global level) and complex (i.e. cross-disciplinary, possibilities for irreversible outcomes). A lack of a stable definition of sustainability has had negative implications for accounting and reporting practices (Gray, 2006, 2010). Accordingly, this section reviews public relevant frameworks as well as literature that explores how sustainability is interpreted. Although research on Accounting-for-Sustainability does not dictate how societies

⁴ SIF15 is the largest business-focused event, convening over 750 cross-sector participants from government, business, investors, UN, NGO and civil society (ClimateAction, 2015).

should develop, it identifies possible ways for moving toward operating strategies in organisational contexts and so has implications for political decisions.

3.1.4 Accounting in modern society

Conventionally, business accounting is seen as being associated with the management of financial resources and with the creation of particular patterns of organisational visibility (Becker & Neuhauser, 1975; Burchell, Clubb, Hopwood, Hughes, & Nahapiet, 1980). To facilitate the development of accounting research in different contexts, this section aims to introduce the inter-connection between accounting (and accountant) and society. The relationship between society, environment and organisations has been studied by Gray et al. (1987), who depicts the concept of social accountability, and includes objectives on “*political, social and ethical beliefs about society, organisations and accounting*” (p.13).

Social accounting⁵ is founded on a combination of stakeholder and accountability perspectives (R. Gray et al., 1997). It provides calculative mechanisms which have greater impact on the recent developments in accounting for social and environmental issues (Hopwood, 2009). Likewise, Gray et al. (2014) depict social accounting (Lodhia, 2014; Powelson, 1955), which itself arises from conventional accounting, as having potential to improve social and environmental impacts by seeking ways to reduce negative impacts whilst looking for ways to encourage positive impacts (p.4). This provides a possible way to use accounting to address society’s issues.

[Accounting as an information tool](#)

Conventional accounting is economically focused, comprising both financial and management accounting. Financial accounting practices seek to construct two-way economically oriented interactions and impacts between an organisation and its external world for a short-term time horizon (usually one fiscal year). It helps communicate these aspects to a range of stakeholders who are not involved in the day-to-day running of the organisation in order to discharge the accountability of managers

⁵ According to Powelson (1995), social accounting is very closely related to business accounting both in underlying principles and in techniques and procedures, with the process of communicating the social and environmental effects of organisations.

as agents. The primary focus of conventional accounting is on organisations' economic materials and impacts. However, with its boundary, being less direct and potential to establish long-term economic risks linked with environmental and social impacts, such areas are often omitted from accounting mechanisms (Unerman & Chapman, 2014). Financially-oriented accounting practices should be broadened to embrace a much larger array of multi-dimensional social, environmental and economic interactions and impacts around the organisation, the natural environment and the society in which it operates to reflect on its economic impact in a longer time horizon (Bebbington et al., 2014; Unerman & Chapman, 2014).

Management accounting (MA) techniques, on the other hand, include those that aid the strategic decision-making process, allowing managers to better plan and control for their activities, and track whether performance and objectives are congruent with an organisation's strategies. Therefore, accounting (the accountant) acts as an information tool (provider) to prepare information to users for their decision-making purposes.

The shift of expectations in society

Pursuing economic growth has long been the goal for most organisations, which can impair the natural environment and potentially reduces social equality. However, economic growth is just one aspect of sustainability *albeit* economic contraction (as occurred with the global financial crisis, for example) has devastating effects on individuals, communities and countries (Bebbington et al., 2014).

As society becomes more aware of the activities and costs behind reported profits, it is now assumed that companies have wider responsibilities than making economic returns for their shareholders (Contrafatto, 2014). Issues such as climate change, pollution, the exploitation of child labour, the eradication of extreme poverty etc. have become more visible to the general public. Managers are responsible for pursuing more than conventional profits and are accountable for an organisation's non-financial performance. Gray et al. (1987) argue that an organisation's accountability has extended during the past few decades, moving beyond the traditional role of providing a financial account to capital owners and, now, should embrace the social and

environmental effects of an organisation's economic actions to a wider range of stakeholders.

Researching accounting in modern society

Academic accounting research can be categorised into a number of areas. Oler et al. (2010) examine the trends in accounting research through a review of papers published in the top six accounting journals from 1960 to 2007. The authors modify a figure from Nikolai et al. (2007) to classify the research areas in accounting: (i) financial accounting, (ii) audit, (iii) managerial accounting, (iv) tax, and (v) governance (p.664). They find accounting research is informed primarily by finance and economics topics and relates to businesses, although it can also extend to other entities (e.g. governments and non-profit organisations).

In addition to the trends and future of accounting research, extant literature is becoming more insular and self-referential and this shapes the state and direction of accounting research (Hopwood, 2007) (see Biehl et al. (2006) for examination of the proportion of citations from other fields). However, some scholars argue accounting papers borrowing insight from economics and finance has increased (Oler et al., 2010) as have methodologies from other disciplines to improve respectability relative to peers in other fields (Granof & Zeff, 2008).

The role of the academic in informing organisational sustainability

Despite a growth in published works, there are still uncertainties and knowledge gaps in the area. Academic works presented in global forums have drawn attention to policy makers, organisational leaders and institutional standard makers. For instance, the General Assembly of the United Nations, comprised of 193 member countries, holds regular discussions to review progress and achievement with its member countries, along with a growing number and power of stakeholders, such as professional institutions (e.g. CIMA, Global Reporting Initiative), employees, community, government, suppliers and investors (Rodrigue et al., 2013; Tregidga, Kearins, & Milne, 2013; United Nations, 2014).

Section 3.1.2 outlines the development and definitions on sustainability. The Brundtland definition of sustainability provides a short and broad acceptance, although not without its limitations (e.g. it underspecifies what a “sustainable society” would look like (Bebbington, 1997)). Academics can engage in debates on organisational sustainability to better understand the embrace of the concept by organisations through different approaches. For example, Tregidga et al. (2013) use a discourse theoretical approach to unpack and challenge several taken-for-granted assumptions, e.g. organisations can and should manage the environment; and relationships between sustainability and advanced technology, efficiency and continuous improvement are certain. The authors open up the discourse that can provide a basis for a dialogue between academics and organisations, and thus influence the organisational sustainability agenda.

Sustainable development applied to public policy concerns tends to focus on how to organise and manage human activities in such a way that meet the community’s physical and psychological needs without compromising the ecological, social or economic base (Bebbington, Unerman, & O’Dwyer, 2014, p. 4). Stakeholders apply political pressure on policy makers and organisations and consequently affect the organisational decision-making process.

With the purpose to respond to increasing pressures and to align social and organisational values, policy makers may introduce mandatory regulation via the legislation process. This allows stakeholder influences to become a direct factor that shapes the organisational environment. Then, organisations could be motivated to engage in ongoing lobbying of government and submit possible legislative frameworks that could potentially trigger (both inhibit and promote) organisational changes (O’Sullivan & O’Dwyer, 2009; Tregidga et al., 2013).

Summary

Accordingly, Hopwood (2007, 2009) suggests that ‘new’ accounting research, which is interdisciplinary in orientation, is based in both sciences and social sciences, and recognises the need for both critical and facilitative research. Accounting research established in the area of organisations and society provides a good basis for looking

beyond tradition, and to generate knowledge for a more realistic approach to influence corporate behaviours (Hopwood, 2009). Accounting for sustainability has real potential to explore the role of accounting research in both the corporate sphere and the society.

3.1.5 Accounting for sustainability

The third broad strand of research depicted by Unerman & Chapman (2014) offers potential to give greater time and opportunity for novel solutions to sustainability challenges, by helping organisations to move towards less unsustainable operations. The engagement with businesses is indeed a means to respond to new accounting research and is therefore adopted in this study. In responding to calls for broadening the field in accounting research (Biehl et al., 2006; Granof & Zeff, 2008; Hopwood, 2009), this section aims to introduce literature on the development of 'Accounting-for-Sustainability' research (Gray, 2010; Hopwood et al., 2010).

Different framings on accounting-sustainability literature

The following framings connect environmental sustainability, social justice and economic development at an organisational level: *ecosystem services framing*, *planetary boundaries identification* and *Millennium Development Goals (MDGs)*. These provide possible connections between the concerns of sustainable development and accounting.

To begin with, an *ecosystem services framing* treats the natural environment as a service provider that enables humans (and other species) to thrive and seeks to establish the relationship between environmental quality and the ability of human flourishing (Bebbington et al., 2014, p. 6). This allows us to consider whether or not the flow of services between human flourishing and the state of ecology is sustainable. Existing Accounting-for-Sustainability research in this area includes carbon accounting (Milne & Grubnic, 2011; Stechemesser & Guenther, 2012) and water accounting (Joa et al., 2014).

In addition to ecosystem services framing, Bebbington et al. (2014) discuss *planetary boundaries identification*, first introduced in 2009, that involves a researcher defining

the state of the Earth's system that underpins human flourishing, with the purpose of providing evidence on how human activities affect and change the natural environment to society and political leaders (e.g. work from Rockström, Steffen and colleagues, 2015).

The above two framings emphasise the environmental dimension in sustainability and articulate the importance/necessity of ecology that is highlighted in the concept of a sustainable society in WCC (1974).

3.1.6 Summary

This chapter reveals how sustainability is perceived as an important concept by business leaders. Because of the stakeholders' demand on sustainability information, it becomes a concept that must be effectively managed and communicated at organisational level. Considering sustainability as an evolving concept, more is needed on sustainability at an organisation level (section 3.2.2). For example, how sustainability is understood by the businesses is still an evolving field that requires much more research to gain an understanding.

Further, joint endeavours to co-develop knowledge between professional institutions is identified as a key way to further sustainability knowledge and practice (section 3.2.3). However, there is a lack of literature investigating how a collaborative approach may contribute to (or hinder) the development of sustainability, where accounting has a role to connect society, environment and organisation (section 3.2.4). Accordingly, this study reviews literature in accounting-for-sustainability research and identifies that social and environmental sustainability is under-explored in the literature.

The advantages and disadvantages of the co-development of sustainability knowledge are still unexplored in literature, which motivates this research to explore the potential of the collaborative relationship between firm and institutions in the process of generating sustainability knowledge. This suggests there is research potential to look at accounting in the context of sustainability.

3.2 Performance Measurement Systems

3.2.1 Introduction

The role of accountants in measuring and interpreting everyday reality through an accounting mechanism is quoted as:

“... accountants are always engaged in interpreting a complex reality, partially, and in a way that is heavily weighted in favour of what the accountant is able to measure and chooses to measure, through the particular scheme of accounting to be adopted”.

(Morgan, 1988a, p. 480)

During the past few decades, academic discussions on conventional accounting tools, such as budgeting and activity-based costing, have been largely replaced by Key Performance Indicators (KPIs) and other contemporary performance measurement systems (Bourne et al., 2014, p. 117). Various multi-dimensional frameworks, for instance, the Performance Pyramid (Lynch & Cross, 1991), the Balanced Scorecard (Kaplan & Norton, 1992) and the Performance Prism (Neely et al., 2002), along with the role and use of performance measures and KPIs, are well understood in literature. Yet, continuous efforts are made to understand how those tools in performance measurement are, and should be, used to manage the performance of the organisation (Adams & Frost, 2008; Bourne et al., 2014; Grafton, Lillis, & Widener, 2010; Henri, 2006), and to introduce performance measurement into different contexts. For example, Bebbington (2009) summarises some of the ways that sustainability has been interpreted and presented using accounting language and tools, and provides a future research agenda about how sustainability can be researched and thereafter pursued in practice.

Research into performance measurement diversity, which emphasises the multiplicity and variety of performance measures (Gasparatos, El-Haram, & Horner, 2009; Henri, 2006), and performance measurability, i.e. the ability to ‘measure’, covers research domains from physical science, and more recently performance of the “soft” nature of social activity (Panayiotou, Aravossis, & Moschou, 2009). These debates on

performance measurement are relevant to one of the key challenges in accounting-sustainability research – the ‘commensuration problem’ (Unerman & Chapman, 2014) caused by complex and unpredictably of sustainability issues. What may be required next is the development of multiple and conditional narratives in responding to the challenges imposed by sustainable development (Gray, 2010). Accordingly, this chapter seeks to examine the role and use of performance measurement systems (PMS) to manage corporate sustainability performance via a review of literature.

The remainder of this chapter is structured as follows. The remaining of this section introduces the key definitions of terms used in this study. Sections 3.2.2 and 3.2.3 review current debates on PMS across different disciplines, with a primary focus on the management accounting literature. Different approaches to incorporate stakeholders’ influences on PMS are outlined, and will be further discussed in the literature review – SMA (section 3.3.4). From the literature review in the previous section, section 3.2.4 distils the debates and focuses on the literature on the increasingly popular but contestable sustainability PMS. Finally, this chapter concludes with a summary in section 3.2.5.

Definition of terms

Prior to discussing the use of performance measurement systems and reviewing literature, definitions of key terms such as the meaning of *performance measurement systems*, *performance measurement*, *performance measures* and *performance metrics* are presented.

To begin with, *performance measurement* (PM), conventionally, refers to the process of quantifying past actions that shape current performance, within which *effectiveness* and *efficiency* are two important and distinctive dimensions of performance (Neely et al., 2002). According to the authors, the term effectiveness refers to the extent to which requirements and needs (satisfaction) are met, while efficiency is a measure of how the firm’s resources are utilised in economic terms such that a given level of satisfaction can be attained. Therefore, *performance measurement* can be defined as the process of quantification of the effectiveness and efficiency of past actions (Neely et al., 1995, p. 80).

Accordingly, a *performance measure* can be defined as the parameter used to quantify the effectiveness and/or efficiency of past actions (Neely et al., 2002, 1995). However, the above definition is insufficient to reflect a firm's performance in a changing business environment (Bourne et al., 2014; Hoque, 2005). Performance measures require a focus on a firm's long-term success factors (Hoque, 2005; Simons, 2000), which imply performance measures have a dual role to provide feedback information in the short term (Henri, 2006; Simons, 1995), and monitor the core competencies of organisational processes in the long term (Hoque, 2005; Kaplan & Norton, 1996). The performance measure is a relatively broad term when compared to *performance metrics*. For instance, community satisfaction can be a frequently used performance measure in an organisation's sustainability agenda, whereas a related performance metric might be the number of complaints received during a given period.

Performance Measurement Systems (PMS) are performance measures that quantify the effectiveness and efficiency of past actions (Neely et al., 1995). Neely et al. (2002) say these encompass the supporting infrastructure of the PMS by including data acquisition, collation, sorting, analysis and interpretation. Accordingly, in addition to the quantifying function of PMS, information processing activities (i.e. acquiring, collating, sorting, analysing and interpreting) enable informed decisions to be made and actions to be taken which are included in PMS.

In summary, this study considers performance measurement as a sub-set of PMS that aims to evaluate the performance of an organisation to achieve its defined goals, whereas PMS is a tool to process data and generate information.

[Performance Measurement Systems – An example of MCS](#)

The performance measurement system is a topic broadly discussed across management accounting, operational management and strategy (Franco-Santos et al., 2012). In a dynamic business environment, literature calls for new or revised performance measurement knowledge (Hoque, 2005; Melnyk, Bititci, Platts, Tobias, & Andersen, 2014) to explore how PM can be developed and used to control activities (Chenhall, 2005; Chiesa et al., 2008). Results from various studies suggest research

in performance measurement is far from complete, and that filling these inconsistencies and gaps provides directions for future research.

In line with MCS literature, this study considers PMS as an example of MCS; it assumes MCS is compatible with a combination of controls, and thus allows the employment of Simons' LOC as the theoretical framework. An effective performance measurement system (PMS) is considered to be increasingly important to the success of firms in a competitive environment and thus should be important across firms (Widener, 2007). Despite its importance in a business operation, there is no single theory or clear agreement about the factors and contexts influencing the use of PMS (Ittner & Larcker, 2001; quoted from Henri 2006), which provides an important incentive for this study.

"... Strategic performance measurement systems can be used both diagnostically and interactively, but such systems have implications for beliefs control and boundary control as well."

(Tuomela, 2005)

With reference to this quote, the use of Simons' LOC allows for placing performance measurement systems (PMS) on each of the levers of control. In particular, the position of Simons' LOC on PMS, as either diagnostic or interactive, is widely viewed as meaningful and helpful (Davila et al., 2009; Ferreira & Otley, 2009). The focus on performance measurement in MCS literature and accounting-sustainability literature is not new, as is explained next.

For example, Tuomela (2005) links strategic PMS to Simons' LOC and finds that a new PMS was used interactively and diagnostically, but belief and boundary systems were also important. He provides descriptions of the roles of financial as well as non-financial measures for the four levers of control: *"performance measures are intertwined with all the four levers and strategic control, [so] it is possible to compare financial and non-financial measures in terms of their usability and role with regards to the overall control system"* (p.300). Similar to traditional MCS, traditional accounting performance measures connect performance with a firm's financial success. They are the means to communicate whether a performance for a particular area is desired

(belief and boundary systems) and draw the line of acceptable behaviour (diagnostic control systems), i.e. by setting standards (Merchant, 1985). Therefore, it is reasonable to establish a connection between performance measures and the different levers of control.

Accordingly, this research examines PMS as presented in the management accounting literature, while allowing a degree of flexibility by referencing literature from other disciplines to explore salient inter-disciplinary sustainability issues (Bromwich & Scapens, 2016). As inspired by special issues on performance measurement in the journal of *Management Accounting Research* (Bourne et al., 2014), three topics are highlighted (and presented in the following sub-sections): the role and use of performance measurement in the changing environment and different settings; performance measurement diversity; and the under-developed conceptualisation of the notion of performance measurability. Table 3.1.1 summarises a list of literature published in high-quality academic journals published over fifteen years based on their relevance to the scope of this research, including *Management Accounting Research*; *Accounting, Organisations and Society*; *the British Accounting Review*; *Managerial Auditing Journal*; *Journal of Engineering and Technology Management*; *Environmental Science and Policy*; *Measurement*, as discussed in the following sections.

Literature	Aims
The role and use of performance measurement	
Braz et al. (2011)	Use a longitudinal case study to review the change process of PMS of an energy company.
Chenhall et al. (2014)	Examine the uses of PMS to express the values and beliefs of organisational members.
Chiesa et al. (2008)	Explore the potential and challenge to design a PMS for R&D activities to support decision-making and impacts on motivation.
Franco-Santos et al. (2012) Franco-Santos et al. (2007)	Discuss current knowledge on PMS and review the evidence of the actual consequences of PMS in the for-profit sector.

Grafton et al. (2010)	Explore how the different uses of performance measures influence organisational performance.
Henri (2006)	Articulates the uses of PMS and suggests various classifications thereof to provide a better understanding between organisational culture and PMS.
Performance measurement diversity	
Bhimani & Langfield-Smith (2007)	Explore the use of financial as well as non-financial measures during the different stages of the strategic process.
Cheng & Humphreys (2016)	Investigate the relationship between strategic uncertainty and the diversity of types of performance measures in the BSC.
Hansen (2010)	Uses a case study to illustrate how non-financial measures provide more information to balance interdepartmental decisions.
Hoque (2005)	Uses a sample of New Zealand manufacturing companies to analyse the relationship between non-financial measures and organisational performance.
Sustainability performance measurement systems	
Gond et al. (2012)	Identify a range of configuration approach to theorise the roles and uses of MCS and SCS in integration of sustainability strategy within organisational strategy.
Hansen & Schaltegger (2016)	Discuss the use of SBSC and investigate how it can be designed to relate the logical links among performances and strategic objectives.
Panayiotou et al. (2009)	Propose a new methodological approach to manage sustainability performance through combining CSR with Stakeholder Theory.

Table 3.1: Summary of the current debates on PMS literature

3.2.2 The role and use of performance measurement system

Before introducing the role and use of PMS, it is important to understand why the conventional roles of PMS are not sufficient to support business operation in rapidly changing environments, and why this requires future research. The next section

reviews articles in order to discuss how the externalities may require a change in PMS, which is the precursor to considering stakeholders (section 3.3.4).

Environmental uncertainty influences PMS

Although the conventional roles of PM (as defined by Atkinson et al., 1997) provide good coverage of measurement, the literature on the use of PM in a fast-changing business environment is still far from complete. For example, there is little guidance on the exact nature of PMS and tools to be used by managers to better manage performance in more volatile settings (Melnyk et al., 2014). Melnyk et al. (2014) question the position of PMS in the literature and recognise the importance of linking PMS to the strategy design and deployment process to better cater for a changing environment. The authors develop 'guidance on alignment' to connect PMS with management issues. However, it is not possible for such guidance to cover PMS in every context, and accordingly there are calls for further study of this area.

A turbulent environment requires a change of PMS to foster flexibility through organisational change, learning and innovation (Atkinson, Waterhouse, & Wells, 1997; Simons, 1990). However, this is not a straightforward task. There are discussions about how PMS can be adapted to enable flexibility. For example, Henri (2006) highlights the tensions between the fundamental aims of PMS – to ensure predictable goal achievement, and creative innovation. On one hand, PMS contains values to support: "*predictability, stability, formality, rigidity and conformity*" (p.77). On the other hand, the dynamic business environment promotes the values of flexibility, which refer to "spontaneity, change, openness, adaptability and responsiveness". The need to foster flexibility exerts pressure on managers to monitor performance measures.

In terms of stakeholder management, organisations are required to 'perform' and communicate achievement with key stakeholders (Micheli & Mari, 2014) and to measure and report to discharge accountability through global consensus on basic standards of corporate behaviour (Durden, 2008; Paine et al., 2005). The need to manage external expectations and requirements requires organisations to link PM with planning, decision, action and results (Micheli & Mari, 2014). This will be covered further in section 3.3.3.

Using PMS to manage organisational performance

The relationship between performance measurement and organisational performance is explored in a range of studies. Chenhall (2005) finds that the alignment between performance measures can help organisations to enhance strategic competitiveness (and therefore performance) through an indirect mediation of strategy and learning.

A positive association between PMS and organisational performance is also concluded by Bisbe & Malagueño (2012). They examine how PMS influence organisational performance (re)formulation of intended strategies, incorporating environmental dynamism as a variable to conduct an empirical test on the strength of the influence of PMS on performance. They conclude that environmental dynamism is a critical factor that significantly influences the impacts of PMS on organisational performance. PMS's effect on organisational performance is salient in a stable environment, but diminishes as environmental dynamism grows. Likewise, Davis & Albright (2004) provide evidence for the use of PMS to facilitate strategy implementation and enhance organisational performance. The authors compare the financial performance of bank branches within the same banking organisation through implementation (or not) of Balanced Scorecard (BSC).

However, Ittner et al. (2003) find that the alignment between PM and strategic priority is inconsequential, whereas clear strategic priorities along with the support by appropriate PMS is essential to achieve competitive advantage and ensure high organisational performance (Chenhall & Langfield-Smith, 1998). Their empirical study provides some necessary (but not sufficient) conditions for proof of the relationship between performance measures (as well as PMS) and an organisation's performance, *albeit* with inconsistent findings.

3.2.2.1 A review of literature that summarises the roles of PMS

The conventional roles for performance measurement have been defined by Atkinson et al. (1997) as coordination, monitoring and diagnosis. According to the authors, the coordinating role refers to the use of PMS to direct and focus managerial attention on the objectives of the organisation; the monitoring role involves the use of measurement

and reporting of performance in meeting stakeholders' requirements; and the diagnosis role associates PM with assessment of the cause-and-effect relationships among process (see also Simons, 1995), organisational learning and performance. The PMS literature places an emphasis on the role of PM in directing managers' attention to long-term success factors and consequences of managers' actions, by encouraging managers to track strategy implementation, performance assessment and develop organisational capabilities (Chenhall, 2005; Grafton et al., 2010; Kaplan & Norton, 1996; Simons, 2000). Henri (2006) summarises different classifications of literature to define four different uses of PMS: (1) monitoring, (2) attention focusing, (3) strategic decisions, and (4) legitimising.

The “monitoring” use of PMS

This classification is a feedback system which relies on a cybernetic logic, acting as a diagnostic control (Simons, 1995) and 'answer machine' (Burchell et al., 1980). It also associates the measurement of performance to meeting stakeholders' expectations (Atkinson et al., 1997). Specially, Atkinson et al. (1997) proposes a model that views “profit” as a company's primary objective. In order to improve this primary objective, the company must develop a comprehensive PMS to monitor and evaluate (the ability to) the achievement of secondary objectives, in which those objectives reflect implicit and explicit relationship with stakeholders.

The “attention focusing” use of PMS

This classification suggests PMS has a role to signal employees to focus their attention on critical uncertainties, through requiring organisations to look into the key (critical) success factors, in which those factors are important for an emergent strategy to succeed (Kaplan & Norton, 1992).

Henri (2006) suggests performance measures are used to direct the whole organisation, acting as an interactive control (Simons, 1995) and 'ammunition machine' (Burchell et al., 1980). For example, PMS is found to be effective in increasing role clarity for managers as well as knowledge of the organisation's strategic goals (Lau, 2011); and PMS helps managers better understand the potential effects of their actions

on an organisation's value chain through cognitive and motivational mechanisms, which, in turn, influences managerial performance (M. Hall, 2008, p. 155).

To avoid repetition, the above two uses of PMS have already been discussed in the theoretical framework chapter, under Simons' Levers of Control (section 2.2).

The “strategic decision-making” use of PMS

This classification is adapted from Simon et al. (1954) and has attracted broad debates in the literature. Unlike the above uses, this classification deals with non-routine issues that require substantial commitment from top management (Hickson et al., 1986). A variety of literature is identified which aims to answer the question: “of the several alternatives, which is rationally the best?”

Scholars suggest PMS helps to achieve company objectives through supporting decision-making (Chenhall et al., 2014; Chiesa et al., 2008). For example, Chenhall (2005) conducts an exploratory study, using a survey of 80 strategic business units, to establish the influences of PMS on strategic outcomes through strategic alignment and organisational learning. Grafton et al. (2010) accept the premise that PM innovation benefits organisations through the provision of diverse, strategically aligned measures that facilitate decision-making (p.691). The authors draw attention to the strategic decision-making role of PMS by revealing the extent to which performance measures are used by strategic business unit managers, and examining what the impacts are on strategic capabilities, and subsequently on performance. Accordingly, they support the *decision-facilitating* and *decision-influencing* use of performance measures.

Finally, organisational learning is highlighted in the context of strategic decision-making, where PMS is perceived as a ‘learning machine’ (Burchell et al., 1980) to reveal the cause-and-effect relationship between processes and goal achievement (Atkinson et al., 1997). For example, Chenhall et al. (2014) investigate how PMS helps organisations to identify and review more systematically areas of good and bad performance, and suggest that PMS can promote learning and reduce value conflicts that can aid the collective achievement of organisational objectives (p.2).

The “legitimising” use of PMS

This classification refers to the justification of past actions or decisions, which is in line with a classic accounting function – a “rationalisation machine” (Burchell et al., 1980) to provide a retrospective understanding of an action (Feldman & March, 1981). The legitimising role of PMS is illustrated by Mitnick (2000), who proposes that it is likely for an organisation to conduct corporate social performance measurement if it is facing highly salient stakeholders (Mitchell et al., 2015; see section 2.3). Likewise, Franco-Santos et al. (2007) propose five categories of PMS roles as follows (p.797):

1. *“‘measure performance’ to monitor progress and measure/evaluate performance;*
2. *‘strategic management’ to plan, formulate and implement strategy, and to focus attention;*
3. *‘communication’ which comprises internal and external communication and the functions of benchmarking and compliance with standards;*
4. *‘influence behaviour’ by rewarding or compensating behaviour to manage relationships and control; and*
5. *‘learning and improvement’ to provide feedback, double-loop learning and performance improvement.”*

Summary

Comparing the uses of PMS (Henri, 2006) and roles of PMS (Franco-Santos et al., 2007), there are commonalities (if not ambiguities). However, there is a lack of coherent concepts, which could be a challenge to build a body of accumulated knowledge in the literature (Bromwich & Scapens, 2016). A significant body of research investigates the development and implementation of PMS, yet few sources focus on *“how performance measurement is and should be used to manage the performance of the enterprise”* (Bourne et al., 2014, p. 117).

The relationship between PM and strategy, and between PM and the organisational environment, strategy and culture, remain under-researched (Franco-Santos et al., 2012); there is still a need for future research to explore performance measurement in

different contexts, for example, the use of PMS to articulate and influence culture (Henri, 2006).

Public frameworks and business practices

Organisational leaders are increasingly recognising sustainability-related challenges, including the risks of global environmental, economic and social unsustainability (IPCC, 2013, 2014). There is a variety of guidance and tools provided by professional institutions⁶ to support the UN's 17 SDGs, for example:

1. the *United Nations Global Compact* (UNGC) develops an extensive SDG toolbox to help business embed SDG into operations, to help identify new opportunities for the UN and its partners to address SDGs (United Nations Global Compact, 2016);
2. *UNGC and KPMG's joint SDG Industry Matrix* aims to inspire and inform the private sector to drive the scale of and impact on SDGs, and to showcase industry-specific examples and ideas for each goal (United Nations Global Compact & KPMG, 2016);
3. *PWC* publishes a guide to provide a practical introduction to the SDGs and their implications for business (PWC, 2016); and
4. *Action Sustainability* provides a self-assessment tool and online library for the UK building and construction industry (Action Sustainability, 2015).

The above guidance and toolkits developed by global institutions and practitioners provide up-to-date initiatives that help business to understand the UN's SDGs. The increasing standardisation of sustainability reporting (Barkemeyer et al., 2014) and the extended peer communities (Bob Frame & Brown, 2008) are important to guide the business community on sustainability.

To begin with, a prevalent reporting framework (Costa & Menichini, 2013), the *Global Reporting Initiatives* (GRI), aims to help organisations to set goals, measure

⁶ This study notes the existence of a wide range of guidance in different sectors. Due to the scope of this study, the focus is placed on the guidance and toolkits provided by accounting professions, and those institutions which have significant impact on the construction supply industry.

performance and manage changes to make their operations more sustainable through disclosing an organisation's impacts on the environment, society and economy (Global Reporting Initiative, 2014). The latest reporting framework – G4 – has a focus on 'materiality', which aims to help reporters to report their most critical sustainability-related issues that contain more relevant and credible information to their business and key stakeholders (Global Reporting Initiative, 2014).

The *International Organization for Standardization* (ISO) is an independent institution developing voluntary standards to provide solutions to global challenges, and delivering them, to be implemented globally (International Organization for Standardization, 2016). ISO provides a wide range of international standards; two standards are particularly relevant here: ISO 14000 and ISO 26000.

- ISO 14000 series – Environmental management, is considered to be a 'green' standard, which promotes putting into practice global sustainable development goals through an environmental management system (EMS) (International Institute for Sustainable Development, 1996). For example, ISO 14001 specifies requirements that enable organisations to respond to the changing environmental conditions to balance socio-economic needs (International Organization for Standardization, 2015a).
- ISO 26000 – Guidance on social responsibility, helps clarify the meaning of social responsibility and is designed to assist organisations to contribute to sustainability (Global Reporting Initiative & International Organization for Standardization, 2014). Unlike the majority of ISO standards, this standard acts as guidance instead of requirements, and businesses cannot be certified to it (International Organization for Standardization, 2010). However, it provides a cross-reference to the above mentioned GRI G4 framework, which helps translate the GRI reporting principles to business disclosures and understanding (Global Reporting Initiative & International Organization for Standardization, 2014).

This study recognises the existence of a variety of other standards, awards and accreditations, including the Health and Safety Executive (HSE) standards, the Occupational Health and Safety Standards (OHSAS), etc. They are voluntary in

nature and help contribute to sustainability values in different perspectives. It is beyond the scope of this thesis to cite all standards, which are growing in number, but their relevance is noteworthy here.

Business debates and trends for sustainability

KPMG (2015) finds that there are greater expectations from stakeholders to provide clear, consistent and transparent information on organisation's sustainability-related activities (with carbon emissions highlighted in the report) and actions they are taking to reduce them. Despite years of development, a lack of transparency in reporting progress against targets and the supply chain, and inconsistent approaches, all remain challenges in this area (Global Reporting Initiative, 2015).

Stakeholders call for enhanced information to inform their decisions. Internationally-agreed disclosures and metrics are required to make information contained within sustainability reports accessible and comparable (Global Reporting Initiative, 2014). Accordingly, a range of global institutions are working together to cross-reference standards and frameworks, for example: GRI and ISO published guidelines for the use of the G4 framework and ISO 26000 in conjunction (Global Reporting Initiative & International Organization for Standardization, 2014); the ISO and International <IR> Framework suggest how their visions and values are aligning with each other's and how to use ISO and the <IR> framework together (International Organization for Standardization, 2015b); and an industry matrix was jointly produced by UNGC and KPMG (United Nations Global Compact & KPMG, 2016).

The above examples suggest that joint endeavour (via a collaborative approach) is needed to develop knowledge and practice on sustainability issues, which are still emerging. However, there is a lack of a literature on how these may contribute to (or hinder) the development of sustainability. The advantages and disadvantages of co-development of sustainability knowledge are still unexplored in literature, which motivates this research to explore the potential of collaborative relationships between firms and institutions to generate sustainability knowledge, together.

From the sustainability data management perspective, along with the establishment of the SDGs, sustainability data is a standard feature in reporting (KPMG, 2015), and the development of data technology is becoming important in sustainability and reporting trends (Global Reporting Initiative, 2015).

Global institutions are working on the 'Data Revolution for Sustainable Development' (PWC, 2016; United Nations, 2015). They recognise the need for a "global consensus on data" in order to consistently and efficiently monitor and manage key elements through an integrated statistics system, while remaining flexible to create new metrics for a specific unmet need. A report from GRI in 2015 suggests that data technology is developing rapidly to enable higher connectivity, easier access to information, efficient data analysis and production of large amounts of data (p.16). Its development is continuing with the aims to better inform stakeholders and improve decision-making processes.

[Sustainability in academic research](#)

Given the breadth of research in this area, encompassing subjective dimensions of human well-being and objective dimensions of ecological or environmental values (de Vries & Petersen, 2009), this sub-section offers a selective overview instead of a systematic or comprehensive review of a range of research domains. The focus is placed on extant Accounting-for-Sustainability research and MA research as discerned by Unerman & Chapman (2014) and Bebbington & Larrinaga (2014).

In order to better understand sustainability from a research perspective, Unerman & Chapman (2014) use the work of Thomson (2014) to discern three broad strands in the extant sustainability accounting research and accountability research:

The first strand is *"to demonstrate relationships between social and environmental performance, social and environmental reporting, and economic performance"* (p.385). This strand of the literature argues that social and environmental elements, at an organisational level, can be highlighted and/ or addressed by existing 'market mechanisms' (Unerman & Chapman, 2014). Organisations provide sustainability-related performance to their stakeholders via publicly available reports. Then,

stakeholders evaluate the organisation using these reports in their decision-making process and take actions which may in turn affect the organisation's economic performance. This strand fits well with the concept of conventional financial accounting, the discharge of accountability via the reporting mechanism, but it is also subject to the flaws therein.

The second strand in literature is in sharp distinction with the previous one. This strand suggests an existing unsustainability in social and environmental perspectives is largely due to the capitalist system. This strand argues for radical reform such as an overthrow of markets and capitalism to move towards social and environmental sustainability (Gray et al., 2014; Unerman & Chapman, 2014) because capitalism tends to penalise non-economic (socially and environmentally responsible) action, especially when such actions are in conflict with economic dictate (Gray & Milne, 2004). Considering capitalism as a product of modernity, Gray (2010) depicts an ambivalent relation between sustainability and modernity, where sustainability involves both an abandonment of modernity and embracing modernity (Dresner, 2002).

On one hand, the very success of modernity has exposed flaws in its assumptions, for instance: growth and expansion, maximising consumption of non-essentials and maximising returns to shareholders (Goldblatt, 1996; Gray & Milne, 2004) and the pursuit of the exigencies of sustainability evoking despair in a belief in modernity. On the other hand, modern science provides us with technologies and methods to address (un)sustainability. It enables sustainability to: (i) explicitly commit to social justice and equity, (ii) to combine the ideas of social optimism, and (iii) to enlighten ideals aligned with modernity (Dresner, 2002).

A third strand of research aims to engage businesses and other organisations in identifying social and environmental risks and opportunities with the purpose of helping to change their activities towards less unsustainable operations. This third strand is relatively widespread in Accounting-for-Sustainability and accountability research, with the motivation of helping organisations move toward less unsustainable operations. This affords more time and opportunities for global society to develop novel solutions to (un)sustainability (Unerman & Chapman, 2014, p. 386).

This study subscribes to the third strand, referred to as ‘accounting for sustainable development’ (Bebbington & Thomson, 2013; Gray, 2002) and seeks to engage with business to make an effective contribution to enhancing social and environmental sustainability via the refinement and advancement of theoretical framings. Similar to other works in the third strand, this study accepts the arguments in the second strand (i.e. flaws in the capitalist system and modernity), but recognises the costs in radically reforming the market and capitalism. Section 3.1.5 is devoted to the discussion and current studies in this strand.

3.2.3 Moving towards a performance measurement diversity approach

Ittner et al. (2003) state that Strategic Performance Measurement System (SPMS) is considered as a “*measurement diversity*” approach. According to the authors, it “*provides the information [financial as well as non-financial] that allows the firms to identify the strategies offering the highest potential for achieving the firm’s objectives, and aligns management processes, such as target setting, decision-making, and performance evaluation, with the achievement of the chosen strategic objectives* (p.715)”. Other scholars provide similar definitions for contemporary (or comprehensive) PMS, advocating the use of an array of financial and non-financial information (Cheng et al., 2007), and aiming to translate business strategies into deliverable results through combining financial, strategic and operating measures (Hall, 2008).

That said, Ittner et al.'s (2003) conceptualisation of a “measurement diversity” approach is indeed sufficient to embrace both financial and non-financial measures, and to connect PM with strategic decision-making. Also, this approach has obtained support from Franco-Santos et al. (2012), via a review of 76 empirical studies. This section takes the definition of PMS further, to embrace the above conceptualisation, while taking into account the fact that other phrases, such as “contemporary performance measurement systems” and “comprehensive performance measurement systems” are often used interchangeably, which may cause confusion to some extent (Burney et al., 2009; Burney & Widener, 2007; Ittner et al., 2003; Franco-Santos et al., 2012; Hall, 2008).

Performance measurement diversity emphasises the multiplicity and variety of performance measures, which are often categorised into financial and non-financial. It is a broad concept that goes beyond financial and non-financial performance measures to encompass different dimensions, for example, subjective versus objective measures, lagging versus leading measures, and internal versus external measures (Kaplan & Norton, 1996; Ittner et al., 2003). A broad-based set of performance measures is generally needed to capture an underlying business model and value drivers (Kaplan & Norton, 1996). The underlying importance of this approach is that it visualises the cause-and-effect relationship and prevents managers from improving one measure at the expense of others (i.e. sub-optimising development of measures) (Hoque & James 2000; adapted from Henri 2006)

Recent studies of performance measures suggest a greater measurement diversity approach (Ittner et al., 2003; Henri, 2006; Burney & Widener, 2007; Adams & Frost, 2008; Hoque & James, 2000; Hall, 2008). For example, Bourne et al. (2013) conclude the recent developments in PM move away from simple frameworks to a more nuanced view of the field, and suggest ‘subtlety’ (i.e. in details) is required in using performance measures to manage an organisation.

The sub-sections below aim to convey the academic debates in the area – what factors influence firms to adopt this approach; what benefits exist for this approach; and greater detail on how to develop and use this approach.

[Factors affecting the level of performance measurement diversity](#)

Henri (2006) finds that the degree of diversity of measurement is positively correlated with a firm’s level of flexibility. Firms with a higher level of flexibility are associated with a greater diversity of measurement (and use more performance indicators), and tend to further integrate PMS in their business processes. His study highlights that the use of PMS is a contingent factor influencing the diversity of measurement, i.e. the mix of financial and non-financial measures. For example, although the monitoring use of PM is associated with the most traditional PMS in a planning and control cycle, it appears to have been broadened to encompass both financial and non-financial measures. He also finds that a firm’s level of flexibility is associated with a greater use

of PMS to direct managerial efforts. These findings allow links to be established among PMS, the classic work of Simons' LOC, i.e. monitoring-and-control purposes, constraining managerial efforts and focusing attention, and diversity of measurement.

In addition to organisational culture, Cheng & Humphreys (2016) explore the effects of strategic uncertainty on performance measurement diversity. They explore the use of a diverse set of performance measures through BSC for the purpose of strategic control. They find the level of performance measurement diversity is positively related to the level of strategic uncertainty. This relationship is particularly strong when firms are facing innovation uncertainty and product uncertainty.

These factors lead to the commensuration debate that will be further discussed in section 3.2.5.

Benefits for performance measurement diversity

Proponents of the measurement diversity approach argue that a firm can achieve higher performance when it places greater emphasis on broad-based financial and non-financial measures through preventing managers from sub-optimising (i.e. by ignoring relevant information or improving one measure at the expenses of others) (Hoque & James, 2000; Lingle & Schiemann, 1996). This has been tested empirically by Ittner et al. (2003), showing that firms using greater measurement emphasis and diversity are associated with higher satisfaction and stock market performance. Likewise, the benefits for a diverse PMS are also examined in Hoque (2005), who finds the managerial use of non-financial measures (during environmental uncertainty) has a positive impact on organisational performance.

Although the mainstream literature suggests the measurement diversity approach is beneficial to organisational performance, there is a suggestion to limit PMS to only critical measures, because intensive use of measures would reduce the benefit of PMS by incurring role conflict (Burney & Widener, 2007).

Financial and non-financial measures

As discussed, the measurement diversity approach goes beyond financial and non-financial measures. Drawing on the work of Henri (2006), Ittner et al. (2003) and Hoque & James (2000), performance measurement diversity is a set of financial and non-financial measures, used to measure performance, and provide information for strategy and control purposes.

Financial measures are criticised for lacking the ability to explain future performance, due to their primary focus on historical performance and backward looking activities, lacking timely signals, being too aggregated to guide managerial actions, and being insufficient to evaluate intangible assets (Ittner & Larcker, 1998; adapted from Henri, 2006). Yet, financial measures play an important role in enabling managers to establish a “business case” for an activity by helping to evaluate the success of a particular initiative (Pelozo, 2009).

In academic discussions, non-financial measures are the leading indicators, which provide information on future performance that is not contained in current accounting measures (Ittner & Larcker, 1998; Kaplan & Norton, 1996). A definition of non-financial measures has also been provided by practitioners as “*other measures [than financial measures] used to assess the activities that an organisation sees as important to the achievement of its strategic objectives*” (CGMA, 2013, p. 54). Although the use of non-financial measures is found useful to support strategic decision making (Ittner et al., 2003; Hansen, 2010; Bhimani & Langfield-Smith, 2007; Tuomela, 2005), the relationship between non-financial measures and financial performance is unclear (Henri, 2006; Ittner et al., 2003). For example, Chenhall and Langfield-Smith (2007) identify an ambiguity in findings on the associations between usefulness of non-financial measures in advanced technologies and performance.

Langfield-Smith (1997) argues that the use of performance measures must be aligned with a firm’s strategy. This is a contingency perspective, in that the “measurement gaps” between a firm’s strategic priorities and measures should be minimised to enhance organisational performance (Ittner et al., 2003). In line with this, academic research typically finds a mixed appreciation of financial and non-financial measures. For example, managers tend to place greater emphasis on financial measures for evaluating the performance of the business unit and non-financial measures for

evaluating managerial performance (Ittner & Larcker, 1998); greater emphasis is placed on financial measures and non-financial measures in strategy implementation and strategy development respectively (Bhimani & Langfield-Smith, 2007).

Additionally, Lau (2011) investigates the ways that non-financial measures affect managerial performance. He finds that using non-financial measures to evaluate employees' performance indirectly influences managers' performance through improving role clarity (the opposite of ambiguity). Similar results are concluded for financial measures, but only (statistically), half (50%) as effective as non-financial measures.

Recent debates are dominated by the development and use of financial and non-financial measures (Lau, 2011; Ittner et al., 2003; Chenhall, 2005). A possible cause for this is the positioning of financial and non-financial measures in several classic PM frameworks, such as Kaplan and Norton's Balanced Scorecard (1992) and Moon and Fitzgerald's (1996) Results and Determinants Framework, which have incorporated both financial and non-financial measures (cf. Fitzgerald et al., 1991).

While the relationship between the use of financial and non-financial measures and organisation performance has attracted increasing interest in the PM literature, scholars criticise a lack of evidence to be able to distinguish the effects arising from non-financial measures from those arising from financial measures (Lau, 2011).

[Performance measurement diversity in Accounting-for-Sustainability research](#)

In line with the PM literature, the performance measurement diversity approach can be researched in different contexts. Discussion on the financial and non-financial measures in accounting for sustainability is also prevalent.

Adams and Frost (2008) use a case study to compare the development process of key performance indicators (KPIs) for measuring sustainability performance and the ways that KPIs are used in management practices. They find that companies face considerable diversity in the development of KPIs, including adaptations for different geographical regions and cultures, development of targets and benchmarks, and comparability and consistency across regions. Also, they recognise a lag in the development of social indicators compared to environmental indicators.

Burney et al. (2009) explore the effects that PMS have on organisational citizenship behaviours, i.e. the perceived organisational fairness by the public. They find that organisations which use both financial and non-financial performance measures (explicitly or implicitly linked to strategy), have positive impacts on procedural justice, i.e. the [employees'] perceived fairness of procedures used in the decision-making process, are associated with better employee performance through organisational citizenship behaviours (p.318).

3.2.4 Sustainability performance measurement systems

[Interface with PMS and sustainability](#)

This study regards sustainability as a context, in line with Gond et al. (2012), who talk about the uses of MCS and how to better embed sustainability into strategy, and Hansen & Schaltegger (2016), who believe that PMS can be configured to control and manage sustainability issues. Within the management accounting literature, there is a strand of research focusing on sustainability which forms the discussion on sustainability PMS. However, the difficult task of measuring the result of sustainability as discussed in the previous section – the “soft” social aspects *per se* – has been a matter of both academic and practical research (Panayiotou et al., 2009). Despite

there being some management frameworks such as Global Reporting Initiative (GRI) that cover the social and environmental dimensions of sustainability, they are not efficiently unique to connect with a firm's specific strategy and as such are poor evaluators of cause-and-effect relationships (Panayiotou et al., 2009).

Problems with accounting-for-sustainability are highlighted: researchers are relatively inexperienced (Bebbington & Larrinaga, 2014), and there is a lack of established measurement practices, compared to the financial domain (Unerman & Chapman, 2014). Besides, the difficulties in measuring and managing sustainability are exacerbated by the relationship and interrelationship around sustainability, which are very complex. This is depicted by Gray (2010): *“any simple assessment of the relationship between a single organisation and planetary sustainability is virtually impossible”* (p.48). That said, information in the sustainability context is still valuable as it reduces the ambiguity surrounding sustainable development (Parris & Kates, 2003).

Research on PMS offers potential to reduce the ambiguity in sustainability and serve the information needs. For examples, PMS are found to be effective in reducing both role conflict and role ambiguity perceived by managers through providing higher job-relevant information (Burney & Widener, 2007); the choices of performance measures play a significant role to resolve the problem of lack of information in the decision-making process (Hansen, 2010). These studies evidence the use of PMS (and performance measures) to mitigate the problem of role conflict and role ambiguity, where such conflict and ambiguity also exist in sustainability issues.

Additionally, it is important to highlight that accounting practices can and have been used to embed considerations of sustainable development into decision-making at different levels within organisations (Unerman & Chapman, 2014). However, Lueg and Radlach (2016) find that MCS is unable to appropriately address all dimensions of sustainability, and report a lack of focus on social sustainability, compared to environmental sustainability, largely due to the above problems (Bebbington & Thomson, 2013; Gray, 2010).

Scholars note the potential to develop PMS that fit with a firm's specific sustainability context to reduce the inherent conflict and ambiguity in the notion of sustainability (Gray & Milne, 2004; Henri, Boiral, & Roy, 2014). By focusing on the use of PMS, which themselves are examples of MCS, there is potential to better understand how organisations measure its sustainability performance against individual achievements of a manager/department; and improvements in an industry. Therefore, examining the extent to which a firm's PMS is linked to sustainability objectives can potentially enhance sustainability performance. The investigation of the use of PMS has the potential to enhance our understanding of sustainability.

An integrated approach to measure and manage sustainability

The need to report sustainability performance externally has led to a growing need to engage with sustainability issues and developments in data collection systems to integrate the social and environmental performance data into decision-making, risk management and performance management (Adams & Frost, 2008). PMS in accounting mechanisms are believed to have the ability to deliver value to a broader range of stakeholders and relieve the increasing pressure for accountability (Ittner & Larcker, 2001, 2003).

Bebbington & Larrinaga (2014) point out a desire for "a more integrated approach" in the ambit of sustainable development, from both scientific and accounting perspectives, aiming to tackle the intertwined global environmental problems and development issues. Such an approach may start with the bare bones of the Brundtland Report definition (UNWCED, 1987), and is open to exploring a broader context of measurement. This integrated approach is aligned with the performance measurement diversity approach as discussed in section 3.2.3.

Scholars argue that conventional PMS (Bisbe & Malagueño, 2012; Bourne et al., 2013; Franco-Santos et al., 2012) in MA mainly focuses on cost drivers in financial terms only (such as in budgeting and activity-based costing systems). The concentration on financial drivers to manage deeply fuzzy sustainability issues is highly questionable (Bob Frame & O'Connor, 2011), and is not adequate to deliver value to a broader group of stakeholders. Attempts have been made by scholars to

develop an integrated approach. For instance, de Vries and Petersen (2009) offer a conceptual framework to assess sustainability, consisting of measuring observable resources (means-oriented approach) and subjective experience of well-being (ends-oriented approach).

Existing developments in accounting PMS still rely on measurement and reporting in financial and non-financial information. For instance, much of the research conducted on the BSC (Kaplan & Norton, 1992), includes an evaluation of the effectiveness of BSC as a strategic communication device and management control system (Malina & Selto, 2001); and the relationship between the implementation of BSC and an organisation's performance (Davis & Albright, 2004).

Sustainability Balanced Scorecard

To use PMS to deliver an effective understanding of sustainability and stakeholder issues, PMS in this study refers to strategic performance measurement systems (Ittner et al., 2003; Burney & Widener 2007; Bisbe & Malagueño, 2012). Among these strategic PMS, using a BSC to manage sustainability, is broadly discussed. A key feature of a BSC is its inclusion of multiple performance measures across different categories to compensate for the limitations of the only focus of financial measures (Kaplan, 2009; Kaplan & Norton, 1996), which itself is an integrated PMS.

Hansen and Schaltegger (2016) define sustainability balanced scorecard (SBSC) as: "*modifications to the original BSC which explicitly consider environmental, social or ethical issues*" (p.193). Figge et al. (2002) develop a process of formulating a SBSC for a business unit, with the purpose of integrating environmental and social management with the general management of a firm. In addition, Hubbard (2009) proposes a simplified SBSC, offering a high level, easy-to-communicate and practically useful summary of an organisation's performance, while supplementing the SBSC with contextual and explanatory notes.

The SBSC is effective in translating a verbally-formulated strategy into operational terms and, at the same time, offers a pragmatic choice because many firms are familiar with the BSC approach. The use of SBSC has potential to enhance both

effective and efficient environmental and social management and sustained economic success (Figge et al., 2002; Hubbard, 2009).

3.2.5 Summary

This chapter reviews key debates on PMS literature, and discusses current debates in the performance measurement literature as well as developments on performance measures, both financial as well as non-financial. Specifically, this chapter highlights topics around the diversity of performance measures and sustainability performance measurement systems, which are under the spotlight in PM and accounting-sustainability literature.

The use of a mix of financial and non-financial measures is important to manage organisational performance (Grafton et al. 2010; Ittner et al. 2003) as well as sustainability performance (Figge et al., 2002; Hubbard, 2009). Further, performance measurement diversity can help with the lack of information on sustainability issues (Burney & Widener, 2007; Hansen, 2010).

Additionally, the conceptualisation of the notion of performance measurability offers potential to solve the difficult task of measuring the result of sustainability – the “soft” social aspects *per se* – in responding to the commensuration problem.

Finally, the balanced scorecard (Kaplan & Norton, 1992), as an example of strategic PMS, can develop data collection systems to integrate social and environmental performance data into decision-making, risk management and performance management (Adams & Frost, 2008); and can respond to the need to report sustainability performance externally (Ittner & Larcker, 2001, 2003). Accordingly, a research opportunity is identified to investigate how PMS, as an example of MCS, can be used by managers to manage sustainability strategy. As such, the third research question is then formed (section 3.4):

Research Objective 3:

To comprehend the use of MCS by the case organisation’s management to manage sustainability-related strategic decision-making.

3.3 Strategic Management Accounting

3.3.1 Introduction

Organisations work in an increasing dynamic and unpredictable external environment, therefore MA should position itself to align with an organisation's ability to respond to the increased frequency of change (Nixon & Burns, 2012b).

“When nothing is constant, strategy should be defined by narrative-plots, subplots and characters – rather than by maps, graphs, and numbers.”

(Jacobides, 2010, p. 77)

It reflects a view that it is difficult to form a “strategic map” approach, which is used to illustrate the cause-and-effect chains between strategic objectives (Kaplan & Norton, 2004). However, it is consistent with the more emergent nature of strategy and towards the strategy-as-practice approach (Nixon & Burns, 2012b). Likewise, Unerman et al. (2018) recognise externalities that concern about what information is appropriate to report on corporate performance; and a need to improve the use of externalities information to break down the traditionally discrete domains of financial reporting and sustainability reporting (p.498).

Management accounting can act as a common language in the process of linking strategic goals (macro-level) with operational targets (micro-level) (Nixon, Burns, & Jazayeri, 2011). Also, its techniques about data analysis and aggregation can greatly enhance knowledge management, communication and coordination of strategic management (Nixon & Burns, 2012b, p. 239). Accordingly, this section review literature in strategic management accounting (SMA), which is more sympathetic to apply MA techniques to external environment.

“Strategically-oriented management accounting” can be distinguished from traditional practices by its environmental (outward-looking) and long-term (forward-looking) orientations (Cadez & Guilding, 2012; Hoque, 2003). Since the first use of the term SMA by Simmonds (1981), almost four decades ago, the notion of SMA has still not been agreed (Kim Langfield-Smith, 2008). Although there is no agreed definition of

SMA in the literature (Kim Langfield-Smith, 2008), the central aim is to make management accounting more strategic (Roslender & Hart, 2003).

Some scholars view SMA as a ‘worrying lack of knowledge’ and suggest that SMA techniques have not been adopted widely in practice (Nixon & Burns, 2012b). On the other hand, scholars advocate the values of SMA for strategy formation and implementation (Kaplan & Norton, 1996; Modell, 2012; Simons, 2000), coordinating with various functions within the business (Horngren, Datar, & Rajan, 2012; Roslender & Hart, 2002) and communicating with stakeholders (Cuganesan, Dunford, & Palmer, 2012).

A turbulent external environment continues to transform business practices (Jarzabkowski, 2003; Nixon & Burns, 2012b). In order to explore the role SMA plays in the process of strategic decision-making and how it is used to achieve strategy, the next section 3.3.2 introduces the interface between MA and strategy, via explaining why traditional MA is limited in managing externalities; and defining strategy in the context of MA. Then, section 3.3.3 reviews the use of SMA for strategy formulation (and formation) and implementation. Within the section, literature from strategic management research is reviewed to obtain a better understanding of key strategic schools of thought. Stakeholders’ influence on business strategy, which in turn shapes SMA techniques, is reviewed in section 3.3.4, along with an introduction on the concept of shareholder–stakeholder balance. Finally, this section concludes with a summary in section 3.3.5. The below figure (3.3.1) provides an overview of the structure of the sub-sections.

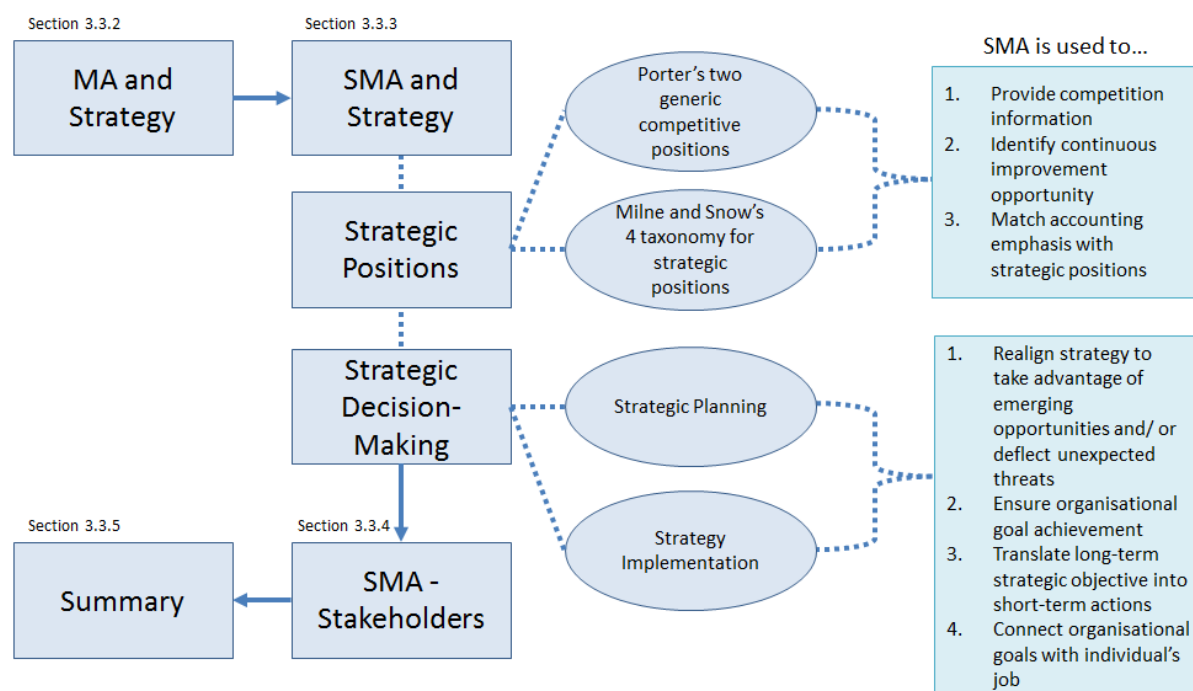


Figure 3.2: An overview of the interface between strategy and SMA (developed from literature)

3.3.2 The interface between MA and strategy

Traditional management accounting became prevalent in management practice from the 1920s to the 1980s (Kaplan, 1984). These systems place an emphasis on financial, internally-oriented, and historical-type information, for example, internal cost-volume-contribution calculations (Simmonds, 1982: see also Ferrell et al., 2009).

Since the development of modern strategic planning frameworks in the 1970s and 1980s, for example, Porter's *Competitive Advantage* (1985) and Abell and Hammond's *Strategic Market Planning* (1979), accounting data generated from those systems was not seen to be sufficient for strategic purposes (Hergert & Morris, 1989). Those systems have been criticised for their inability to quantify the costs and benefits of joint optimisation and coordination between different units of an organisation to reveal their linkages (Hergert & Morris, 1989). Simmonds (1982), too, argues that traditional management accounting systems are inadequate for considering the external environment, competitors' situations and their financial resources *per se*. The process of strategic decision-making requires a proactive approach in an un-programmed way

(Wilson, 1990) whereas traditional management accounting techniques are found inadequate to support modern strategic decision-making.

Defining strategy in the context of management accounting

The term 'strategy' is in differently across various studies in several research domains. This thesis adopts a definition based on Wheelen & Hunger (2012) and Horngren et al. (2012); the former defines strategy as "*a comprehensive master plan that states how the corporation will achieve its mission and objectives*" (p.67), whereas the latter suggests strategy is used to "*specify how an organisation matches its own capabilities with the opportunities in the marketplace to accomplish its objectives*" (p.27). These definitions provide good coverage of one of the key components of this thesis, i.e. *strategic decision-making*⁷.

The above definitions of strategy allows this study to investigate the uses of MA strategically to control the organisation's strategy implementation, i.e. ensuring the achievement of the organisation's mission and objectives (Simons, 2000); and to support an effective management of the organisation's internal capability and external environment to achieve efficiency (Ahrens & Chapman, 2004). It is also worthy of note that some authors may refer to 'business strategy', notably a strategy with an emphasis on the improvement of the competitive position of a corporation through maximising (or maintaining) the competitive advantage (Lord, 1996; Wheelen & Hunger, 2012).

The relationship between strategy and MA has been revealed by Tricker (1989), who suggests MA information can "*synthesise the resultant information and make it available to the strategic process*" through assessing the strategic impact of internal information and collecting information about the positions of its competitors (p.28). Managers use accounting information to administer and coordinate the activities, business or functions within the framework of the organisation (Horngren et al., 2012).

⁷ "*Strategic decision-making*" deals with the long-term future of an entire organisation, which is consequential and directive in nature (Wheelen & Hunger, 2012, p. 73).

More specifically, they use MA information to “*develop, communicate, and implement strategy*” to fulfil the goals of an organisation (Horngren et al., 2012, p. 26).

3.3.3 The interface between SMA and strategy

Collectively, SMA can be viewed as occupying the interface between accounting information and the relation *strategic position* of a firm and its competitors, and this is a basis for strategy formulation (Simmonds, 1981). Therefore, it is necessary to introduce some of the key works on *strategic positioning*.

- Professor Michael Porter's strategic positioning (1980, 1985), his work is considered as authoritative on competitive strategy, as it details two ‘generic’ competitive strategies for an organisation to have strategic advantages over its competitors, i.e. achieving competitive advantages: differentiation and lower cost (cost leadership). Further, Porter argues that successful companies tend to sort themselves into either lower cost or differentiation strategies and only emphasise one strategy.
- Wheelen and Hunger (2012) summarise studies that respond to Porter's argument and find them inconclusive, for example, Thornhill and White (2007) advocate the importance of ‘strategic purity’, while Campbell-Hunt (2000) finds that a combination of the two competitive strategies may also be successful.
- Another taxonomy for strategic positions has been developed by Milne and Snow (1978). The authors classify organisations within a single industry into four categories based on a common strategic orientation and a combination of technology, structure, culture and processes consistent with that strategy, namely: defenders, prospectors, analysers and reactors.

These distinctions help explain why organisations behave differently when facing similar situations, and justify motives for their long-term behaviours (Wheelen & Hunger, 2012). Understanding these two strategic position approaches helps MA literature to interface itself with strategic decision-making, strategy formation *per se*, in business practice. The next section discusses some studies that these taxonomies used to investigate MA practice.

[Lord \(1996\) Strategic management accounting: The emperor's new clothes?](#)

Lord (1996) identifies three themes (characteristics) of SMA that interact with strategy. First, SMA has a primary function to collect competition information – *“the provision and analysis of management accounting data about a business and its competitors, for use in developing and monitoring business strategy”* (Simmonds, 1981, p. 26). This strand of literature argues SMA has a focus on comparing the firm with its competitors, and advocates the collection of data about a firm’s position in the market. This approach is rationalised by Bromwich (1988), who argues: *“it is in the firm’s market that profits are made and where competitors challenge the enterprise”* (p.26). Besides, some scholars view marketing as the more relevant orientation for this theme, for example, Roslender and Hart (2002) suggest the marketing content of SMA should be increased to better embed the marketing issues, theories and concepts instead of borrowing insights from marketing (p.269).

Secondly, SMA has a focus on continuous improvement, i.e. the exploitation of cost reduction opportunities (as referred to by Lord, 1996). This is achieved through *“finding ways of reducing costs and/or enhancing differentiation by exploiting linkages in the value chain, increasing executional cost drivers and getting structural cost drivers to the optimal level”* (Lord, 1996, p. 354). The objective is to gain competitive advantage by exploiting linkages in the value chain⁸ and/or cost driver. In the past, much accounting information was not in a suitable form for value chain analysis (Hergert & Morris, 1989). Yet, the process of conducting value chain analysis itself provides useful insights through forcing managers to think about the value-added ability for each activity, product and strategy (Hergert & Morris, 1989; Holton, Glass, & Price, 2010; Li & Tang, 2009). For example, cost reduction can be achieved by increasing executional cost drivers and optimising the structural cost drivers (Shank, 1989).

Finally, SMA has the ability to match accounting emphasis with strategic positions. The accounting literature suggests that an organisation’s strategic position affects its

⁸ Shank (1989) defines the value chain as *“a set of value-creating activities all the way from basic raw material through to the ultimate end-use product”* (p.50).

choice/emphasis of particular accounting techniques (Lord, 1996), where SMA plays a role to clarify the strategic intent of a company (Dixon, 1998). Depending on the organisation's strategic position, it may place a different emphasis on MA techniques and data. For example, Shank (1989) and Shank and Govindarajan (1989) suggest firms pursuing a differentiation strategy attach higher importance to marketing cost analysis than flexible budgeting and standard costing, because their products have to change frequently to respond to market demand; cost leaders, on the other hand, place more emphasis on traditional cost accounting techniques, i.e. standard costs and product costs.

Further, Bromwich (1990) applies two economic theories to investigate the relationship between MA and Porter's taxonomy. The theory of attribute analysis sees accountants *"play a more important role in strategic decisions, especially in diversification decisions by costing attributes and monitoring the performance of these attributes over time"* (p.28), in which accounting attributes are attached in the central formulation of Porter's differentiation strategy. The essence of the theory of contestable markets is *"the need for maintainable cost advantages over rivals if the enterprise's strategies are to be sustainable"* (p.29), which in turn contributes to Porter's lower cost strategy.

"The strategic decision-making process can influence the procedures of management accounting and the design of management control systems to aid control strategy can also have a positive impact on the performance of management accounting."

(Dixon, 1998, p. 273)

Management accounting techniques are becoming more active in the strategic management process than the previous information providing function (Ma & Tayles, 2009). The above quote highlights the importance for the inclusion of a complete strategic decision-making process to understand how MA can be used to manage strategy. Therefore, this section reviews the use of SMA to manage the process of strategy planning (formulation and formation) and strategy implementation. It uses Simons' Levers of Control (LOC) framework to provide theoretical support for management control systems (which itself is an example of SMA), linking SMA's

contribution to achieve strategy. Then, the section reviews key areas covered in a recent special issue on SMA in *Management Accounting Research* (Nixon & Burns, 2012a) to introduce current debates.

3.3.3.1 Strategic management accounting – Strategic planning

Mintzberg (1978) defines strategy as “a pattern in a stream of decisions”, which allows scholars to research the strategy formation process in a broad descriptive context. The author investigates the process of strategic planning and points out that there are two types of strategy planning: a formulated strategy that comes from purposeful organisations with a highly-ordered, neatly-integrated process (i.e. strategy formulation), whereas planned strategies formed out of an adaptive process consist of many decision-makers and conflicting goals (i.e. strategy formation). Unlike strategy formulation that is developed by leaders through a formal process for long-range planning purposes, strategy formation is a result of interplay between a dynamic environment and bureaucratic momentum, with leadership mediating between the two (p.941).

Simons (1992, 2000) explores the role of accounting in stimulating emergent strategies, and suggests data on strategic uncertainties⁹ about the environment can be collected through *interactive control systems*. Accounting plays a role in realigning the strategy to take advantage of emerging opportunities and/or deflect unexpected threats (Simons, 2000, p. 215); this is an example of strategy formation. Additionally, interactive dialogue and debate enable organisational learning which may loop back to the adjustment of strategies (Simons, 2000, p. 217). For example, MCS can collect data on strategic uncertainties through dialogue and debates to stimulate organisational learning that may cause emergent strategies (Simons 1992, p.48; see also Simons, 1995)

Likewise, Dermer (1990) perceives strategy as an outcome of an organisational ‘struggle’ and recognises accounting has a role in shaping the strategic agenda through providing a framework for a language of discourse and historical context for

⁹ Strategic uncertainties are defined here as “*the emerging threats and opportunities that could invalidate the assumptions upon which the current business strategy is based*” (Simons, 2000, p. 215).

strategy. (p.74). Modell (2012) finds that “*the notion of strategy was re-constructed over time as a result of the intertwining of political regulation and evolving control practices*”, inspired by the adoption of the balanced scorecard (p.291) (section 3.2.6).

3.3.3.2 Strategic management accounting – Strategy implementation

“The best-designed strategies and the best-developed capabilities are useless unless they are effectively executed.”

(Horngren et al., 2012, p. 27)

For strategy implementation, a ‘realised strategy’ requires a sequence of decisions and exhibits a consistency over time (Mintzberg, 1978, p. 935). It is suggested that accountants have a role to help provide information for strategic decision-making and for the monitoring of strategies (Bromwich, 1990).

Strategy implementation is a process by which strategies and policies are put into action through the development of programmes, budgets and procedures (Wheelen & Hunger, 2012, p. 69). From the strategic management perspective, there are a range of accounting techniques used to aid strategy implementation, for example, target costing, life-cycle costing, strategic performance measurement etc. (Langfield-Smith, 2008).

Simons (1995) outlines the use of LOC to facilitate strategy implementation, and suggests managers should focus on critical performance indicators, which must be achieved for an intended strategy to succeed (p.209). Further studies take forward Simons’ work and explore the use of performance measures to align staff incentives and motivation to achieve organisational goals (Ittner & Larcker, 1998; Simons, 2000; see also Kaplan & Norton, 1992). Simons’ works on LOC lead a body of research to investigate the ‘fit’ between MCS, strategy and other contextual variables (see chapter 2). The primary lever as designated by Simons to monitor and control the implementation of an intended strategy is through *diagnostic control systems* (Simons, 2000, p. 208). They are used to motivate, monitor, detect deviations and correct them from pre-set standards of performance (Simons, 1995).

The balanced scorecard (Kaplan & Norton, 1992, 1996) provides the means to translate long-term strategic objectives into short-term actions. For example, Modell (2012) finds *“the adoption of the balanced scorecard was imperative in internalising this strategy discourse conveying a notion of long-term goal-directedness and cohesive management practices”* (p.291). However, Roslender and Hart (2002) depict BSC as a superior form of MA, which requires different managers to work together (p.261). In this regard, management accountants are: *“guardians of strategy providing a mechanism that will allow their counterparts in the other business functions to successfully accomplish strategy”* (p. 261).

From an academic perspective, Bhimani and Langfield-Smith (2007) suggest using enterprise-based longitudinal studies to gain more qualitative insights on strategic-as-practice as to the extent to which management accounting practices actually influence strategy (p.25). Case study research (see chapter 4) also provides an opportunity to assess who owns the SMA system within the organisational context (Langfield-Smith, 2008).

3.3.4 Strategic management accounting – A stakeholder perspective

In the above section, strategy is recognised as not formulated and implemented solely by top management (Mintzberg, 1978): strategy is viewed as being what the organisation actually does, instead of what management intends to do. Therefore, it is likely that stakeholders can influence an organisation’s strategy (Dermer, 1988). Accordingly, it is important to understand whether an organisation is self-centred or socially responsive to stakeholder expectations (Freeman, 1984) (section 2.3).

Strategic management accounting has a control role in the process of strategy implementation (see section 3.2, above). A traditional control model has an exclusive focus on the management perspective that stakeholders are beyond the control of management (Dermer, 1988). The author argues an effective control model should have a governance system that contains four essential variables: *“leadership (management), citizenship (stakeholders), institutions (formal and informal patterns of relating), and ideologies (patterns of belief)”* (p.29). The inclusion of other elements, in addition to management, starts from the assumption that *“organisations are made*

up of a variety of stakeholders attempting to satisfy their individual wants amidst a host of conflicts and constraints” (Dermer, 1990, p. 68; see also Freeman, 1984). The author further criticises the accounting literature for its inability to deal with human factors, i.e. stakeholders can diagnose issues and use accounting data not as anticipated by the organisation’s original purpose (Dermer, 1990). However, some scholars hold a different view and suggest SMA plays a role to embody understandings that can be shared by stakeholders; or at least has a mediating effect where stakeholders hold divergent interpretations (Cuganesan et al., 2012).

Accordingly, accounting offers potential to provide a shared framework as a ‘common language’ (Jarzabkowski, 2003; Nixon & Burns, 2012b). Frameworks such as the balanced scorecard (Kaplan & Norton, 1992), Levers of Control (Simons, 1995) and sustainability balanced scorecard (Figge et al., 2002) have included stakeholder concerns in their development. The LOC framework, in particular, is designed to manage tensions between goals and other elements (Simons, 1995; see also Kruis et al., 2016). Engagement with stakeholders is also found in the strategic management literature: the relative power of other stakeholders is added to Porter’s list as a sixth force in Porter’s industry forces (Wheelen & Hunger, 2012, p. 161). With an increasing emphasis on stakeholders, it is important to understand *who strategy is for*, which in turn becomes an issue about shareholder–stakeholder balance (Nixon & Burns, 2012a).

Additionally, Ferrell et al. (2009) suggest organisations must first be responsible to their owners (shareholders), who are primarily concerned with earning a profit on their investment in a company (p.54). Further, the authors find ensuring this responsibility becomes a more difficult task in large corporations, where responsibility is enlarged to the financial community at large. They have also outlined an organisation’s responsibility to employees, consumers, the environment and the community. Their approach is based on the relationship between social responsibility and profitability with an aim to increase profit.

3.3.5 Summary

This section finds the notion of strategic management accounting is contested in accounting literature (Langfield-Smith, 2008) while different efforts have been made to capture a diversity of perspectives (Nixon & Burns, 2012b). Nixon and Burns (2012b) suggest a more integrated approach is needed to address SMA developments, and suggest four 'building blocks' that future researchers could utilise.

Accordingly, section 3.3.1 first recognises the need to transform traditional MA to incorporate strategic uncertainty (environmental changes). Then, section 3.3.2 discusses how MA can be used strategically to manage strategy from two perspectives: strategic positioning (Milne & Snow, 1978; Porter, 1980) and strategic decision-making (Mintzberg, 1978).

Finally, section 3.3.4 reviews literature in strategic management research to conclude that stakeholders have significant influences on the organisation's strategic decision-making process (both strategy formation and implementation), which reaffirm the opportunity (and necessity) to incorporate stakeholder issues in order to address the research aim of this study (section 2.4).

3.4 Summary of Research Objectives

In line with the above, there are three research objectives developed to frame the research as a whole.

By considering the justification of why using Simons' LOC framework is appropriate to act as the primary framework in section 2.2.4 and how the adoption of Stakeholder Theory is useful to augment current knowledge in LOC (section 2.3.3), this research identifies research opportunities to investigate the relationship between MCS and stakeholders. Accordingly, two research objectives are developed with the purpose to advance the existing theoretical framework, i.e. Simons' LOC:

Research objective 1:

To identify how the case organisation uses MCS to address stakeholders' sustainability requirements for stakeholder management.

Research objective 2:

To determine the influences of the external use of MCS on the case organisation's sustainability strategy.

These research objectives focus on the processes through which stakeholders affect *Violet's* managerial use of MCS as well as how *Violet* uses MCS to manage stakeholders' sustainability requirements. In combination, the two research objectives reflect the use of Stakeholder Theory in the context of Simons' LOC; and investigate whether Simons' LOC and Stakeholder Theory can be considered in combination to facilitate understanding of sustainability, performance measurement and strategy.

From Chapter 3, research opportunities are identified to respond to calls in the literature. Sustainability is viewed as an evolving concept in which its knowledge requires co-development between academic and business practice. Therefore, it motivates this research to explore the potential of the collaborative relationship between firm and institutions in the process of generating sustainability knowledge; and suggests a research potential to look at accounting in the context of sustainability. This reaffirms that researching MCS to incorporate greater depth on the role of interactions between managers and stakeholders is a fruitful area (Martyn et al., 2016; Otley, 2016).

Subject to the influences from external stakeholders, sustainability becomes a concept that must be effectively managed and communicated at organisational level. SMA literature (section 3.3) suggests MA needs to better embed externalities in the process of strategic decision-making (section 3.3). Accordingly, a research opportunity is identified to investigate how PMS, as an example of MCS, can be used by internal managers in their decision-making process to incorporate externalities (including stakeholder issues). As such, the last research question is

then formed to investigate how different LOC are mobilised by managers (and potentially by external stakeholders) to support sustainability-related strategic decision-making.

RQ4: How are MCS used to manage firm's sustainability-related strategic decision-making?

Collectively, the above research objectives address different facets of the research aim (section 1.1).

4. Research Methodology

4.1 Introduction

This first aim of this chapter is to present the research methodology through discussing the researcher's philosophic assumptions. Justifications are provided to show how and why the adoption of qualitative research strategy for this study is appropriate through

- (i) reviewing the current literature in the accounting-sustainability research domain;
- (ii) illustrating the benefits of the adoption of the research strategy and method in this study; and
- (iii) showing awareness of and procedures to mitigate the potential problems.

The second aim is to provide details on the research process, i.e. how the study was conducted through revealing the process from securing data access to data analysis. Also, an overview of the case organisation and its associated networks is unpacked during the section.

Figure 4.1 provides a roadmap for this chapter, which outlines the key processes in this chapter. The next section introduces two major research approaches, i.e. deduction and induction, in social science research. Section 4.3 discusses the philosophic assumptions that underpin this study through illustrating the sociological paradigm. Then, this study explains the ontological and epistemological positions held in this study (and discusses the appropriateness of adopting qualitative research, i.e. case study research); the methods through which data is collected, processed and analysed for the case organisation are shown in sections 4.4 and 4.5. Each of these discussions presents the research strategies and processes at: (i) a general level, (ii) at the level of the management accounting research domain, and (iii) the specific perspective of this study.

In order to make sense of the use of data to achieve the research aims, this chapter also provides an overview of the case organisation and its associated networks (key stakeholders) in section 4.6. Section 4.7 reveals the research process undertaken and the chapter ends with a summary in section 4.8.

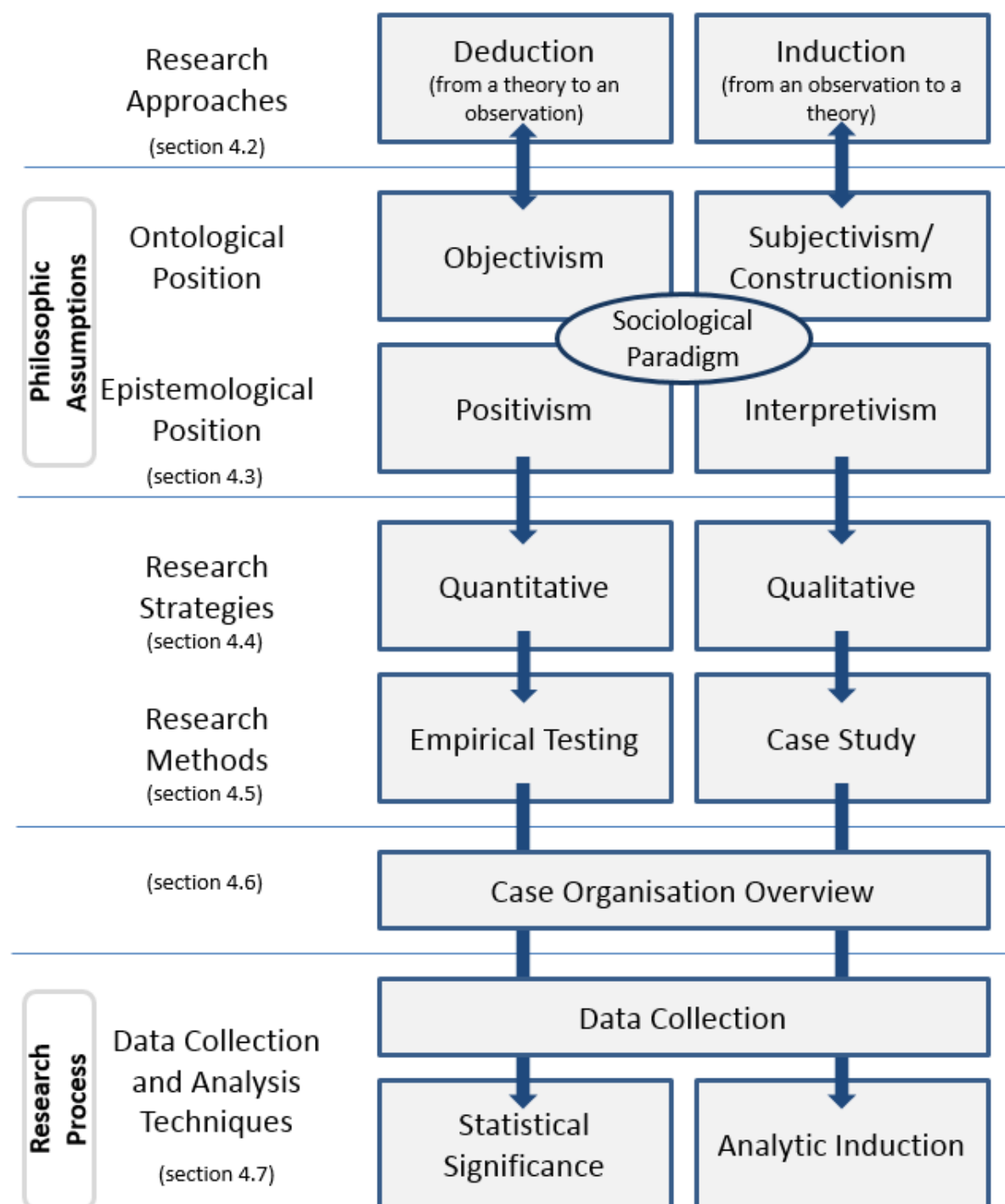


Figure 4.1: An overview of philosophic assumptions, research strategies and research process (developed by author)

4.2 Research Approaches

In order to make the best use of the theoretical frameworks (chapter 2), it is important to discuss the research approaches available in social science research in general, and the use of these in the accounting research domain, to provide support for the subscription to a particular research approach.

This section starts with an introduction of the two broad approaches in social science research. The second part reviews how these research approaches are typically interpreted in accounting research. Finally, justifications are provided for the adoption of the research approach.

4.2.1 Social science research approaches: Induction vs. deduction

The creation of theory can come from different research approaches: (i) by deducing from observations, known as deduction, or (ii) by systematically combining observations to develop/advance a theory, known as induction (Bryman, 2012; Bryman & Bell, 2007) (Figure 4.2).

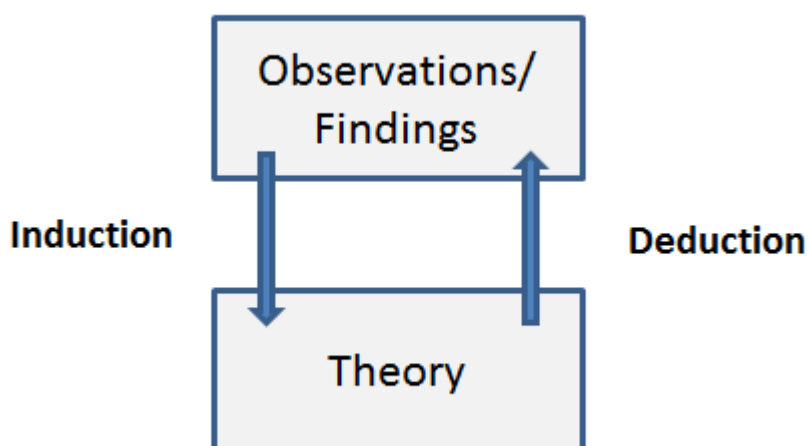


Figure 4.2: The two different research approaches to generate theory (Adapted from Bryman, 2012).

In the physical sciences, the fundamental concept of explanation is derived through exhibition of a law/theory (deduction) (Micheli & Mari, 2014), in which theory is used to form a hypothesis and then tested through observation (Bryman, 2012). Social

science, however, instead of aiming to provide ‘true descriptions’ of the world, uses theory as a way of looking at the world (Bohm, 1980). The concept of explanation through theory is to identify a goal that is able to justify the ‘*explicandum*’ (a fact to be explained) (Nagel, 1961; adapted from Micheli & Mari, 2014).

On one hand, deduction sees ‘reality’ (researchers’ ontological assumptions) as a concrete structure and ‘people’ as responders, adaptors and information processors (Morgan & Smircich, 1980), and is thus associated with positivism, in that knowledge can be obtained through scientific method based on abstraction, reductionism and statistics (Robson, 2011). On the other hand, induction associates ‘reality’ with subjectivism and constructionism and ‘people’ as human beings, social constructors, symbol creators and users (Morgan & Smircich, 1980), hence knowledge is obtained through interpretative or hermeneutical methods (Kakkuri-Knuuttila, Lukka & Kuorikoski, 2008; Lukka & Modell, 2010).

Accordingly, deduction and induction are associated with the two extremes in the dichotomy of objectivism and subjectivism respectively. Further details are introduced in section 4.3 when discussing the philosophic assumptions. Additionally, the deductive approach is typically associated with quantitative research methods while the inductive approach of linking data and theory is typically associated with qualitative research (Bryman, 2012, p. 25), see section 4.1. Table 4.1 below provides a summary.

	Towards Subjectivism	Towards Objectivism
‘Reality’	Social Construction	Concrete Structure
‘People’	Human Being; Social Constructor; Symbol Creator and User	Responders; Adaptor; Information Processors
Research Method	Qualitative; Hermeneutics	Quantitative
Research Approach	Induction	Deduction

Table 4.1: Summary of basic assumptions characterising the subjective-objective debate within social science research (adapted from Morgan & Smircich, 1980)

4.2.2 Research approaches in the accounting research domain

Traditional accounting research from the positivistic perspective views accounting control systems as a means to achieve lower cost and higher efficiency operations (Hoque, 2006). In 1979, the American Accounting Association published a report that explored various research methodologies, for both scientific (positivistic) and naturalistic methods in accounting (Abdel-Khalik & Ajinkya, 1979). The report argued for the adoption of a scientific method (a deduction approach) through quantitative research methods based on abstraction, reductionism and statistics. The scientific method remains widely accepted in mainstream accounting research (Ryan, Scapens, & Theobald, 2002). However, Abdel-Khalik and Ajinkya (1979) also recognise that unfeasibility [of quantifying reality] and intractability [of its changing complexity] may make the scientific method difficult to apply.

In responding to this conclusion, Tomkins and Groves (1983) argue that the scientific method should not be privileged, and encourage accounting researchers to consider a wider range of research styles. For instance, according to the authors, a naturalistic approach may be more appropriate for studying everyday accountants' behaviour. In line with Tomkins and Groves (1983), the use of induction to investigate the relationship between 'everyday language and concepts' is promoted by Dubois and Gadde (2002). The authors suggested an abductive approach¹⁰, which is similar to induction, through 'systematic combining'.

Besides, it has been suggested that the use of a positivistic or scientific approach is dictated by a desire to achieve maximum utility through the use of an arm's-length¹¹ research method, while leaving out the understanding about accounting in actual practice and its interaction with other organisational effectiveness and adaptability (Hopper & Powell, 1985; Hoque, 2006). This gap was highlighted in Kakkuri-Knuuttila et al. (2008), in which the authors analyse a number of published studies that apply a qualitative methodology. The authors regard those studies as representing the

¹⁰ Different from induction, abduction requires an integrated approach, to systematically combine empirical data, case studies and theoretical framework (Dubois & Gadde, 2002).

¹¹ The arm's-length research method, which according to Tomkins and Groves (1983), involves the use of statistically categorised variables with attempts to retrieve meaning by *ex-post facto* interpretation of tests of significance (p.362).

'interpretive approach' to accounting research, and argue a universal "law" to explain social action through generalisations is impossible. Therefore, an increased use of qualitative methods over a wide range of topics has received widespread support, and the emergence of accounting as a social science is recognised by Hopper & Bui (2016).

4.2.3 Adopted research approach

Accounting research investigates accounting practice from social, environmental, culture and political standpoints (examples of works that consider the above standpoints include Bebbington & Thomson, 2013; Cooper et al., 2005; Gray, 2010; Henri, 2006; Unerman & Chapman, 2014). However, accounting-sustainability research still suffers from a number of serious limitations and omissions (Thomson, 2014), and the findings about the relationship between sustainability and its outcomes are inconsistent (Peloza & Shang, 2011). This study aims to contribute to the Accounting-for-Sustainability literature through exploring the relationship between: (a) sustainability, (b) performance measurement systems and (c) strategic decision-making, as explained in Chapter 1.

Although both inductive and deductive approaches would be feasible to obtain knowledge from different perspectives, Tomkins and Groves (1983) suggest that the use of scientific methodology is appropriate only when the meaning of the variables is 'stable' and 'situation independent'. As discussed in Chapter 3, the subjects investigated in this research are ambiguous to some extent. For example, the ambiguities about the different roles that a control can play (section 2.2); lack of fixed meaning of the concept of sustainability and consistency of sustainability information (section 3.1). Therefore, the effectiveness of the deductive approach is compromised. Using a naturalistic research model (an inductive approach) helps researchers to identify hypotheses (research opportunity) and enhance their "*confidence to adopt the view of the world and related set of ontological assumptions to enable the scientific approach to be used with validity*" (Tomkins & Groves, 1983, p. 365).

In line with Glaser and Strauss (1967), Hoque (2006) suggests the primary concern with the naturalistic approach is about inductive reasoning and urges researchers to

discover theory from data, i.e. grounded theory¹². However, grounded theory can be seen as a research strategy in its own right because of its specific and systematic process through which theory is created (Bryman & Bell, 2007; Creswell, 2007).

Alternatively, this research starts with a theoretical framework, as explained in chapter 2, as a lens to guide the research process. Eisenhardt (1989) provides a roadmap for building theories from case study research and attempts to position theory built from case studies into a wider context of social science research, i.e. generalisability; and Dubois & Gadde (2002) suggest the use of abduction¹³ for theoretical development. Although the aims of this study are not to develop a holistic theory to interpret the management accounting practices in the context of the wider systems of which they are part, an induction approach is useful to study accounting in its natural settings to explore the study aim, while exploring the complementarity of theoretical frameworks.

Analytic induction (Bryman, 2012) is an approach to analyse data in which *“the researcher seeks universal explanations of phenomena by pursuing the collection of data until no cases that are inconsistent with a hypothetical explanation of a phenomenon are found”* (Bryman & Bell, 2007). This technique is useful to seek verified explanations of the theoretical framework and its typology through the process. Therefore, it offers an appropriate inductive approach, using interpretative research from the perspective of naturalistic philosophy, and this is best suited to the aims of the study.

¹² According to Glaser and Strauss (1967), grounded theory is the process to discover theory from raw data, and to move to the identification of conceptual categories and their conceptual properties and their inter-relationship, in using a systematic procedure of data coding and analysis.

¹³ According to the authors, “abduction” refers to a systematic combining process, where theoretical framework, empirical fieldwork, and case analysis evolve simultaneously; matching theory and reality to develop a new theory (Dubois & Gadde, 2002, p.554).

4.3 Philosophic Assumptions

The selection of an appropriate research methodology depends on the nature of the problem that a researcher wants to answer (Tomkins & Groves, 1983). The ontological assumptions (the phenomenon's reality) held by the researcher, affects the way in which knowledge can be generated on that phenomenon (epistemology) and, accordingly, affects the process of doing research (methodology) (Ryan et. al., 2002). Therefore, before discussing the methodology applied in this study, it is important to consider the ontological and epistemological assumptions held by the researcher.

4.3.1 Ontological assumption: Reality as socially constructed

The ontological assumption considers the question of how a researcher views reality. Morgan & Smircich (1980) incorporate six ontological assumptions in the social sciences, spanning an objective–subjective continuum (Table 4.2). The scientific method used in the mainstream accounting research domain fits well with the objective (realism) end of the continuum, while a more subjective reality is linked/needed for naturalistic research. This ontological assumption concerns how individuals make sense of their everyday existence to provide insights on 'what is going on' (Ryan et al., 2002).

Core Ontological Assumptions	
Objective ↑	1. Reality as a concrete structure
	2. Reality as a concrete process
	3. Reality as a contextual field of information
	4. Reality as a realm of symbolic discourse
↓ Subjective	5. Reality as a social construction
	6. Reality as a projection of human imagination

Table 4.2: Summary of core ontological assumptions within social science
(adapted from Morgan & Smircich, 1980, p.492)

Some accounting literature considers reality as socially constructed (see examples in Beattie, 2014; Bryer, 2011; Burns & Scapens, 2000; Hopper & Powell, 1985; Micheli & Mari, 2014; Morgan, 1988; Tomkins & Groves, 1983). Additionally, this assumption is grounded in research on 'Accounting-for-Sustainability' (Bebbington & Thomson, 2013), for example, Contrafatto (2014), Dey (2007), Fraser (2012), Gray (2010), Milne et al. (2009), Unerman & O'Dwyer (2007) amongst others. These studies consider accountants have a role to construct reality (Morgan, 1988); whereas understanding of the social and environmental risks is socially constructed (Gray, 2010; Unerman & O'Dwyer, 2007). This inherent contradiction requires a more flexible as well as in-depth approach to explore how reality is constructed.

According to Morgan & Smircich (1980), reality as 'social construction' views *"the social world is a continuous process, created afresh in each encounter of everyday life as individuals impose themselves on their world to establish a realm of meaningful definition"* (p. 494). Assuming reality is socially constructed allows researchers to focus on subjective experiences and individuals' interpretations of these subjective experiences.

4.3.2 Epistemological position – Adopting interpretive accounting research

The methods of gaining knowledge – epistemology, as discussed – are affected by the ontological assumption. Hopper and Powell (1985) propose a subjective-objective continuum to characterise the range of approaches to the social sciences, including accounting. Although the use of the subjective/objective dichotomy has been criticised for its emphasis on the differences between various research approaches that might easily lead to misrepresentation of the basic features of the underlying paradigm (Lewis & Grimes, 1999), it is an influential work affecting later authoritative accounting sources, such as Tomkins and Groves (1983) (Kakkuri-Knuuttila et al., 2008).

"[...] people constantly create their social reality in interaction with others. It is the aim of an interpretive approach to analyse such social realities and the ways in which they are socially constructed and negotiated."

(Hopper & Powell, 1985, p. 446)

This study considers these positions are on a continuum, not a dichotomy; the phenomenon in this study is more about individual consciousness, moving toward an interpretative knowledge, rather than knowledge based on observation (epistemology: anti-positivistic). A naturalistic method seems more appropriate to generate knowledge through interpretation of individual consciousness, which is why this study subscribes to interpretive accounting research.

Further, the validation in interpretive management accounting research has been addressed by Lukka and Modell (2010) and Lodhia (2014) (in sustainability accounting). Within interpretive research, the mobilisation of theory to explain and explore incremental change is grounded in pragmatist epistemology, as a paradigm, that enables academics to reframe and engage with the practice in the quest for improvements (Lodhia, 2014), and inform academics to further clarify the possibility to integrate social constructionism (ontological position) with a moderate form of realism (Lukka & Modell, 2010). Here, realism is regarded as an ontological position that well in line with objectivism, but one would allow 'subjective interpretation or objectified explanation,' i.e. understanding provided by interpretation and that provided by explanation do not differ in any fundamental sense (Kakkuri-Knuuttila et al., 2008, p.288).

Accordingly, while there is a concern in relation to undertaking interpretive research in the MA domain (Burrell & Morgan, 1979), this research assumes that any action is given meaning by the actors around it, and therefore must be studied within its wider social framework (Hopper & Powell, 1985; Moll et al., 2006).

4.3.3 Summary

As the interpretation of the phenomena in this study is bound by the individual's ability to understand the complexities of issues in the study, it cannot be portrayed as an objective representation of reality (ontological assumption). Further, no single individual is thought to be capable of providing an accurate and complete representation of reality. Here, the meanings and norms structuring the social practices of individual human actors are re-created by the actors in everyday

encounters in the social world. Therefore, within the interpretive approach (epistemological position), this study relies on the commonalities of experience amongst the issues of study and multiple methods to build a trustworthy picture of the phenomenon being studied (i.e. validity of the research), which is discussed in section 4.5.1 (M. Smith, 2003; Stoner & Holland, 2004).

4.4 Research Strategies: Adopting Qualitative Research

The previous sections provide a justification for adopting an inductive approach in this study through explaining the philosophic assumptions. The process of ‘doing research’ (methodology), as previously discussed, is influenced by the researcher’s philosophic assumptions (Ryan et al., 2002), specifically through the choice of research strategy, i.e. qualitative and/or quantitative.

This section aims to introduce the research strategies adopted and provide a justification of the rationale for adopting a qualitative research methodology.

4.4.1 Defining research strategies

Qualitative and quantitative methodology are not mutually exclusive; the choice depends on the research problem which needs to be addressed and the types of different questions asked by the researcher. Maxwell (2005; quoted in Moll et al., 2006) provides a clear distinction between the two methodologies: “*Quantitative researchers tend to be interested in whether and to what extent variance in x causes variance in y. Qualitative researchers, on the other hand, ask how x plays a role in causing y, and what the process is that connects x and y.*”

However, qualitative research can be difficult to define clearly, for example Denzin and Lincoln (2000) argue that “*it has no theory or paradigm that is distinctly its own ... nor does qualitative research have a distinct set of methods or practices that are entirely its own*” (p.6), and suggest each practice in qualitative research sees the world differently.

4.4.2 Motives to adopting a qualitative research strategy

Although scientific method has its place in accounting research, a radically contrasting research style could offer insight into understanding accounting mechanisms. For example, Hoque (2006) presents various institutional and contextual perspectives for accounting research and advocates the potential for using qualitative methods, allowing connections to be made with theories in accounting research. By incorporating qualitative methodology, it is possible to overcome the limitations of the simplified and highly structured explanation of accounting offered by positivistic methods (Baker & Bettner, 1997).

“The focus on the particular also creates the opportunity for a more nuanced appreciation of individuals’ experience of the particular problem set.”

(Bebbington & Larrinaga, 2014, p. 403)

As recognised in Chapter 3, there is an inherent complexity and vagueness in the notion of sustainability, so developing a universal approach to evaluate sustainability is virtually impossible (Bebbington & Larrinaga, 2014; Bebbington, Unerman, & O’Dwyer, 2014; Gray, 2002). This complexity and the prominent role attributed to accounting has resulted in an increasing use of qualitative methodology (Moll et al., 2006). Similarly, this study’s research questions on MA practices are multifaceted in nature and can only be analysed when qualitative methods are adopted.

“[Qualitative research] is a field of inquiry, which locates the observer in the world “to deploy a wide range of interconnected interpretive practices, hoping always to get a better understanding of the subject matter”

(Denzin & Lincoln, 2000, p. 5).

Accounting research can therefore provide fresh and interesting insights in the way that accounting interacts with its environment, and it aligns with the aim of this study. Therefore, this study views research strategies as the means to connect research methods to the researcher’s philosophic assumptions. After defining the dichotomous

views on research strategies, i.e. qualitative and quantitative, this section provides justifications for the adoption of qualitative research, and why it is more appropriate for the research problem (section 3.4) considered within this study.

4.5 Research Methods: Case Study Research

Methodology is the process of doing research, with consideration of the ontological and epistemological dimensions, while method is the technique used in a particular research process (Ryan et al., 2002). The aim of this section is to provide a justification of the case study method as the most appropriate method, given the use of theoretical frameworks, the philosophic assumptions, and the research problem given.

4.5.1 Case study research: An overview

“The case study is not either a data collection tactic or merely a design feature alone (Stoecker, 1991), but a comprehensive research strategy.”

(Yin, 2003, p. 14)

Case study research (Yin, 2003), a qualitative research method, is the backbone of this study. A case is a description of a situation, which can either be actual or fictitious, involving individuals, groups, organisations, society, social organisations or nations (Easton, 1982; Yin, 2003). It is used to gather knowledge about a practice problem or issue through the evidence from practice.

Data collection in case study research allows the use of a variety of data sources, which includes some or all of the following: documentary evidence, interview data, direct observation and participant observation (M. Smith, 2003).

Benefits and criticisms of case study research

“Case study methods are useful when ‘how’ and ‘why’ questions are being posed, when the researcher has little control over events, and

when the focus is on a contemporary phenomenon within some real-life context.”

(Yin, 2003; quoted in Hoque, 2006, p.362)

It provides rich data with contextual information and offers the opportunity to obtain a nuanced understanding on a particular case(s). Here, the use of case study provides a rationale in respect of Morgan and Smircich's (1980) definition of 'reality as socially-constructed' through emphasising the importance of understanding realities and the minutiae of daily life (Patton, 1987).

However, case study research is subject to several criticisms.

To begin with, generalisability, which is the ability to (scientifically) generalise knowledge. A common concern with case study research is that less usable value can be generated from context-dependent information. For example, Clark and Dickson (2003) argue that many of their locally derived results [on sustainability] remain largely unknown beyond their places of origin and application. In responding to this criticism, Yin (2003; quoted in Flyvbjerg, 2006) argues that case study research has the advantage of providing in-depth knowledge and contributes to the development of ideas: “*case studies, like experiments, are generalisable to theoretical propositions, not to populations or universes, [the] goal is to expand and generalise theories (analytic generalisation)*” (p.10). In other words, case study research is generalisable to theoretical proposition.

In addition, Easton (1995) notes that case studies contain overly-rich descriptions, from which readers are expected to come to their own conclusions; this lacks an epistemological base and only partially supports a particular theoretical framework. A potential way to remedy this is to place a stronger reliance on theory that helps keep some intellectual control over the burgeoning set of case descriptions (Weick, 1979). The development of a theoretical framework can improve the explanatory power of case studies. Dubois & Gadde (2002) suggest what “*...[case study approach] was previously regarded as a problem was now recognised as an opportunity, ..., [it] has become a common method in many scientific disciplines*” (p. 554), and argue for a stronger reliance on theory to improve the explanatory power of case study research.

Judging the quality of case study research

Another common concern with case study research rests on the researcher's procedures and biased views, which in turn affects reliability and validity (Yin, 2003, p.10). A similar problem, however, could also be encountered in the conduct of experiments (Rosenthal, 1966), survey questionnaires (Sudman & Bradburn, 1982) and historical analysis (Gottschalk, 1968). Ryan et al. (2002) explore the reliability and validity of evidence generated during case study research and the conclusions that are drawn therefrom, and compares this with conventional criteria in empirical research.

To begin with, the notion of reliability refers to the extent to which evidence is independent of the person using it. Adopting appropriate and reliable research methods and procedures can attain 'procedural reliability'. The research design should address clearly defined research questions, and encompass a comprehensive research plan, and well documented evidence (Ryan et al., 2002). Validity in empirical research is thus replaced by 'contextual validity' which indicates the credibility of the case study research. It can be achieved by data triangulation, method triangulation, researcher triangulation, theory triangulation, and/or methodology triangulation (Ryan et al., 2002).

Scholars also suggest that it is possible to ensure reliability and validity in case study research through a researcher's effort during the phase of assessing data, by:

1. Method triangulation (Smith, 2003) – the adoption of multiple methods through assessing different sources. For a common research method (within-method triangulation), which "*combines different researchers, different interviewees and different survey sites*"; and with a different method (between-method triangulation), which combines results from different sources such as interview and survey, or using both quantitative and qualitative approach (Smith, 2003, p. 135).
2. Data triangulation – as previously discussed, case study research involves the use of data from different sources. Each of the sources has its comparative strengths and weaknesses; a good case study needs various sources of

evidence to ensure its validity: *“the triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses”* (Eisenhardt, 1989, p. 538).

Due to the scope and aims of this study, only data triangulation (which assesses and compares each piece of evidence with other kinds of evidence on the same issue); and within-method triangulation (which assesses and compares particular sources of evidence with evidence from other sources), are utilised.

The researcher as an instrument

It is worthwhile highlighting the role of the researcher when undertaking case study research, in which the role of ‘visitor’ is taken, to interview and observe the subjects (Yin, 2003). The study considers the researcher is unseparated from the case study and perceives the researcher as an instrument in doing case study research by following the quality criteria, i.e. ensuring procedural reliability and contextual validity, to mitigate potential shortcomings in findings.

Besides, an awareness of the respective theories is important because a theoretical framework is composed of a set of ontological assumptions, which can be diametrically opposed from another theory (Nixon, 2006). Theory is used in order to understand, explain and test whether it provides a good explanation of the case. Then, theorisation would help avoid any form of subjectivity in the study, and modification of existing theory can be made if the existing theory fails to provide convincing explanations of the observed practices (Ryan et al., 2002).

4.5.2 Case study research in the Accounting-for-Sustainability domain

After providing an overview of case study research, this sub-section aims to introduce how case studies have been employed in the Accounting-for-Sustainability research domain.

In line with ‘accounting for sustainable development’ research (Bebbington & Thomson, 2013; Unerman & Chapman, 2014), this study subscribes to the position of research that engages with business to identify the social and environmental sustainability risks

and opportunities, i.e. the third strand of academic research (section 3.1.3). This strand of literature encourages the researcher to constructively engage with the practitioner and offers potential to engage with or challenge some of the organisational (un)sustainability practices and policies (Unerman & Chapman, 2014). The use of case study method by researchers to investigate 'Accounting-for-Sustainability' is emerging, and the following studies are examples.

- Contrafatto (2014) adopts a case study approach to investigate the processes through which social and environmental reporting becomes institutionalised.
- Spence and Rinaldi (2012) analyse the rationales and practices that emerged during the implementation of a sustainability accounting framework in a supermarket chain based in the UK, through the analysis of an exploratory case study.
- Epstein et al. (2012) conducted multiple case study research to explore the challenge in simultaneously managing the three dimensions of sustainability in large, complex and profit-seeking organisations.
- Rodrigue et al. (2013) show different ways in which stakeholders influence the case organisation's selection of internal environmental performance indicators.

These sources from the Accounting-for-Sustainability research domain are congruent with Yin's (2003) description of the use of case study research as a research tool to answer explanatory questions (i.e. "a 'how' or 'why' question is being asked about a contemporary set of events, over which the investigator has little or no control" (p.9)). It allows the researcher to draw on a wider array of both documentary and interview data sources. The use of research methods such as case study research has potential to further examine this relationship and to refine the "novel" nature of performance measures (Chenhall, 2005).

4.5.3 Adopting a single case-study research

Similar to some of the notable uses of case study identified previously, the use of a case study approach helps this study in four key ways:

1. to deal with multiple sources of evidence;
2. to provide a detailed description of management accounting and management control processes and how the processes interact with participants;
3. to make sense of the sustainability-related decision-making process and interaction with different stakeholders; and
4. to discover how the experience and value judgment of the research participants are implicated in the research questions.

The complexity and vagueness faced by accounting-sustainability literature are recognised in section 3.1, while case studies are particularly appropriate in areas where theory is not well developed, and have therefore become quite common in MA research (Eisenhardt, 1989; Ryan et al., 2002). Therefore, it offers opportunities to advance existing conceptual frameworks, and contribute to enhancing social and environmental sustainability. Further, as suggested by Eisenhardt (1989) “*one strength of theory building from cases is its likelihood of generating novel theory*” (p.546). This aligns with the research aim to contribute to the advancement of a theoretical framework.

The study also recognises that a research issue can be investigated by internal comparisons within one organisation (single case study), or two or more organisations in environments both similar and/or contrasting (multiple case study), at numerous levels of analysis (Yin, 2003), with a corresponding trade-off between breadth and depth. The research issues here are complex in nature, and therefore the choice is made to go deeper into one case instead of increasing the number of cases.

Data is collected through a combination of in-depth interviews and extensive documentary analysis with the purpose of understanding and explaining the matter of

concern in this study; details of the sources of data are introduced in section 4.7. The research procedure is discussed next.

4.6 Research Process and Procedures

Table 4.3 below depicts the process of the research, from securing data access to data analysis. It maps the key activities undertaken during the process from identifying a potential case organisation, to obtaining data, to data analysis and interpretation.

Stages	Activities
Securing Data Access (Section 4.6.1)	Identification of potential case organisations
	Approaching potential case organisation
	Conducting preliminary interviews with gatekeeper within potential case organisations
Preliminary Study (Section 4.6.2)	Formulation of research design for the case organisation
	Formation and validation of semi-structured interview guide
	Identification of potential interviewees
Data Collection (Section 4.6.4)	Interviews
	Workshop event at Loughborough University
	Obtaining documentary evidence
Data Analysis (Section 4.6.5)	Data transcription
	Developing initial codes
	Identification of interactions, relationships, and themes
	Data triangulation
	Integration and interpretation

Table 4.3: Summary of the activities undertaken during the research

4.6.1 Securing data access

After identifying potential organisations as case sites, 14 attempts were made to reach companies across the United Kingdom (UK) and Hong Kong (HK). The researcher began with his connection at Hong Kong University of Science and Technology, who forwarded the contact details of gatekeepers from four listed companies in Hong Kong. These companies are the leaders of sustainability in their sectors. A letter of invitation (Appendix II) was sent via email to the four companies, whereupon three of the companies agreed to a preliminary interview. Novel insights were obtained on sustainability practices in Hong Kong contributing to the refinement of preliminary interview questions, although none of these companies was able to agree access as an in-depth case study research due to practical considerations.

Data access was confirmed with *Violet* in December 2015 when the gatekeepers (Head of Sustainability and Sustainable Product Manager) agreed to the research invitation. During the preliminary interview with *Violet*, the gatekeepers provided a valuable opportunity for the researcher to introduce his research to the company as well as helping the researcher to understand the position of the case organisation, its key sustainability initiatives, and potential informants in the business.

4.6.2 Preliminary study and research design

After confirming data access with *Violet*, the early months of 2016 were devoted to finalising a research design (Appendix III).

The data for this case study intends to combine individual interviews with senior managers and executives who are engaged in mobilising MCS and implementing the sustainability programme; attendance at workshops and meetings with *Violet*'s employees; and the review of documentation.

As identified in preliminary on-site discussions held in December 2015, along with a review of available documents, the study is structured into four main phases with different objectives to be achieved in each phase:

1. to obtain a holistic view of how the case organisation engages in sustainability issues;
2. to obtain an understanding of the case organisation's various stakeholder groups, and how it identifies sustainability issues, and manages its stakeholders;
3. to obtain details on the development and implementation of sustainability programmes, forming an understanding of performance measures/indicators and how the case organisation mobilises MCS; and
4. to report findings and a summary to the case organisation, and seek clarification on points made.

Potential interviewees were identified simultaneously through *Violet's* internal networks, referrals from interviewees, and the workshop. Semi-structured interview guides were developed during the process which served the purpose of each particular interview (see Appendix V for a template).

4.6.3 Ethical considerations

A core part of the data collection involved human subjects and so is subject to Loughborough University's ethical requirements and policy. Failing to comply with these policies not only risks the eligibility of using the data for publication and hence constrains the contribution of this research, but also imposes risks to the researcher and the individuals involved in the research. According to the University policy, ethical clearance was obtained from the University's Ethics Approvals (Human Participants) Sub-Committee (a template is included in Appendix IV).

Further, an interview brief stating the purpose of research and potential discussion questions was produced, see Appendix V. A verbal explanation about the research study and use of data collected was provided and consent to participate and being audio recorded was obtained at the beginning of each interview.

Regarding the identity of the case organisation, although there is no signed non-disclosure agreement between the firm and the research team (as well as the

university), a code name has been given to the case organisation that allows discussion of the findings and research as a whole. The informants are referred to by codes (job titles) in this thesis to maintain anonymity. By anonymising the name of the organisation, using their job titles to represent informants still provides a sufficient level of protection to the informants, and enables readers to interpret the findings.

4.6.4 Data collection

The preliminary interview with the Head of Sustainability and a senior manager (as gatekeepers) to grant access to the case organisation was held in December 2015. The majority of the data collection process occurred between April 2016 and March 2017. Insights from external parties (in addition to the case organisation) are also considered to be an important part of the data. Therefore, the sources of data include the use of interviews and documentary data beyond the case organisation. To support this research study, three types of data were collected through: (i) interviews, (ii) a workshop and (iii) documents and secondary data, as described next.

Semi-structured interviews

To begin with interviews, in line with research on Accounting-for-Sustainability, semi-structured interviews were adopted (Moll et al., 2006; Ryan et al., 2002; Malcolm Smith, 2003). Interviews undertaken at the case organisation used two approaches throughout the interview process: (i) asking the planned lines of enquiry within the semi-structured interview guide; and (ii) asking conversational questions in an unbiased manner that also serve the first role. The open-ended nature of interviews allowed the informants to suggest sources offering corroboratory or contrary evidence, and further comment on the subject matter (Yin, 2003).

Data collection through interviews was divided into four phases, aligning with the research design:

1. Obtaining a holistic view – the case organisation has been active in sustainability reporting in the last two decades with an increasing breadth of data and scope. At the beginning of the case study, this phase was designed to obtain a holistic

view on how it engages itself in sustainability issues, through understanding of its vision, leadership and direction on sustainability;

2. Obtaining insights on various stakeholder groups – this phase focused on: (i) the ‘license to operate’ and (ii) the key stakeholders, with the purpose to understand how the case organisation identifies sustainability issues, manages and/or influences its stakeholders;
3. Performance Measurement Systems (PMS) – this stage was a substantive phase designed to obtain details of the development and implementation of PMS. This phase addressed how the company develops performance measures (PM)/key performance indicators (KPI) to capture the data for their strategic decision-making purposes; and how the company develops performance indicators to help progress sustainable development; and
4. Expansion and clarification – by the end of the data collection period, exit interviews were used to report findings to the senior members of staff at the case organisation and allow the informants to expand on or clarify points made.

Semi-structured interviews were conducted with members of staff across *Violet*, ranging from managers to heads of department. Interviewing senior staff members who have management responsibility enabled the researcher to investigate the strategic decision-making process relating to their jobs. Interviewing users of MCS (typically the middle and senior levels of management) who have responsibility to implement and formulate strategy was also important to this study. Also, on-site interviews allow observation during site visits when conducting interviews, which granted the opportunities to deepen the researcher’s understanding of sustainability practices in place.

From December 2015 to March 2017, 29 semi-structured interviews were conducted, of which 22 were full-time internal staff from *Violet* (including one independent consultant). The remaining interviews involved discussions with *Violet*’s customers, the owner of a performance tool, external consultants, a standard setting institution and an organisation providing a sustainability audit service.

As summarised in Appendix VI, there is a total of approximately 32 hours audio-recorded materials from relevant informants within the case organisation and its network, and these were all transcribed verbatim by the researcher.

Workshop at Loughborough University

In addition, a workshop was held in May 2016 at Loughborough University. As summarised in Appendix VII, 14 delegates across different departments and sites from *Violet*, who held management positions within the case organisation, contributed to the workshop. Unlike interviews, workshop is not a prevalent technique used by researchers to collect qualitative data. It involves all participants and enables a greater degree of engagement and helps in setting expectations (Sharma, 2011). Both of the academic supervisors participated as facilitators.

The workshop used a three-stage process: (i) a brief of the workshop – “Sustainability, Stakeholder Management and Performance Measurement”; (ii) two interactive tasks about “Stakeholder Assessment and Management” and “Strategic Performance Measurement”; and (iii) a plenary session. The agenda of the workshop, the position of delegates within *Violet*, and a template of workshop materials are enclosed in Appendix VII.

During the interactive tasks, delegates were invited to work in groups, using the case organisation’s past (and on-going) projects as material to identify key issues as perceived by the managers and discuss their experience about: (1) stakeholders’ social claims and information needs; (2) using performance measures to manage the corporation’s sustainability agenda; and (3) the practical challenges and opportunities on the implementation of the performance measures. Accordingly, rich data was collected through interactive tasks and helped to direct the content of the semi-structured interview guide.

Documentary evidence

Extensive data was also collected from various documentary sources, which included narratives and documentary evidence to provide a useful track of what has happened within *Violet*. In order to provide the background of *Violet* and to demonstrate the

influences on the transition of its parent company – *Magenta* – and the industry on its sustainability agenda, a wide variety documents from Magenta, customers, suppliers and industrial institutions were collected and analysed. A schedule of artefacts is enclosed in Appendix VIII.

4.6.5 Data analysis

Data analysis methods are largely guided by the overarching philosophy and the operationalisation of the research. As this is qualitative research that contains various forms of qualitative data, a suitable form of data analysis is required.

Qualitative data analysis is considerably more complex because of the need to filter, sort and manipulate from often large quantities of data (Fellows & Liu, 2008, p. 27). Accordingly, the aim of qualitative data analysis is to organise, reduce and present the key components (Creswell, 2007; Walliman, 2006). In literature, grounded theory (Glaser & Strauss, 1967) and analytic induction¹⁴ (Bryman, 2012; Bryman & Bell, 2007) are the two main techniques used to analyse qualitative data. As discussed in section 4.2.3, grounded theory can be considered as a research strategy in its own right, whereas analytic induction is useful to seek verified explanations of the theoretical framework and its typology. Therefore, analytic induction is selected to analyse the data of this research. Interview data was first transcribed by the researcher and inputted into the N-VIVO (version 11) software. Then, transcripts were then reviewed and organised in qualitative (narrative) statements in the software. Additionally, workshop data and documentation evidence were either scanned or input (if there is electronic version) in the software database.

Robson (2011) asserts the labelling of elements of interest, incorporation of comments and reflection using constructed (as identified by the theoretical framework) and emerging (as identified during the course of interview) themes, to influence further data collection, generalisation and link back those generalisations to the literature. Accordingly, thematic coding analysis was then used as the primary means of

¹⁴ Analytic induction is a principle that guides qualitative work to focus on meaning through “maintaining a close proximity to data, an emphasis on ordinary behaviour, and attempts to link agency to structure through accounts based on the study of events over time” (Ahrens & Chapman, 2006; Van Maanen, 1998, pp. x-xi).

structuring data (Robson, 2011). Codes were developed to frame into the design of the questions and scenario-based interview guide to ensure a clear and consistent data analysis. Appendix IX presents a data coding list based on the context of research – sustainability; theoretical frameworks employed; and research issues. Nodes and sub-nodes were developed in accordance with Robson's (2011) five phases of thematic coding analysis (p. 476):

1. familiarising yourself with data – data were transcribed and then reviewed by the researcher, initial ideas were noted during the process;
2. generating initial codes – initial codes were developed based on the context and research issues (aims) as well as the theoretical framework, giving similar extracts the same code in a systematic way across the entire data set;
3. identifying themes – collating codes into potential themes, revising the initial codes or themes if necessary.
4. constructing thematic networks – developing a thematic map of the analysis; and
5. integration and interpretation – making comparisons between and description for different aspects of the data, summarising and interpreting the patterns revealed in the data.

Familiarisation with the data was achieved through the data transcription and review processes. Second, the generation of initial codes was driven by the constructed framework of this research (section 3.4 – research opportunities) and the research design for *Violet* (Appendix IV). As a nature of an inductive approach, emerging themes can be identified during the course of data collection (Bryman, 2012), so sub-nodes were developed to reflect the highlighted issues throughout the data collection process, which contribute to tighter specification of research questions.

Codes were then collated into themes such as stakeholders' influences on sustainability strategy and MCS; the different uses of MCS for sustainability-related decision-making; the potentials of using performance measures to address the challenges of sustainability; and using narratives to communicate sustainability information to stakeholders. These themes were developed and revised (refined)

during both the data collection period (because of the emerging themes) and data analysis (because of the researcher's understanding of the topics throughout the research process). Accordingly, these organised aspects of data were integrated and analysed in the findings chapter.

Once all the interviews had been carried out and initially analysed, they were analysed for a second time to ensure the completeness of the data and to capture any emergent issues. Further, exit interviews were conducted to ensure the researcher's understanding about the case organisation and seek clarification where necessary. During these interviews, further examples of the business operation were obtained, allowing the researcher to understand the actual implementation of a programme comparing with the documentation (i.e. data triangulation).

4.7 Case Organisation Overview

The aim of this section is to provide an overview of the case organisation, *Violet*, as well as other related institutions that contributed to the research data. The first part of this section provides a broad view of the structure of *Violet* in order to situate the case organisation in an industrial and global context. Then, the subsequent parts provide a description of *Violet*, its holding company, *Magenta*, and details of the inter-organisational network (external stakeholders).

4.7.1 Overview of structure

The case organisation, *Violet*, from which the data was collected, and the greater network that it forms, is presented in Figure 4.4 below:

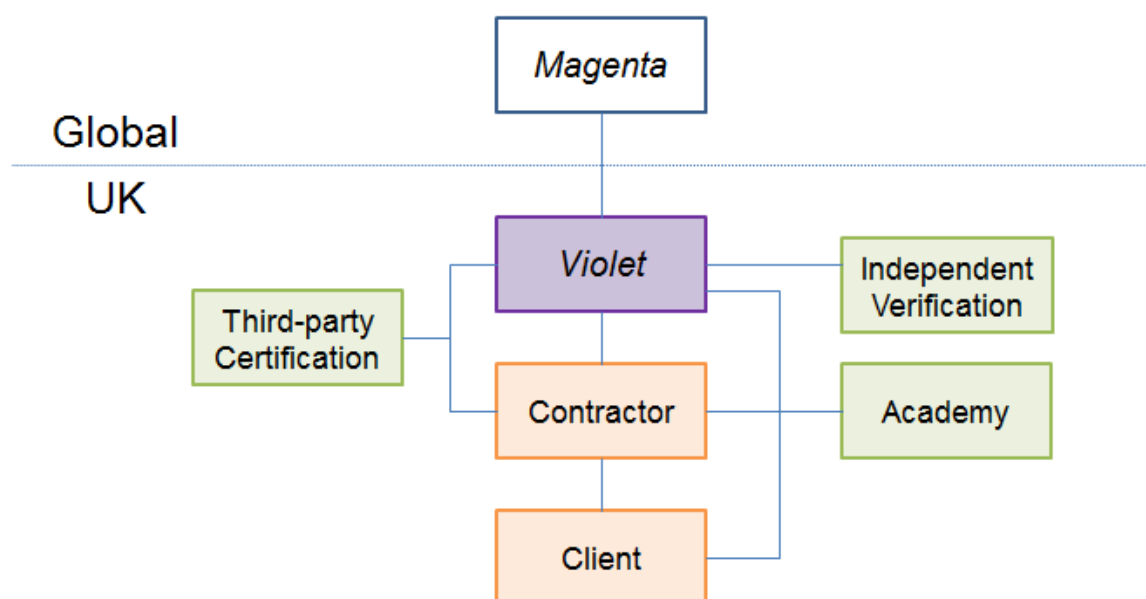


Figure 4.3: Position of the case organisation *Violet* within its context.

The figure reveals *Violet's* network in both global and national (UK) settings. *Magenta* is a global parent company which owns different construction and building material companies, and has over 2000 plants around the world. *Violet*, which is owned by *Magenta*, is the sole business operation in the UK.

In the remaining section, information about *Violet* and its associated network will be unpacked. It is not the purpose of this study to deliberately describe every element of the associated networks. Therefore, the next section starts with describing the context setting of *Violet*.

4.7.2 The case organisation – *Violet*

The case organisation for this research study, *Violet*, is a large supplier and manufacturer of materials in the construction industry in the UK and European area. In the UK, *Violet* is one of the key market players within the construction (and product) industry, offering a diverse range of building materials.

Violet employs over 4000 employees on more than 300 sites in the UK (2018). Although it is not currently listed in the UK, the corporate governance¹⁵, the board structure and executive committee follow the traditional structure of listed companies. The board at *Violet* oversees performance and ensures the principles of good corporate governance are adhered to at organisational level. The team consists of a Chairman, Chief Executive Officer (CEO) and Chief Financial Officer (CFO), who act as a bridge to communicate issues between *Violet* and its parent company. The executive committee is responsible for strategy formation and implementation, performance measurement and improvement, and capital projects. The roles of the executive committee are divided into business activities according to product lines and key infrastructural services.

It is worth highlighting that the leadership structure has changed to some extent in the past ten years because of changes of the parent company and a branding consolidation exercise. For example, six months before the start of data collection activities at *Violet*, the CEO and Director of Health and Safety had changed, and a new position of Head of Sustainability had been established (previously the function of sustainability was managed by the Head of Communications and Sustainability). However, during the data collection period, the leadership structure remained unchanged and was relatively stable.

The reason for choosing *Violet* is due to their unique and extensive challenges in respect of sustainability. On one hand, the manufacture of construction material consumes extensive natural resources – “*We consume natural resources. We dig them out of the ground and we consume them to process them*” [interview 7], “*...digs above the ground, crushes it and makes it lay on the ground*” [interview 10], which make it more sensitive to, and responsible for, resource scarcity and other sustainability issues. On the other hand, an increasing demand for urbanisation is recognised by *Violet* because of population growth, which in turn indicates a need for more construction work. Such tensions force *Violet* to respond to the sustainability requirement, invest in innovation (both product and process) and offer value added

¹⁵ Here, corporate governance refers to the system of rules, practices and processes in place to manage the interests of different stakeholders of the company.

products. Therefore, *Violet* offers a good context for this study to explore the research questions mentioned in the previous chapter.

4.7.3 The parent company – *Magenta*

Magenta is the holding company of *Violet*. It employs over 90,000 employees from a global landscape. It is arguably recognised as one of the biggest companies in the global construction materials industry. Accordingly, *Magenta* faces similar sustainability-related challenges and responsibility. *Magenta* has a rich history of over one hundred years in the construction and building industry, and has ambitions with specific long-term as well as short-term plans for the group companies to achieve its overall sustainability agenda.

In terms of strategy, *Magenta* views its commitment to sustainability as an opportunity, responsibility and differentiating factor. The sustainability drivers are embedded in the overall strategy roadmap (Appendix I), and similar practice has been found in *Violet* (detail in chapter 6). The guidelines developed by the parent company are applicable to all companies in the group.

As *Violet* has its headquarters in the UK, which is remote from *Magenta*, the opportunity for the researcher to visit *Magenta*'s head office to conduct observation and interviews was limited. Also, according to the UK interviewees, communication between it and the parent company is seldom conducted face-to-face, except for the most senior members from *Violet*. Rather, the communication is made indirectly through training, guidelines, email bulletins and internal magazines. This imposes a constraint in gathering views from *Magenta*'s employees. This limitation and the ways to mitigate it are further discussed in section 7.5.

4.7.4 Clients and customers

As a major construction materials supplier, *Violet* has business relationships with various 'clients', who are the owners of big infrastructure projects; while contractors are the first tier developers (which can also be formed by groups/consortia) who have a contractual relationship that directly deals with clients.

Clients and customers are perceived by the interviewees as stakeholders with direct impact on *Violet's* sustainability strategy (details are discussed in chapter 6.2).

4.7.5 Industrial partners

The construction supply industry plays an essential role in developing sustainable cities and communities to ensure human settlements are inclusive, safe and resilient, which in turn contributes to the Sustainable Development Goals (SDGs) (United Nations Development Programme, 2016).

Several industrial partners are identified in this study (green bubbles in Figure 4.3), which have influence on *Violet's* sustainability strategy. Three types of industrial partners are identified – *Academy* (facilitating sustainability knowledge among the sector), certification companies (i.e. ISO, industrial standards companies), and independent verification (i.e. who provide independent sustainability data verification services). All of these were included in the data collection phase.

4.8 Summary

This chapter discusses a range of research approaches, philosophic assumptions, research strategies and methods. In line with the Accounting-for-Sustainability research domain, this research assumes reality is socially constructed, which allows a focus on subjective experiences and individuals' interpretations of these subjective experiences (*ontological assumption*). This research takes an interpretivist stance to explore the meanings and norms structuring sustainability practices, in which practices and knowledge are re-created by actors in everyday encounters in the social world (*epistemological assumption*). Justifications are made to explain how the adopted qualitative strategy and case study methods are considered appropriate to the research aims and questions (Chapter 1 and section 3.4). Reflections of the ethical considerations and how the data was analysed through analytic induction are discussed.

The research process that was undertaken is presented in section 4.6 which identifies the sources of qualitative data along with the interpretive nature of analysis, to provide a rich data set, which is congruent with the intention of using case study method. In order to provide a credible interpretation of the data, the adopted data analysis technique follows Robson's (2011) five phases coding analysis. The data structure was reviewed and transcripts revisited to ensure valid and sufficient empirical support can be used to develop different themes, and frame the findings, which follow in Chapter 5.

5. Findings

5.1 Introduction

By engaging with a case organisation, '*Violet*' (the unit of analysis for this research), this chapter aims to provide evidence and report findings to reveal the use of Stakeholder Theory to augment Simons' Levers of Control (LOC) framework (Simons, 1995), and to investigate how management control systems (MCS) are mobilised for sustainability-related strategic decision-making.

This chapter starts with an overview of sustainability practices in the construction products industry to illustrate why sustainability needs to be managed, and how the sustainability agenda is developing within the industry. Through establishing the relationship between sustainability and the construction products industry in section 5.2, the chapter provides evidence of how *Violet* is held responsible for its sustainability practice.

Previous studies suggested the use of LOC to manage corporate sustainability (Arjaliès & Mundy, 2013; Gond et al., 2012; Moon et al., 2011; Rodrigue et al., 2013), and these have been incorporated to develop a clear theoretical position. Given the inductive and interpretive nature of this study, data analysis revealed the influences of extant LOC knowledge by investigating how stakeholders influence organisational sustainability strategy. This research argues that Simons' Levers of Control framework can be augmented to incorporate greater depth on the role of interactions between managers and stakeholders in the implementation of (sustainability) management control systems. The following sections are structured as follows:

Firstly, section 5.3 presents findings to identify how *Violet* uses MCS to address stakeholders' sustainability requirements for stakeholder management (RO1). The section put forward the concept of legitimacy and accountability to reveal the interplay between *Violet* and its stakeholders on their uses of MCS for stakeholder relationship management. Secondly, section 5.4 provides evidences to determine the influences of the external use of MCS on *Violet's* sustainability strategy (RO2). Findings reveal that key stakeholders influence *Violet's* sustainability strategy via (i) the grant of a

'license to operate'; (ii) awarding a contract (revenue opportunity), and (iii) co-development of performance toolkit. Finally, section 5.5 introduces findings on the use of MCS by *Violet's* management to manage sustainability-related strategic decision-making (RO3).

5.2 Sustainability in the Construction Products Industry

The value of researching sustainability practice in a business setting relies on whether or not the case organisation as well as its industry has a desire or responsibility to respond to sustainability activities. For sustainability to become a corporate practice, *Violet* must consider whether (a) sustainability generates additional value to the business, or (b) *Violet* is held accountable to respond to those practices. The former suggests *Violet* is required to consider the impacts and values of sustainability by either differentiating itself from the competitors or achieving greater efficiency in its business operations. The latter implies a series of socially grounded relationships between the organisation and its stakeholders, with an emphasis on responsibilities (Gray et al., 1996).

This study finds that the tension between the needs for society to develop and the limited supply of natural resources makes the construction product industry a good case to research sustainability:

“Challenges for us, when you think [about] population growth, almost 66% of those are going to live in [a] city, so you think you are a material provider, that's great. We need to build houses, we need to make growth. But the problem is that, at the same time, it is increasing the need for natural resources while the ground is decreasing. So, [it is] to meet the needs of the growing demand with a decreasing supply.”

(Head of Sustainability, 2016)

The construction supply industry plays an essential role in developing sustainable cities and communities to ensure human settlements are inclusive, safe and resilient,

which in turn contributes to the Sustainable Development Goals (SDGs) (United Nations Development Programme, 2016).

In addition to the above normative approach, providing prescriptions of what *Violet* should do, the nature of the industry puts *Violet's* operations under the spotlight. The construction product industry is based on traditional manufacturing production which is closely associated with natural resources processing, and is often considered as having a “bad” influence on natural resources:

“I think people are keener to understand what our business is doing for sustainability. People are aware that we are a natural resources company. We consume natural resources. We dig them out of the ground and we consume them to process them.”

(Vice President Finance, 2016)

“I think for too long businesses have taken and not given back. And I think in this day and age [...] we're getting much more critical of the businesses that don't act ethically. So, I think it's a really positive thing that as a big business being forced to, we want to care for the environment that we're in. You know we are under no illusions that we take rock from the ground and sometimes it can be a bit messy and it can have an impact on the local environment.”

(Head of Communication, 2016)

These two quotes demonstrate that *Violet's* day-to-day business is perceived by its managers as having an adverse environmental impact, with the connection between its core activities and sustainability made quite explicit. Along with an increased awareness of the public, *Violet* needs to take a managerial (positive) approach to manage stakeholder relationships to maintain the interests of the organisation.

Sustainability becomes an essential practice in *Violet*, and stakeholder theory can be helpful in understanding why it is important to consider sustainability and how it should

be managed for Violet. The next section introduces the key stakeholders for Violet and provides evidence of how stakeholders influence its sustainability strategy

5.3 Organisational Uses of MCS in Addressing Stakeholders' Sustainability Requirements

The first research objective in this study is to identify how the case organisation uses MCS to address stakeholders' sustainability requirements for stakeholder management. This study identifies a need to communicate sustainability information to stakeholders to visualise the values of sustainability:

“That's really important if we can't report on it appropriately, then we are not able to communicate it effectively. If you don't know what you are doing, why are you doing it? You have to get a report to take people with us. For me, communication is really important to visualise what you are reporting on, [which] is very fundamental to the ability to deliver [sustainability].”

(Certification Company – Director of Sustainable Products, 2016)

The above quote highlights the importance of the ability to communicate effectively to stakeholders when delivering sustainability performance, within which reporting is a fundamental part of the process. This section discusses the ways in which *Violet* translates its sustainability information to stakeholders. Although the use of financial information is predominant in conventional financial statements, information for sustainability reporting purposes embraces a greater variety of performance information, including quantitative measures (i.e. financial and non-financial information) as well as qualitative measures (i.e. narratives and case studies).

Accordingly, the sub-sections below present findings about the uses of MCS, according to Simons' four levers of control, by *Violet's* managers in addressing stakeholders' sustainability requirements.

5.3.1 Belief systems

The following sub-sections present findings that relate to *Violet*'s mobilisation of the belief levers to control the core values, guide and inspire a creative process of exploring new opportunities in order to provide a coherent strategic agenda. First, belief systems play an essential role when communicating a sustainability strategy at *Violet* and have potential to drive a cultural change, toward sustainability. Second,

5.3.1.1 Communicating a strategy and driving a cultural change

Beginning with the use of **belief systems** defines the basic values, purpose and direction of a sustainability strategy. These systems set the level of desired performance, allowing individuals to relate themselves to a strategy. This study finds that the ability of individuals to contribute and relate themselves to sustainability issues is vital for the implementation of sustainability strategy. Because of the very strong culture of health and safety embedded in *Violet*, this study finds rich evidence to demonstrate how the culture of *Violet* influences implementation of sustainability strategy:

“...every person in the business can contribute to health and safety. So, everyone has a role to play. Everyone needs to be managing their own health and safety, and health and safety around them. When you talk about something like carbon as an example, it's much more difficult to relate Violet's carbon use to an individual, to me personally. But from a safety perspective, it is very easy to say, if I am safer, Violet is safer. So, I think that's one sort of angle.

And I think health and safety is different to the rest because the consequences are different. If we don't deliver well on health and safety, the worst-case scenario is it leads to a fatality. We can actually lose an employee and a family lose that individual from that family as a result of working for Violet. When you think about carbon, the worst possible scenario is Violet using a bit more carbon. I don't mean to devalue the whole carbon agenda but actually, on individual basis, the consequence

could be much more [when it comes down to safety rather than energy or carbon].”

(Senior Business Development Manager, 2016)

The above quote highlights two factors that affect individuals' commitment to a strategy. Firstly, an individual's ability to contribute is important during the implementation of a strategy. Regarding health and safety, it is clear that every employee knows how they can contribute to the corporate “zero-harm” objective. Each individual has the ability to control and take part in the strategy while having a clear target. With the clear definition and guidance provided by *Violet's* Health and Safety policy and Sustainability Policy, a momentum is created to energise *Violet* employee to actively participate and measure their Health and Safety performances. “*Number of incidents*” measures, for example fatalities, total injury frequency rate and lost time injury, are quantifiable non-financial measures that are used to communicate progress on health and safety targets. This is an example to demonstrate how non-financial measures are used to communicate and translate information in a strong culture. Secondly, the quote highlights the importance of being able to visualise the consequences (values) of an issue to individuals, to encourage them to contribute to the corporate target. Then, *Violet* links its non-financial MCS to evaluation and reward. For example, *Violet's* employees are entitled to a bonus if there are no fatalities and a low injury frequency rate is achieved. Here, the use of non-financial measures is transformed into a financial incentive/motive (i.e. bonus) that allows users to better communicate the value of the health and safety strategy.

Through the investigation of the relationship between culture and a sustainability strategy, this study finds two cultural components that influence the implementation of sustainability strategy: (i) an individual's ability to contribute, for example: “*indicators, goals or targets have to be set according to your contribution to the company. The middle management, you need to have indicators not copied from the [top], but specific to what their contribution should achieve. Otherwise, they become meaningless and workers become demotivated. If you give me a KPI or target, firstly I can't deliver, secondly, I can't understand*” (In-house Independent Consultant, 2016).; and (ii) the communication of values, for example: “*a lot of the time, the leaders don't translate their objectives further down to the lower levels of management. If you tell me as a*

cleaner that the cleaner of the window, the perception of the client will improve when they enter my building and that would subsequently influence someone. You have that visibility” (In-house Independent Consultant, 2016).

After identifying the two components that form a strong sustainability culture, this study shows that KPIs have the potential to drive cultural change:

“I think we need the numbers on the non-financial [measures]. Imagine [if] I am only looking at financial measures, but actually there is massive information around. We have done a big KPI project and that has been going on for a year in my department and I'm part of that. [The project] is going to impact the culture [of the organisation]. Because you provide information, make people find information and incentivise [people to] make sure that there are no issues with that information. Then, you change the culture because people start to look and focus on the KPIs.”

(Head of Quality and Business Improvement, 2016)

The above quote recognises the value of non-financial information and suggests that key performance indicators (KPI) motivate people to look around the operating environment to find information, incentivises them to explore opportunities, and ultimately influences the culture of the company. This is an example of the mobilisation of **belief systems** to energise workforce for opportunity-seeking behaviour.

However, at the time of the study, informants thought the term KPI might not be appropriate because the connections between KPI and the organisational goals were not clear. During *Violet*'s KPI development process, instead of commensurating through monetary measurement, *Violet* provides narratives to the non-financial measures¹⁶ to comment against its targets and commitments, and provide further information to explain the causes of any variance. By using narrative information, *Violet* then details sustainability performance in its sustainability reports to communicate with the audience. Those non-financial measures then have

¹⁶ The terms “performance metrics” and “performance measures” are used interchangeably by the informants from the KPI development team to represent raw data derived from the data systems, but this study recognises the differences between them in accordance with Neely, Adams, and Kennerley (2002).

information content to help facilitate the users' decision-making process. "Performance against targets" was conducted to provide sustainability information which requires quantifiable data. Then, comments are made from the financial and non-financial measures to show the percentage of change followed by the narrative information.

Most sustainability information is derived from environmental measures such as carbon, water, energy and biodiversity, whereas sustainability information to communicate social sustainability is limited.

"Key performance indicators help us to understand the bigger picture for achieving excellence not only within our industry, but also within our business. They serve as tools for measuring our impact across a broad range of issues whilst also serving as monitoring data to help continual improvement."

(Violet's Sustainability Report, 2006)

Using performance measure to help sustainability-related decision-making consists of two important elements: (i) translate the strategic objectives down to the appropriate level of operation that allows people to make sense of objectives, and (ii) connecting an individual's contribution with the strategic objective through performance measurement. It allows *Violet* to develop awareness of an issue and make it relevant to an individual's job. Eventually, *Violet* expects the use of non-financial measures to have an influence on its culture:

"Culturally, of course, it takes a long journey for people to get used to operating in an environment where business decisions are based on numbers, understanding of the numbers, and thinking in terms of information at the level of risks that you are comfortable to take in making decisions. So, it is a culture generally for leaders to get to the point where they are comfortable and happy to operate, understand information and do something with it."

(In-house Independent Consultant, 2016)

This quote depicts how *Violet*'s attempt to manage the business by numbers has led to a change in the culture of measurement and decision-making, where quantitative data is used to generate information; and narratives to aid decision-making.

5.3.1.2 Government – An application for a planning permission

By definition, belief systems have a role to define, communicate and reinforce the basic values of the organisation. This study finds that the relevant legal and policy frameworks have similar effects on *Violet* in two ways. First, managers believe that these legal frameworks guide the decision-making process of the local council when deciding whether planning permission should be granted. Therefore, when making their application as a supplier to the public sector, *Violet* is required to demonstrate its application is supports sustainable development:

“So, National Planning Policy Framework (NPPF) is a thread of sustainability that runs through the planning policy. All the way through, if you read the NPPF, sustainability is written, all the way through it, and in fact there is a presumption in favour of sustainable development. And sustainability is defined in different ways – three different tiers [i.e. environmental, social and economic] in the national grid and document.”

(Senior Estate Manager, 2016)

Violet's managers perceive that the government uses NPPF as a tool to define and communicate expectations on sustainable development to the industry. Therefore, managers perceive that NPPF is used by government to align understanding and to define the scope of sustainability, i.e. a **belief use** of control systems. Accordingly, these legal and policy frameworks are used to mitigate the problem of the ambiguous concept of sustainability (Gray, 2010). For example, NPPF outlines twelve core planning principles that generally aim to promote sustainability and set requirements to help businesses meet the development needs of a local area. In an application for a proposal of a quarry extension, *Violet* gives an example of how it perceives the influences from the NPPF:

“More recently, the NPPF came into force in March 2012. This introduced the principle of a presumption in favour of sustainable development as a golden thread running through the planning system. Where a proposal satisfied the requirement of NPPF, i.e. being sustainable and in accordance with the development plan, planning authorities are directed to grant planning permission without delay unless material considerations indicate otherwise.”

(Violet’s Proposal for Quarry Extension, 2013)

“If you are talking about planning permission, that tends to be a requirement driven by authority. So, for example, [a mainline station in London,] that’s where a planning authority said in return to giving you planning permission to build this, you have to deliver certain things including a social values outcome generally. Now, at this point, it is sensible for the contractor and developer to agree to it; it is then very sensible then to include that in the tender requirement in their contract with their supply chain to make sure their supply chain helps them to deliver on their planning requirement.

(Academy’s Consultant – Social Values, 2016)

The above quotes provide evidence of the specific influences arising from government policies, as perceived by Violet and other industrial actors. In Violet’s application proposal, NPPF was cited frequently to demonstrate compliance with relevant requirements as well as to persuade government to grant a license to operate.

“Well, NPPF will give great weight of a lot of things, a great weight to the valued minerals in the economy, it gives great weight to, for example, preserving cultural heritage, listed buildings that kind of thing. It gives great weight to conserving biodiversity. The art of planning is to take all these issues, balancing against one another, and say which one is the most important. If the need for a mineral is more important than something which might suffer as a result, like a cultured heritage for

example, or the habitats of some protected species. If the needs, the demand for that mineral outweigh it, you will get planning permission.”

(Senior Estate Manager, 2016)

While the use of legal and policy frameworks help to communicate the expectation and align understanding on sustainability, the act of “balance” from the government’s point of view could be difficult for *Violet’s* managers to fully understand:

“We applied for planning permission for wind turbines at the big quarry in [South of England]... It would have generated about 40% of the electricity consumption for our quarry. You know, [that would have been really good] in terms of sustainability... but it was refused by the district council. We appealed it, so we went to appeal and we just submitted all our evidence to the appeal hearing about two months before the actual enquiry... [The energy secretary] said that the local communities don't want these renewable schemes. They won't be permitted.”

(Senior Estate Manager, 2016)

The above quote reflects that the “presumption in favour of sustainable development”, stated in NPPF as a golden thread when granting project applications, can be outweighed by other considerations. In this quote, approval from the community is important when the government is making decisions in developing their local plans. Therefore, the concept of a “license to operate” should not be considered simply in a legal or political context, as it can also address the social claims of the society – this is somewhat closer to the notion of “social license” underpinned in stakeholder theory (Freeman, 1984, c/f Parsons et al., 2014). For example, the Head of Sustainability (HOS) recognises a more ethical approach towards sustainability practice in terms of reputation and credibility in society:

“The license to operate – that’s just the things that you can't afford to get wrong. You absolutely need to focus on health, safety, environmental facts and issues. If you get them wrong, you lose your trust and credibility. And that means any stakeholders will view us as

not being credible. And society grants a company their license to operate. You know it is not actually a piece of paper, it is just in terms of your reputation. If you get those things right, then you can talk a little bit more about value-added. And then for you to talk about the differentiated products you could offer for specific customers and partners. We have to demonstrate our approach to both of them.”

(Head of Sustainability, 2016)

From the above quote, “license to operate” is perceived as an intangible concept considering the approval by the society, which is different (but not contradict) to the tangible “license operate” introduced earlier in this section (p. 157). Accordingly, the term “license to operate” includes both tangible-legal document and intangible-social license throughout the rest of the thesis. Besides, the HOS views actions in a hierarchical form, which sustainability issues are related to *Violet*’s trust and credibility in the society. The “license to operate” is interpreted by the HOS as the approval that *Violet* has to obtain from external stakeholders before taking operating actions such as their marketing strategy. In order words, sustainability issues are translated through the “license to operate” that legitimises *Violet*’s activities and facilitates its continuity.

5.3.1.3 Industrial partners and supply chain – Consolidating the infrastructure

The *Academy*, which is funded by various industrial partners for training and education purposes, helps to facilitate the learning process on emerging sustainability issues. This allows companies to share best practice across the supply chain acts as a facilitator to connect *Violet* with other industrial partners and provides training and education for partners’ supply chains. Through engaging with the *Academy*, *Violet* can better implement its sustainability strategy while aligning with its internal long-term objectives:

“Probably because of the Modern Slavery Act last year, I think that has great opportunity to get more people. Part of that can be how you are working around ethical labour practice in your organisation and supply chain... And actually, you should handle your suppliers through more

collaborative agreements and more long-term visions. [It] would be more stable for Violet to identify suppliers, which actually helps you to outperform the market, outperform your competitors and hopefully deliver stronger returns to your shareholders.”

(Head of External Affairs/CEO Assistant, 2016)

The Head of External Affairs, who was the previous Head of Sustainability, uses modern slavery as an example to highlight the importance to work collaboratively with the supply chain. He suggests that a collaborative approach enables *Violet* to outperform the market and achieve long-term financial goals.

This section provides an example of how *Violet* works with other industrial partners, including clients, customers and other first tier suppliers, to consolidate the “infrastructure” (i.e. the **belief systems**) of sustainability along the supply chain. Through funding the *Academy*, it provides a platform for the partners to align their understanding on sustainability and define the expectations on specific sustainability issues. Then, the *Academy* puts forward the expectation and knowledge to the supply chain in using workshops and online training. This study finds the collaborative relationship between *Violet* and the *Academy* helps *Violet* to meet sustainability targets requested by its clients and customers, which in turn supports its long-term strategic objectives, i.e. customer focus, finance success, and maintaining a leading position in the market.

Further, this study suggests that the collaborative approach is particularly helpful to raise awareness about emerging sustainability issues, i.e. modern slavery. Therefore, the *Academy* has the features of the positive control systems, as depicted by Simons (1995)¹⁷. Firstly, it helps to define sustainability issues, develop the industrial sustainability agenda, and ultimately contribute to global sustainability targets. Training and education provided by the *Academy* are mobilised by users, *Violet* as well as other partners, as a **belief** use of MCS. For example, *Violet* uses the online

¹⁷ This study subscribes to the definition provided by Knight (1992) on institutions. Specifically, these are defined as systems of established set of social rules that structure social interactions. The *Academy* thus can be regarded as a set of systems.

training materials to educate its supply chain and communicate its level of desired performance.

5.3.2 Boundary systems

The deployment of boundary systems relates to risk avoidance. These systems set limits on opportunity seeking behaviours (Simons, 1995). This study identifies government requirements and legislation shape the context of *Violet's* sustainability strategy, section 5.4.2 provides a discussion of the extent of influences from these governmental uses of MCS. This sub-section discuss how *Violet* deploy boundary systems in addressing stakeholders' requirement. The below two parts introduce findings relate to the use of accreditation and data verification services and the use of MCS in addressing contract obligations with clients and customers.

5.3.2.1 Deployment of boundary systems – Accreditation and data verification

Compliance with the laws and standards of government or external bodies may improve an organisation's legitimacy in the public eye or it may increase the organisation's centrality in a network (Boje & Whetten, 1981). From the documentary evidence, data suggests *Violet* takes a pro-active approach to assure the quality of its sustainability data, and to maintain an effective and efficient management system. On one hand, *Violet* has a team of internal auditors to ensure internal management systems are providing valid and confidential information, by conducting regular self-assessments for all operating sites (Director of Health and Safety, 2016). The aims of the internal audit are to ensure the validity of the data generated through the information system for decision-making, and to support central services, for example: the sustainability, and health and safety functions, to comply with regulations and acquire external accreditation (Management System Manager, 2016). On the other hand, *Violet* acquires both international and industrial accreditation and conducts external audit and data verification:

"I suppose ISO 14001 does verify that you're legally compliant with your licence to operate [about] the planning permission."

(Senior Estate Manager, 2016)

The above quotes from *Violet's* staff reveal the benefits of acquiring accreditation and having an external audit, as a management control process, (a) to gain legitimacy and license to operate, and (b) to ensure the quality of strategy implementation through maintaining effective information systems.

There are also industrial (external) factors influencing *Violet's* adoption of accreditation and verification:

“The big driver for these standards is tender's pre-qualification. You've got to have ISO 9001 and 14001; they are the tickets.”

(Certification Company – Director of Sustainable Products, 2016)

“It is a very big topic that we speak to our client, it is validation and verification. It is very, very important. As soon as you start measuring things, you need to be confident that the information is robust, and you can trust them. What we do with our client is if they are reporting to the [performance dashboard] tool, we offer the service of verification. We actually go to the supply chain, we don't call it audit because it is not necessarily an audit, just a verification that the data provided is accurate... We offer the verification services and have a look at two things: one is the system they have set up to collect and monitor the data [about] what internal process they have in place; the second one is kind of can you show me where this comes from, can I guarantee as much as what you've imported into the tool? It is the data checking.”

(External Consultant – Sustainability Tools, 2016)

To some extent, accreditation and data verification can be regarded as the control mechanism imposed by third parties, including the certification company, the environmental consultancy, and specialists in sustainability, to monitor the implementation and quality of *Violet's* internal MCS. For example, *Violet's* sustainability reports include an assurance statement from an environmental consultancy company, which declares a fair and balanced representation of those reports. In forming their opinion, there are quotes of *Violet's* achievements in terms of

international and industrial accreditation, as well as comments from sustainability specialists in certain areas.

Although accreditation and verification by the industrial partners do not have a direct impact on *Violet's* sustainability strategy, they do influence the infrastructure, i.e. the management systems that maintain the sustainability data. The Director of the Certification Company (2016) explains the influence of accreditation on the company's strategic drivers:

“Those standards don't deliver performance. They give you a framework for managing issues in the business, which if you implement it correctly, you will deliver performance... [For example] ISO 9001 is very clear that all it does is quality assurance. It is [about the] consistency issue, because all the system does is make sure you are producing something to a consistent level. It could be rubbish, but it is still consistent. It doesn't mean to say it is the best product on the market. But clearly there are mechanisms in that standard that focus on continuous improvement.”

The informant further provides an example to describe the benefits of obtaining a standard/certificate, at an industrial level:

“We helped [the supply chain] to achieve ISO 14001, we continue to help them to maintain it. And that's clearly cost them some money in terms of managing a system. Their MD said to us, I would save some money because [when] I walk around my factory now it is a tidy and more efficient place. So, we've clearly maintained efficiency, but he said the real things are in the last two years, I have won 50 contracts because I have ISO 14001. So, I increased my sales, 50 contracts I wouldn't have won if I didn't have ISO 14001 in place. So, everybody sort of focuses on the resource efficiency saving, but actually you get to a point where there are returns. Think of it as an investment of £3000 to [Name of the Company] and my team to implement Environmental Management Systems (EMS), and I've won 50 contracts that I wouldn't

have got if I had no EMS in place. So, the driver there is quite clear. It is winning more work. It is helping me to grow business.”

(External Sustainability Auditing – Managing Director, 2017)

Here, the use of accreditation to reflect the quality of the company's EMS gives confidence to clients and customers about the sustainability performance of suppliers. The use of accreditation provided by the industrial partners has an indirect influence on *Violet's* sustainability strategy. Accreditation and data verification are fundamental to ensure the integrity of data used in all other control systems, as internal control systems (Simons, 1995, p. 181). Although the internal control systems are not among levers used by managers to control strategy, they ensure the reliability of records and prevent inefficiency in transaction processing and flawed decisions based on inaccurate data (Simons, 1995).

It is shown in *Violet's* documentation that the company is taking a multi-stakeholder approach in accreditation and data validation. When preparing sustainability reports and environmental product declarations, acquiring external accreditation and verification are still undertaken on a voluntary basis. This study suggests the accreditation and verification services provided by the industrial partners have a direct effect on *Violet's* MCS and an indirect effect on its sustainability strategy.

5.3.2.2 Clients and customers – Addressing the contractual obligations

“We use the statistics from these [sustainability] reports to answer the sustainability part of some of the questionnaires. We do get asked for waste and energy, numbers of items taking to landfill or the waste to landfill, or we might be asked about a lot of different environmental and sustainable questions. These [sustainability] reports, most of those have actual data behind them.”

(Submission Manager – Contracting, 2017)

This study suggests the use of Pre-Qualification Questionnaire (PQQ) allows clients to define the scope of sustainability drivers before the contract starts, allowing the supply chain to determine how far through their supply chain to collect data and

information. *Violet* has taken actions corresponding to the PQQ, for example, clients are often concerned about their local geographic area and would define the area which is of interest to them. *Violet* uses PQQ to work out what geographic area their stakeholders are interested in and focus effort to gather information in that area. By understanding a client's PQQ, it helps *Violet's* managers to define the direction and scope, and purpose of the sustainability-related data collecting and reporting activities. These advantages of using PQQ to manage client-customer relationship are consistent with the features of the **boundary** lever of control system.

5.3.3 Diagnostic control systems

Consistent with Simons (1995), findings suggest diagnostic control systems are used to constraint desirable behaviours. However, when deploying these systems to manage sustainability performances, managers perceive challenge in effectively measuring sustainability activities. This challenges a key feature that underpin diagnostic control system. Accordingly, the below sub-section introduces the challenge in sustainability measurement, including performance that is subjective, intangible, difficult to quantify and lack of measurement base.

5.3.3.1 Challenges in measuring sustainability performances

This study finds the mobilisation of the diagnostic control systems are prevalent when managing sustainability strategy at *Violet*. Managers perceive these systems are the essential systems for them to monitor and measure their progress:

“It's back to the old attitude, if you don't measure, you can't manage it. Whether it is soft data or hard tonnes of waste type data, the same principle still applies. And that's the problem with modern slavery at the moment, and child labour. They haven't got the data to know whether there is an issue or not. Until you start to gather the data, then you just don't know. So, I think in terms of performance measurement, you've got to have that sort of system.”

(External Sustainability Auditing – Managing Director, 2017)

“If we don't measure things, how do we know [whether or not] we have improved? If we don't measure things, we can't set goals and objectives. And we only do things, but it's quite nice to measure them and celebrate our success. Not the negative things but actually celebrate the success. And that is important that we need to celebrate the success.”

(Director of Health and Safety, 2016)

These opening quotes highlight the importance of performance measurement, which is a well-established management philosophy connecting actual outcomes with goals and objectives. They provide evidence to reveal Violet's management approach about performance measurement, which aligns with Simons' view on management control systems (MCS), the diagnostic control systems per se, in terms of strategic implementation.

A quote from the Management System Manager reveals the role of performance measures in the communication process with stakeholders; these have to be managed according to external perceptions:

“Having a better relationship with [our] stakeholders and being more open [to] communicate with them and make them understand what the challenges we have [on measuring sustainability]. When we put planning permissions and things like that, I would not say this is less resistance, but it's a more informed choice people would have when deciding planning permission” (2016).

Violet's sustainability reports show performance against targets by “topics”, according to the areas of interest in its sustainability agenda. This reflects Violet's intention to manage sustainability by topics, which is sensible as the evolving nature of sustainability means that it includes a variety of issues. The aspects in social consideration per se are largely driven by the external environmental, such as changes in legislation (section 5.5.2). Therefore, such “topics” may vary from year to year (intra-organisation), and from company to company (inter-organisation):

“Now with the Modern Slavery Act, we see [an] opportunity to push up the agenda of the social aspect of what the organisation is doing. Also, when you look at the construction industry in the broader holistic sense of social performance, we have made huge improvements throughout health and safety. A lot of companies now thankfully haven’t killed any people in a number of years. Their lost time injury frequency rate now is really, really low, the number of incidents is really low. [There is] lots of reporting, a lot of awareness being shifted around health and safety. So now, lots of companies including Violet have got health and safety departments, starting to talk about mental health and well-being.”

(Certification Company – Director of Sustainable Products, 2016)

The above quote provides evidence of how a change in the law shapes *Violet’s* sustainability agenda. Further, it suggests that *Violet* intends to relate social performance to its health and safety performance, probably because this is an area of strength and its performance can be easily measured and presented through ratios and indicators. Yet, according to the informant, who was the previous Head of Sustainability at *Violet*, social performance other than corporate (financial) philanthropy, such as community outreach and non-financial investment in community (e.g. material donation and voluntary labour), are under-reported. Anecdotal evidence of time and effort are not recorded and therefore not reported. The informant suggests a potential cause of this phenomenon:

“I think people are trying to measure tonnes of wastes, tonnes of carbon [and] environmental incidents. [They] are quite straightforward, isn’t it? When you get into social characteristics, how could an organisation say we have these HR practices, HR systems internally? It is more accepted that we will improve. We will get better over time, and actually as you understand more, will do more. And that the journey aspect gives a more credible one to build [a case of] social dimension.”

(Certification Company – Director of Sustainable Products, 2016)

Likewise, the Head of Learning and Development regards the measurability of performance/results as either tangible or intangible; the informant suggests that tangible results, such as number of qualifications, number of people that have been on training courses and number of training hours, are tangible results that can be recorded and reported easily; whereas how people have developed, or changed behaviour as a result of training are more difficult, intangible things to measure.

“I think it is difficult to measure everything. Yes, there should be a level of measure because a lot of things are subjective and is very difficult when your opinion versus my opinion of making an action. How do you move forward on that? So, do we need a benchmark, or do we need something to say – this is what I want to achieve, [and] this is the reason I want to go there. Then, it could be a good thing because it gives us a direction, a sense of achievement.”

(Senior Management Accountant, 2016)

While acknowledging the challenge in measuring everything, including performance that is subjective, intangible, difficult to quantify and lack of measurement base, the above quote places an emphasis on the intention to relate/narrate a performance to the motive of action (i.e. why go there?), direction of a strategy (i.e. where to go?), achievement of a strategy (i.e. how is it going?) through using benchmarking (as well as other accounting techniques to be introduced later in this section, and discussed in section 6.3).

5.3.4 Interactive control systems

In responding to the rapid changing competitive dynamics and the context of sustainability, using interactive control systems to encourage the search of relevant information is critical to control strategic uncertainties. This sub-section introduces findings relate to *Violet's* use of MCS to stimulate a constructive conversation for searching activities and create information sharing networks with clients and customers (section 5.3.4.1) and industrial partners (section 5.3.4.2).

5.3.4.1 Clients and Customers – Starting a conversation

“Actually, [the clients] use a sustainability tool to manage that performance. Their suppliers and sub-contractors report into this sustainability tool on a monthly basis. They use the system to manage performance and then to start a conversation. One of the main messages with measurement and management is that the measurement should drive the management. It shouldn’t stop conversation but start a conversation. It is not a kind of golden bullet to completely solve everything when it starts measuring things. Actually, the company finds this opens a realm, that’s kind of a good thing. Making them start thinking in a more informed way about their impact and about what they need to focus on and how they need to manage.”

(External Consultant – Sustainability Tools, 2016)

The above quotes suggest MCS should be used to start a conversation. the **interactive** use of project management systems motivates both *Violet* and stakeholders to think in a more informed way about their impact and efficiency on sustainability strategy. For example, pre-Qualification Questionnaire (PQQ) is used to identify innovation opportunities through asking open ended questions: *“They will be asking us to give those ways of incorporating the planning that we take out of the road and put them back into the road. So we see a lot of questionnaires and things that they are asking us to provide innovative ways of recycling, and using local people and local businesses”* (Submission Manager – Contracting, 2016). Further, the In-house Independent Consultant suggests: *“in effect that, depending on the contract terms and conditions, commercially it might be not an advantage to do certain things because you don’t get paid for those. What I am talking about is the different parts of the contract in terms of lump sum, cost-target, and cost-plus. The commercial obligations make them think more commercially to increase the bottom line, reduce waste or inefficiency”* (2016).

5.3.4.2 Industrial partners and supply chain – What sustainability means at this transformative stage?

The agenda of sustainable development clearly requires a collaboration between industrial partners and the supply chain:

“[Contractors] have clients [who] increasingly give them sustainability objectives which they can’t [achieve on their own], they have to deliver those through their supply chain.”

(External Consultant – Supply Chain, 2016)

The above quote highlights the challenges faced by the individual contractors, which is about their limited ability to contribute to clients’ sustainability objectives. Achieving sustainability goals is not an organisation-specific agenda. Instead, it requires joint effort made through the supply chain, with emphasis on the involvement of the supply chain in achieving clients’ sustainability goals. This section introduces how industrial partners and the supply chain work together to develop sustainability practices, and reveals the ways that they influence *Violet’s* sustainability strategy. This study identifies the nuanced way in which sustainability is developed through a **collaborative relationship** among *Violet*, the industrial partners and the supply chain, and how they co-create the notion of legitimacy through defining and advancing the actions needed to meet sustainability goals, and shape the sustainability agenda within the industry.

This study identifies *Violet* has a two-way engagement with industrial partners and supply chain that shapes its own sustainability practices, as well as influencing the industrial sustainability strategy, primarily through (i) training and education, (ii) tools and guidance, and (iii) certification and validation.

At the transformative stage of sustainable development within the construction (and product) industry, it is important to gather practitioners to engage with and discuss the scope of the industrial sustainability agenda. Such **interactive** relationship is achieved through an *Academy* institution:

“[Contractors] need the supply chain to deliver those objectives for them. They see the Academy as a mechanism to help develop competence within the supply chain and to help them better meet their client requirements. [While] helping them to become a more sustainable business, it helps them to get a better cost-effective position, which is the usual advantage to go with sustainability... [The Academy] has workshops, e-learning, toolkits, guidance documents, videos and other things. All of these materials are available on the Academy’s website. And anybody from Violet can look at those as well. But as a partner of the Academy, if Violet wants us to come along and run a workshop for their employees, looking at one of the many subjects, it could be sustainability procurement, responsible sourcing, social value, modern slavery or just about the Academy, we can do all of that. So, the Academy is funded to provide support to the partners and their supply chain – everybody becomes more sustainable.

(External Consultant - Supply Chain, 2016)

“Supplier training – yes, we are a founding member of the Academy. We sit as a member of [the] leadership group, so we influence the infrastructure [industry], the construction [industry], and the [Academy’s] horizon [scanning group]. The idea is that all the big companies are kind of sharing best practice. And you are trying to raise the standards of [the] whole supply chain. It is not just big companies getting better, it also making sure that your supply chain is [improving] and you are helping with the education.”

(Head of Sustainability, 2015)

The above quotes reveal the interaction between *Violet* and the *Academy*. On the one hand, *Violet* is a founding member which provides financial support to the *Academy* in the form of annual membership fees. Together with other partners of the *Academy*, the funding allows the majority of the members to enjoy free training provided by the *Academy* via an online portal, e-learning and workshops. The online library allows the supply chain to access a range of sustainability-related materials.

On the other hand, *Violet* provides non-financial support to steer the learning process through participation in various focus groups. For instance, the Social Value group and the Modern Slavery group:

“We don't have any experts because the Academy is a pool that all the people can go into and find personnel and resources. So, we don't have the expert, we use the experts. We use our partners to provide us with the expertise... The Modern Slavery Act came out and lots of organisations didn't understand what that really means, and what is the implication for their own business... Our partners said there is a real need for something to be created for the supply chain around there. So, we got different people to come together, who fund the Academy, and to create a special interest [group] to address modern slavery, and to develop a set of resources that now sit in the Academy. Now it is available online... So, we got experts from our partners to get there and we facilitate [through] looking at particular issues and we develop resources as a result.”

(External Consultant – Supply Chain, 2016)

The *Academy* also provides support to *Violet's* employees as well as its supply chain about the latest sustainability issues. It improves cost efficiency in providing sustainability-related training. For example, if *Violet* wants its suppliers to learn about modern slavery, it would ask its suppliers to access the training materials provided by the *Academy*, which in turn saves on cost related to individual supplier training. Therefore, the improved efficiency benefits *Violet's* profit-seeking strategic drivers. Further, the *Academy* creates a platform (i.e. workshops, supplier days, and steering group) for *Violet* to communicate expectations to its supply chain, and to share best practice with industrial partners.

Besides, the *Academy* is a mechanism allowing industrial partners to focus their attention on uncertainties and provoke the emergence of new initiatives and strategies. The Modern Slavery Act (2015) is an example used in this section to reveal how *Violet* engages with other industrial partners. Contributing to the steering group and

interactive workshops allows *Violet* to search for disruptive change and opportunities in the new initiative, i.e. an **interactive** use of the control system.

5.3.1 A comprehensive measurement approach – Sustainability Balanced Scorecard

A balanced scorecard (BSC) approach has recently been developed by the Cabinet Office to ensure the impact of procurement on the growth of the UK supply chain and to consider the value for money of different bids:

“We are extending the “balanced scorecard” approach recently developed by the Cabinet Office across all major construction, infrastructure and capital investment projects over £10 million, including those in the National Infrastructure and Construction Pipeline, which was published in December 2016. We will introduce a reporting mechanism to provide assurance that the scorecard approach is being adopted effectively, and to hold departments to account. We will also ensure there is a lead Minister in each department responsible for driving the growth agenda.

(HM Government, 2017, p. 73)

This policy affects major clients who are responsible for the development of infrastructure projects, many of which are customers for *Violet*'s products. These clients adopt BSC when making procurement decisions and use them to monitor progress after awarding the contract. This study identifies certain clients who develop the BSC approach to cover sustainability and adopt it as sustainability BSC (SBSC), which is a sophisticated MCS used by clients to control contractors' sustainability performance before and during the life of a project.

“Because [the city project] is talking about a vibrant city – what does it look like for them? And then we need to make sure that we can show them what we do under these kinds of things [i.e. sustainability requirements]. So, it would be different for every client, the BSC... where we stand on energy, productivity, reputation or sort of other

things... this is [the client's] scorecard and then you might find the [airport project], they have got a different BSC, and then we have to look at that and say we can do this and this."

(Head of Sustainability, 2016)

The above quote reveals *Violet's* managers aim to ensure their own MCS is fit for purpose when applying to different clients. Although SBSC is not the most prevalent system used by the client and customer to communicate and evaluate sustainability performance currently, it has been adopted by different large clients for ongoing national infrastructure development projects. Because of the latest industrial strategy and number of major infrastructure projects in play, the SBSC approach is not likely to disappear soon. Therefore, this study is motivated to investigate the existing use of SBSC in practice.

The SBSC approach is a more comprehensive mechanism in managing a major project and is emerging in the construction industry. It is different to the contractual terms and conditions discussed in the previous section, which primarily manage the post-contract signing relationship. This study finds the SBSC was first used **interactively** between the client and its supply chain to communicate its requirements and expectations. For example, the highway client uses the SBSC to express its areas of interest in sustainability, defining the areas of focus even before the procurement stage. The highway client also continuously engages with its supply chain via sitting in various industrial panels and presenting in conferences and workshops, (the researcher attended one of these). Then, it is used **diagnostically** to monitor progress over the life of the project to ensure contractors and suppliers are working towards the desired outcome.

"Taking a step back, the principle of sustainable procurement generally is, as a client, if you want anything particular from your contractors, whether that environmental performance improvement, social values improvement, quality, whatever you know, you discuss that with the market before you even start to go out to tender for the contract, you start discussing what [is] possible. Then, when you actually go out to the market, you include your requirements in the tender process, you

test whether your potential supplier can deliver by asking relevant questions in a tender and using a BSC as an inspiring tool, which is what the highways client is doing at the moment. Then, you implement. When you are awarded your contract, you make it clear that you actually expect your contractors to follow through on it. You make it clear that you are expecting them to deliver, and then you put a performance management framework (BSC) in place that you actually monitor, and they have to provide evidence of what they are doing.”

(External Consultant – Social Values, 2016)

From the above quote, the use of SBSC is a comprehensive performance management approach covering activities before, during and after the project. It also reflects that SBSC can be used as a tool allowing the supply chain to contribute new ideas and best practice to the client. To some extent, it overcomes the barrier of using PQQ in the procurement process by offering an opportunity to discuss the hugely varied social sustainability agenda with partners. Unlike PQQ, SBSC is much more about pre- and post- contract phases.

“We have just started the process of being able to measure or monitor what we do in terms of engagement with community. All of those are not easy things to measure... We would measure ourselves then we would talk to our stakeholders about that. However, in many, many cases that we dealt with clients, the criteria for which we have that conversation are predicated, decided by the organisation itself. So, you know they will say here is a prequalification questionnaire. Filling the answer 1, 2, 3 [or] 4. So, we don't always get a chance to do it.”

(Head of External Affairs/CEO Assistant, 2017)

Violet, as a leader in the construction product industry, has a powerful stake to inspire the sustainability agenda. Although there is no contractual relationship with the highway client, *Violet* is contributing to contractors' sustainability drivers and therefore affecting the ability of contractors to meet the client's requirements. *Violet* considers

the SBSC as “marking criteria” that they need to be able to evidence and supply information against to win the work with customers:

“I think in terms of key performance indicators, if you're referring to things like carbon, water, wastes, and things around that. They definitely shape our bid... it is a bit like when you do a degree and you go into an exam and you know the exam is marked on these criteria. Essentially, when [the client] give us these balanced scorecards, that is marking criteria. When we are putting our bid together, we know it's going to be marked against these things. So we need to be able to evidence and supply information against those marking criteria... it definitely has an effect on how we work.”

(Senior Business Development Manager, 2016)

The above quote reveals SBSC is used as marking criteria to evaluate tenders' sustainability strategy. Managers perceive significant influences from SBSC when they develop a bid. Therefore, SBSC has a direct influence on how *Violet* develops a sustainability strategy, and the development of its data system to account for and evidence the sustainability strategy. It is worth noting that the use of SBSC and its metrics are not well established in the industry. Managers are required to understand how SBSC is used through clients' presentations and past projects, which indicates a need to actively engage with stakeholders to understand the 'logic' of using SBSC.

On the other hand, *Violet* has potential to inspire best practice via the SBSC approach:

“Something likes [the Railway client] – they have a real commitment to sustainable development. It is an interesting project because it is so big. Everybody wants a part of it, and everyone wants to get involved. And the government knows that, so they may face stringent conditions on what they deliver in terms of social and economic impacts. And if you want to be on the procurement framework, you had to have something in place. Simply speaking that might be safety features on vehicles or a science project about being able to specify how much carbon was in the content of the product that you are providing. So,

there is kind of push and pull with government, so there are opportunities for us to say we are leading the way, we are developing products that we can show you might be better for what you do.”

(Head of Public Affairs/CEO Assistant, 2016)

“The highway project has been very clear about what their requirements are in relation to social values. But they have let each contractor put together their own proposal to meet them, and indeed in some cases to set their targets as part of the tender process. Now it has not yet reached the point where it is starting to collect data and monitor trends... So, a number of contractors bidding for the highway project for example, I am proposing to you the sustainability tool that we put together. Because that does include a specific metric and they would be able to report on month after month and so on. But it is not really clear at the moment what metrics the highway project is going to ask people to report on. That's the issue at the moment. The industry is putting together the idea what they could do, but it is not clear on the measures.”

(External Consultant – Social Values, 2016)

At the early stage of using SBSC as a control mechanism to monitor a large-scale infrastructure project, the contribution from industry is fruitful. Using SBSC to manage construction projects in the public sector is still an emerging area to which the lead players in the industry can contribute and demonstrate best practice. The pro-active approach taken by clients encourages the lead players in the construction industry to demonstrate best practice through different platforms (e.g. participation in conferences, meetings). Through the **interactive** process, it catalyses the innovation practice to promote sustainable development and includes the emergence of new initiatives and strategies through learning from best practice.

5.3.2 Summary

This section explores how *Violet's* managers perceive external influences from clients and customers to develop their sustainability strategy, and suggests that the sustainability drivers of these stakeholders help to define the scope of *Violet's* sustainability strategy and therefore have an indirect influence on *Violet's* MCS. Along with the government, this study suggests that there is an “*as per requirements*” (i.e. top-down) approach to get the license to operate and to win contracts through meeting the expectations of these powerful stakeholders. From *Violet's* perspective, there is a focus on an organisational-centred way to respond to accountability (see section 2.3 for an introduction of accountability), which reflects that *Violet* is subscribing to the managerial branch of stakeholder theory, in contrast to taking the view that all stakeholders have the right to be treated fairly (i.e. the normative branch of Stakeholder Theory) (Freeman, 1984; Tricker, 1983).

This study also finds that sustainability practice within the industry is loosely-structured. There is little consistency or coherence in the use of MCS, for example, the same questions are asked in PQQ, but phrased in different ways among the clients and customers; and each client has a different SBSC to reflect its own sustainability drivers. Findings from this study support Bebbington et al. (2017) who describe sustainable development as a “radical transformative programme” because of the lack of consistency or coherence amongst the theories of change or policies designed to promote it.

Finally, in respect of the data validation and the quality of *Violet's* internal MCS, findings suggest the accreditation and data verification provided by industrial partners serve two purposes. First, they enhance confidence in data that *Violet* reports to performance measurement frameworks, for the purpose of stakeholders' decision-making. Second, it ensures the reliability of the data (both internal data and data provided from the supply chain) for reporting and decision-making, and the quality of its internal MCS to maintain efficiency. Along with other **internal control systems**, such as internal audit and self-assessment, these provide a foundation to ensure the reliability and validity of information.

5.4 The extent of influences from external use of MCS on *Violet's* Sustainability Strategy

After identifying how *Violet* is responsible to society at large, and how a variety of MCS used by *Violet* to address stakeholders' sustainability requirements for stakeholder management (RO1), this section presents findings to determine the influences of the external use of MCS on *Violet's* sustainability strategy (RO2). This study finds that stakeholders mobilise their own MCS to influence *Violet's* sustainability strategy. Three key stakeholder groups – government, clients and customers, and the industrial partners – have been identified as important to *Violet*, as they are to all construction product industry actors.

The extant literature recognises that stakeholders have a role in influencing an organisation's sustainability practices (Belal & Owen, 2007; Epstein et al., 2012; Bob Frame & Brown, 2008). Prior to interviewing respondents on a one-to-one basis, a workshop was conducted with *Violet's* employees across various departments in the company. An interactive workshop task was conducted to obtain an overview of who the managers considered to be the main stakeholders in key projects, the stakeholders' social claims and expectations, and what strategic posture the managers take to manage their relationships with these stakeholders. From data gathered at the workshop, government and regulatory bodies, the clients and customers, the industrial partners and the supply chain, and parent company (*Magenta*) were found important when managing projects. As noted during data collection, *Violet's* managers state that these stakeholder groups explicitly express their interests and concerns about *Violet's* strategy and sustainability performance. Data collected through interviews explain why managers think *Violet's* relationships with those stakeholder groups were important to be managed.

Align with above, following sub-section will be structured in accordance with Simons' four levers of control. Then, each sub-sections further divided into stakeholder groups to discuss how they variously influence *Violet's* sustainability strategy. First, *Government* is perceived by the managers as the most powerful stakeholder; it has the ability to affect *Violet's* future operation through the granting of a "license to operate". Then, the section provides evidence to explain how clients and customers

influence *Violet's* sustainability strategy through providing revenue opportunities. Next, the ways that industrial partners and the supply chain work together to develop sustainability practice are introduced. Finally, findings are provided about parent company (*Magenta's*) influences on *Violet's* sustainability strategy.

5.4.1 Belief Systems

This sub-section aims to present findings to determine the influences of the external use of MCS by government and *Magenta* on *Violet's* sustainability strategy. Findings suggest these stakeholders use their own MCS to define and communicate their expectation/requirement with *Violet*, urging the alignment of sustainability strategy, particularly when adopting definitions of sustainability values and the use of performance measures and targets for consolidation and reporting purposes.

5.4.1.1 Government – *The grant of a license to operate*

Data in this study suggests that local councillors were emphasised as having power over *Violet's* business operations, compared with other stakeholder groups, and interviewees highlighted the “license to operate” as a critical concern for *Violet's* management team. For example, the senior estate manager, who manages *Violet's* “assets” across various locations in the UK, perceives government and the local councillors to be the ones who make decisions regarding the local plan and therefore have the ‘legal power’ to grant a “license to operate”:

“If we are realistic, local politicians probably have more power over our business than any other group because they are the one making decisions about planning. The quarry extensions [and] the decision about whether or not we can [go ahead] are made by 10 or 12 local councillors that are local to this area. Well, you get [a] license to operate or you don't. If you don't, you make nothing. If you do, you make a lot... If you don't get that balance of sustainability right, you don't have a license to operate and you have no business.”

(Senior Estate Manager, 2016)

The above quote makes clear that *Violet's* “license to operate”, which refers to the permission granted by the authority to extract raw material from the ground, is necessary for its future operation and directly affects its future profit and capacity. Here, the Senior Estate Manager refers “license to operate” as a tangible (paper /electronic) document that granting the legal permission. The manager emphasises that: “*if you don't get that balance of sustainability right, you don't have a license to operate and you have no business.*” And it seems that the decision for the granting of permission to extract is made by a small group of government representatives, i.e. the local politicians, councillors, and professional agencies. Accordingly, the study suggests government (including local government) is the most powerful stakeholder, with a significant influence on *Violet's* business, on the grounds that the “license to operate” is absolutely essential to *Violet's* ordinary operation and economic sustainability.

When making the decision on the granting of a “license to operate”, the notion of sustainable development is emphasised. The aim to deliver UK sustainable development in “securing the future” (HM Government, 2005), by command of Her Majesty, can be traced back to the early twenty-first century, i.e. a **belief system** that has been used by the government. A sustainable procurement task force was established with an ambitious goal to be a leader in the EU¹⁸ on sustainable procurement, and action plans were developed by the task force to meet that goal. Visions in favour of sustainable development have been set along with timely targets, calling for government and industry to work in partnership (HM Government, 2013). For example, an explicit recognition of the role of sustainability has been identified in the latest governmental strategy document, another example of the **belief systems** (HM Government, 2017). The UK government is trying to demonstrate good practice through the use of legislation, publishing industrial strategy documents, and planning policy. Through the investigation of the above mechanisms, this study provides evidence of the ways in which government influences *Violet's* sustainability strategy, and drives the construction (and product) industry towards sustainability.

¹⁸ During the period of data collection, the UK was still a member of European Union. Article 50, which allows a country to leave the EU had not been triggered during the data collection period. Accordingly, this research legitimately includes and debates the EU's influences on the UK.

5.4.1.2 Internal stakeholders – Magenta and workforce

Violet has gone through a series of mergers and acquisition in the past twenty years. It has been stabilised after the latest merger of its parent company with another global company. The existing parent company, *Magenta*, was formed by two global firms which both have a focus on sustainability. At the beginning of the data collection period, *Violet*'s sustainability department was in the process of adapting to this change:

“[The former parent company] has a focus on sustainability and [the new company] has also a focus on sustainability. Each of their teams and policy are following best practice. Now they have merged. They spent about six months looking for what is the best between the two, the most robust policy and then merge to become one policy. The best charter, guidelines, procedures, systems, process and even people. We have to rationalise the team, so we have one team now. It is the usual process for integration between two companies. You look at what both companies bring to the party and choose the best one that suits the new organisation going forward. [Magenta's] position will then flow down to all the [subsidiaries in] 90 countries. So, we have seen what their policies are, and now we are doing a process of looking at what Violet's policies are next to Magenta and we look to make sure that ours at least meet them, but ideally exceed them, if it is appropriate in the UK. Because Magenta can only give you a steer – centrally, minimum standards. But we are all in different countries and there are different country rules and different government rules, so we need to apply what is right for the UK and be able to comply with groups. That is what we are busy working with now.”

(Head of Sustainability, 2016)

The above quote reveals the influence of *Magenta* on *Violet*'s sustainability practices and general MCS. During the change process, *Magenta* begins with identifying best practices in the different parts of the business, and then merge to become one policy, i.e. **belief systems**. Because of the large size of *Magenta*, which has subsidiaries operating in over 90 countries across various jurisdictions, the policy established by

Magenta often states the minimum standards while ensuring their commitment to the global level sustainability initiatives, such as the United Nation's 2030 agenda for sustainable development goals (SDG).

Magenta adapts its internal (international level) sustainability policy, which covers all its global operations including *Violet*, to fit with its business operations while aligning with the global sustainability framework. For example, *Magenta* has developed a 2030 plan to provide a roadmap focusing on the improvement of sustainability of its operations. The sustainability strategy focuses on *"its own business activities to our wider industry. We are committed to working in partnerships to make the entire construction value chain more innovative and more mindful of the use of resources and the impact on nature. And we are committed to improving communities' lives by providing solutions to their challenges (Magenta's Sustainability Strategy, 2016)."*

Violet's internal documentation (**belief systems**) mostly aligns with *Magenta's* sustainability strategy, particularly when adopting definitions of sustainability values and the use of performance measures and targets for consolidation and reporting purposes (Senior Management Accountant, 2016).

5.4.2 Boundary systems

Section 5.3.2 introduced evidences related to *Violet's* deployment of boundary systems in addressing stakeholders' requirement. This sub-section presents findings about the external uses of boundary systems by stakeholders to impose limits on *Violet's* opportunity seeking behaviour. Specifically, section 5.4.2.1 introduces how government uses legislative frameworks to imply restrictions on *Violet's* operation; section 5.4.2.2 presents the use of contractual boundary to regulate the behaviours of both *Violet* and clients and customers; and section 5.4.2.3 presents evidence about how *Violet's* sustainability strategy is affected by *Magenta's* formally stated rules, limits and proscriptions on business conduct.

5.4.2.1 Government – Legislative frameworks

This study acknowledges the difference between laws/statutory requirements and organisational boundary systems: the former implies legal restrictions that organisation must comply with; whereas the latter can be configured accordingly to an organisation's strategy and its level of acceptable risk. This study finds government applies legislative frameworks to establish formally stated rules, limits and proscriptions tied to defined sanctions and credible threat of punishment through imposing a minimum requirement to define sustainability strategies pursued by businesses:

“Maybe years ago, it was very much about environmental impacts. Because this is what people saw and understood about the impact of our business. But dialogue has changed over the last 10 - 15 years and has been progressed much more in the social impact and business and economic impacts. So, I think this is a substantial change that business has to think about. And if you look at government legislation, it is also reflective of that change. So, the first legislation is around environmental taxation, it came in a long time ago. And they are rolling out legislation about things like labour costs, [the] minimum hours people should work, zero hours contracts at the moment, modern slavery are just coming in. There is a kind of social development; sustainable development in the social aspect is still developing.”

(Head of Public Affairs/CEO Assistant, 2016)

The above quote suggests that a change of public needs and perceptions was reflected in recent legislation, which then has an impact on the government's sustainability focus. For example, legislation has covering the social aspect of sustainability including: the Public Service (Social Value) Act (2013)¹⁹, requires commissioners and procurers to take social values into account when considering certain types of services contracts and framework agreements; and the Modern

¹⁹ The Public Services (Social Value) Act came into force on 31 January 2013. It requires people who commission public services to think about how they can also secure wider social, economic and environmental benefits (UK GOV, n.d.-b).

Slavery Act (2015)²⁰, which is designed to tackle slavery and compulsory labour along the supply chain. Further, the quote reveals that the ways that government and local councils communicate to the industry follow a top-down approach. The legal and policy frameworks are used to cascade down the notion of sustainability and provide momentum from the HM government to local councils and procurers, ultimately shaping *Violet*'s sustainability practices.

5.4.2.2 Clients and customers – Establishing a contractual boundary

To align with the above policies and frameworks, clients and contractors in the industry translate their own policies via their own sustainability drivers. Although there is a degree of variety in practice, the changes are reflected in the procurement and tendering process:

“On [the highways project], when we bid for the work, the marking criteria is 75% quality, 25% price. So, that job will not be awarded on pounds, it would be awarded on quality. And a lot of quality is [captured in] that balanced scorecard. If you go back, and you will know better than I do, how far back in time to a point where the job was 100% price. So quality crept in and getting more and more important to the point right now, is the majority. So, on [the highways project], it is the majority. On [another project], it is 50-50. It is big numbers now, and actually the price is a small element of the marking, awarding criteria for the job.”

(Senior Business Development Manager, 2016)

The above quote reflects that the construction industry has changed their practices to align with regulatory frameworks. As *Violet* supplies materials to clients and contractors, it has to meet sustainability-related expectations from clients and customers. Ultimately, a client's sustainability drivers are translated through MCS to influence *Violet*'s sustainability strategy in the procurement process. This study finds evidence to support this relationship. Aligning with the evidences presented in section

²⁰ The Modern Slavery Act 2015 is an Act of the Parliament of the United Kingdom. It is designed to tackle slavery in the UK and consolidates previous offences relating to trafficking and slavery (UK GOV, n.d.-a)

5.3.2, clients and contractors influence *Violet*'s sustainability strategy in three ways, via: pre-qualification questionnaires (PQQ) through the tendering process (section 5.3.2.1); contractual obligations after securing the project; and via the sustainability balanced scorecard (section 5.3.5).

After the contract has been awarded, *Violet* enters a contractual relationship with its customers. The key control system identified at this stage is the use of contractual terms and conditions. Terms and conditions act as the **boundaries** requiring *Violet* to behave in certain ways. They are the formally stated rules and limits imposed on *Violet* and act as business conduct boundaries during the period of the project. Some contracts may contain written sanctions for violation:

“Obviously, there are other sequences before they come and sign the terms and conditions of that job. I've read and agreed an environmental condition, sustainability policy, other information that we require about risk assessment. We review them and then we review their performance on site. There are different layers of controls and we've got audit as well.”

(Customer – Principal Sustainability Manager, 2017)

Clients express their expectations through the use of contractual terms and conditions in order to establish formally (contractually) stated targets, limits and prescriptions, which are often tied to defined sanctions or punishment when terms are violated. Similar to the use of PQQ, contractual terms and conditions is an explicit example of the **boundary system**, which defines the conduct and performance boundaries, and serves to restrict both parties' (clients and contractors) behaviour. This contractual relationship cascades down the supply chain, which influences *Violet*'s sustainability performance management systems.

5.4.2.3 Internal stakeholders – Magenta and workforce

This study identifies a challenge in adapting *Magenta*'s policy and strategy to *Violet*'s context, which in turn affects its ability to establish formally stated rules, limits and proscriptions on business conduct, i.e. **boundary systems**:

“We also listen to our parent company, and that really helps when it comes to crafting our strategy... So, it absolutely does have an influence on our value system and how we push ourselves forward.”

“The difficulty is we report the way that we do, because our parent company reports in that way. Now the difficulty would come if the country you operate in is different with the parent company. So, for example if the UK said, right, all quarrying companies have to report in this way. But we report in a completely separate way in order to appease the sustainability report to the parent company. You either have two different stories or you have to choose one or the other. Or you are just doubling your workload.”

(Head of Communication, 2016)

“There will be regional fluctuations and for example, if a local law or local regulations don't require it. But Magenta feels like it's a fundamental responsibility of our business to operate. For example, it might be our local rules requiring our staff to wear hard hats and high vis(ibility) jackets. It is a case in India that there are different regional rules on safety equipment. For Magenta that's not an option. So, mandatory, every single member of our staff wears high visibility clothing, gloves, hard hat and protective gloves. You go to a cement plant down the road that is run locally [in India], none of the guys have that. So immediately, we have a cost disadvantage to the plant down the road. My point about sustainability is, it will only truly work if everybody bought into it. For the market as a whole, all of the UK, or for the Philippines, or for whatever. If there are people out there that will cut corners and don't care about it, then they will always undercut the companies that are committed to it and that will only last so long before those companies go bankrupt because they can't sustain those economic costs. I think it's very interlinked. Unless you've got the customer, supplier and everybody bought in, it is very difficult to do it.”

(Vice President Finance, 2016)

The above quotes declare a clear intention for *Violet* to follow *Magenta*'s sustainability policy. The quotes also demonstrate the challenge in getting the sustainability policy of a multi-national parent company to fit into different regional operations. Because of the global landscape that *Magenta* has, its sustainability strategy has to fulfil the minimum legal requirement in all of its operating regions. Due to the different stages of the development on sustainability, following *Magenta*'s international sustainability strategy might lead to cost disadvantages from *Violet*'s perspective.

5.4.3 Diagnostic control systems

Section 5.3.3 presents findings relate to *Violet*'s use of diagnostic control systems to measure sustainability activities and highlights that the use of accounting techniques to relate/narrate performance to the motive of action, direction of a strategy and achievement of a strategy. Here, findings relate to how key stakeholders influence *Violet*'s sustainability strategy are revealed. The adoption of different approach/tools by each stakeholders influence *Violet*'s sustainability strategy in a different way.

5.4.3.1 Government – A Balanced Scorecard approach

In addition to the minimum requirements imposed by various legal and policy frameworks mentioned above, government uses the *Industrial Strategy Document* to illustrate a new “balanced scorecard” [BSC] approach, which is a reporting mechanism, aiming to guide industry sectors to move beyond short-term thinking, and to focus on the big decisions that will deliver long-term sustainable success:

“The Government is rolling out the “balanced scorecard”, an approach recently developed by the Cabinet Office, across all major construction, infrastructure and capital investment projects over £10 million, including those in the National Infrastructure and Construction Pipeline, which was published in December 2016. We will introduce a reporting mechanism to provide assurance that the scorecard approach is being adopted effectively, and to hold departments to account. We will also ensure there is a lead Minister in each department responsible for driving the growth agenda.”

(HM Government, 2017, p. 3)

On one hand, the BSC approach provides direction and momentum to local authorities and governmental bodies to incorporate sustainability elements when making decisions regarding the use of public money in capital investment projects, which is an example of the use of an externally-developed **belief system**. On the other hand, it serves as a monitoring and reporting mechanism throughout the life span of the project, i.e. diagnostic control systems.

Additionally, the UK *Sustainable Procurement National Action Plan* details milestones with actions required for getting started, together with target dates for the future. A business-led sustainability procurement task force was established to monitor the progress of public sector procurement.

“We've obviously got measurement around sound and carbon emissions and things like that. We've got a set level [to these conditions] we have to adhere to and that is our kind of licence to operate. If we aren't adhering to our dust levels for example, we will be fined or will be closed down very quickly. So, with [this], there are kind of like base levels. We make a concerted effort to go well above them, so we go kind of above what is expected, not just because we don't want to get fined, but because it makes our environment nicer to work in both for our colleagues and also for our communities on the outside.”

(Head of Communication, 2016)

“When you look at something like [a public project], they have a whole balanced scorecard... When we bid to these contractors, they will be required to respond to the balanced scorecard, so they will look to us as to what we can offer to them that helps their bid. So, they will go across those areas and they will say okay, so health and safety, tell me about it at Violet. Basically, all those areas, on time, on budget, designed for the end user. All of those categories, we will have to demonstrate what we as Violet do in those areas.”

(Senior Business Development Manager, 2016)

Since *Violet* needs permission from the local planning authority to begin its ordinary business of quarrying, the concept of “license to operate” is central in managing the stakeholder relationship between *Violet* and government. In this **diagnostic** evaluation process, government has a large “stake” to decide whether to grant permission for *Violet*’s activities. The tension between material extraction, which in no doubt has a dramatic effect on the environment, and the development needs of a local economy, has to be balanced.

5.4.3.2 Clients and customers – Awarding a contract and project monitoring

Pre-qualification questionnaires

Pre-qualification questionnaires (PQQ) are used by clients and contractors when making a decision to award the contract, to understand how bidders perform in terms of sustainability practice. In this study, the term client refers to an owner of a major infrastructure project, while contractor is a first tier developer (although it can be formed as a consortium) with a contractual relationship that deals directly with the client (see section 4.7). Although *Violet* itself is a large and leading construction product organisation in the UK, it is positioned low down the supply chain, providing construction materials to contractors, so might or might not have a direct contractual relationship with clients. *Violet* views both clients and contractors as its customers.

PQQ is used as a performance assessment mechanism to evaluate bidders’ sustainability performance for a “quality bid”. As mentioned in the above quote, the increased weighting on quality in a contract increases reliance on PQQ. It also helps to clarify the clients’ sustainability drivers and expectations to their supply chain:

“In the past, they sent out a questionnaire or they sent out their statement and policy to say what they do. The questionnaire is mirroring of what they do and asking how we then do.”

(Supply Chain Compliance Manager, 2017)

“And the performance is generally measured on things like the Health and Safety records, the quality performance, the quality of their

workmanship, their ability to work to programme, the commercial management approach – how are they with the numbers, are they competitive, are they cooperative? Other criteria [include] health and safety, quality, commercially and sustainability. There is a range of things.”

(Customer – Principal Sustainability Manager, 2017)

The use of PQQ can articulate clients’ sustainability drivers through a series of questions and KPIs. Appendix X provides an adapted template of a PQQ as an example. Accordingly, clients’ sustainability drivers influence contractors’ procurement requirements, which they then cascade down to their supply chain.

“We essentially have to respond to pre-qualification questionnaires and tender documents so that we can win the work for contracting to supply and deliver it.”

“It affects what we do because we were asked to submit in the qualification questionnaires. There is always a really strong element of social [and] economy sustainability in general. We will be asked about environmental questions – how we support environmental standards on a site. So, in terms of tendering for work, we have to speak with different people within our contracting division and make sure that we support what the customer wants.”

(Supply Chain Compliance Manager, 2017)

PQQ is used to communicate sustainability expectations from clients to their supply chain by requiring bidders to answer a series of questions. It affects *Violet*’s performance measurement, as it must collect evidence and report this to showcase its sustainability performance.

[Contractual terms and conditions](#)

Within the defined scope of behaviours, *Violet* is required to regularly monitor and report data to its customers as per the contract requirements. This is a feedback

system for customers to monitor outcomes. Contractual terms and conditions are the pre-set performance standard to be achieved over the life of the project.

“When you look at the drivers, the client has a driver for what KPIs would contractually be required to deliver. So, for example, if we are talking about the highways work, terms would be expressed in a number of KPIs that contractually you need to report on a monthly basis. So, if you want to deliver a particular set of KPIs in that contract, it is your obligation to report on a monthly basis. Client as a stakeholder, they dictate what KPIs would have to be in place, if you want their work, you have no choice, you need to go with those KPIs as part of your agreement. If you are awarded a contract, part of your agreement is to report against those KPIs.”

(In-house Independent Consultant, 2016)

Although the above quotes find the use of contractual terms and conditions as a negative control system that restricts *Violet*'s behaviour, they do not limit their ability to identify business opportunities by stimulating a dialogue between *Violet* and its external stakeholders:

“[When] you've received work, you have to think about what resources do you need to complete that work... So, you start thinking on a different level. And you think in terms of the contractual obligation that is imposed by your client. What I've talked to you earlier about the commercial drivers to support financial driver. Commercial drivers are making the best of the particular terms and conditions you have within a contract to maximise the cash and profitability of the organisation... Commercially and contractually, your thinking can be slightly different. [The] operation needs to be as effective as possible and that's always the case. That's why there are terms and conditions with the client.”

(In-house Independent Consultant, 2016)

This study finds that the contractual terms and conditions mobilised by *Violet*'s customers to firstly establish a **boundary** for expected performance and to review performance to ensure goals are achieved. Set against the backdrop of these explicit, specified contractual obligations, *Violet* seeks to identify ways to utilise the efficiency and profitability and start conversations to improve management practices.

Then, the contractual terms and conditions are used diagnostically that require *Violet* to closely monitor their performance and compare them against contract requirements. This is an example of a **diagnostic** control used by external stakeholders to monitor *Violet*'s sustainability performance; it has important implications for *Violet*'s internal diagnostic control systems which must respond to the client's reporting needs. Here, the use of a performance management framework to monitor the progress of a project is essential. Contractual terms and conditions are put forward to form a measurement framework, requiring the contractors to monitor their outcomes and correct deviations from pre-set standards. These feedback systems are the **diagnostic** use of MCS, which are used to monitor progress to ensure achievement of goals. The use of contractual terms and conditions was the most prevalent framework used by contractors to report to clients.

[Sustainability balanced scorecard](#)

A national scale infrastructure project could have significant implications for the national achievement of the UK's commitment to the global sustainability agenda and has potential to become the benchmark for subsequent development projects. Government has formed a Highway Organisation to develop and monitor the progress of its projects, where SBSC is used in the procurement processes to assess the supply chain's sustainability performance (see Appendix XI for a template):

“When you look at something like the highways project, they have a whole balanced scorecard. So their BSC is shown on that board [points]. When we bid to these contractors, they will be required to respond to the balanced scorecard, so they will look to us as to what we can offer to them that helps their bid. They will go across those areas and they will say OK, so health and safety, tell me about it at Violet.

Basically, all those areas, on time, on budget, are designed for the end user. All of those categories, we will have to demonstrate what we as Violet do in those areas... On the highway project, the client is the highway project. They are essentially our major stakeholder. They are telling us through the balanced scorecard what they expect of anyone that works on producing or building the highway project. So that scorecard will influence everything we do on the highways project. I am not overestimating that, for literally every document we produce, every meeting we are going to, every presentation we make, we will try and align to what the highway project is telling us about what they are looking for through BSC or any presentations they give, any KPIs they issue, and we will try relate anything we do back to that.”

(Senior Business Development Manager, 2016)

From the above quotes, the relationship between the client and contractors is revealed – the highway client was using SBSC to communicate their expectations to the contractors and cascade them to the supply chain. A consortium was formed by different contractors to bid for part (section) of the project, which is wholly responsible for delivery of that section. Accordingly, the contractors have the responsibility to meet those sustainability targets, which are established through the contractual terms and conditions.

5.4.3.3 Industrial partners and supply chain – Co-development of performance toolkit

The ability to implement sustainability strategy successfully and efficiently requires a more precise focus on the strategic process of the individual business. This study finds that toolkits and frameworks developed by the industrial partners help *Violet* in its strategic decision-making process. Therefore, this section begins the task of providing an understanding on how these externally-developed MCS influence *Violet's* sustainability strategy implementation across its divisions (i.e. intra-organisation), and how they shape the industrial sustainability agenda (i.e. inter-organisation).

Intra-organisational influences

In order to better integrate sustainability issues within *Violet*'s business, this study is inspired by Dermer (1990) in which, in combination with organisational theory, accounting plays a significant role across the stages of strategic change, by providing a framework and a language. This study provides evidence of the use of toolkits and guidance developed by the industrial partners to aid *Violet*'s implementation of sustainability strategy.

“We've started by getting people to talk about and to talk to the people about what sustainability means to you. It means completely different things to everybody. So, the Academy tries to cover every element of sustainability. And one of the tools within the Academy is to help organisations understand which of the sustainability issues is the most important to their own particular trade. It is a smart assessment, only asking key questions relevant to your particular trade... At the end of it, what they get is a ten-point priority action plan, they take away the key issues. And the Academy is the starting point - it takes away that prioritisation for you. And you get the reassurance. That's all of your customers are signed up to the Academy; and they recommend you to do this. So, it is a framework used to help prioritise what to do next. And then what position you are in the action plan, so this is a journey [toward] improvement.”

(External Consultant – Supply Chain, 2016)

From the above quote, the *Academy* develops an online smart assessment to help users to identify key sustainability areas that are most relevant to their business. This is because sustainability can be defined broadly (e.g. the 17 Sustainable Development Goals (United Nations Development Programme, 2016)); prioritising actions to the most relevant areas that fit with *Violet*'s strategic drivers helps its strategy implementation. For example, *Violet* has a designated commitment to Health and Safety in its strategic drivers:

“Safety is our absolute number one priority in a business, whether that is internal or external.”

(Head of Communication, 2016)

“The belief and culture is extremely strong and everyone is very aware that health and safety is the number one priority.”

(Senior Business Development Manager, 2016)

With the prioritised action plan, *Violet* could further develop its health and safety strategy and action plan to move toward its sustainability goals. Therefore, the smart assessment tool encourages *Violet* to prioritise its sustainability actions to meet with the latest sustainability issues within the industry. Also, it has potential to drive a journey toward improvement by encouraging development of an action plan. However, the prioritised action plan itself does not drive business improvement. It is important for the employees of *Violet* to sense the success of a strategy:

“Because health and safety is a culture, you can mandate it from the top, and you can say it is our number one priority, but unless people in the business feel it and believe it, it doesn't matter. So, it is the same with strategy, strategy will have an inherent financial target. It is the emotional involvement in strategy. It is like as an employee of the business, you've got to believe where it's going. You've got to be brought into that desire, target and goal you're aiming for. I think there can be all the metrics that suggest – yes, we've achieved this. But if your team, your business and your staff don't feel that journey, then it can massively diminish the success of that strategic journey.”

(Vice Finance President, 2016)

Although the evaluation of a strategy is traditionally made against financial goals, the above quote suggests a softer side, with an emphasis on the people in business. It considers the “desire” factor in addition to the conventional elements of targets and goals. Here, the commitment to the strategy is perceived as an “emotional involvement in strategy”. From the Simons’ LOC point of view, it can be viewed as the momentum and guidance to behaviours, i.e. **belief** systems. This is first embedded in *Violet*’s culture, mandate from the top, and communicates through **diagnostic**

systems via defining the level of desired performance and relationship. The use of performance measures/metrics is informed by the **belief** system to give a sense of the achievement of the “journey”.

This study suggests that the use of performance measures helps to deploy ownership across divisions and thus better interpret (make sense of) sustainability objectives:

“The problem I see Violet might go down the line of, which I don't think is the right way, is that the divisions will measure financial stuff that they want to measure. And they will see [Health and Safety, and Sustainability measures] that the Sustainability department or the Health and Safety department will produce those measures. Therefore, where is the ownership for me as an operational division to ensure that I contribute as a priority to the health and safety statistics and the sustainability statistics? Because those central services are key to help those operating divisions to operate. They are not separate, so why report them separately... But having it separately, I don't think it is right. Because I don't have the responsibility for that. If I'm only reporting for my divisional financial measures that's all I want to look at. That's what I am going to make my guys answerable for. I am going to ask where are you with X, Y, Z financially, but care less about any health and safety issues or sustainability.”

(Head of Business Improvement, 2016)

The above quotes emphasise the importance of establishing ownership through the use of PM. For a sustainability strategy to succeed, the Head of Business Improvement suggests that sustainability measures should be deployed into all divisions to make managers accountable for their sustainability performance. The use of PM helps to integrate sustainability strategy and prioritises sustainability performance across divisions. Further, the study finds that externally-developed PM define the language that *Violet* uses to make sustainability measures understandable.

“Members of the Academy will go online to learn how their client would like them to report different sustainability metrics, and sustainability data.

A section of that defines the language we use, about PM. What do we mean by metric and what do we mean by indicator, what do we mean by target vs goal vs objective? Putting some definitions to them. The PM piece [that I sent to you] is supposed to be very clear, make it easy for them [supply chain] to understand if their client asks them to report. They know which metric to use. I can take the e-learning module to help me with that. The Academy helps to support people when they start to think about sustainability.”

(External Consultant – Sustainability Tools, 2016)

The language that *Violet* uses is generally aligning with those externally developed measures, but with a different emphasis. Probably because *Violet* has a leading position in the construction industry and has a place in different steering groups, it is involved with setting the externally-developed PM set. The aligned set of PM helps *Violet* meet the expectations of its client and customers, and drives its divisions to contribute to customers’ needs. Ultimately, this contributes to the achievement of *Violet*’s strategic driver on customer focus – to create value for the customer. Here, the use of the toolkit, performance measures, helps *Violet* to establish a relationship among its corporate strategy, sustainability objectives and operating performance within the business.

[Inter-organisational influences](#)

In terms of the development of sustainability PM with the industry, although there is an intention to develop a standardised PM set, it is challenging. No single toolkit or framework seems to have been adopted by every client, contractor and supplier, as determined by the scope of this study. Accordingly, the industrial partners have co-funded a project with a sustainability consultancy company to develop a handbook for sustainable procurement:

“When you are writing the handbook in [the funders’] environment, you’ve got a group of 20 sometimes 30 people [who] all are reviewing what you are doing. All have their views on what should or shouldn’t be in the handbook. It makes it really difficult and complex. Some things are contradicted in a quite specific way. The people who fund our project are not necessarily the organisations in the right place on their

journey to test something. The steering group, they are funding the project. But it doesn't mean you get the right people with the right expertise around the table to deliver that project. But the upside of having that environment is people know these things are coming. So, when it becomes real, awareness is raised, and people say they want it. There is already communication there and awareness about it before it gets out."

(External Sustainability Auditing – Managing Director, 2017)

This quote evidences the challenges encountered when developing an industrial information set, including the difficulty in establishing consensus among partners, the lack of maturity of partners' sustainability position, and getting the right expertise to contribute to the development of the handbook. It supports the earlier claim about sustainability being an under-developed concept within the industry, and provides another example of how industrial partners work in a collaborative approach to raise awareness.

Although achieving a consensus on a universally accepted PM set to cover all dimensions of sustainability is not likely to be achieved (Parris & Kates, 2003), this study identifies a relatively popular framework to assess the economic impact on local communities. It is an economic calculator that helps users to demonstrate the values of corporate social responsibility, for a particular trade/sector:

"Now, I think almost all the top construction companies are using it. For example, I think all of the [Highway clients], top clients and contractors will be using them. So, in fact, by going to the large companies, [the] original aim is to drive policy. Because by default, government will not or cannot do these kinds of stuff (i.e. a standardised measurement framework). They are just not together enough. But by using this model, and by going into the top of the supply chain, they can then go back to the commissioner and say this is what we are using. So, we are getting closer to have a kind of standard model to measure economic impact... But also, they (i.e. the users) get value out from this relationship because every time they complete, they get all the information. It is

actually collaborative. Also, it fits into other projects much more easily. Because all the structure is already in place.”

(Performance Management Tools Owner, 2016)

From the above quote, a key benefit of adopting a standardised framework is revealed – it could help to better fit into other projects and to create a database for future projects. Along with the data obtained, it has potential to drive government policy through a bottom-up approach. Likewise, according to an interview with *Violet's* Supply Chain Compliance Manager (2017), the company is demanding sufficient sustainability data to create a customer database. It allows them “*to make a standard response for each question that we tend to get.*” *Violet* is using this calculator for certain projects as per the requirements of the client and customer. Similarly, a performance dashboard owned by another consultancy company is helpful in this aspect, provided it is adopted by clients and contractors:

“Yes, it used to be the people who purchase the license to the [performance dashboard]. [The clients and contractors] then ask their supply chain to report into it. The supply chain didn't have a choice because they've been asked to report into that. They have to login to report and set up to their client to manage it through a performance dashboard. You set your targets through indicators within the tool and then the dashboard is driven by how those indicators are doing, if they go above or under. You understand how your supplier and how your project is performing based on the dashboard.”

(External Consultant – Sustainability Tools, 2016)

Therefore, the adoption of an externally developed performance measurement framework is very much driven by the top clients and contractors. Again, it emphasises *stakeholder power*, which is represented as a key dimension in the theoretical basis of Ullmann's corporate social responsible framework (1985). Clients and customers have a large “stake” to influence *Violet's* sustainability strategy mobilised through externally developed MCS.

Although there is motivation identified in *Violet* as well as the industry to move toward a more integrated sustainability performance measurement framework, the most powerful stakeholders do not yet appear to have adopted a unified framework. Instead, this study suggests that, by focusing on large-scale construction projects, top clients and contractors could create opportunities to develop a standardised framework:

“If you look at [project], they are talking about having roughly 200 tier one suppliers. Each one of those 200 tier one supplier, a part of their contract duty, were on [the adoption of the] local economic calculator [i.e. the owner’s software]. But [the client] doesn’t run it, the suppliers run it individually. We are working all the way down through the supply chain. We estimate that just that one project, it is a very big project, and we actually generate about 600 different organisations using the [local economic calculator]. Once you get that scale, in that sense it is already happening, most of my new clients still ring me and say what is the [local economic calculator], who is using it, or we are asked to use it or they are using it. You know that momentum. I think this is another way you can get the implementation of standard measures.”

(Performance Management Tools Owner, 2016)

The above quote takes the development of standard measures from a different perspective. Instead of convincing various leaders in the industry to develop a standard set of PM, the owner of the tool highlights the importance of gaining buy-in from only the top clients and contractors. This is a buyers’ approach that puts forward the commercial incentive of securing a contract to create a momentum to drive the implementation of standard measures, and recognises the power of these key stakeholders to influence their supply chains.

5.4.3.4 Internal stakeholders – Magenta and workforce

Magenta determines the adoption of a performance measurement tool when assessing certain types of sustainability performances. There is a binding effect imposed by the decision made by *Magenta*. For example, *“Magenta has chosen the externally developed tool to assess sustainability and Health and Safety. So, that’s*

why we use that tool (Supply Chain Compliance Manager, 2017).” This enables the alignment of performance data between *Violet* and *Magenta* in doing the group level UN Global Compact assessment. Therefore, the parent company influences *Violet*’s adoption of the **diagnostic** MCS.

5.4.4 Interactive control systems

Section 5.3.4 presents findings relate to how *Violet* uses interactive control system to respond to the rapid changing competitive dynamic and the context of sustainability and engaging with external stakeholders (i.e. clients, customers, and industrial partners. The below sub-section reveals findings about the mobilisation of interactive control system with internal stakeholders – *Magenta* and workforce.

5.4.4.1 Internal stakeholders – *Magenta* and workforce

The Sustainable Product Manager (2016) believes that involvement with *Magenta* provides an opportunity for *Violet*’s sustainability agenda:

“Because we are a part of Magenta, they have subject matter experts, I mean people that study it, have doctorates. We have a group who are currently developing a sustainable procurement initiative. So, we will be a pilot country to implement that. So, they can come to us with that theoretical idea and look at what we have done and say [Head of Sustainability] how you go there, and you are doing that, very well done. Because we are quite well developed in the UK, there are a lot of regulatory requirements, our customers are asking us the questions, so we responded... the global parent probably set far-reaching, long term goals and because of that it means that local management has to buy into it. So, if it was just left to the local management, maybe they would only be thinking only two or three years while Magenta has global ambitions or sustainability ambitions, targeting 2030, and 2020 as well. But it is things like the initiatives with sustainable procurement, we would be doing our thing, but the fact that they say from the Headquarters, we have to do it, we will do more.”

The above quote from the Sustainable Product Manager, who has over forty years of experience working in both *Violet* and the former parent company, summarises the influences from *Magenta*, and the opportunities to work with them. Firstly, the involvement of the global parent allows *Violet* to utilise the expertise from *Magenta*. *Violet* can benefit from the “subject matter expert” and learn from best practice on the emerging areas through **interactive** discussions.

Secondly, the long-term commitment to sustainability initiatives by *Magenta* has influenced *Violet*'s sustainability agenda in that it forces the company to think about the roadmap and motivates the company to achieve more. This often involves the commitment from the senior executives at Group and Corporate levels.

5.4.5 Summary

This section reveals first how government, uses industrial strategy, policy and legal frameworks, as MCSs to influence *Violet*'s sustainability practice. It provides evidence of the use of MCS to define the boundary of corporate sustainability practice in the construction product industry. Through the use of NPPF, legal frameworks and industrial strategy documents, the government communicates its expectations and beliefs on the “three tiers” of sustainability, and uses action plans to guide industry's sustainability direction while advancing legal frameworks to create a legally-bound pressure through the public procurement process. The approach of the governmental use of MCSs is very much a top-down approach, which cascades down from the central (HM) government to *Violet*. Below figure 5.1 provides a summary of this cascading effect of the governmental influences on *Violet*'s sustainability strategy.

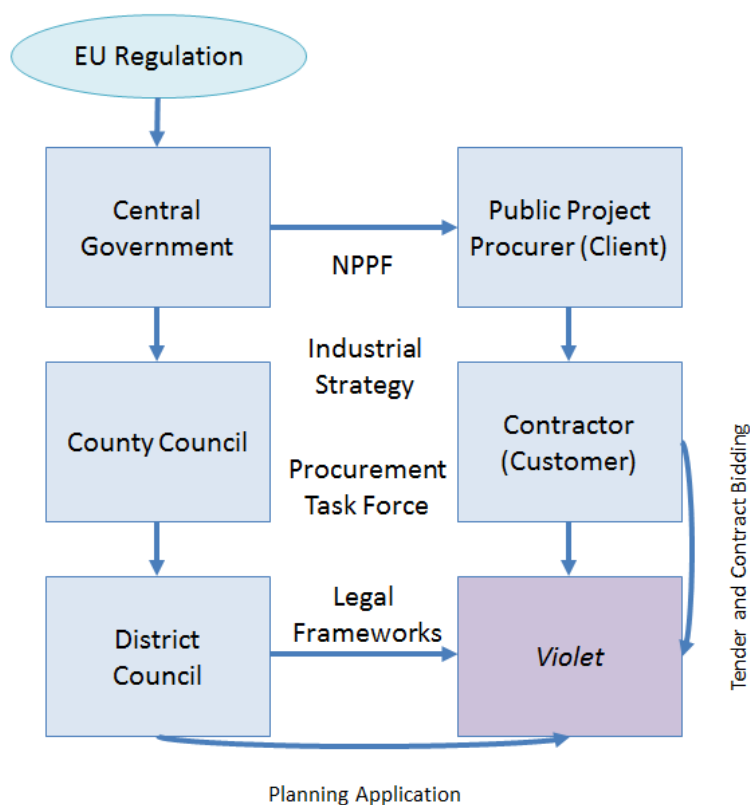


Figure 5.1: Manifestations of MCS in the planning and development process

Secondly, by investigating how clients and customers use their own systems to influence *Violet's* sustainability, the various MCS (PQQ, contractual terms and conditions, and SBSC) serve different purposes, as perceived by *Violet's* managers, throughout the life span of the project. These systems are used in combination during the process of “sustainable procurement”.

Sustainable procurement is an intelligent process that uses SBSC to manage all the sustainability-related performances across the life span of the project. This section highlights some criteria for effective management of sustainability to be successful. Firstly, it is important for clients to discuss their expectations and requirements on sustainability with the market before the project has been formally launched. In the ‘norm setting’ stage, clients communicate with their supply chain about their sustainability values, drivers and direction. SBSC can define the **beliefs** and basic values that clients are looking for in a project. These provide momentum and guidance to the supply chain – they are **belief systems** for opportunity-seeking behaviour. These features then inform the **boundary** use of PQQ to outline the scope of the

project. Moreover, they provide clients with an opportunity to use SBSC and PQQ (through encouraging bidders to answer open ended questions) to inspire new sustainability initiatives. This matches with the feature of the **interactive control system** to engender the emergence of new initiatives and strategies. This study indicates that clients' leverage their own MCS to involve themselves regularly in their decision activities with contractors and the supply chain.

The SBSC is more of an emerging approach for performance management in response to the Industrial Strategy. Table 5.1 below summarises the roles of these systems in the different stages of a project:

Stages Systems	Pre- Qualification and Planning	Project Implementation and Management	Post-Project Review
Pre-Qualification Questionnaire (PQQ)	<ul style="list-style-type: none"> • Communicating expectations • Assessing performance 		
Contractual Terms and Conditions		<ul style="list-style-type: none"> • Detailing requirements • Ensuring compliance 	<ul style="list-style-type: none"> • Stimulating dialogue to promote efficiency and profitability
Sustainability Balanced Scorecard (SBSC)	<ul style="list-style-type: none"> • Engaging with stakeholders • Communicating expectations • Assessing performance 	<ul style="list-style-type: none"> • Detailing requirements • Ensuring compliance 	<ul style="list-style-type: none"> • Engendering the emergence of new initiatives and strategies

Table 5.1: Summary of the role of systems in the process of sustainable procurement

Thirdly, by investigating the relationship between *Violet* and its industrial partners and supply chain, these stakeholders use their own systems in three ways: (i) training and learning, (ii) toolkit and framework, and (iii) accreditation and data verification, which all influence *Violet's* sustainability practices.

This study highlights an industrial partner, the *Academy*, which has a role to boost the culture and raise awareness of sustainability through providing training and learning services. This is particularly helpful at the transformative stage of sustainability within the industry to align the definition of the elements of sustainability. For example: the industrial workshop and online training are examples of the external use of **belief systems** to provide momentum and guidance to opportunity-seeking sustainability practices to shape *Violet's* as well as other suppliers' sustainability strategy. Further, in the design process of training materials, the *Academy* facilitates the leading industrial partners to focus on emerging sustainability issues. For example, the steering group focuses on modern slavery, for which the leading members co-develop training material for the supply chain, which is available online. This is an example of the use of **interactive control systems** to involve *Violet* and other industrial leaders regularly in the decision activities on a sustainability issue.

The toolkit and frameworks developed by the industrial partners and supply chain take further the 'infrastructure' developed from training and learning to provide usable MCS to help the implementation of sustainability strategy. Findings suggest these MCS help *Violet* to prioritise its sustainability issue and develop its action plan to monitor the outcomes of sustainability strategy, i.e. a **diagnostic use of control system**, and reflect a "journey toward improvement". By doing so, this study emphasises the role of performance measures. PM has a role to establish ownership for the company's divisions to better integrate *Violet's* sustainability strategy as well as other strategic drivers. Also, the externally developed performance measurement framework has potential to drive policy and act as a cornerstone of the development of a standardised measurement framework, *albeit* progressing slowly.

Systems	Functions
Training and Learning	<ul style="list-style-type: none"> • Consolidate the infrastructure of sustainability along the supply chain • Co-develop sustainability strategy to respond to the emerging issues
Toolkit and Framework	<ul style="list-style-type: none"> • Prioritise issues and help to develop action plan for a sustainability journey improvement • Monitor the implementation of the sustainability strategy • Assign ownership to different divisions within the business through the use of performance measures
Accreditation and Data Verification	<ul style="list-style-type: none"> • Ensure the validity of data within <i>Violet</i> and along its supply chain • If implemented correctly, they will deliver performance indirectly through the benefits from maintaining efficient MCS

Table 5.2: Summary of the functions of externally developed MCS affecting *Violet*

5.5 Using MCS for Sustainability-Related Strategic Decision-Making

An effective strategic decision-making approach should reflect an organisation's aims (its purpose), and relate to its objectives and goals (CIMA, 2009). This aligns with the primary function of an MCS, i.e. to gather and use information to evaluate performance to ensure organisational goal achievement. This section aims to present findings on the use of MCS by *Violet's* management to manage sustainability-related strategic decision-making (RO3). Accordingly, this section discusses the management accounting practices with the use of MCS in the process of strategic decision-making at *Violet*.

Findings suggest that MCS is found to support strategic decision-making through two processes in *Violet*: (i) strategy formation, and (ii) strategy implementation, which is consistent with the works of Simons (1995, 2000), but there does not appear to be a clear boundary between these two phases. While both positive and negative controls are found important for an intended sustainability strategy to be successful, the balance between them is difficult to maintain, which is somewhat inconsistent with the work of Simons.

The section begins with an introduction of the current challenges faced by *Violet's* management when undertaking sustainability-related strategic decision-making (section 5.5.1). Then, section 5.5.2 identifies different *strategic drivers* which *Violet's* managers perceive as important in the process of strategy formation, and reveals how MCS is deployed during the process. Finally, section 5.5.3 provides evidence of a range of MCS employed by *Violet* to manage the implementation of sustainability strategy.

5.5.1 Challenge in strategising sustainability – Thinking too broadly?

In reviewing *Violet's* sustainability reports from the last two decades, it is evident that its commitment to sustainable development both within and outside of the company is strong. Combined with other strategy documents, such as its environmental policy, quality policy, internal development schemes and documents provided by third parties, the organisation demonstrates how *Violet* commits to the improvement of its social,

environmental and economic performance, as evidenced in its quantitative, as well as qualitative, data and reporting techniques. *Violet's* rich experience in developing sustainability reports in the industry makes it a strong case to identify the current challenges in sustainability within the construction product industry and to investigate the use of MCS by managers when making sustainability-related decisions.

In more than fifteen years in the development of sustainability practices, *Violet* has encountered a range of challenges. One of these is the *communication challenge*, according to the Director of a Certificate Company, previously Head of Sustainability of *Violet*, who stated the following:

“For me, I think it is the communication and language. I think that we are able to articulate more effectively what the [sustainability] challenges and issues are, and the importance to connect them to the language of the business. It is not about a sustainability person talking to another sustainability person - they can agree with each other and talk for three hours. We need to move it away from people seeing sustainability as the one or two people in this whole department. It needs to be more integrated and I think it will become more integrated”
(2016).

Although the sustainability team in *Violet* knows about sustainability issues, the above quote suggests the notion of sustainability could be better articulated within the organisation. It highlights the challenges in communicating sustainability across various divisions, with the intention to connect sustainability with the language of business. In addition to the commitment made by the sustainability department, there is a need for the notion of sustainability to be disseminated to employees beyond the sustainability team, and to embed sustainability into different business strategies. Also, one of *Violet's* internal strategic document recognises a barrier in communicating divisional strategies across departments:

“In the past, we’ve been guilty of working to divisional strategies (including the sustainability strategy) but not really telling you about them. In last year’s engagement survey, you (i.e. Violet’s staff) told us that we hadn’t communicated our goals for the business and you felt

that some of our business decisions weren't explained clearly. With a clear business strategy that all colleagues are engaged with, I believe that we can be transparent about our decision-making and confident that the actions we take will lead us closer to our vision for Violet."

(Violet's Strategic Plan, 2016)

The above quote from the strategic plan provides further evidence of the key challenges in communicating Violet's divisional strategy: (i) a lack of transparency and explanation about the formulated strategy to other divisions (i.e. what is the strategy?), and (ii) a lack of engagement to other divisions in the decision-making process (how should staff from other divisions respond to the strategy?). The Head of Strategy articulates the problem in communicating sustainability strategy:

"If I go out to the guys in quarry and tell them sustainability is essential, then we focus on it. We make a big thing [about] sustainability. Now guys, you need to think in a sustainable mind-set, which means I want you to make sure the environment is still okay, I want you to make sure you are recruiting a diversified [workforce], more women, more ethnic minorities. He is going to look at you and say – you mean you want me to do my job. It means nothing. If you tell him this is a big deal and it is everything, it is effectively nothing or everything" (2016).

The Head of Strategy also depicts the sustainability challenge as thinking too broadly, and Violet is at the stage of connecting too many elements to sustainability, which means it may be seen as an ordinary business issue – if everybody is just doing their job, then sustainability becomes "*being a business*":

"When the Head of Sustainability started on board, she started to include things like Health and Safety, diversity into sustainability, a broader sense of the word... It makes sense but if you make sustainability as a definition, saying we think sustainability is really important for a business and you define it as being year after year always here, this is what a business is, that's not sustainability. It is

being a business... If you make it everything, it is effectively lost because it is not thinking about improvement."

(Head of Strategy, 2016)

From a strategic decision-making perspective, the above quote suggests that instead of treating sustainability as everything, sustainability strategy should be articulated effectively to allow different business functions to respond and contribute to that strategy while showing changes to the business.

5.5.2 Using MCS for strategy formation

This section aims to reveal how MCS is employed to facilitate decision-making in the strategy formation process. To begin with the definition of strategy formation, Mintzberg (1978) made a distinction between strategy formulation and formation. He defined strategy formulation as the long-range planning by leaders of organisations, whereas strategy formation is the result of interplay between the environment, the organisational operating system and the organisation's leadership (Mintzberg, 1978). Within the data collection period, the researcher visited the case organisation to conduct interviews, obtain and review strategic documents to understand long-range planning in *Violet*. By reviewing strategic documents since 2000, and interviewing relevant role-holders, data was obtained to better understand how MCS supports strategic planning (both strategy formulation and formation). However, as mentioned previously, *Violet* is at the stage of conversion after the merger of its parent company and has implemented changes to its senior management. The findings presented take these changes into account, as they may have implications for *Violet's* long-term strategy, but it also allows meaningful findings to be obtained to investigate the interplay between a strategy and the environment, operating systems and leadership. Accordingly, this section has its primary focus on the use of MCS to facilitate the strategy formation process, albeit within a transitional stage for the company.

5.5.2.1 Strategic planning process

Prior to discussing the strategic drivers that *Violet* is considering when forming a sustainability strategy, and how MCS is used in that process, the following quote

highlights a fundamental concern about what (and how much) information is needed for strategic decision-making:

“Everything is about having enough information to make informed decisions based on the level of risks we're prepared to take. Arguably, when you compare leaders, they all should be provided [with the] same information to make the same decision, yet leaders make different decisions. And that difference is due to the level of risks they are prepared to take about how well they see, how they anticipate the future and forecast.”

(In-house Independent Consultant, 2016)

The above quote notes a concern about having enough and correct information to make an informed decision for a given level of acceptable risk. Also, it illustrates that different decision outcomes can be reached, even from the same information, based on managers' perception of risk, and the risk they are prepared to take. This is aligned with the strategic management accounting literature, i.e. that the type of strategic decision differs depending on strategic thrust (or driving forces), and on the level within the organisation at which the particular decision is being taken (Ward, 1992). Accordingly, this study investigates various strategic drivers to understand risks (and opportunities) from the organisation's perspective, and how those drivers could affect strategic decisions. For example, the focus of strategic drivers is found important when mobilising MCS to convert strategic intentions into practice; Journeault et al. (2016) suggests that firms with a predominant focus on eco-efficiency rely on MCS to convert their eco-strategic intentions into eco-practices.

Depending on the uses of MCS, as outlined in Simons' LOC, the four levers support strategic decision-making (Simons, 1995, 2000). If MCS are the systems and tools that managers use to gather information to evaluate their performance towards the achievement of goals and objectives, then it becomes vital to understand how managers use the information to make their forecast. In line with the LOC literature, a range of MCS are used by *Violet* to ensure its sustainability goals are achieved. However, because of the fast changing/expanding business through merger and

acquisition, many formal yet diverse MCS are identified. This study places a particular focus on the corporate level MCS used by *Violet's* UK headquarters.

5.5.2.2 Using negative control systems to manage the restraining forces from external environment

From a strategic management accounting perspective, there are several different ways for large organisations to begin their strategy formation process. A typical process begins with environmental scanning to identify information needs (or recognition of the problem) and serve the corporate mission (CIMA, 2009; Ward, 1992).

Strategy formation should begin with understanding the position of the company in its operating environment. To put it into the context of this study, which is sustainability, it is necessary but not always straightforward to set the corporate sustainability agenda:

“How you do sustainability is a very big question. I will always start by saying or defining what sustainability means for the business. And it is inevitable that every organisation will define it differently. And that would lead to a different approach thereafter. Obviously, we [Violet and the constructor] both have the same focus on energy reduction because of climate change, and we are responsible to help to mitigate the risk of climate change, but the emphasis of that might be different depending on your sectors or activities. So, it is not just about standards and approaches, but it is about what is significant about that organisation and where the emphasis should be placed.”

(Customer – Principal Sustainability Manager, 2017)

Violet defines its sustainability goal as: “Sustainability at the Heart of our Business” (*Violet's* Sustainability Report, 2015). Within its sustainability policy and sustainability reports, standards and certificates are commonly used to demonstrate compliance with regulation. Along with the influences on *Violet's* sustainability strategy imposed by the stakeholders, as discussed in previous sections, these two drivers are identified as the most influential strategic drivers affecting *Violet's* sustainability practice.

Legislation and regulation

On one hand, the size of the company and the scale of its business operation put *Violet* in the spotlight of legislators, regulators and authorities. On the other hand, *Violet* takes a pro-active approach to emerging regulations. Two pieces of legislation are highlighted in *Violet's* current sustainability agenda:

The Modern Slavery Act (2015)

“The Modern Slavery Act (2015) came into being in 2015 and whilst we already have a number of policies in place to help establish robust systems and procedures to manage an open, honest and transparent business. We will also implement a new Sustainable Procurement Standard and roll out a new Supplier Code of Conduct. We continue to provide support to our supply chain partners through the Academy, which aims to promote best practice across the construction industry.”

(*Violet's* Sustainability Report, 2015)

The above quote provides evidence of how a change in the law or regulatory environment can trigger the development of a new standard and code of conduct to be used by *Violet*. The Modern Slavery Act is a key concern for *Violet's* sustainability team. The newly-developed sustainable procurement standard and supplier code of conduct are the MCS developed by *Violet* to ensure its compliance with the Modern Slavery Act. Within those MCS, there are questions and measures developed to ensure suppliers' performance in line with *Violet's* internal requirements. The requirements imposed by the Modern Slavery Act are translated into *Violet's* **boundary systems**, which act as a boundary to restrict the freedom in *Violet's* and its suppliers' operations:

“Yes, we look at targets for modern slavery. For instance, it could be what percentage of people in the business have been trained. Then say the key areas are contracting, HR and procurement, all those three areas are high risks regarding modern slavery by dealing with things more directly. So, for those three departments you could have a target,

say, this year we want 80% people trained on modern slavery. So, that is sort of the target that you could look at. Also, a target could be that you want 100% of your high-risk suppliers assessed against modern slavery and meeting your requirements. And then it could be 90% of all suppliers to be assessed against it.”

(Supply Chain Compliance Manager, 2017)

In addition to using standards and code of conducts to control and evaluate the performance of *Violet*'s suppliers, the above quotes provide evidence of the use of MCS from an internal perspective. *Violet* maintains a formal database to gather suppliers' compliance information on the Modern Slavery Act. *Violet* compares their performance against pre-determined targets to identify potential risks of non-compliance, which is an example of the **diagnostic use of control systems**. However, this database is not connected with *Violet*'s *Incidents Database*, which is the main tool for reporting incidents, action plans, and recording monitoring data, or the *Central Enterprise Database*. There is a project group working on a proposal to better integrate these sources of data but owing to the ongoing expansion of the company, other pre-existing systems within the newly-merged companies have complicated the database integration.

The Public Services (Social Value) Act (2012)

“Two recent pieces of legislation have been released, the Modern Slavery Act and the Social Value Act. For sustainability, those Acts put other things on our agenda. The Social Value Act wants to know about local employment, training opportunities, and those sort of things. That will be a part of our agenda.”

(Sustainable Product Manager, 2016)

The Public Services (Social Value) Act is another key regulatory driver influencing *Violet*'s sustainability agenda, which in turn, has an influence on its MCS. The key debate is around the ability to have a consistent approach to measuring social value, which is challenging as organisations try to make sense of the term and the act.

“The Public Services (Social Value) Act, [which] the parliament has passed in 2012. Its aim was to make it possible for social value to be expressed through public procurement. And it places the duties on the public sector, any public procurement to consider the social value of any procurement decision... The real issue is if you are going to do that, you must be able to incorporate this kind of measure in the public procurement exercise. And what they completely fail to do is to either define what the social value is or to impose any mechanism to measure it. So, it becomes completely ineffective because all the local authorities consider their own mechanism. It is ridiculous.”

(Performance Management Tools Owner, 2016)

After years of development, this study finds there is a lack of a legally-binding (or universal) mechanism to measure social value. For example, the *Railway Project* is a massive public infrastructure project that does not explicitly specify which performance measurement tool should be employed when recording sustainability data. Although some interviewees (including the Performance Management Tools Owners) are in favour of a universal measurement approach, this study finds the users (*Violet's* managers) tend to apply different measures to fit project-specific requirements. For example, *Violet* intends to follow an externally-developed *Socio-Economic Measurement Tool* used by clients when reporting compliance on sustainability. However, there is no evidence to suggest that the same tool is used for *Violet's* internal decision-making beyond the given project on which it is being used.

Here, the measures underpinned in the *Performance Management Tool* become the common language when managing the project and act as a **boundary** to project-specific performance. Although the use of MCS to develop strategy to demonstrate compliance is similar to how *Violet* tackles the Modern Slavery Act (i.e. **boundary and diagnostic uses**), here, it develops the social values measures to fit with the project-specific requirements. This study recognises the similarity among different sets of social measures, as well as *Violet's* internal measurement tool.

It is noteworthy that, when developing strategy responses to different regulatory drivers, *Violet* has flexibility to either mobilise existing MCS, or to adapt external MCS,

to best fit with the scenario, rather than taking a universal approach in capturing sustainability data. Accordingly, *Violet* has the option to mobile existing (internal) MCS or to adapt external MCS as a **boundary** control system. This study finds **boundary** control is emphasised (even in isolation) when responding to immature (i.e. emergent in nature rather than well-established) regulation in a short-termist approach.

Energy Saving Opportunity Scheme (ESOS)

“ESOS is a mandatory energy assessment scheme for organisations in the UK that meet the qualification criteria. The Environment Agency is the UK scheme administrator.”

(UK Government, 2014)

Making construction products is an extremely energy intensive process. *Violet* is facing increased regulation from the UK government about their energy use. ESOS is an example of the mandatory energy assessment scheme where *Violet* is assessed every four years by the Environment Agency, a non-departmental public body in the UK. *Violet* has rich experience in developing strategy to comply with environmental requirements. For example, *Violet*'s operational managers often make decisions about the size of vehicle fleets, which has direct implications for CO₂ emissions:

“So, we have a self-transport target. [We] develop an energy utilisation through using the railway network. This is a very good [example] of the transport not only to reduce the CO₂, but also the impact of vehicle deliveries on site. So, where we can, vehicles carry a larger capacity. Because their payload is larger than the current fleet, we are actually able to reduce vehicle movements over time. So, this is a social benefit on road infrastructure in the community as well. Because we have these vehicles that can carry larger capacity which reduce both the cycle [number of] trips to site, but also the CO₂ impact on tonnes delivered.”

(Management System Manager, 2016)

The above quote is one of many examples drawn from *Violet*'s environmental strategy. The use of MCS to manage environmental compliance is much more straightforward, compared to the social dimension. Quantitative targets are established and communicated to responding business units. Further, there is a whole range of standards that *Violet* can employ to demonstrate environmental sustainability, such as ISO 14001's specific requirement for an effective environmental management system. Again, the use of MCS to respond to environmental regulations and to develop new strategy emphasises the **diagnostic use of MCS**. However, because of the maturity of the environmental MCS, the information generated from those systems is often utilised to communicate with stakeholders to showcase achievements and identify improvement opportunities:

“As an example, there are a lot of people that live along that train line who would choose to not be there. So, what we actually need to think is how we minimise the impact on those people. We take trucks off the road. We make less noise. So, all of those areas will come from the stakeholder plan.”

(Senior Business Development Manager, 2016)

5.5.2.3 Interactive control systems – Building a business case

“I think one thing, certainly in my personal opinion, is Violet is a business, Violet needs to make money. We will not undertake an initiative, whether it is sustainability or anything else if we don't think there will be return on investment (ROI). Now, sometimes the ROI is a legal requirement, therefore it is fine, we have to do it. It doesn't matter [if] it is going to cost us money, or we get no money directly. But if we are not legal, there are consequences.”

(Senior Business Development Manager, 2016)

To be sustainable, the initiatives need to be financially sound. The above quote emphasises the importance of building a 'business case' (i.e. to be financially sound) when formulating a sustainability strategy (and initiative). Accounting is a common

business language that enables resources to be compared and evaluated between divisions. Particularly considering the financial perspective, involvement of management accountants in strategic planning is found to be prevalent; for example, a senior management accountant was promoted to financial controller during the data collection period, and describes the role of financial controller as:

“The intermediary between the business and finance team, so their job really is more of a control perspective, more involved with the strategy. It is looking at ways to increase profitability by looking at what we can do to help the company... We do the strategy, the future work, and the integration with the business to understand where we are, making sure what is being processed [and] what is happening in the real world.”

(Financial Controller, 2017)

The financial controller uses the information prepared by the management accountant to develop a strategy. Budget is a common tool that is used at this stage. The above quote gives an example of a financial controller’s routine job, which includes actively searching for improvement initiatives, either costs savings or revenue opportunities while communicating with the rest of the business. This indicates the use of MCS to support decision-making:

“Anything that might be a revenue opportunity, so where we see that maybe one of our products [could offer] something to do in social development that might give us a competitive edge then we will push that. And cost reduction, to be sustainable you need to be financially sound. So, there is an opportunity to reduce our cost internally, just looking at how to manage water, energy, waste, etc.”

(Head of Sustainability, 2016)

For example, managers perceive energy efficiency and carbon reduction as ways to help improve *Violet*’s financial position. As discussed, *Violet*’s ordinary production, i.e. making construction products, is extremely energy intensive. As a UK-based company, their operation is subject to EU Emissions Trading System. There is a penalty in case

of violation, which in turn becomes a ‘financial risk to avoid’. The newly-merged businesses within *Magenta* bring new capacity, but also increase energy consumption, so environmental managers need to monitor this regularly through diagnostic control systems. Then, data from these diagnostic control systems is used **interactively** to identify/justify initiatives.

“Initiatives need to be funded. We look at [the] cost of [non-compliance]. If we don't do something, what is the cost of business if we have a breach of legislation? Could we end up with a site being shut down? Could we end up with employer or public liability claims? That is something to be considered when requesting money for a project.”

(Director of Health and Safety, 2016)

Likewise, the above quote by a senior executive reveals a ‘risk-averse’ approach when considering the formation of an initiative. It highlights costs and potential consequences as fundamental concerns when requesting funding for a strategy. Performance data from conventional performance measurement systems are used by the managers **interactively** to identify revenue opportunities and/or to focus organisational attention on potentials cost of violation of legislation.

Most of the time, (potential) performance in itself is a primary driver of strategising decisions (Forkmann, Wang, Henneberg, Naudé, & Sutcliffe, 2012). Various ways are identified to improve *Violet*'s business performance. *Violet* is engaging continuously with process improvement projects (Head of Business Improvement, 2016). There are clear drivers to improve business processes in terms of logistics, production and internal communication.

For example, *Violet*'s sustainability reports often provide mini case studies to introduce how the logistics process is advanced to reduce environmental (carbon emission) and social (noise and traffic) impacts. Because of the product specification, some products need to be maintained at a certain temperature. *Violet* has to deliver those products from its production site to the project site in a timely manner according to the builders' work schedule. Significant traffic burdens to the local area are caused due to the high-volume of product needed for major/large scale projects. In one instance, an onsite

batching plant was constructed by *Violet* to process a high volume of [a construction product] to provide a consistently reliable product, and so reduce lorry movements. Having a plant onsite enables delivery peaks to be catered for much more effectively than using an offsite plant some miles away. Again, these impacts are mainly captured through **diagnostic** control systems, but the ways that the managers use and discuss match with **interactive** control systems' criteria. First, managers involve themselves regularly and personally in the decision activities of subordinates to have face-to-face discussion on these data. Second, it focuses organisational attention on strategic uncertainties to provoke the emergency of new initiatives and strategies. Third, the decision activities are important to the organisation as a whole and require the commitment from the senior executive at *Violet*. In terms of production, innovative initiatives have been taken to move towards a sustainable production process:

“Recycled glass is used instead of sand in many cases. There are a lot of drivers there, a lot of it because you are a manufacturing organisation to produce those products. If we were just a contracting organisation, then we have to rely on whatever the manufacturer produces for us. I think Violet has the advantage of producing those materials in a sustainable manner. And looking at a leading-edge product that will increase the productivity as well as satisfying the sustainability agenda.

(In-house Independent Consultant, 2016)

Violet is taking advantage of its role as a manufacturer to develop innovative methods in the production process. Using recycled materials as a substitute for sand for production enlarges *Violet's* sources of raw material, which in turn boost productivity. From a sustainability perspective, using recycled material instead of the limited natural resources contributes to sustainability (performance) statistics, which demonstrates business improvement in terms of sustainable production.

Further, tablet-based project management was implemented to improve the internal communication process, using tablets to provide a real time electronic capture of information, to act as an additional channel of communication between hundreds of sites, clients and head office (*Violet's* Sustainability Report, 2014). It helps to simplify and improve reporting, project management and incident investigations.

5.5.3 Using MCS for strategy implementation

Kaplan and Norton (1996, 2008) suggest the achievement of an intended strategy relies on contributions from different departments. The above section reveals findings on the communication challenges, using the Health and Safety strategy at *Violet* as an example to emphasise the importance of the aligning different business activities. This section continues to introduce how MCS are used by *Violet* to help with the implementation of sustainability strategy.

5.5.3.1 The infrastructure of the management systems

To begin with, the management system that holds performance data, including sustainability performance information, contain some deeply-embedded assumptions about how sustainability data and information will be maintained, accessed and analysed (Lowe, Locke, & Lymer, 2012). As such, it is vital that *Violet* has an effective management system to record and make available performance data. Implementation of the sustainability strategy within *Violet* is difficult due to the size of the organisation as well as its organisational structure. *Violet* is an organisation that has grown largely by acquisition, after the merger of its previous holding company to form *Magenta*; there are also a range of business units within *Violet*. A challenge identified is that there are several, stand-alone MCS that are not sufficiently connected to support those different units/divisions. While the recent merger and acquisition brought *Violet* the manufacturing capacity that it didn't have before, this presents a challenge for the implementation of strategy:

“What happened was those [new] plants had an Enterprise Resource Planning (ERP) system in place from their previous operator. [ERP-1] is what we run. So, Violet operates on ERP-1. The two new plants that we acquired run on [ERP-2]. When we bought them over, we didn't move them onto ERP-1, we left them on ERP-2. That is an example of what is happening a number of times over the last few years. I think it is very difficult for [all plants] to have standards set, an integrated one that everyone can feed into automatically. Everyone is doing something differently. And it is not simple to pull all of these things together, which

is I think what makes it difficult when we talk about something like standard KPIs for the whole business. [There is] a lot of manual work to get those figures.”

(Senior Business Development Manager, 2016)

When reviewing the history of *Violet*, this study finds that it is an organisation that has expanded largely by merger and acquisition. Each time *Violet* acquired a new company, the management system team is required to integrate data and combine the management system from the incoming company to ensure effective strategy implementation. For example, the Management System Manager suggested that they are working on developing a new management system framework to consolidate standards (e.g. stand-alone environmental, medicine, health and safety, auditing, accounting) and reduce documentation (2016). There is a lot of specific information related to each single subject at the various sites. *Violet* is in the process (starting from 2010) of consolidating the different data into a standardised format, and layout templates into what could be currently termed “the central management systems silos”; the reporting process is represented in red arrows in Figure 5.2.

Similar to manufacturing more generally, *Violet*'s operation is structured according to its product-lines, along with the geographic locations of production sites that are widely spread across the United Kingdom. The nature of works between its various products can also be very different:

“We are running very divisionally. People develop different reports, scorecards, which are divisionally or department-wide. Because that's how we are structured. However, if we have something is [company-wide], like the back-to-work sessions, it is inevitably headed up by cross-departments, like health and safety, environment, etc.”

(Head of Business Improvement, 2016)

In addition to the production businesses, *Violet* sells products and provides customer services directly to the customer (green arrow in Figure 5.2), which the company regards as the service part of the organisation. The headquarters (HQ) provides central services to support production sites; this includes sustainability, health and

safety, finance, information technology and human resources. Performance data are recorded by the regional production sites, then reported via an online portal regularly to those central service departments. Figure 5.2 below summarises the flow of data across the different parts of *Violet*:

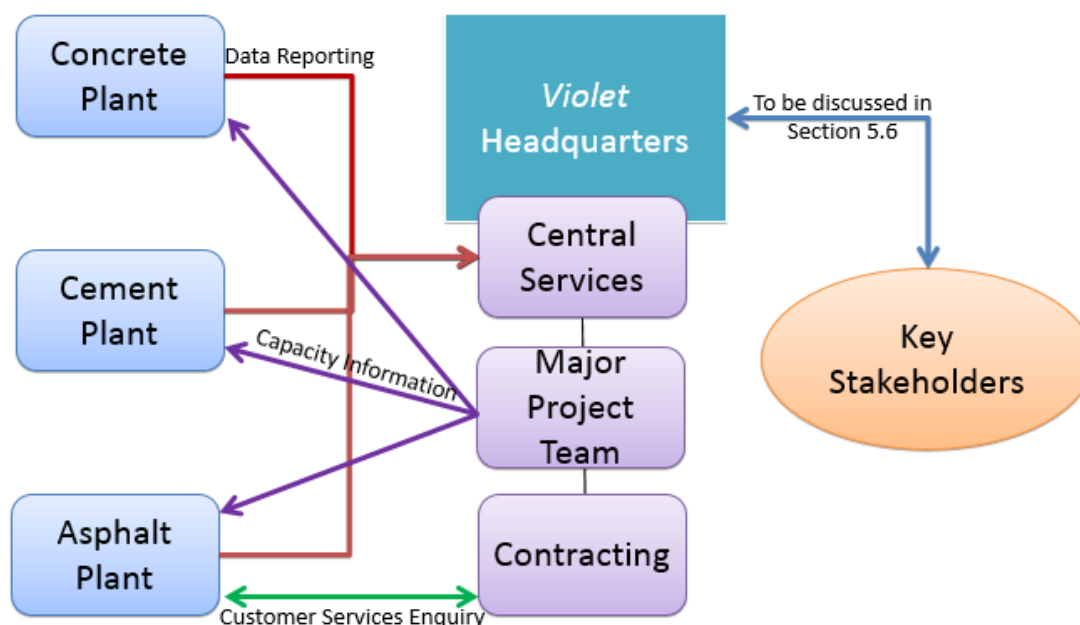


Figure 5.2: An overview of the flow of data across the case organisation

Understanding how performance data flows within *Violet* allows constraints to be placed on how accountability can be established to control the implementation of strategy. The blue rounded rectangles represent the production function of *Violet*, for each product may have dozens of sites across the UK. Performance data are recorded by regional sites and overseen by the regional financial controller and product director. Then data is reported to the HQ's central services, via the red arrows, through the management systems, to generate a range of reports, each of which may serve a different purpose:

"We do a lot of reports to different people. We produce hundreds of reports. Some go to the senior management, some go to business management, and some go to the commercial team. But at the same time, it is quite complicated to map them together."

(Head of Strategy, 2016)

The *ERP* system is a data system that contains quantitative data, including production outputs and financial figures, while the *Incidents Database* allows users to enter qualitative data to provide a narrative for a particular event. The latter has been found popular in reporting social indicators and community dialogue. While this study identifies two main management systems to store performance data, *ERP* and the *Incidents Database*, *Violet* is moving into a new *ERP* system to combine different *ERPs* and *Incidents Databases*. However, the new systems are in an emergent stage of development, and informants had limited knowledge on them at the time of data collection. Therefore, this study focuses on existing systems that store data allowing central service departments to extract and aggregate a site's performance data.

This study investigates the notion of sustainable development in the context of the use of MCS by *Violet* (put in place primarily to inform stakeholders of its progress towards sustainability). The arrows in Figure 5.2 represent the flow of sustainability data from different production sites to *Violet's* HQ; The flows are processed to generate information for key stakeholders. Starting with the data collection at production sites, an example of the use of technology to measure performance is identified:

“The tablet application we have at the moment, it looks in real time about all the processes that they have to go through on the individual sites. For example, induction – a way of making people understand what is going on, on site. And then, it has various different forms and risk assessments that will check what is going on. If things aren't going so well, he/she would log back in using the tablet and you might make an amendment. So, this is a way of monitoring how well something is going on, on site. But also documenting things in real time so you can see whether there is an issue or if you need to increase or decrease something. You look at your resources and cost management on there as well. The tablet is definitely a way of measuring performance.”

(Submission Manager – Contracting, 2017)

The above quote reveals how performance data is collected at the production sites and reported via the tablet application to the *ERP* and *Incidents Database* when communicating with central services. *Violet's* central services departments will either:

(a) use those data proactively to generate sustainability information for different decision-making purposes, or (b) reactively respond to the requirements or regulations imposed by key stakeholders (section 5.5.3.3). For example, the Head of Communication at *Violet* suggests the sustainability data collected through the *ERP* and *Incidents database* (MCS) are used to prepare communication materials:

“Data is used to engage with our internal colleagues through events, writing the company magazine, emails, internal bulletins, etc. We also have an external remit which is working very closely with the marketing team on kind of, basically, raising the profile of the business through non-paid-for press articles. I'm working with an agency on press releases, identifying key stories within the business. We want to bring [that] out into case studies (2016).”

The above quote shows that MCS is used to gather data to develop information to communicate with internal members and external stakeholders through different forms. Incorporating data from the *Incidents Database* broadens the scope of information to support decision-making, personal and social controls (Chenhall, 2003). Traditional *ERP* systems, on the other hand, gather information about manufacturing outputs and other capacity information to monitor progress and forecast financial influences on the project, i.e. a **diagnostic control system**, details are introduced in section 5.5.3.4.

The following section gives some examples of how sustainability data is transformed from the production sites into information of potential use to internal and external stakeholders.

5.5.3.2 Belief systems –Setting the culture and context of sustainability

Going further into the internal communication within *Violet*, the researcher has attended a network conference during the data collection period and found most of the participants were from the sustainability, environment and procurement departments. Findings suggest that there is a barrier for sustainability issues to get across different departments within an organisation. The language of the business should be changed to better integrate sustainability issues beyond the sustainability team. In other words,

there is a need for the language of sustainability to be better communicated across industry companies (inter-organisation), as well as the various functions within the business (intra-organisation) so as to implement sustainability strategy successfully.

As previously mentioned, the *Academy* (section 5.4.1) has a role to engage different people across the supply chain to develop and communicate sustainability knowledge. Due to its scale and popularity in the construction sector²¹, it has potential to integrate and communicate inter-organisational sustainability issues. However, when interviewing *Violet's* staff (other than the sustainability and procurement team), they tend not to be directly connected to, or aware of, the training provided by the *Academy*. Therefore, the reach of the *Academy* appears to be limited, focusing on the intra-organisational understanding of sustainability issues. This section discusses how *Violet* uses MCS to raise awareness of sustainability issues internally.

First, the commitment to sustainability made by the senior management of *Violet* will be discussed. Since the merger of *Violet's* previous holding company to form *Magenta*, *Violet* has combined its sustainability practices, to develop a sustainability policy, and it has incorporated this into its strategy plan:

“The [previous parent company who owned us before] has a focus on sustainability and the [new company merged to form Magenta] also has a focus on sustainability. Each of their teams and policies follow best practice. Now they have merged. We spent about six months looking for what is the best between the two, the most robust policy and then merged to create one policy. The best charter, guidelines, procedures, systems, process and even people. We have to rationalise the team, so we have one team now.”

(Head of Sustainability, 2016)

The sustainability team is considered as a supporting, central service department at *Violet*. Its two primary functions are: (i) to ensure the compliance, management and

²¹ The working party of the *Academy* is formed with the leaders in the construction (and product) industry in the UK. The latest statistics suggest that it has engaged with more than 2,000 member companies (*Academy's Website*, 2018).

improvement of carbon emissions, and (ii) to identify and embed sustainability opportunities to reduce cost and risk, generate revenue and improvement in reputation. The team works collaboratively with other parts of the business to disseminate the understanding and values of sustainability beyond the small team in the HQ.

Violet starts with the culture to drive employees' understanding of sustainable development by using a mission statement, sustainability policy and *Violet's* strategic plan. These **belief systems** define the scope of behaviour that is relevant to *Violet's* operation and provides momentum for employees to move toward the goal:

"It is absolutely right that you have a mission and values about the organisation – where you are, where are you going and that really sets the context of your sustainability strategy and reporting and everything else attached to it. I think often we don't promote it enough internally, within the organisation. Take Violet, for example, [the sustainability] team can't do everything, they can't be everywhere at every site on every day promoting environmental, sustainable, social good practices."

(Certification Company – Director of Sustainable Products, 2016)

The above quote, from the previous Head of Sustainability at *Violet*, first recognises the importance of the use of **belief systems** to set the context of sustainability strategy. It also highlights the importance of promoting sustainability internally within *Violet* and the capacity constraints of not having enough resources to achieve it. With limited resources to promote sustainability internally, an in-house independent consultant suggested that performance indicators can help drive a sustainability culture, through establishing targets against sustainability goals:

"The way we should start is the leader should dictate what the strategy is. And they will say this is a strategy I would like to see in the next 5 to 6 years, you come up with a vision and mission statement and a business plan, you want to know how well you are doing against your business plan and how well you are doing towards a strategy and the vision. Then you will request and find maybe 15 or 20 indicators which give you steer on whether you are on track or not. You set up all those

aspects and instruct employees to go ahead – tell followers the indicators that would sustain [the strategy] and make up indicators for leaders to drive the strategies. Everything gets cascaded down to the operating details. You might have 3, 4, 5 levels lower than the Managing Director where measures would be identified to hold up towards those global KPIs that you have set for a strategy.”

(In-house Independent Consultant, 2016)

After using **belief systems** to dictate the strategy, the above quote suggests performance targets should be set against the business plan. The use of indicators allows details to be cascaded down from senior management to the operating level. Using total waste to landfill (an environmental indicator) as an example, *Violet* has a commitment to reduce waste to landfill for one of its products to zero, i.e. an environmental sustainability strategy. This allows *Violet* to establish targets that underpin the use of diagnostic control systems, thereby allowing comparisons to be made year-to-year. For example, this indicator has dropped (improved) significantly from 2010 to 2014, which reflects the success of the implementation of a strategy. This is an example of the use of a diagnostic control system to define goals and set the context of a strategy implementation. The staffs in various departments have a target to reduce waste when handling the product. The use of targets allows employees to establish a cause-and-effect relationship between their behaviour and the strategy. Ultimately, the sustainability strategy is translated through performance targets to guide employee behaviour and for the leaders to drive a culture of sustainable development.

A case of Violet’s Health and Safety strategy

Health and Safety is considered as the most important core value within *Violet* – “we are pioneers of best practice in sustainability which is underpinned by ensuring that the health, safety and welfare of our colleagues, along with that of those visiting our sites, is our number one business priority” (*Violet’s Sustainability Policy*, 2014).

There is a separate Health and Safety department seeking to ensure that every individual within the organisation is working toward the company’s zero-harm target.

The team engages with people across the organisation and makes sure their divisional strategies align with the health and safety strategy. Therefore, the health and safety strategy is a good example of how a strategy is defined, articulated and measured in strategic decision-making:

“At the core of the Violet mission is safety. Through all that we do, our aim must remain that no one should return home at the end of the day with an injury caused by their work... Health and safety is our overarching value. We believe in visible leadership and personal accountability for health and safety at all levels and throughout our organisation.”

(Violet’s Strategic Plan, 2016)

The above quotes from the *Sustainability Policy* and *Strategic Plan* illustrate the use of the **belief lever** of MCS, clearly defining what is covered in the health and safety strategy as “no one should return home with an injury caused by their work”. The health and safety commitment is translated into precise action that allows employees to respond to the strategy. When collecting the data, the researcher finds health and safety information around different locations, and a health and safety briefing was conducted with the researcher before going on site.

Further, there are measures such as lost time injury rate and injury frequency rate to monitor the overall outcomes of *Violet’s* health and safety performance. Along with other health and safety programmes, every employee is engaged in an *Employee Evaluation Programme* to ensure their achievement of the target. Data collected annually from these **diagnostic systems** allow *Violet* to establish a pre-set standard of performance, monitor its progress and manage progress and improvement of health and safety performance.

Although the Health and Safety strategy is well-formed and articulated throughout the divisions and is regarded as an overarching value embedded in *Violet*, a challenge is identified when attempting to articulate health and safety under sustainability strategy, i.e. is Health and Safety a subset of sustainability?

“I think it is better to say this is health and safety, we want zero harm. [Sustainability] may still want this. And [the Head of Sustainability] can then capture it as part of sustainability. But when we articulate it, when we strategise on it, we call it health and safety.”

(Head of Strategy, 2016)

The health and safety strategy is often used in the company’s sustainability report to showcase *Violet’s* achievement in pursuing sustainability goals. However, the Head of Strategy suggests that Health and Safety is better articulated and strategised under its own name. Instead of integrating Health and Safety under the sustainability strategy, *Violet* takes a different approach when strategising the Health and Safety strategy. For example, an internal guidance note for managers that aids their strategic decision-making purpose cites five critical, strategic values (including sustainability), but explicitly excludes health and safety: *“it is important to highlight that Health and Safety is not identified as one of the strategic values. In fact, it is defined as the overarching value that all other values must align to”* (Employee Evaluation Programme and Strategic Value – Guidance Notes, 2016). This study finds that health and safety has a strong culture, well-established practices and management structure that has been guided through **belief systems**. It tends to be strategised in its own right in the strategic decision-making process, while simultaneously contributing to *Violet’s* sustainability agenda.

Indeed, the relative maturity of an issue seems to be critical in shaping a sustainability strategy. Currently, *Violet* is not in a position to fully integrate Health and Safety into its sustainability strategy. Instead, it is regarded as an overarching value influencing the formation and implementation of a strategy (i.e. strategic decision-making), simultaneously contributing to *Violet’s* overall sustainability goal – *“in five years’ time, maybe sustainability moves on a bit, maybe people understand more what it is about. Take [a transnational consumer goods company], sustainability is the fundamental part of their strategy, and everything else feeds into that. That’s fine if you are in that part in your culture. We rewrite a strategy in a few years’ time when we hopefully move to where we want to be or close to where we want to be. Maybe sustainability is a core part of it. Right now, it is not everything. It is like a pillar”* (Head of Strategy, 2016).

5.5.3.3 Boundary systems – Aligning communicate sustainability information with stakeholders

In addition to the proactive use of MCS to gather information and communicate the sites' performance to internal stakeholders and for marketing purposes, as mentioned in section 5.5.3.1, MCS are used reactively to respond to complaints or demonstrate compliance:

“We log any complaint we get on our Incidents Database, and most of them were about noise, maybe some dust, smells. The majority are about lorries delivering near our quarry. We want to reduce the number of complaints we have. We take it seriously, investigate [the complaint] seriously, and where we are at fault, find the solution.”

(Sustainable Product Manager, 2016)

Therefore, MCS acts as a **boundary** system to establish rules and limits restricting normal operations. When there is a complaint, those data are used as evidence saying that *Violet's* operation is within limits (Senior Estates Manager, 2016). For example, noise data are used to provide evidence to justify *Violet's* operation is aligning with the planning permission granted by the local authority. The usefulness of each indicator varies, depending on what stakeholders expect, the strategic objectives, and any change that is expected (External Consultant – Social Values, 2016). Therefore, the use of MCS allows *Violet* to document performance data and use it proactively to communicate with both internal and external stakeholders.

5.5.3.4 Diagnostic control systems – Defining responsibility and monitoring progress

The traditional notion of MCS builds on the concept of cybernetic control and management by exception (Ahrens & Chapman, 2004; Anthony, 1965). Classic cybernetic controls are still the preferred choice at *Violet*; managers use MCS to ensure resources are obtained and used effectively and efficiently in the accomplishment of the organisation's objectives. For example, the **diagnostic use** of MCS is prevalent in managing environmental performance. *Violet's* ERP is used to

monitor carbon emissions, energy use and water consumption for over 300 production sites. As introduced in the previous section, “license to operate” is a fundamental concern affecting *Violet*’s strategic decision-making. Issues surrounding contract requirements, regulatory compliance and planning conditions require *Violet* to closely monitor and report its performance data. Therefore, the feedback systems that help *Violet* to monitor organisational outcomes and allow managers to correct deviations from those pre-set requirements are vital for the viability of *Violet*’s day-to-day business. Performance data for environmental sustainability are a quantifiable output that can be measured and managed through **diagnostic control systems**. Targets for environmental and economic performance are relatively straightforward, and the definition behind the measure is often adapted from contractual or regulatory documents. Therefore, using automated feedback systems to monitor compliance and compare against internal targets can be conducted effectively (Senior Management Accountant, 2016).

However, using MCS to manage the implementation of social sustainability strategy requires more managerial effort (Head of Strategy, 2016). The diagnostic role of MCS associates performance management with the assessment of the cause-and-effect relationship between an organisational process and goal achievement (Atkinson et al., 1997). In other words, the influences that organisational process and individual behaviour have on a strategy need to be clear to each individual, so they understand their own responsibility:

“Do they (i.e. the frontline staff) know the impact they have on the daily activities on the measures that we are reporting over to Magenta? No. If I am (front line staff), what do I need to do to? How well is my project doing? We work ground level up, it is the only way that we are going to improve, and I don’t think that reporting is clearly available. However, we do have a project, with tablets on site. So, we are working toward making information that is relevant [to particular staff]. The guys don’t want to know how the whole company is doing on a daily basis. Make [sure] it is relevant to them.”

(Head of Quality and Business Improvement, 2017)

The above quote highlights the importance of establishing the cause-and-effect relationship between employees' specific contributions and the strategy objective. Through performance indicators, which are embedded in the *ERP* and *Incidents Database*, managers involve and motivate themselves regularly and personally in decision activities with subordinates. Performance data/measures are challenged during the meetings. With the tablet system, it allows managers to extract relevant data from both *ERP* and *Incidents Database* to focus their attention on strategic uncertainties and provoke emergence of new initiatives and strategies. For examples, the Head of Quality and Business Improvement (2016) identifies a training opportunity to utilise the spare hours that the contractors cannot work because of weather conditions, and converts it to training statistics which is beneficial to *Violet's* social sustainability; and can claim back a levy paid to the industrial bodies every year when *Violet* deliver training to its employees. This **interactive use** of MCS enhances the visibility of strategy across the different levels of staff.

There are pre-set performance standards to monitor progress against Health and Safety: *"in terms of health and safety, we have corporate targets – we have lost time injury rate and total injury frequency rate. They are measures across the organisation and everyone in the organisation contributes to that. And so those targets drive behaviour in terms of health and safety* (Senior Business Development Manager, 2016)." *Violet's "zero harm" corporate target breaks down into these two indicators, which makes the strategic goals connection with an individual's expected behaviour very clear.*

Unlike its operations in production, in which the implementation of a strategy can be measured against quantifiable outputs, recognising achievement against social sustainability relies on broader information. For example, several business plans combine to support *Violet's* health and safety agenda.

"It is difficult to measure success. I go around and conduct interactive safety talks once a month. So, I try to ask some questions when I go out to the sites. Generally speaking, people are aware of it, which is great. But they probably don't want to listen [repeatedly]. We have a report from our occupational health partners. So, they use the

information from the occupational health medicals to give us a summary of our workforce. Then we decided that we need to focus on losing weight, stopping smoking and all different things like that. I guess it is a bit about the measures of how we've done. So, if our workforce is a bit lighter and smoking less, then maybe we've done something [right]."

(HR Resourcing Partner, 2017)

The above quote reveals the uses of an occupational health report as an alternative method to measure impact and achievement on health and safety. The use of this external information allows *Violet* to better assess the implementation of a social sustainability strategy²². This study finds managers use a broader scope of information when assessing social sustainability performance, probably because there is no common approach; for example: *"most stakeholders who are concerned about social values in the UK are concerned about their local geographic area, they would define the area which is of interest to them"* (External Consultant – Social Values, 2016), and safety standards can be very different across countries (Vice Finance President, 2016). Social sustainability information has to be tailored to respond to stakeholders' expectations. The inclusion of a broader scope of information allows more flexibility to monitor and demonstrate achievements.

An *Employee Evaluation Programme* is identified to put forward the use of performance measures to define responsibility and monitor employees' performance against *Violet's* different strategic objectives:

"We have an [Employee Evaluation Programme], which is our appraisal PMS. It is actually this time of year, everybody gets until the end of January to rate their objectives for last year. So, every year, employees would have up to three personal objectives, which are linked to our staff bonus scheme. We have a staff bonus scheme and there are different elements within that scheme, so you've got earnings before interest, tax

²² Although *Violet* has a designated department to manage its Health and Safety strategy, it has been framed as a part of *Violet's* sustainability agenda and reported through sustainability (stakeholder) reports every year. Therefore, this study considers Health and Safety practice at *Violet* as a part of its sustainability agenda with a strong culture and commitment (section 5.4.2).

and amortisation (EBITA), Health and Safety target, and cash flow, which are companywide targets.”

(HR Resourcing Partner, 2017)

While *Violet's Strategic Plan* has outlined the five core values for the business, the *Employee Evaluation Programme* translates these strategic objectives into precise targets for individuals, which include results, customers, sustainability, integrity and inclusion. Each employee is evaluated against these values every year through a performance rating, which links with the incentive scheme. This **diagnostic control system** allows company-wide strategic objectives to be linked with individuals' work. The use of targets allows individuals to define their responsibilities and ensures they are working in the same direction as *Violet*.

The Sustainable Product Manager uses local economic benefit as an example to illustrate how the sustainability component can be influenced by individual behaviour: *“maybe most people in the business don't really appreciate [the Social Value Act (2013)]. They think well, why would we go and help the local school apart from the fact that it is nice to do potentially. But [with] more commercial benefit [attached] to it, it raises the motivation of an employee if they have a day out doing something voluntary. Maybe the payback is that we end up getting a local contract because of the things that we've done”* (2017).

Employees have a regular evaluation on their performance against *Violet's* sustainability goals. Typical measures include the number of days volunteering in the community, use of printing paper material, and number of sick days taken. Target-setting is highly flexible and negotiable with line managers to match individuals' nature of work and past performance. When reviewing the internal guidelines on the *Employee Evaluation Programme*, performance targets refer to *Violet's Strategic Plan*, the key **belief control system**, and targets for core values are cascaded to individuals. The top level strategic goals are defined in the *Strategic Plan* and modified to suit individuals' day-to-day jobs. This helps to improve “visibility” when implementing a strategy. Further, the programme provides motivation through a bonus scheme according to achievement against targets.

Therefore, this study finds the use of the *Employee Evaluation Programme* at *Violet* is **diagnostic** in nature and allows the sustainability strategy to be better understood and enacted by individuals and monitored regularly.

5.5.3.5 Interactive control systems - Searching for new initiatives to improve business performance

Management control systems are found able to shape organisational members' practices (Ahrens & Chapman, 2007). This study identifies different MCS used with the aim to improve business performance. Two systems are highlighted here – *the Alliance Programme* and the *Employee Evaluation Programme*. These MCS are used interactively for managers to engage with subordinates regularly to focus attention on business performance and emerging initiatives, which are the criteria of the use of **interactive control**.

“I think it depends on superiors. If they are aware of what is going on in the business, then they can maybe see an opportunity in the job that you do. But if your superior isn't aware and they don't know what is emerging in the business, or what we are lacking, then, I think it would probably be missed.”

(Supply Chain Compliance Manager, 2017)

The above quote highlights that it is important for new initiatives to be captured by the senior management of *Violet*. The *Alliance Programme* is a programme designed to connect all the employees of *Violet*. Every employee is assigned to an *Alliance* team, facilitated by a team leader, and tasked to come up with an idea to improve an aspect of the company, raise a concern, or give feedback. Therefore, everybody in the business can contribute personally or via the team that they are allocated to. The below quote gives an example about the opportunity to improve business performance, in which there seems to be a real emphasis on building a “business case” for sustainability:

“[We are looking for] anything that might be a revenue opportunity. Maybe it is one of our products. Sort of something that we could do in

social development that might give us a competitive edge then we will push that. And cost reduction, to be sustainable you need to be financially sound. So, there is an opportunity to reduce our cost internally, just looking at how to manage water, energy, waste, etc.”

(Head of Sustainability, 2016)

Following the *Alliance Programme*, various teams across the business have formed to identify ideas within four pillars – safety, customers, people and sales. The senior management accountant, one of the group facilitators, suggests that lots of ideas are generated from the programme (2016). The informant suggests that gathering ideas from more than 4,000 employees could be a good idea, but the review of what has not been implemented is challenging. On one hand, it encourages team members to share their knowledge beyond the boundary of their own area of work to help the business, motivate and inspire everybody for the success of *Violet*:

“It is not necessarily about success or failure, it is about generating your idea. As you know, Violet is a company that has been in operation for so many years. It is actually about giving a platform to put those ideas onto and see whether it takes or not. And if we can do those things, then we automatically create an element of success or an element of competitive advantage. So, I think that the most important part is being able to contribute, or feel you are contributing to something, which is a part of a larger picture or larger success.”

(Senior Management Accountant, 2016)

The *Alliance Programme* is used as an **interactive control system** to provoke the existing organisational structure and search for new initiatives while motivating employees to contribute to the company’s success.

On the other hand, the programme requires a significant degree of managerial effort. A mid-level manager, who is also a team facilitator, reports that: *“from my perspective, I find it is a difficult one because the Alliance Programme is very time consuming, very time consuming. So, my input to it isn’t necessarily as high as the people that are next*

level down to me. They have a lot more input to it than I do. But they feed it back to me. Therefore, for me, it tells me what they want, which I can then feed upward. But I don't think anything is particularly fed down the chain through this initiative” (2016). Because of the size of the organisation, “too many ideas” have been generated and the process of narrowing down is challenging. Accordingly, the Head of Communication suggests that “*what we found is that an engaged workforce actually gives much more discretionary effort, but I don't think forcing engagement on people is the way to do it, it has to be a hearts and minds approach. You must have an appetite to join something like that” (2016).*

The above introduces the **interactive** use of the *Alliance Programme* to motivate employees to search for new initiatives to improve business performance. The remaining of this section focuses on the cost-and-profit opportunities. *Violet's* ordinary business is to extract raw material, process it into different kinds of construction products, and sell it to customers. Similar to the manufacturing industry, balancing capacity within the business is difficult (Director of Health and Safety, 2016):

“With the quarry, you have to get a certain amount from one site, a certain amount from other sites. If you sell lots of one [product], it is no use. Imagine if you blast the quarry, you get rocks and you produce a range of different products. What we call products, but you would think they are just different sizes of rock. They would have different value attached on them. If you try to sell loads of the small stuff, you have to get the big stuff. You can either sell the big stuff or reprocess it at extra costs to produce small stuff. But that changes the costs but in order to do that, we need proper reporting.”

(Head of Strategy, 2016)

The above quote reveals the basic decision-making for each product's cost-volume-profit (CVP) relationship. Data from the *ERP* system is used interactively by managers from the various product lines to identify the best product-mix in order to maximise the profit of the company as a whole. The informant further suggests that “*we present on what is our volume, market share, pricing, we were talking about how our prices are holding up... what the right price to be placed in order to hit certain market share”*

(2017). This is an example of how *ERP* is used as an **interactive control system** to involve managers regularly in decision activities, according to the internal capacity and external market situation, to identify profit opportunities.

As a profit-driven company, it is not surprising that *Violet* is (in favour of) using quantitative data to evaluate the performance of a department or a project. The below example shows how financial measures, which underpin the *ERP* system, are valued by the management:

“We can equate financial measures, but sometimes that is time saved, and it is an estimate. It is only as good as that estimate, where it is. They are normally mapped at the start of the project in Violet. This is the financial cost, or this is what benefits are going to be realised. Probably what we don't do very well is look at the business activities, against standard lines, having those benefits actually realised. We do quantitatively because we can see financial (values). Probably we've got behaviours, ease of work, effect it has on morale, which are equally important to a company, particularly the service part of the company. We probably don't do that evaluation.”

(Head of Business Improvement & Contracting, 2017)

This study finds the financial measures, which underpin the performance data in *ERP*, are used extensively in decision-making about business results – sales, which is a core value outlined in the Strategic Plan. However, the use of MCS to gather data about the implementation of sustainability strategy is found to be immature:

“I think there would be some value to us having a core set of key performance indicators as standard that we can then use as a starting point when we get to bid for [the railway project]. If I could sit here now and say I know exactly how much carbon we use, how much water we use, how much waste we avoid, how much waste we do have, how many graduate and apprentices we have, and how many lorry movements we save a year. If I have all of that at a starting point, it would mean less work on a project-by-project basis. But sometimes

what happens is we don't have all the information to start with. So, every time a project comes around, we have to go back and find all the information. If some KPIs were measured every month, our starting point for something like this would be a lot more advanced than where we often start.”

(Senior Business Development Manager, 2016)

The above quote suggests that although sustainability data are collected and stored in data systems, the data is not necessarily readily available, i.e. not integrated in a standardised way for easy access. Instead, data are prepared in an ad hoc approach, only when they are needed.

5.5.3.6 Summary

This section reveals findings on how different MCS are mobilised to control the implementation of a strategy. As framed by Simons' Levers of Control (LOC), this study investigates *Violet's* use of MCS to communicate with stakeholders, shaping the culture of the organisation, setting the context of a strategy, ensuring the effective implementation of a strategy, and motivating the search for new initiatives.

The notion of legitimacy is central in Stakeholder Theory (Freeman, 1984), and motivates this study to investigate the role of information and disclosures between an organisation and society (Gray et al., 1996). “License to operate” is crucial because *Violet* relies heavily on **diagnostic control systems** to demonstrate compliance when communicating with external stakeholders. In addition, **boundary systems** constrain day-to-day operations in accordance with rules and requirements. This section reveals several emergent regulations that is immature in nature (section 5.4.1.2), which requires *Violet* to either mobilise existing MCS or adopt external MCS at a short-temist approach (p.207).

Further, MCS are mobilised as a **belief system** to define the culture of *Violet* (e.g. the five core values) and set the context of the strategy, which it could inform the development/selection of performance measures. This study also finds the use of a **diagnostic control system** has potential to enhance the “visibility” of the strategy

through individual target setting to link the top-level strategic goals with specific individuals' day-to-day jobs.

In terms of business improvement, the ability of senior management to be aware of an opportunity is important. This study provides an example of the practical use of an **interactive control system**, to engage all staff to search for new initiatives while motivating them to help towards the company's financial success. Depending on the use of MCS, traditional accounting techniques, such as CVP analysis, can be used interactively to scan for profit opportunities through adapting business operations in response to internal capacity and market conditions.

Finally, this study finds evidence for a standard approach to strategy implementation; the process starts with the vision, works out how to measure and what cannot be measured, and then comes up with actions to deliver and monitor it. The example below uses the strategic goal (the customer) as an example to illustrate how MCS is mobilised to control implementation of the strategy:

“So, we define our strategy to be more customer-oriented. We define where we currently are, say Net Promotion Score (NPS) 25. We define where we want to be. Say, in the next five years we are going to get 50. We draw some lines with a series of actions. A [particular product] business has very defined actions in this year and the years after in order to move the NPS to there. Breaking down the vision to a number of measurable parts and then you measure it, deliver it by 2020. We will be closer to our strategy and vision. Strategy is about setting the right level of vision, working out how to best measure it, and then delivering on it.”

(Head of Strategy, 2016)

The value of sustainability is often difficult to capture and is perceived differently by individuals. This study contributes to knowledge in saying that the use of performance measures, which underpin MCS, enhances individuals' understanding of a strategy, and helps reveal the cause-and-effect relationship between strategic goals and individuals' jobs.

5.6 Summary

This last section of the chapter aims to provide a summary of the development progress of sustainability (data) at *Violet*. This study finds *Violet* maintains rich sustainability data to serve various purposes, for example: demonstrating compliance and leadership (section 5.3); providing strategic motivations, both environmental and business improvement drivers (section 5.5); identifying revenue opportunities and shaping the culture of the organisation (section 5.4.3).

“Data will be crucial – determining what to measure and how, actually measuring, monitoring and reporting it, will all be significant challenges in themselves [i.e. sustainability]. The demands for a more granular understanding of business impact could drive a data revolution in itself.”

(PWC, 2016, p. 5)

Sustainability professionals argue that the value of sustainability data is underestimated, and the data system is under-developed. This study finds that instead of waiting for a perfect way of using sustainability data (to indicate a company’s success in developing a sustainable community), the current approach is to accept the limitations of the sustainability data, and to supplement it with narrative content.

Violet is taking a proactive approach to present sustainability information clearly so that it resonates with different stakeholders. This study identifies a demand to develop a greater variety of information from the sustainability data within *Violet* as well as the industry; and recognises a need to commensurate sustainability data to different strategic drivers beyond the purely financial.

Besides, *Violet* has developed some proactive measures in order to establish control/motivate desirable behaviours (or to prevent the likelihood of an incident occurring) when managing health and safety strategies. While recognising the conversion of sustainability data to KPIs is a challenging process, this study suggests performance measurement is helpful as it informs the impact from the ground up. The development of proactive measures is helpful for *Violet* to achieve excellence and to

capture the strategic values to help continuous improvement. On the other hand, reactive measures are found useful when *Violet* communicates sustainability data with stakeholders. They are particularly important in the project (quarry proposal) application because they allow decision-makers to understand and relate *Violet's* sustainability performances.

6. Discussion

6.1 Introduction

Overall, this study responds to a specific call to enrich and enhance the body of ‘accounting for sustainability’ research to positively influence policy and practice (O’Dwyer & Unerman, 2016), and to address the inter-connection between accounting and society (Walker, 2016). Specifically, it subscribes to the ‘third strand’ of research, as depicted by Unerman and Chapman (2014), which is to engage with businesses, such that organisations can better identify social and environmental risks and opportunities through extant accounting mechanisms. The research aim is to augment Simons’ Levers of Control (LOC) framework to incorporate greater depth on the role of interactions between managers and stakeholders in the implementation of (sustainability) management control systems (p.12).

By engaging with a case organisation, ‘*Violet*’ (the unit of analysis for this research), Simons’ Levers of Control (LOC) framework (Simons, 1995) is mobilised to investigate management control systems (MCS) for sustainability-related strategic decision-making. As discussed in the literature review chapter, previous studies suggested that LOC can be used to manage corporate sustainability (Arjaliès & Mundy, 2013; Gond et al., 2012; Moon et al., 2011; Rodrigue et al., 2013), and these sources have been incorporated to develop a new theoretical lens.

Given the inductive and interpretive nature of this study, data analysis revealed empirically the influences of extant LOC knowledge by investigating how stakeholders influence organisational sustainability strategy. This research argues that Stakeholder Theory (Freeman, 1984) can be used to supplement Simons’ LOC framework, and thus provide meaningful insights to develop new knowledge in the research domain. This provides a theoretical lens for the research, which is then framed by three research objectives (section 3.4 provides a summary of the research objectives). These research objectives are used in the following section to guide the discussion of the case study findings.

The first two research objectives are developed with the purpose to advance the existing theoretical framework, i.e. Simons' LOC. This research recognises a two-way relationship between *Violet* and its stakeholders. Section 6.2 discusses findings related to the two-way relationship between *Violet* and external stakeholders. On one hand, it discusses how MCS is used by *Violet's* managers for stakeholder management purposes (section 6.2.1). On the other hand, three different types of influences are discussed in section 6.2.2 to reveal how external uses of MCS affect *Violet's* sustainability strategy.

Objective 3 aims to “comprehend the use of MCS to manage sustainability-related strategic decision-making, and therefore enhance understanding in the accounting-for-sustainability research domain”. This objective investigates how the various LOC are used by *Violet's* managers to support sustainability-related strategic decision-making. While acknowledging that the successful implementation of strategy requires consideration of all four levers (section 6.3.1), the findings confirm that it is difficult to balance the use of MCS, because managers are surrounded by such a variety of complex decisions that they cannot specify what constitutes an optimal balance (Ahrens & Chapman, 2007; Mundy, 2010; Speklé, 2001) (section 6.3.2).

This study considers sustainability as an evolving concept (section 3.2.2). Subject to influences from external stakeholders, it becomes a concept that must be managed and communicated at organisational level. Collectively, the above research questions address different facets of the research aim and frame the key findings in the previous chapter. These four research questions, therefore, provide the structure for the discussion that emerges from the findings. Accordingly, the following sections critically discuss the key issues identified, all set within the context of the literature.

6.2 The Two-way relationship between *Violet* and External Stakeholders

The research investigates, from *Violet's* perspective, how MCS is used to address stakeholders' sustainability requirements (i.e. research objective one). Findings are presented in section 5.3, revealing that MCS is mobilised by managers according to different levers of use to manage stakeholder relationships. Here, the use of Simons'

LOC refers to an analytical framework used by researchers to understand the management of sustainability activities and to help analyse empirical data. However, this is not in itself a MCS used by managers. Evidence shows how *Violet* mobilises its MCS to evidence stakeholders' sustainability requirements and manage stakeholder relationships.

Via the identification of key stakeholders, and their expectations of *Violet's* sustainability performance, the research focuses on the discussion of the salient stakeholders (see section 2.3 and 4.7 for an introduction), including government, clients and customers, industrial partners, and the parent company. The research determines the influences of the stakeholders' MCS to influence *Violet's* sustainability strategy, such that it aligns with their sustainability goals (i.e. research objective two).

Collectively, the research reveals a two-way relationship between *Violet* and its external stakeholders – this outcome advances knowledge around the use of Simons' LOC framework. The research proposes that Simons' LOC framework can be supplemented by Stakeholder Theory to consider the role of stakeholders in the context of 'Accounting for Sustainability' research. While insights from Stakeholder Theory are often used by scholars (Arjaliès & Mundy, 2013; Gond et al., 2012; Rodrigue et al., 2013) to help investigate management accounting practice, little is known about stakeholders' influences on the organisational use of MCS in the sustainability-related, strategic decision-making process. Although there are attempts to connect Stakeholder Theory to sustainability (e.g. Bebbington, et al., 2014; O'Dwyer, 2002; Roberts, 1992; Unerman & Chapman, 2014), no one has yet used LOC to extend prior knowledge in management accounting research. Accordingly, this section discusses key issues in the interaction between *Violet* and its stakeholders when managing sustainability strategy to fill this gap in the knowledge base.

6.2.1 Identifying *Violet's* use of MCS for stakeholder management

6.2.1.1 Government

The results highlight the role of government, in that *Violet's* managers perceive governmental uses of MCS, e.g. industrial strategy document, National Planning

Policy Framework (NPPF), and the emerging sustainability balanced scorecard (SBSC) approach, to manage public projects; and their implications for *Violet*'s internal MCS as well as their sustainability strategy. Previous studies employ Simons' LOC to examine the shift of the MCS (i.e. from strategy implementation to strategy formation; from diagnostic to interactive use) used by the government to keep an organisation accountable (e.g. policy on children and young people in England) (Kominis & Dudau, 2012). This research shows that while MCS are used by the government to manage sustainability issues in the construction (and product) industry, *Violet* managers uses governmental MCS to understand and develop their business/application plans, and hence better address the government's sustainability requirements. The table below provides a summary of the MCS used by UK government:

MCS	Description of the MCS
Industrial Strategy Documents	A strategic document used by the government to guide local authorities and governmental bodies to incorporate sustainability elements when making decisions regarding to the use of public funds.
National Planning Policy Framework (NPPF)	A specific framework used by the local authorities in their decision-making about the granting of planning permission, with a presumption in favour of sustainable development.
Sustainability Balanced Scorecard (SBSC)	An emerging measurement approach and reporting mechanism purposed by central government to regulate all major construction projects about sustainable development.

Table 6.1: A summary of the governmental MCS

As introduced in section 5.3.1.2, the *National Planning Policy Framework* (NPPF) is a key framework used by local authorities to define and communicate government's expectations on sustainable development. It plays a significant role to guide decision-making regarding local plans, which are prepared in line with principles and policies in the NPPF. This research provides evidence of how *Violet* incorporates the NPPF to

meet stakeholders' expectations. Alignment between the government's expectation and *Violet's* sustainability strategy helps *Violet* to maintain or apply a license to operate and to mitigate the 'ambiguous' concept of sustainability (Gray, 2010).

Prior studies investigate the role of local government through the uses of budgeting (Seal, 2003) and social audit (Harte & Owen, 1987). This research suggests that *Violet's* managers use governmental systems to understand the decision-making process of the government about the granting of the license to operate. Specifically, **belief control systems** are mobilised by local government to enable a strategic momentum towards sustainable development and are used by *Violet* to align understanding between the company and local government, in the process of applying for a license to operate. The results contribute to knowledge by providing empirical evidence of control systems 'in use', and also exploring the less-studied **belief** control systems (Aldónio Ferreira & Otley, 2009; Tessier & Otley, 2012).

Further, the government uses the *Industrial Strategy Document* to specify that a new *balanced scorecard approach* must be used to assess construction projects over £10 million (section 5.3.1). The BSC approach allows ideas embedded in the Modern Slavery Act and Social Values Act to be translated into wider social, environmental and economic considerations, and allows contracting authorities to compare procurers on a case-by-case basis at the pre-procurement phase (and beyond). Proposing a new BSC approach to manage sustainable development brings new insights to the Sustainability Balanced Scorecard (SBSC) literature (Figge et al., 2002; Hansen & Schaltegger, 2016; Rabbani, Zamani, Yazdani-Chamzini, & Zavadskas, 2014). This research finds SBSC is a powerful and useful MCS to evaluate company sustainability performance (Rabbani et al., 2014). In the original BSC framework developed by Kaplan and Norton (1996), it allows companies to incorporate financial and non-financial information in a single performance measurement mechanism, and thereby obtain a more holistic view when managing a major (public) project; whereas SBSC include information on social and environmental performance and address greater variety of stakeholders.

Further, according to a government document, the use of SBSC aims to trigger broader and more creative thinking in major project procurement (Crown Commercial

Service, 2016), which is an example of the use of **interactive** controls. However, the **interactive control system** as originated by Simons refers to interaction between top and middle managers within a company. This finding proposes an extension of the **interactive lever** to cover external stakeholders, i.e. government in this example. SBSC's measurement and reporting mechanism encourages companies to involve themselves with clients and supply chain to discover new strategic opportunities that have sustainability at its core. For example, within the abovementioned government document, is the recognition that major public projects bring huge opportunity to a wide range of companies (suppliers). The prime contractor may request for a supply chain plan, which sets out how they will address key policy drivers (such as competition, innovation, and skills) into the construction of their supply chain. Therefore, the government influences *Violet*, as a supplier to the prime contractor, to involve themselves with their supply chain to search for emerging opportunities. Hansen and Schaltegger (2016) suggest the four perspectives (outlined in the original BSC framework) may be extended to integrate sustainability objectives. The authors call for research about how SBSC²³ can be considered as an interactive control system to help managers, their subordinates and even external stakeholders to experiment and learn in the context of strategic renewal (p.213). This research provides empirical case study evidence of the use of SBSC as an **interactive** control system that helps the case organisation as well as external stakeholders (including government and other contractors) to stimulate strategic renewal when managing major public projects.

Some authors suggest that it is more likely for hybrid organisations (Boyd, Henning, Reyna, Wang, & Welch, 2009) or sustainable entrepreneurs (Hall, Daneke, & Lenox, 2010) to adopt SBSC, rather than profit maximising companies. This research, however, suggests profit maximising companies could also adopt SBSC because it has a legally binding effect that cascades down from government to prime contractors. While acknowledging evidence of the SBSC being used in for-profit organisations (Hansen & Schaltegger, 2016), this research characterises the strategic motivation for a profit maximising company (*Violet*) to use SBSC interactively to fit with prime

²³ Hansen and Schaltegger (2016) outlines three different types of SBSC architectures: (i) hierarchical architecture; (ii) semi-hierarchical architecture; and (iii) non-hierarchical architecture (see chapter 3.1).

contractors' and government's (external stakeholders) requirements. The adoption of SBSC is an essential activity to enable *Violet* to apply for future public projects.

6.2.1.2 Clients and Customers

This research suggests that MCS are used differently at the various stages of a project's life. The table below provides a summary of the MCS that are used by *Violet*, its clients and contractors.

MCS	Description of the MCS
Pre-Qualification Questionnaire (PQQ)	A performance evaluation tool that used by the clients to assess the bidders' sustainability performances before the award of contract.
Contractual Terms and Conditions	A contract is used to establish a contractual relationship between clients and <i>Violet</i> , while providing a boundary to different aspects of performances.
Project Appraisal and Management	Various control systems that are used to monitor organisational activities intending to ensure delivery to the contract terms and conditions.
Sustainability Balanced Scorecard (SBSC)	A measurement and reporting mechanism that is by law required to monitor all major construction project.

Table 6.2: A summary of the MCS used by clients and customers

In line with the literature (Simons, 1991, 1995, 2000), this research shows how *Violet*'s managers use MCS to involve themselves in decision-making activities, and presents use of MCS by external stakeholders in similar activities, involving clients and customers. Specifically, the research suggests that common (mutually-agreed) MCS are mobilised by both *Violet*'s managers and clients and customers at various stages

of a project's life. To begin with, the pre-qualification questionnaire (PQQ) is used by clients and customers to assess bidders before the project is awarded. As introduced in the findings chapter (section 5.3.2), the prime contractor (client) is required to contribute to the 'sustainable procurement' agenda. This requires the bid to comprise of both price and quality components, for which sustainability constitutes a large part of the quality. However, without the identification of what should be included in the quality bid and the proportion of different perspectives (for example: the price-quality ratio; and the components of sustainability), the transparency of the award criteria is compromised. This research finds that managers perceive the use of PQQ as an effective way to identify stakeholders' (or clients') expectations of the organisation. Accordingly, this research suggests that PQQ is an example of the use of **boundary system**, before the project is even awarded (PQQ is used to communicate and engage with potential bidders about sustainability expectations by defining the belief and basic values that clients are looking for). Particularly, this research suggests the increased emphasis on quality in a contract stimulates a reliance on PQQ to define sustainability expectations; and suggests that using PQQ as a **boundary** control system helps to mitigate the inherent vagueness in sustainability (Tregidga, Milne, & Kearins, 2014) and control the diverse sustainability goals across stakeholders and projects.

Frequently, differences in opinions exist between internal and external stakeholders. Keeble et al. (2003) suggest external stakeholders want to see performance information that relates to their concerns, while internal stakeholders may focus on what they know to be procedural/diagnostic information (e.g. audit and inspection frequencies). This research provides case study evidence to support the above argument. Specifically, *Violet's* managers perceive that clients and customers use their own benchmarks (an example of MCS) to assess the quality of bids through the completed PQQ. Likewise, *Violet's* managers use sustainability questionnaires (an example of PQQ) to assess suppliers' performance. Therefore, this research suggests that PQQ is used as a multi-actor, multi-criteria evaluation tool, to inform assessment frameworks by integrating multiple perspectives (Frame & O'Connor, 2011).

Because of the differences in expectations between *Violet* and its clients and contractors, an MCS is needed by both parties to manage performance during the

project life. While PQQ informs managers about expectations for a project and is used to assess bidder performance, it is the contractual terms and conditions which monitor the contractual relationships with stakeholders (after a contract is awarded). Atkinson et al. (1997) suggest that a contract is used to “*specify or imply both what the company expects from each stakeholder group to help it achieve its primary objectives and what each stakeholder expects from the company in return for its cooperation*” (p.27).

On one hand, a contract specifies the primary objectives of the project and therefore provides a momentum to bring together the widely-diverse sustainability expectations between stakeholders, i.e. the **belief** use of control system. On the other hand, it details the performance to establish formally (contractually) stated targets, limits and prescriptions, which serve to restrict the behaviour of both parties, which is an example of a **boundary control system**. After establishing targets and limits, contractual terms and conditions are used by both *Violet* and external stakeholders **diagnostically** to compare against the pre-set standards. This **diagnostic** use of contractual terms and conditions contributes to the performance measurement literature (i.e. using MCS to manage stakeholder relationships). Speklé and Verbeeten (2014) investigate the use of PMS in the public sector through ‘contractibility’ (which refers to the ability to select undistorted performance metrics), whereas this research suggests that the use of contract and the terms and conditions embedded therein improves the clarity of goals and allows managers and external stakeholders to know and control them effectively.

From *Violet*’s perspective, managers have the option to retain information on MCS for their own internal use, which is confidential. This research identifies a range of project appraisal and management systems, which are used **diagnostically** to monitor project progress. In addition to the aim to ensure compliance with laws and contractual terms and conditions, *Violet*’s senior management uses data generated from these systems **interactively** to identify revenue opportunities from cost savings, innovation and risk avoidance, as introduced in section 5.5.2.

This research confirms that SBSC is a powerful and useful methodology to evaluate sustainability performance (Rabbani et al., 2014). Specifically, this section introduces the roles that SBSC plays at different stages: (i) pre-qualification/planning; (ii) project

implementation; and (iii) post-project review. The SBSC approach is considered by managers as a comprehensive performance measurement mechanism to evaluate performance across the different stages of a project's life. While identifying quality and price are the key components to be assessed in procurement, *Violet's* managers perceive that a quality is captured well within the SBSC.

Finally, tentative evidence suggests that SBSC is particularly useful to capture the value of continuous improvement, for example, using tablet and cloud technologies to log and monitor performance data at different sites – of which many are mobile and temporary sites – to improve the timeliness and accuracy of performance data. While managers recognise difficulties in capturing the value of these improvements, SBSC serves as a potential MCS to capture the benefits from innovation.

6.2.1.3 Industrial Partners

The previous section discusses how MCS are mobilised between *Violet* and its clients and customers to communicate the scope of sustainability within a project. This section aims to move beyond the project context to a wider industrial understanding about the scope of sustainability, considering in detail how the notion of legitimacy is co-created in the construction (and product) industry.

In line with the above, because of external stakeholders' diverse sustainability requirements and expectations, there is an inherent variety in the way that *Violet* communicates expectations and achievements through its sustainability strategy. For example, local councils may develop their local plan according to their local needs (e.g. hiring local people, protecting habitats and contribution to local economy), or individual clients may have strategic priorities, such as health and safety. This lack of fixed meaning about what sustainability is, for a particular stakeholder, can be a problem for sustainability (Moon, 2007), but one which can be addressed through engaging with businesses and stakeholders.

Specifically, this research highlights the role of industrial partners, who have a role to boost the culture and raise awareness of sustainability through developing performance measurement toolkits, providing training, education, accreditation and

data verification services. Table 6.3 lists how the use of MCS by external stakeholders influences *Violet's* understanding of sustainability. This research suggests that industrial partners influence *Violet's* understanding of sustainability at the inter-organisational level as well as the intra-organisational level, through its various collaborative relationships.

MCS	Description of the MCS
Performance Measurement Toolkits	A social value briefing paper and a performance measurement handbook are co-developed by the industrial partners.
Training and Education Management Systems	Management systems that are used to administrate, document and report non-financial performances about training and education.
Accreditation and Data Verification	Services provided by a third party to ensure the reliability and validity of performance data.

Table 6.3: A summary of MCS mobilised between *Violet* and its industrial partners

Violet has joined a range of industrial platforms to work with industrial partners and hence solve sustainability problems through collaborative relationships (sections 5.3.1.3 and 5.3.3.2). Such relationships take place through attending conferences, participation in workshops, co-development of toolkits and briefing papers, and funding projects and partnerships. Yet challenges in engaging with industrial partners are found in this research, including the lack of consensus among partners, the lack of maturity of partners' sustainability positions, and getting the right expertise to contribute to sustainable development. However, these challenges should not be obstacles to hinder a collective effort towards sustainability, but do require significant effort to engage efficiently with the industrial partners and supply chain.

The first example of this is the use of working parties to develop an *industrial handbook*, a sustainability performance measurement toolkit, and a briefing paper about social

value. The meaning of sustainable development is co-constructed by *Violet* and external stakeholders to foster reflection and encourage a more constructive conversation about sustainability. Such working parties are described as having potential to drive policy and act as a cornerstone to reflect a 'journey improvement'.

At an inter-organisational level, the collaborative approach identified in this research responds to the 'social partnership' (Savage et al., 2010), with the aim to address a messy problem that cannot be solved by an organisation acting alone (Milne, 1996). The development process of the industrial handbook and toolkit (**diagnostic control systems**) requires contributions from *Violet* and industrial partners. Accordingly, this research suggests that a form of 'social partnership' is created aiming to make a collective effort to tackle sustainability challenges, which indicates that stakeholders are material to *Violet's* understanding of sustainability. From *Violet's* (intra-organisational) perspective, this collaborative approach helps managers to prioritise issues, develop action plans, and assign ownership across projects when implementing its sustainability strategy. Hence, it has implications for stakeholders inside the organisation too.

Secondly, the role of the *Academy* is highlighted in this research because it provides education and training services to boost the culture and raise awareness of sustainability, i.e. **belief systems**. The *Academy* provides momentum and guidance on opportunity-seeking sustainability practices that can shape sustainability strategy. This research identifies that the *Academy* has inter-organisational influences on industrial members' sustainability strategies. Again, this has an implication for Stakeholder Theory by examining inter-organisational collaboration (Savage et al., 2010). At the intra-organisational level, training and education is an effective way to encourage employees to deal with natural resources in an efficient manner, develop employees' know-how of corporate sustainability and create the capability to practise sustainability (Bieker & Gminder, 2001; Tsai, Chou, & Hsu, 2009). Training and education, by contrast, is a service that helps internal managers to better understand sustainability (and emerging topics such as modern slavery and social values). The management systems behind these services (e.g. *ERP* and *Incidents Database*) gather and collect non-financial information, e.g. to evaluate the training progress, i.e. **diagnostic control systems**. Further details are discussed in section 6.3.

Finally, this research suggests that the reliability and validity of *Violet's* sustainability information (Gray et al., 1997) is enhanced with the involvement of the industrial partners. Specifically, the accreditation and data verification services provided by the industrial partners provide an independent opinion on *Violet's* sustainability information, helping to improve legitimacy in the public eye, and potentially increasing the organisation's centrality in a network, i.e. the industrial platform (Boje & Whetten, 1981). From an internal perspective, such services help to ensure the validity of data generated through information systems to assure the quality of strategic decision-making, i.e. **internal control**.

While literature recognises that Simons' LOC framework is useful to ensure the effective implementation of strategy (Heinicke, Guenther, & Widener, 2014; Mundy, 2010; Tuomela, 2005), this research suggests that the quality of control refers to whether a control is effective, efficient and economical (Tessier & Otley, 2012), and this in turn relies on the quality of data. Accordingly, in addition to the four levers of control as outlined in the original Simons' LOC framework, **internal controls** should be employed to safeguard information and assets (Simons, 1995). This research suggests industrial partners can enhance the reliability and validity of sustainability data, and that the internal controls placed on information should embrace the quality of data (Contrafatto & Burns, 2013; Feldman & March, 1981; Gray et al., 1997; PWC, 2016).

6.2.2 Determining the influences of the external stakeholders on *Violet's* sustainability strategy

The empirical results support Arjaliès and Mundy's (2013) argument that external stakeholders have a role in influencing the strategic direction of a company and establishing key objectives against which performance in a sustainability strategy can be measured (p.295). For example, the managers perceive that the declared government policy affecting *Violet* is clearly in favour of encouraging broader stakeholder responsibility (Bartolomeo et al., 2000). Specifically, the research identifies two key motives for *Violet's* managers to manage stakeholder relationships: (i) to maintain a 'license to operate' (Deegan, 2002); and (ii) to identify revenue opportunities through cost reduction and securing potential projects, i.e. a business

case motive (Brønn & Vidaver-Cohen, 2009). External stakeholders use their own MCS to influence *Violet's* sustainability strategy. This research identifies a range of MCS that are used by various stakeholders to manage the outcomes of *Violet's* sustainability strategy, as well as to guide *Violet's* sustainability agenda.

6.2.2.1 Top-down influences through the grant of a license to operate

The motive to maintain a “license to operate” connects with the central notion of legitimacy which underpins Stakeholder Theory (Deegan, 2002; Freeman, 1984). As introduced in section 5.3.1.2, “license to operate” at *Violet* can be expressed in both tangible (legal) and intangible (social) forms, which themselves are not contradict (p.159).

Two pieces of legislation are relevant to the context of governmental MCS: the Modern Slavery Act (2015) and the Public Service (Social Value) Act (2012). These are highlighted for discussion for two reasons. First, they are highly relevant to *Violet's* sustainability agenda; managers are frequently asked by stakeholders to demonstrate compliance with the Acts, and they attend training to improve their knowledge. They are also quoted frequently by informants when asking about government regulation. Second, both acts are relatively new to the industry, so there is a lack of knowledge and consensus, and their emerging nature provides a good opportunity to investigate how legal frameworks influence the business's sustainability practice. While acknowledging that increased pressure and public sensitivity have an effect on encouraging corporate sustainability practice (Dillard and Layzell, 2014), this research further investigates how the law²⁴ constrains corporate sustainability, and suggests that a contractually-binding pressure is ultimately established through the public procurement process.

Although these legal frameworks are helpful in demonstrating good practice, they are not precise enough to regulate business practice. Therefore, they are tailored in governmental control systems to fit with industrial conditions and to impose control mechanisms to ensure the achievement of UK sustainability goals – ‘securing the

²⁴ This study notes that law and regulation can be enforced in different ways to create a legally bounded force. For examples, law in contract, in actual legislation, and/or via regulation.

future'²⁵. For example, the *Industrial Strategy Document* is used by government to provide momentum and communicate key strategic policy themes about sustainability (**belief control**), to local authorities and governmental bodies. From *Violet's* perspective, managers perceive that the document helps them to understand the visions and goals of government in the process of procurement and when applying for planning permission. This research suggests that although the governmental use of the *Industrial Strategy Document* does not have direct implications for *Violet's* sustainability strategy, it guides *Violet's* sustainability action plans and procurement procedures to consider national level sustainable goals. Such indirect implications are cascaded down from central government to local authorities who can have a direct effect on *Violet's* operation. Hence, this research suggests the practice (policy) of government enables the concept of sustainability to be constituted in the construction (and product) industry (Spence & Rinaldi, 2012).

The goal for disclosing sustainability information has been described as 'window dressing' to improve business image, rather than any desire to discharge accountability to stakeholders (Deegan & Gordon, 1996; Dowling & Pfeffer, 1975; Neu, Warsame, & Pedwell, 1998). This research, however, suggests the motive to gather and collect sustainability information is to obtain a 'license to operate' and to enable the case organisation to participate in future public projects. Through investigating the role of government and local authorities, this research suggests that the case company uses sustainability information to discharge accountability to stakeholders, e.g. the local community, in the planning application process.

Literature suggests that the interplay between accounting and government in the context of various social developments is still emerging (Paterson, Jackson, & Haslam, 2017). Hopwood et al. (2005), an example of early work, maps the different views and approaches on sustainable development. The authors argue that "*government has a key role towards sustainable development as business will need pushing*" (p.44). Findings from this study support the argument that government plays a critical role to

²⁵ "Securing the Future" refers to the UK Government's strategy for sustainable development, which proposes an integration vision, new principles, agreed priorities and indicator set for sustainable development.

define the sustainability journey. This research identifies that there are three key steps that government uses to influence the case organisation.

1. The government uses legal and regulatory compliance to define the context of sustainability initiatives. As highlighted in section 5.5.2, traditional legal frameworks (such as the Environmental Protection Act (1990), and contemporary Acts including the Modern Slavery Act (2015) and the Public Services (Social Value) Act (2012) are established to ‘push’ businesses towards sustainable development.
2. *Industrial Strategy Document* and *NPPF* are developed by the government for long-range planning, which specify ‘securing the future’ as the main sustainability goal, to provide strategic momentum for local authorities to incorporate sustainability initiatives into their local plans; and, therefore, influences local businesses.
3. Mandatory performance evaluation mechanisms are employed to ensure the effective implementation of sustainability objectives, and to encourage stakeholder relations management.

Table 6.4 provides a summary of the legal frameworks and tools that serve different purposes in managing sustainability initiatives.

Legal Frameworks	Governmental MCS		
<u>Legal Boundary</u>	<u>Belief Control Systems</u>	<u>Diagnostic Control Systems</u>	<u>Interactive Control Systems</u>
<ul style="list-style-type: none"> • The Environmental Protection Act (1990) • The Modern Slavery Act (2015) • The Public Services (Social Value) Act (2012) 	<ul style="list-style-type: none"> • <i>Industrial Strategy Document</i> • <i>National Planning Policy Framework (NPPF)</i> 	<ul style="list-style-type: none"> • <i>Energy Saving Opportunity Scheme (ESOS)</i> • <i>Sustainability Balanced Scorecard (SBSC)</i> 	<ul style="list-style-type: none"> • <i>Sustainability Balanced Scorecard (SBSC)</i>

Table 6.4: A summary of the different uses of MCS by the government

Research investigating the relationship between MCS and legitimacy (Durden, 2008), has been driven largely from the perspective of (positive/managerial branch of) Stakeholder Theory and legitimacy theory (Campbell, Craven, & Shrides, 2003; Deegan, 2002; Freeman, 1984), no sources seem to discuss the use of MCS by

government in relation to the granting of a “license to operate”. Therefore, this research mobilises the concepts of legitimacy and accountability in management accounting literature to reveal the interplay between *Violet* and government on their uses of MCS when addressing sustainability strategy, and highlights ‘license to operate’ as one of the key concerns embedded in using MCS to manage sustainability strategy. The following Figure provides an overview of the mobilisation of governmental MCS to influence *Violet*:

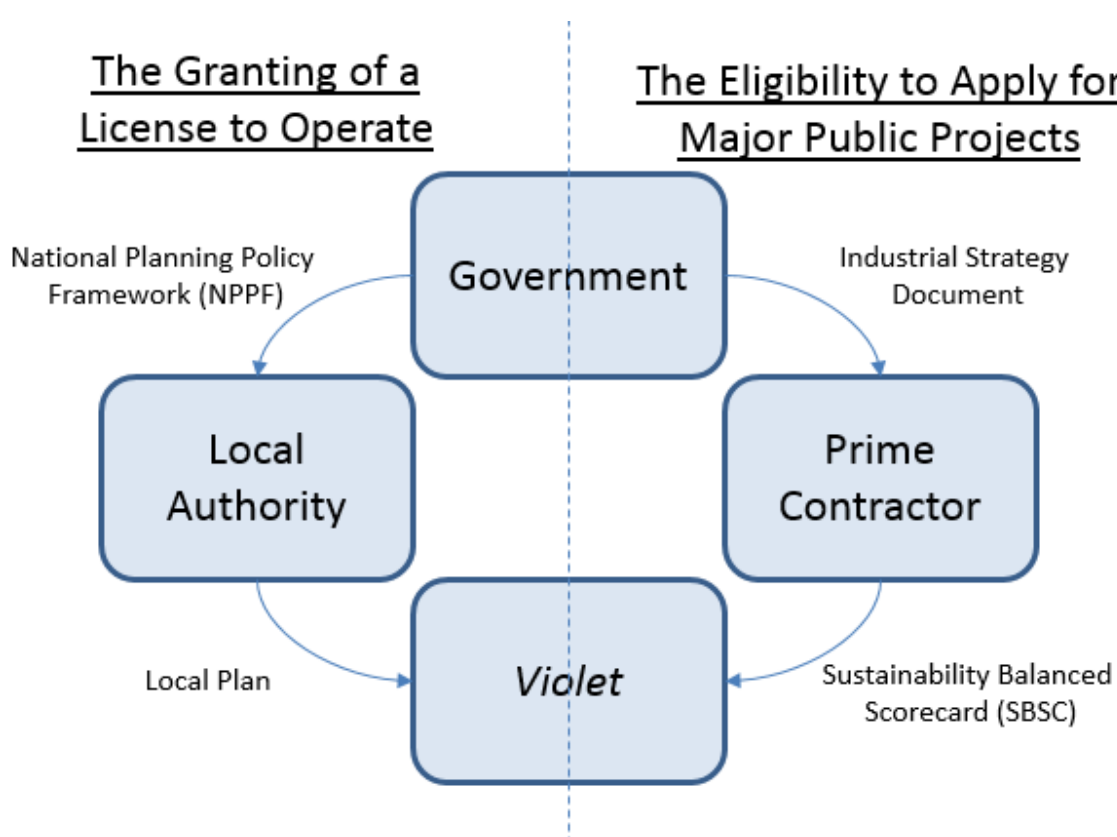


Figure 6.1: The cascading effect of the governmental MCS

This sub-section has focused on the left-hand side of the above Figure (granting of a license to operate), while the next sub-section will provide details on the right-hand side of the Figure, i.e. eligibility to apply for major public projects.

6.2.2.2 Mediated influences on *Violet*'s revenue opportunities

Due to the regulatory environment mentioned in previous section, the adoption of SBSC to manage major public projects is not likely to disappear soon, which *in*

essence is a political influence that cascades down from government. This research suggests that *Violet* needs to react to clients' and customers' adoption of MCS to secure future projects (revenue opportunity). Although managers have the choice to use MCS internally and maintain data in a confidential way, the motive to secure revenue provides a strategic motivation for *Violet's* managers to respond to MCS used by clients and customers.

Specifically, this research identifies four ways in which external stakeholders influence *Violet's* use of MCS: (i) managers have to report through external stakeholders' **diagnostic** control systems to ensure goal achievement and demonstrate compliance; (ii) defining the scope and aligning expectations on sustainability through **belief** control systems; (iii) establishing business conduct and performance **boundaries** to manage stakeholder relationships; and (iv) **interactively** engaging *Violet's* managers and external stakeholders to stimulate dialogue to utilise efficiency and profitability and stimulating new initiatives and strategies. The below Figure frames the mobilisation of MCS between *Violet* and external stakeholders with Simons' LOC framework:

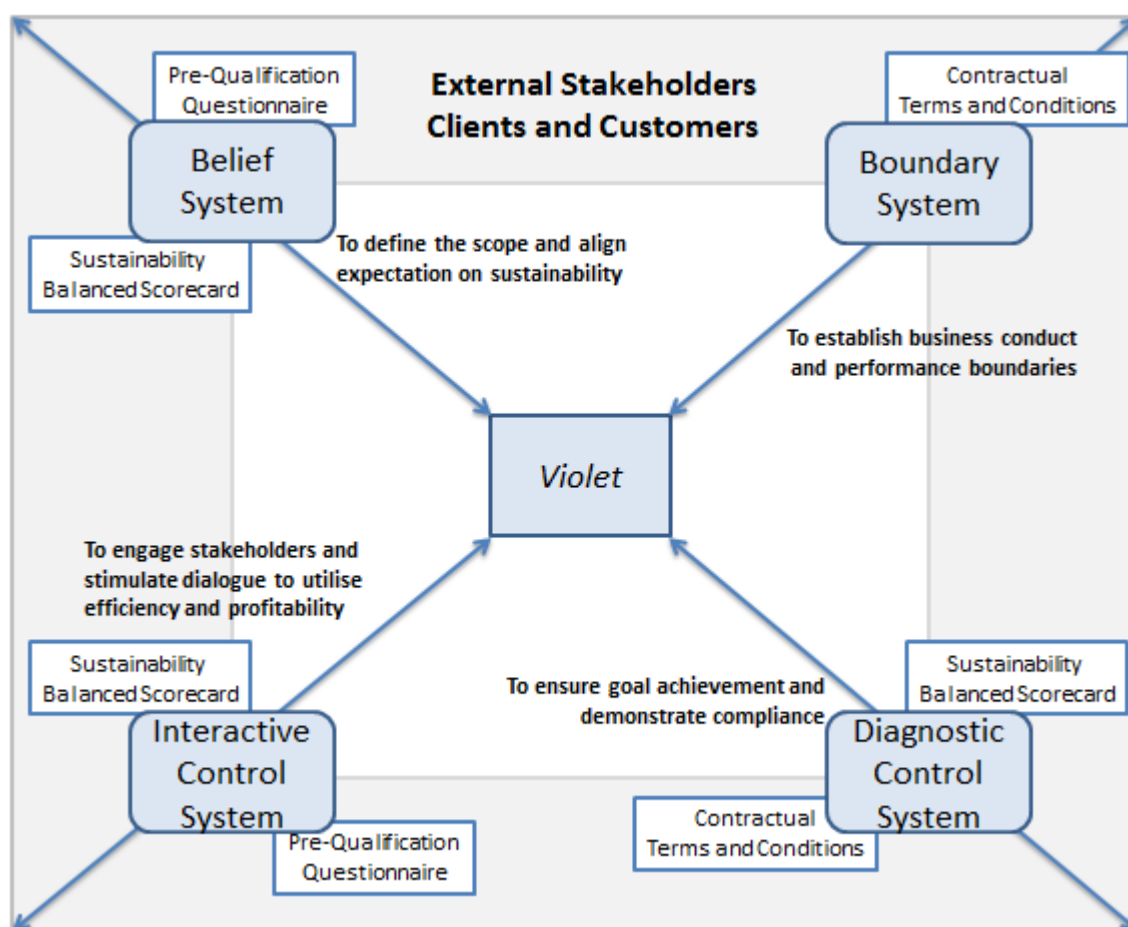


Figure 6.2: An overview of the mobilisation of MCS between *Violet* and external stakeholders (clients and customers), adapted from Simons' LOC framework

Building upon Simons' LOC (1995) (section 2.2 on p. 2) the above figure highlights the further development of the framework to incorporate greater detail on the role of interaction between the firm and external stakeholders. Simons' LOC is augmented (the grey area) to consider MCS (the squared bubbles) that have been mobilised by both the firm's managers and external stakeholders – client and customers. Through this model, it allows LOC to integrate stakeholder influences when managing a sustainability strategy (in bold text). This model advances extant literature on the use of MCS in the mediation process when responding to stakeholders' concerns (Joa et al., 2014; Rodrigue et al., 2013), by determining the influences of the uses of MCS by clients and customers on *Violet*'s sustainability strategy. Three different types of influences from a variety of groups of stakeholders are further discussed in the conclusion chapter.

6.2.2.3 Collaborating and influencing *Violet*'s understandings of sustainability

The research suggests industrial partners influence *Violet*'s sustainability understanding and suggests that the achievement of sustainability goals relies on collective efforts made by industrial partners. Specifically, this research contributes to knowledge that during the interactive engagement process with industrial partners to develop industrial performance measurement toolkits, the meaning and elements of sustainable development are co-constructed. It provides strategic momentum for *Violet*'s managers to prioritise, action plan, and strategies to respond to emerging needs. In other words, while the industrial performance measurement toolkits serve as **diagnostic controls** to monitor the performance at *Violet*, the development process **interactively** engages members from different organisations regularly to focus attention on strategic uncertainties at an inter-organisational level. The final set of toolkits can reflect the concerns of various stakeholders, where the social, environmental and operational changes can be reflected in the co-development process (Keeble et al., 2003).

Further, this section uses the *Academy* as an example of an external stakeholder's effect on *Violet's* understanding of sustainability, and suggests it has a role to boost the culture towards sustainable development. This research highlights the importance of the collaborative relationship between *Violet* and its industrial partners in defining the journey of sustainability, which is particularly helpful at the transformative stage of sustainability within the industry for definition alignment (i.e. **belief control**).

Lastly, this research points out that the level of confidence, reliability and validity of sustainability data can be enhanced through the engagement of industrial partners.

The below Figure (6.2.3) provides an overview of the relationships between *Violet*, its industrial partners and *Violet's* MCS. The orange arrows represent the two-way influences between *Violet* and its partners, because *Violet* is contributing (influencing) to and being influenced from the collaborative relationship; and blue arrows represent the one-way relationship where *Violet's* MCS is influenced by external stakeholders:

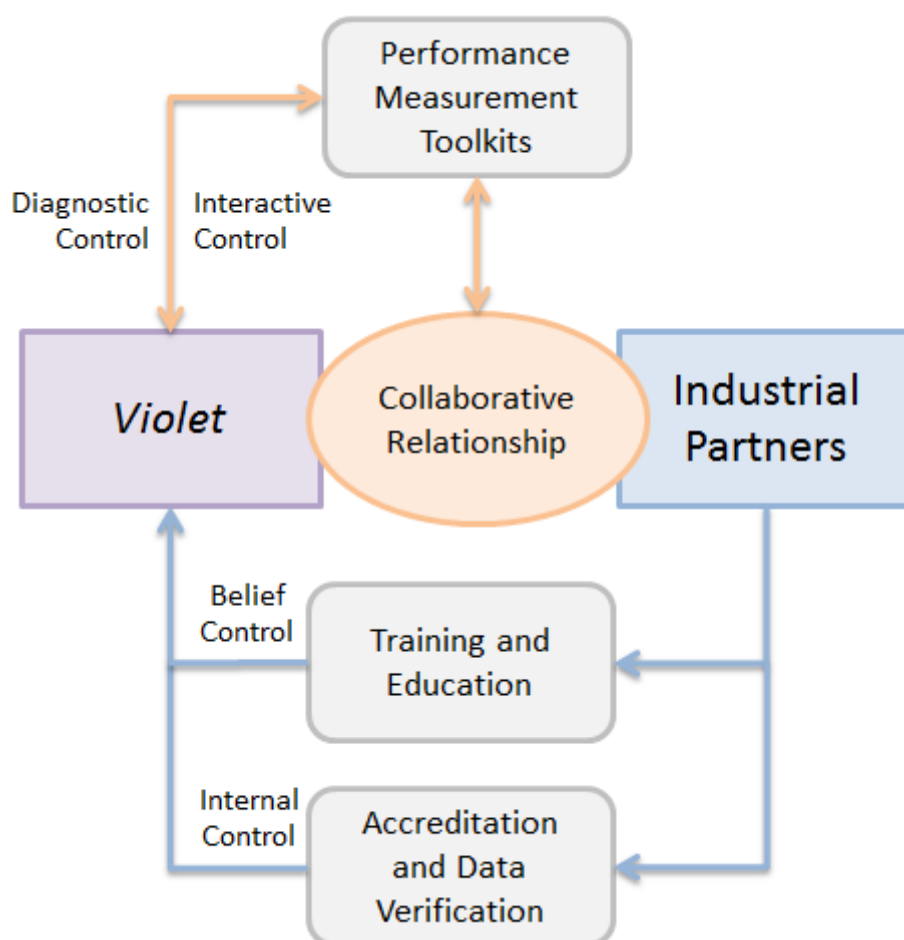


Figure 6.3: An overview of the relationships among *Violet*, its industrial partners and *Violet's* MCS

6.3 Researching MCS in the Context of Sustainability-related Strategic Decision-making

Simons' LOC provides organisations with a broad perspective, provided that mobilisation of a range of controls is considered and deployed (Mundy, 2010; Simons, 1995; Tuomela, 2005). However, the extant literature suggests parts of the theory remain unexplored (Ferreira & Otley, 2009; Tessier & Otley, 2012). To establish how MCS is used to manage the performance of an organisation, and how sustainability can be researched to enhance understanding in the accounting-for-sustainability domain, this research provides an empirical insight on MCS for sustainability-related strategic decision-making through a case study of *Violet*.

Literature suggests the successful implementation of strategy requires consideration of all four levers, yet academic studies in the accounting domain have privileged **diagnostic control systems** and **interactive control systems** (Martyn et al., 2016), whereas the remaining two control systems are less well-developed (Arjaliès & Mundy, 2013; Mundy, 2010). This research considers the LOC framework in its entirety (Bruining et al., 2004; Tuomela, 2005; Widener, 2007), i.e. covering all the four levers because it is important to investigate the entire framework to reveal the interrelations between the levers in the process of strategic decision-making, as well as to examine the balances and dynamic tensions between different levers (Kruis et al., 2015; Mundy, 2010). Accordingly, this section first discusses findings about the mobilisation of a specific lever for sustainability-related decision-making (section 6.3.1). Then, section 6.3.2 considers the dynamic tensions between the four levers.

6.3.1 Mobilising MCS for sustainability-related strategic decision-making

Belief systems

Beliefs and values are incorporated into MCS to reflect *Violet's* commitment towards sustainability goals. The key **belief systems** identified are *Violet's Strategic Plan*,

which specifies five strategic goals (including results, customers, sustainability, integrity and inclusion) at organisational level; and the *Sustainability Policy* which is an explicit set of organisational statements that communicate formally the definition of the basic values, purposes and direction of *Violet's* sustainability agenda.

MCS is useful in shaping *Violet's* sustainability culture and changing business language to better integrate sustainability issues, notably beyond the sustainability team and across managerial domains. This research provides strong evidence to support the application of **belief** systems to translate sustainability knowledge across staffing groups by building a strong culture (Morsing & Oswald, 2009). These systems provide information to focus organisational attention and provide momentum to the sustainability agenda. For example, health and safety is identified as a well-articulated sustainability strategy within *Violet*; it has been embedded in long-range planning by the leaders of the organisation since the start of their sustainability agenda. The results of the interplay among the environment, organisational and leadership changes do not change their commitment to health and safety goals to a large extent, i.e. their commitment to a zero-harm working environment remains strong, despite changes in the environment and leadership. This research suggests that **belief** systems were emphasised during leadership changes (i.e. the merger of the parent company and replacement of senior management), operating changes (i.e. acquiring new businesses), and environmental changes (i.e. law and regulation). **Belief** systems provide information to guide managers to make an informed decision at a given level of risk (i.e. the zero-harm goal) and provide a strategic thrust.

[Boundary systems](#)

The central notion of **boundary** systems is about risk to be avoided (Simons, 1995). Previous research has a primary interest on what is emphasised in such systems (Heinicke et al., 2014; Widener, 2007), but there is a lack of research on how contextual factors (such as policy, regulation and stakeholder demands) shape the boundary systems of an organisation. Accordingly, empirical findings are presented that suggest **boundary** systems help managers to understand broader demands (or requirements) from stakeholders, through restricting their creativity and behaviour.

As discussed in section 6.2.2, the use of PQQ and contractual terms and conditions is a mobilisation of **boundary** system between *Violet* and clients, which is an example of an operating boundary to protect *Violet* from contract violation (i.e. a financial risk). This form of system is particularly important when there is a lack of legally-bound mechanisms to measure and report sustainability performance. For example, there are no formally stated (and universally-agreed) rules and limits to restrict how an organisation should manage social sustainability. Therefore, mutually-agreed **boundary** systems becomes essential in defining the scope of activities and restricting the degree of freedom when managing a contract.

Further, Chenhall and Morris (1986) argue a structure is necessary for a management accounting (control) system to be effective, and Widener (2007) suggests that a **boundary** system “provides structure through delineating the areas off-limit to employees” (p.782). Section 6.2.1 introduces the process by which a change in the law triggers the development of a new code of conduct at *Violet*. For example, the Modern Slavery Act (2015) is translated into *Violet*’s boundary system, which acts as a mechanism to restrict freedom in selecting suppliers, and forces *Violet* to maintain a formal database gathering suppliers’ compliance information. Here, the **boundary** lever is mobilised (and emphasised) by *Violet* and the client as a short-termist approach to establish mutually-agreed rules, limits and proscriptions. This allows *Violet*’s managers to show stakeholders that the corporation commits to sustainability (Arjaliès & Mundy, 2013; Wijethilake, 2017)

This study suggests that traditional views about the use of **boundary** systems, consisting of business conduct boundary and strategic boundary (Simons, 1995) to ensure the effective implementation of a strategy, are not sufficient to form an effective structure in some cases, such as *Violet*, because there is a lack of a legally-bound (or universal) mechanism to measure and report performance about the two Acts. Accordingly, boundary systems could be broadened to incorporate environmental changes such as policy and regulation, and stakeholder requirements, to provide a structure (i.e. mutually-agreed rules, limits and proscriptions) to support the effective use of other LOC. In other words, **boundary** systems can be extended to monitor compliance with policy, regulation, contracts, and internal sustainability goals.

Diagnostic control systems

Findings support the cybernetic logic whereby pre-established goals from *Violet*, stakeholders and regulators can be set in advance (Lueg & Radlach, 2016; Simons, 1995). These allow for the quantification of social and environmental actions and the integration of sustainability concerns within organisational routines. For example, the *Employee Evaluation Programme* is used diagnostically to establish cause-and-effect relationships between sustainability initiatives and day-to-day operations, assigning responsibility and monitoring progress towards sustainability goals. *Project Appraisal and Management* assesses the progress of a specific project, allowing both *Violet* and clients to practise effective control over mutually agreed terms and conditions.

While **diagnostic** controls are widely applied for sustainable procurement, and they are found prominent in managing environmental performance (Abdel-Maksoud, Kamel, & Elbanna, 2016; Henri & Journeault, 2010; Journeault et al., 2016), little is known about their application to social performance. Managers encounter different challenges when they diagnostically evaluate social sustainability. Firstly, managers perceive *Violet* is thinking ‘too broadly’ about sustainability, which means making sustainability as ‘everything’. It becomes difficult to respond and establish targets on everything. Therefore, the lack of precision makes social sustainability (with the exception of health and safety) difficult to establish with diagnostic controls. Secondly, because of fast expanding business through merger and acquisition, there are many formal and sophisticated MCS identified, with numerous documentation approaches. This causes a lack of consistency about the perceptions on: (i) what social sustainability is, (ii) how it should be logged, and (iii) how to effectively control its outcomes. Such MCS are still in the process of system integration. These challenges, however, offer opportunities for follow-up research at *Violet* and other research sites.

Interactive control systems

It is well recognised in the literature that interactive control systems play an important role in the formulation of sustainability strategy by recognising strategy as patterns of action to tackle strategic uncertainties (Henri, 2006; Kominis & Dudau, 2012; Widener, 2007; Wijethilake, 2017), yet they can be operationalised quite differently (Bisbe et al.,

2007). The key features of interactive control systems include a high level of face-to-face conversations, a strong focus on strategic uncertainties, and a non-invasive, inspirational involvement (Simons, 1995).

Given the increasing complexity and dynamism of regulation and stakeholder demands, the **interactive** use of MCS enhances the visibility of strategy across the different levels of staff (as introduced in section 5.4.3). This suggests a degree of “fluidity” (in contrast to the traditional typology to categorise strategy) in managing sustainability strategy. In turns, it emphasises the use of MCS for strategy formation, for example, the *Alliance Programme* and *Employee Evaluation Programme* are used interactively by managers to engage with subordinates periodically to focus attention on business performance and emerging initiatives. The *Alliance Programme*, in particular, engenders the existing organisational structure (resulting from merger and acquisition) and searches for new initiatives while motivating employees to contribute to the company’s success. The effectiveness is, however, questionable because of *Violet’s* large employee population. Many ideas are generated through the programme which consumes much managerial effort to disseminate and analyse, supporting Simons’ assertion that the employment of interactive control systems requires intensive managerial effort. Only very few ideas are followed up and the record of outcomes of given actions is incomplete (Kominis & Dudau, 2012).

Importantly, when Simons’ presented **interactive controls**, he focused on their uses by managers within the organisation (**between senior and middle managers**). Internally, the *ERP* system is used interactively by managers from different product lines to identify the best product-mix and so maximise profit for the company as a whole. However, instead of integrating data systems in a standardised way for easy access, data are prepared ad hoc only when they are needed. The evidence in this research suggests managers attempt to manage more effectively the risk and uncertainty that are increasingly present in their environment.

While acknowledging the internal use of these systems by *Violet’s* managers, this study suggests such systems are also mobilised between the firm and external stakeholders (**between senior managers and key external stakeholders**), allowing *Violet’s* managers to move towards externalities. Externally, *SBSC* and *PQQ* are

mobilised as **interactive control systems** that help *Violet* as well as external stakeholders (including government and contractors) to stimulate strategic renewal when managing major public projects (section 6.2); the interaction (co-development of performance toolkits, participation of steering group and education and training) between *Violet's* senior managers and *Academy* has influences in shaping the expectations and agenda of sustainability within the industry (section 6.2.3).

Table 6.3.1 provides a summary about the insights from this research in the context of existing literature:

Levers of Control	Literature Highlighted	Insights from This Research
Belief Systems	Morsing and Oswald, 2009	Provides case evidence to support the use of belief control systems in translating sustainability knowledge across staffing groups through building a strong culture.
Boundary Systems	Widener, 2007; Arjaliès and Mundy, 2013; Heinicke et al., 2014; and Wijethilake, 2017	<ul style="list-style-type: none"> • Uses a case study to investigate how the contextual factors affect the boundary systems; and • Suggests mutually-agreed boundary system is essential when the contextual factors are new to the industry.
Diagnostic Control Systems	Henri and Journeault, 2010; Abdel-Maksoud et al., 2016; Journeault et al., 2016; and Lueg and Radlach, 2016	<p>Highlights two challenges to diagnostically evaluate social sustainability:</p> <ul style="list-style-type: none"> • (i) thinking 'too broadly' about sustainability; and • (ii) the lack of consistency about the managerial perceptions on social sustainability and the ways to record and use social sustainability.
Interactive Control Systems	Henri, 2006; Widener, 2007; Bisbe et al., 2007; Gond et al., 2012; Kominis and Dudau, 2012; and Wijethilake, 2017	<ul style="list-style-type: none"> • Recognises managers' attempt to manage more effectively the risk and uncertainty that are increasingly present in their environment; • Presents an ad hoc approach instead of standardisation when using MCS interactively; and • Recognises the role of external stakeholders in the deployment of interactive control systems

Table 6.5: A summary of the LOC insights in the literature

6.3.2 Balance and tensions between the levers of control

From the above, it is found important to have both positive and negative control systems when managing sustainability performance. Because of the competing demands (contextual factors), it is necessary to balance “tension between control and flexibility” (Henri, 2006, p. 77). Although the original LOC framework does not explore the desirable (ideal) form of the balance between positive and negative control systems in detail (Kruis et al., 2015; Simons, 1995), some studies investigate the tensions and balances among different levers (Kruis et al., 2015; Mundy, 2010).

Kruis et al. (2016), in particular, suggest that an effective control is only held to be achievable when the four control levers are balanced. However, this research finds such balances are difficult to maintain, i.e. some levers are emphasised only in certain conditions (section 7.4.1). Specifically, case study evidence reveals the negative control systems (i.e. boundary systems and diagnostic control systems) provide restraining forces to innovation and creativity (which are normally supported by positive control systems), which responds to Mundy (2010). For example, business ideas generated from the *Alliance Programme* are restricted by its internal strategy **boundary** which requires a business idea to build a ‘business case’ and align it with a commitment to Health and Safety, which is indicative of a tension between positive and negative control systems in the process of strategy formation. Besides, *Violet’s* sustainability performance is regularly monitored and controlled by both internally and externally developed **diagnostic** control systems, thereby restraining innovation and strategic momentum (provided by *Violet’s* belief and interactive control systems).

Findings support existing literature in confirming that it is difficult to balance the use of MCS because managers are surrounded by a variety of complex decisions so that they cannot specify what constitutes an optimal balance (Ahrens & Chapman, 2007; Mundy, 2010; Speklé, 2001). The four control levers are internally consistent and important in the process of sustainability-related strategic decision-making, but not necessarily equally emphasised (Kruis et al., 2015).

Further, this research finds that the relative maturity of a sustainability issue influences how the LOC are deployed. Health and safety strategy, for example, is considered as

a sustainability strategy but also has a distinctive position across various strategic goals. The strong culture and rich history enables the balance between the uses of all control levers. Specifically, *Violet* takes different approaches when strategising health and safety; all explicitly exclude health and safety as a strategic value. Unlike other sustainability initiatives (such as waste reduction, carbon emissions, community engagement, etc.) health and safety is articulated as a core and overarching value that all other values must align to. With this strong culture and commitment on health and safety, on one hand, it restrains innovation in the strategy formation process (**interactive** control systems) and strategic momentum (**belief** systems) that “no one should do anything harmful to the health and safety goal”, but on the other hand, it affects negative controls such as using codes of conduct to establish formal rules against threats to health and safety (**boundary** system); and performance measures to monitor the actual outcomes of the strategy regularly (**diagnostic** controls). Therefore, the mature and well-articulated health and safety strategy shapes dynamic tensions and the balance between levers (Mundy, 2010).

Contrast to Mundy (2010), who suggests that **interactive control** ought to be mobilised first, this study finds *Violet* mobilises the **boundary** lever first (even in isolation) and in a short-termist way when responding to “new” regulations. Then, **interactive control systems** are mobilised to involve *Violet*’s senior manager and external key stakeholders, as discussed in section 6.3.1. This research suggests this is because of a lack of experience of what implications new regulations might have on *Violet*’s sustainability agenda. Probably because *Violet* ‘reacts’ to changes, manager intends to first identify useful/relevant **boundary systems** to establish a formally stated rules, limits and prescriptions. During the process, *Violet* has a great degree of flexibility in either mobilising existing MCS or adapting external MCS that best fit with its strategies and stakeholders’ expectations. Accordingly, this research suggests that when regulation is new to the business as well as the industry, **boundary systems** are emphasised. This creates a tension between the need to stimulate and control opportunities, as well as between intended and emergent strategy (Journeault et al., 2016) in the context of sustainability.

In summary, this study offers two findings. First, new regulation shifts away the balanced use of control levers towards an emphasis on a particular control lever(s).

Using the Modern Slavery Act and the Social Value Acts as examples, this study shows that new regulation triggers changes to *Violet's* MCS. Although such Acts seem to require organisations to take a long-term approach to manage and consider the relevant matters, the lack of measurement and reporting mechanisms result in the emphasis of a **boundary** system to provide a “structure” for other levers of control in a short-termist way which, in turn, affects the balance.

Secondly, the evidence in this research suggests that the balance between control systems is influenced by the relative maturity of sustainability issues. Health and safety strategy has been highlighted as a highly-mature sustainability practice that coincides with a balanced use of positive and negative controls.

6.3.3 The two uses of MCS for strategy-making

Literature summarises the main idea of using MCS to “manage” a strategy, as advanced by Simons, as two uses (Simons, 1995, 2000). The two uses of MCS is mainly investigated through **positive and negative controls** that constitutes a balance (Ferreira & Otley, 2005; Kruis et al., 2016; Mundy, 2010; Tessier & Otley, 2012); and then tensions between **interactive and diagnostic controls** (Gond et al., 2012; Heinicke et al., 2014; Henri, 2006). While the former ought to investigate the balance between all four levers, the later focuses on discussing the use of **diagnostic control systems** to ensure the achievement of organisations' intended strategies, while **interactive control systems** provide input into the formation of strategy.

From the above illustration, scholars suggest that MCS contributes mainly to either strategy formation, or strategy implementation, and they suggest that these can be clearly distinguished (Bisbe & Otley, 2004; Gond et al., 2012; Su et al., 2015). Findings from this research, however, present tentative evidence that negative control systems play a dominant role to ensure effective strategy implementation; they also contribute to strategy formation, *albeit* in a reactive way.

The formation of *Violet's* sustainability strategy is reactive to externally developed MCS and regulatory frameworks, as illustrated in section 6.2. For example, *Violet's* managers perceive that externally developed MCS (such as clients' sustainability

policy, tender documents and contract terms and conditions) can affect the formation of the sustainability strategy. With the purpose of maintaining a “license to operate” (section 5.3.1) and securing revenue from future projects (section 5.3.2), *Violet*'s managers intend to understand and align language as well as sustainability goals to key stakeholders through stakeholders' MCS. In this case study, tentative evidence suggests the uses of MCS for strategy formation and implementation are therefore not always clearly distinguishable.

6.4 Summary

This chapter discusses the empirical findings of the research against the extant literature as well as the research aim and objectives. Section 6.2 reveals a two-ways relationship between *Violet* and its external stakeholders. Through the discussion of three key (salient) stakeholders, this research purposes Simons' LOC can be augmented to incorporate greater depth on the role of interactions between managers and stakeholders in the implementation of (sustainability) MCS. This exploration allows a broader stakeholder focus to be considered when mobilising MCS. On one hand, *Violet*'s managers mobilise MCS to better understand the expectations of stakeholders and address their sustainability requirement, i.e. stakeholder management. On the other hand, external stakeholders influence *Violet*'s sustainability strategy through the external use of MCS. From *Violet*'s perspective, each kind of influences are provided with a strategic motivation (see section 7.2 for details) to justify their actions.

Finally, the use of MCS for sustainability-related strategic decision-making through a case study of *Violet* is discussed in section 6.3. First, while acknowledging the internal use of these systems by *Violet*'s managers, this study suggests such systems are also mobilised between the firm and external stakeholders (between senior managers and key external stakeholders), allowing *Violet*'s managers to move towards externalities. Second, this research finds that the relative maturity of a sustainability issue influences how the LOC are deployed. Third, tentative evidence suggests the uses of MCS for strategy formation and implementation are therefore not always clearly distinguishable.

7 Conclusion

7.1 Addressing the Research Aim

The aim of this section is to clarify how the research aim was addressed in the thesis. Taken collectively, this research determines how management control systems (MCS) are being used by a company and its key stakeholders in sustainability-related, strategic decision-making processes. It outlines how sustainability provides a good context to further our understanding about MCS, via the examination of the relationship between: (a) sustainability, (b) MCS and (c) strategic decision-making.

The research aim is to augment Simons' Levers of Control (LOC) framework to incorporate greater depth on the role of interactions between managers and stakeholders in the implementation of (sustainability) management control systems. In doing so, this research explores the use of Freeman's Stakeholder Theory (1985) to supplement Simons' Levers of Control framework (1995). This exploration enables a broader stakeholder focus to be considered when mobilising MCS and allows a more nuanced understanding of the theories in the context of sustainability. In section 7.2, the level of support for the first research aim is addressed through the identification of a two-way relationship between *Violet* and external stakeholders. This research outlines various ways that stakeholders influence *Violet's* sustainability strategy through the mobilisation of MCS, and so contributes to the theoretical advancement of Simons' LOC. Specifically, this research builds upon the framework developed by Rodrigue et al. (2013), who identified four ways in which stakeholders influence the firm's environmental strategy (and environmental performance indicators). This research diverges from their position, and investigates the performance-orientated MCS used by *Violet's* managers as well as external stakeholders in managing sustainability strategy. Section 7.2 details this contribution to theoretical development.

Through conducting empirical case study research, the findings demonstrate that MCS are used by managers in various ways to manage sustainability strategy formation and implementation; and that the balance between the various LOC is difficult to maintain (section 6.3). Further, there is potentially significant benefit to

establish an analogy between measurement and sustainability performance. Although the process could be problematic, it could be mitigated through: (i) embracing a greater variety of performance measures; and, (ii) using qualitative information to enhance the usefulness of sustainability data in the decision-making process.

As was the case at *Violet*, the potential benefits to engage with business to address sustainability challenges are twofold: (i) reflecting current sustainability practice, achievement and ongoing challenge as they contribute to the literature, and (ii) getting organisations (as well as policy makers) to better understand their impact on sustainability. Sections 7.3 and 7.4 reveal the key contributions to literature and practice respectively.

7.2 Contribution to Theoretical Development

Within management accounting literature, Unerman and Chapman (2014) call for a greater depth and diversity of theoretical frameworks within research on accounting for sustainable development: *“there is potential for the collective use of a broader base of theorisation to obtain useful insights in the literature on accounting for sustainable development”* (p.391). The theoretical lens of this research is framed by Simons’ Levers of Control (Simons, 1995) and Stakeholder Theory (Freeman, 1984); and is “bridged” with Arjaliès and Mundy (2013), Gond et al. (2012) and Rodrigue et al. (2013) (section 2.2.3). Both frameworks are cited frequently in the literature, so the findings of this research are framed within a coherent body of knowledge. Two theoretical contributions can be derived from this empirical case study. This section is divided to overview contributions on the integration of stakeholders’ influences on the LOC framework and developing a coherent set of theoretical knowledge. Section 7.3 concludes with the use of interactive control systems by both internal and external stakeholders, which is different to Simons’ presentation of interactive controls by internal managers.

7.2.1 Integrating stakeholders’ influences to the LOC framework

From a theoretical standpoint, insights from Stakeholder Theory are often adopted within accounting-for-sustainability literature (Arjaliès & Mundy, 2013; Bebbington,

2014; Ditillo & Lisi, 2016; Gond et al., 2012; Lueg & Radlach, 2016). Specifically, two are highlighted in this research: Bebbington and Larrinaga (2014) provides an exploration of accounting-and-sustainability literature, and highlights the ways that stakeholders affect how knowledge is created, validated and translated. The authors suggest that Stakeholder Theory is a means to determine ‘who matter’ as well as a focus on the extent to which the legitimacy of the entity in question is created and maintained. Likewise, Rodrigue et al. (2013) recognise the role of stakeholders and influences from Stakeholder Theory and reference Freemans’ Stakeholder Theory. Their study has a precise focus on one MCS, i.e. hybrid measurement system, using interview data from environmental managers. Moving on from their study, this research explores a range of MCS (as outlined in sections 6.2 and 6.3) to consider and weigh stakeholders’ concerns and expectations of sustainability strategy (Ferreira & Otley, 2009). Findings extend their exploration about the relationship between stakeholders and environmental performance evaluation to cover a range of MCS and how they are used to manage all three dimensions of sustainability.

Using interview data from managers and senior executives from different backgrounds, and external stakeholders from the sector (Appendix VI), this research provides comprehensive understanding of three key stakeholders’ levels of influence to *Violet*’s control systems. Accordingly, this section builds upon Rodrigue et al.’s (2013) study to frame the key contributions about the use of Stakeholder Theory to supplement Simons’ LOC framework. Specifically, stakeholders are perceived to influence *Violet*’s sustainability strategy at three different levels: (i) top-down; (ii) mediated; and (iii) collaborative relationship. Each is provided with specific strategic motivation(s) and is achieved through the mobilisation of MCS between *Violet* and stakeholders.

7.2.1.1 Top-down influences from the government

To begin with the direct and indirect influence from government, a top-down influence is perceived by managers, which affects *Violet*’s sustainability strategy (Spence & Rinaldi, 2012). Section 6.2.1 discusses the governmental uses of MCS to communicate and mandate sustainability requirements, where *Violet* has to develop a sustainability strategy to address these concerns to obtain a license to operate. The mobilisation of MCS cascades government’s concerns (e.g. *NPPF*) and acts as a

reporting framework (e.g. SBSC) from HM government to *Violet*. Similarly to Rodrigue et al. (2013), in which investors and their representatives convey their environmental concerns, which may then affect the firm’s environmental strategy, the findings from this research suggest a clear top-down mobilisation of MCS from government to *Violet*. But such concerns are extended to cover all three dimensions of sustainability. Accordingly, this research substantiates Rodrigue et al.’s understanding of how stakeholders influence a firm’s sustainability strategy, but moves on to cover a broader range of sustainability concerns.

Further, the use of boundary systems by the government is blanked out (the grey bubble in Figure 7.1) because government’s restrictions to business conduct are achieved through law and regulation. Legal frameworks are used to establish a legal boundary (which in turn becomes a necessary condition for firms to follow) instead of using MCS to provide a boundary (see Figure 8.1).

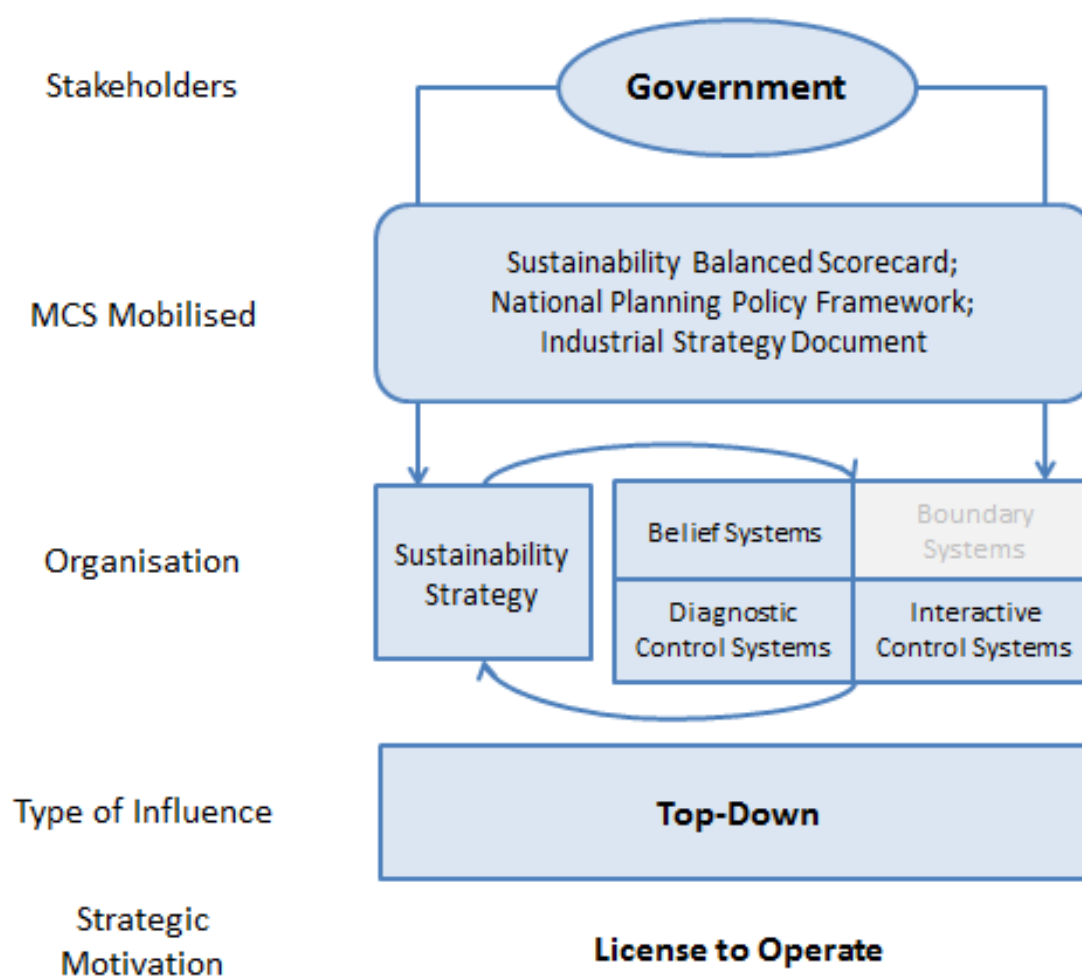


Figure 7.1: Government’s influences over *Violet*’s sustainability strategy, adapted from Rodrigue et al. (2013)

7.2.1.2 Mediated influences from clients and customers

Secondly, section 7.3.2 highlights revenue opportunity as a key strategic motivation to manage the client and customer relationships. Rodrigue et al. (2013) recognise that clients have a mediated influence on a firm's environmental strategy, without specifying their effect on MCS. This research goes further to suggest that all four LOC are mobilised by both parties in the mediation process, in responding to stakeholders' concerns and the firm's capacity (Joa et al., 2014). Different from government's top-down influences on *Violet's* MCS, the mobilisation of MCS considers not only how *Violet* perceives stakeholders' influence, but how stakeholders perceive it as well.

In terms of sustainability strategy, however, this is mainly driven by clients and customers that push *Violet* to respond to stakeholders' demands. Rodrigue et al. (2013) suggest clients and creditors exert pressure on the firm's environmental strategy, but are not viewed to have direct influence over the firm's EPI selection (p.307). The findings in this study, however, establish that external stakeholders' influence the selection of KPIs in managing a project. Specifically, a two-way influence on the selection of KPIs between *Violet* and clients and customers is identified, which is managed through the **boundary** system (i.e. contractual terms and conditions). Figure 7.2 provides an overview of this process:

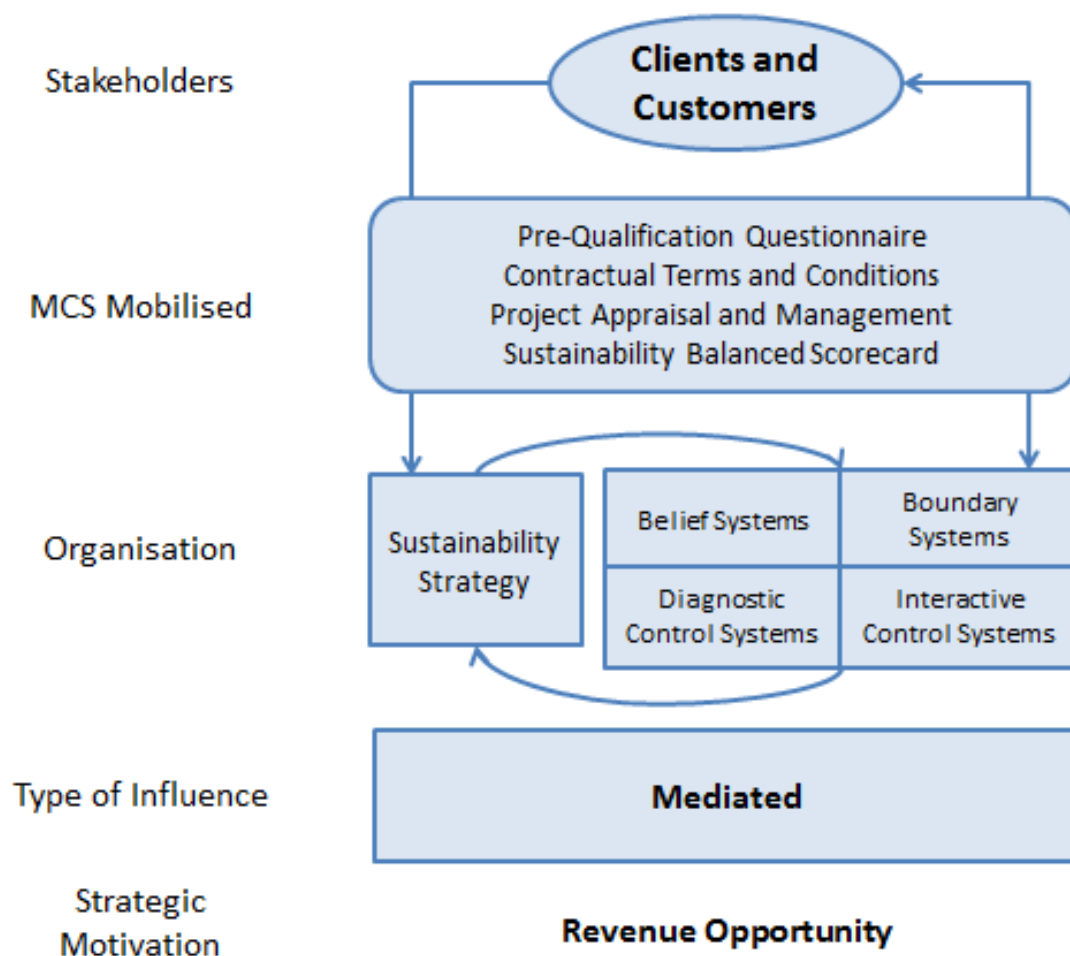


Figure 7.2: Clients' and customers' influences over *Violet's* sustainability strategy, adapted from Rodrigue et al. (2013)

7.2.1.3 Collaborative relationship between *Violet* and industrial partners

Finally, section 6.2.3 discusses two benefits of engaging with industrial partners. First, sustainability knowledge is advanced through the sharing of best practice. A two-way influence on *Violet's* sustainability strategy is identified. On one hand, this collaborative relationship encourages knowledge sharing about individual members' sustainability strategy to advance sector-wide sustainability knowledge and practice and influences the scope and sustainability agenda in the industry on the other. In terms of MCS (such as industrial performance measurement toolkits and training materials), they are co-developed with industrial members to set the basis for the firms' sustainability strategy (Savage et al., 2010). However, there is no solid evidence to suggest that a specific MCS (which can apply to the whole industry) is being developed

through this relationship. The findings align with Rodrigue et al. (2013) that company-stakeholder interaction constitutes a significant motivation for firms to further their sustainability development (i.e. joint-effort). However, there is a lack of evidence of **boundary** systems between *Violet* and industrial partners, possibly because such systems are regulated, and 'owned' by clients and customers.

Second, this research suggests the achievement of common sustainability goals is coupled with industrial partners through a collaborative relationship. Findings suggest accreditation and data verification provided by third party industrial partners are associated with external acknowledgement of the quality and validity of *Violet's* sustainability data. Deriving results from Rodrigue et al. (2013), industrial partners have a designated influence (environmental benchmarking) to a firm's environmental strategy, this research regards the influences between industrial partners and *Violet* as collaborative. While acknowledging that *Violet's* adoption of environmental benchmarking is voluntary in nature, benchmarking for social sustainability (in the construction and product industry) is still in the development stage. so a collaborative relationship is required for emerging (social value *per se*) standards and toolkits (section 6.2.3). Accordingly, this research complements findings from Rodrigue et al. (2013), about environmental benchmarking, extends to cover the social perspective of sustainability, and suggests a collaborative influence exists between *Violet* and industrial partners, as reflected in Figure 7.3:

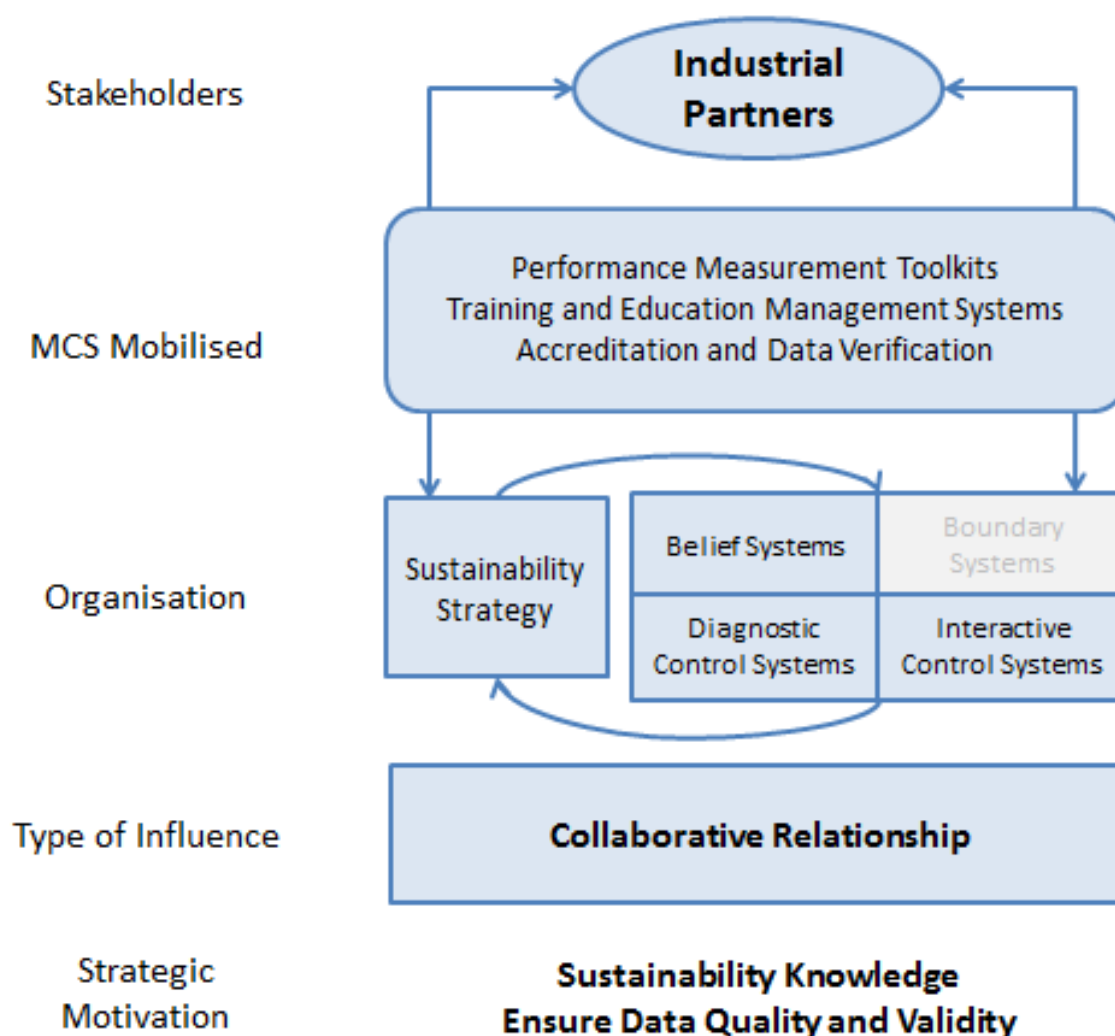


Figure 7.3: Industrial partners' influences over *Violet's* sustainability strategy, adapted from Rodrigue et al. (2013)

7.2.2 Consolidating and deepening management accounting knowledge

In strategic management accounting (Chapter 3.3), the use of management accounting to manage a strategy is sympathetic to the external environment and stakeholders. The findings from this research support idea that strategy is more fluid (Chenhall & Langfield-Smith, 1998; Chenhall & Euske, 2007; Gond et al., 2012). Therefore, a traditional taxonomy (Milne & Snow, 1978; Porter, 1985) might not be very useful because of the fluidity of the sustainability strategy. Based on the illustration of how the 'new' framework (Figures 7.1 – 7.3) brings together stakeholders and Simons' LOC, this research consolidates existing management accounting knowledge (LOC and MCS literature) suggesting that LOC is an useful framework to

investigate sustainability-related decision-making. Figure 7.4 provides an overview of the process about the integration of stakeholders to Simons' LOC to manage the fluidity of sustainability strategy:

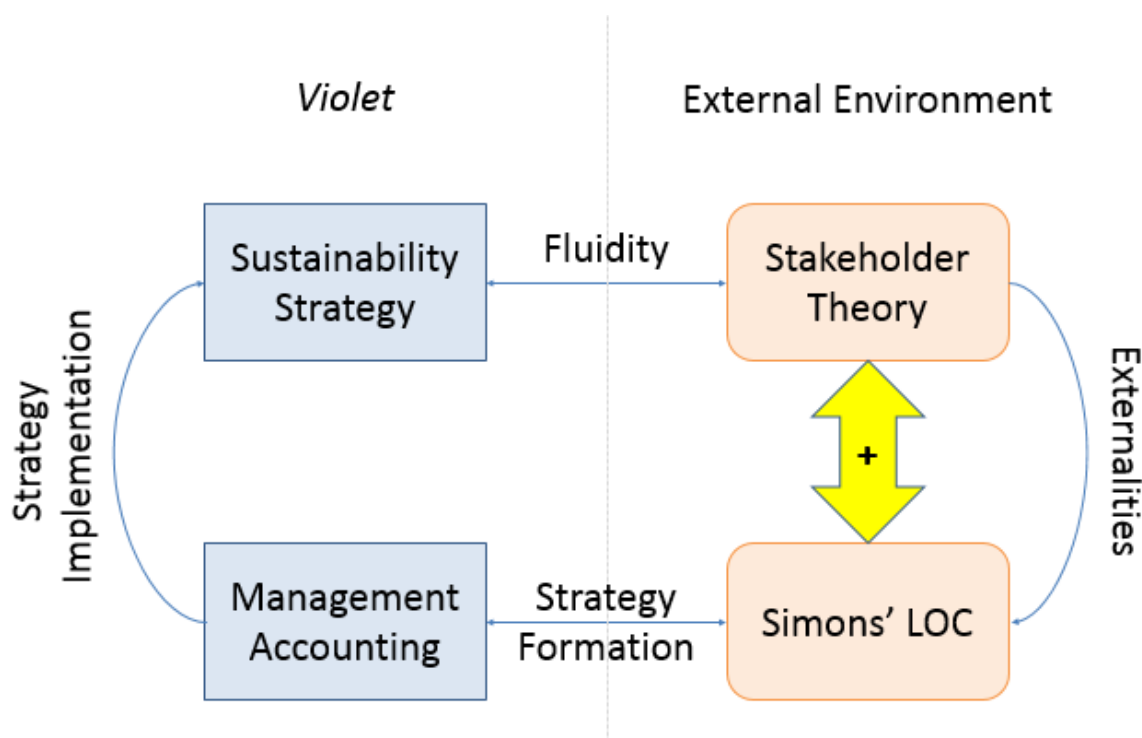


Figure 7.4: An overview of the process to manage the fluidity of sustainability strategy

Specifically, this research suggests the employment of Stakeholder Theory allows Simons' LOC to move towards externalities and address the fluidity of sustainability strategy (right-hand side of the Figure). **Freeman's Stakeholder Theory** (1984) identifies a range of stakeholders who have an interest in an organisation, thus affecting its capacity. Section 6.2 discussed the different ways that stakeholders influence through: (i) the granting of a license to operate, (ii) providing revenue opportunities, and (iii) co-development of sustainability knowledge. Such influences align with the managerial (or positive) branch of Stakeholder Theory, i.e. that a firm needs to manage its stakeholders to access or maintain necessary resources.

On the left-hand side of the Figure, traditional management accounting has a primary focus on strategy implementation (Chapter 3.1). Considering Simons' LOC is operationalised by the management accounting, it allows management accounting to address emergent strategy (largely through interactive control systems) too. Although

Simons' LOC has been criticised for its vagueness and ambiguity (Ahrens & Chapman, 2004; Bisbe et al., 2007; Tessier & Otley, 2012), it does offer a dynamic and multi-layered space to research sustainability practices. This research provides strong evidence that stakeholders influence a firm's sustainability strategy, where such influences are translated through the mobilisation of MCS between *Violet* and its stakeholders.

For strategy implementation, the use of **diagnostic control systems** is predominant. Empirical insights are provided to consolidate the use of LOC framework in a context of sustainable development, as an important tool to ensure the successful implementation of sustainability strategy (Arjaliès & Mundy, 2013; Martyn et al., 2016; Widener, 2007). Derived from the interests of the most powerful stakeholders, this research explores the use of **diagnostic control systems** to manage (and respond to) stakeholders' expectations. Specifically, key stakeholders' requirements about sustainability are monitored through *project appraisal and management systems* to communicate with the case organisation. In turn, this affects the case organisation's data collection (from internal MCS and reports) through the externally-developed MCS to demonstrate compliance, the 'compliance driven sustainability strategy' (Moon et al., 2011) (an example of stakeholders' influences on **diagnostic control systems**). Additionally, **boundary systems** (such as *contractual terms and conditions*) are mobilised between *Violet* and clients and customers to regulate the behaviours of both parties in a project.

Further, the research finds **belief systems** are mobilised to translate stakeholders' expectations and requirements into *Violet's* MCS (Parisi, 2013). Specifically, the case organisation attempts to understand its stakeholders' expectations (e.g. for planning application or securing future business purposes) through stakeholders' **belief systems** (e.g. *NPPF, Industrial Strategy Document, Clients' Sustainability Policy*). In turn, these systems influence the use of internal MCS to gather information to ensure strategy implementation is aligning with stakeholders' expectations.

For strategy formation, when Simons presented **interactive control systems**, the focus was on managers within the organisation. This research identifies that both internal managers and external stakeholders use **interactive controls** to consider the

external environment and to better address the fluidity of sustainability strategy. For example, *Violet* uses pre-qualification questionnaire (PQQ) to provide stakeholders with a means to engage interactively; *Violet*'s submission team often discusses SBSC face-to-face with clients and customers; and the co-development of *Industrial Performance Measurement Toolkits* requires interaction between *Violet*'s managers and external stakeholders. Such uses of **interactive control systems** introduce new discourses that may open up innovative ways for companies to contribute to sustainability (Higgins & Coffey, 2016).

In summary, this research synthesises knowledge from two different frameworks (Bebbington et al., 2017); as a result, new knowledge is derived by using Stakeholder Theory to supplement Simons' LOC framework. The 'new' framework allows management accounting to move toward the externalities of a strategy (section 1.2 and section 3.3) by including stakeholders' expectation and requirements. Through an investigation of how MCS are mobilised by the case organisation and its external stakeholders, in the context of sustainability-related strategic decision-making, this research concludes that managers from the case organisation perceive stakeholders' influence mainly through four strategic motivations: (i) the license to operate, (ii) revenue opportunity, (iii) sustainability knowledge advancement, and (iv) enhanced data quality and validity. Building on Simons' LOC, this research expands the application of the Simons' LOC framework to broader organisational issues, notably stakeholder management, to extend knowledge about firm-stakeholder controls (Martyn et al., 2016); and concludes that the organisational uses of MCS, in accordance with the four levers outlined in LOC, are influenced by the key stakeholders' MCS as well as internal managers.

7.3 Empirical Contribution to the Literature

Empirically, this research considers a range of actors from the case study of *Violet*. This research subscribes to the view that "*undertaking research provides a chance to understand the root causes of situations rather than to have to focus on addressing the symptoms*" (Bebbington et al., 2017, p. 3). Given the depth of this research, in addition to the insights contributed to theoretical development (section 7.1), empirical analyses are conducted to reflect upon the achievement of sustainable development

by engaging with business that contributes to the literature. Accordingly, the below subsections overview the key contributions to further knowledge in: (i) MCS literature and (ii) accounting-for-sustainability literature.

7.3.1 Contribution to MCS literature

Management control itself is a broad research domain, which encompasses decision making for strategic control, performance management and measurement, risk and culture control etc. (section 2.2.3). This research considers Simons' LOC as a framework operationalised through MCS to control strategy formation and implementation. As originated by Simons, interactive control systems and diagnostic control systems have a primary role to manage strategy formation and strategy implementation respectively (Bisbe & Otley, 2004; Simons, 1995; Su et al., 2015). The findings support the argument that MCS are used by managers for both strategic formation and implementation²⁶.

Tentative evidence shows that negative control systems (such as boundary and diagnostic control) play a key role in effective strategy implementation; they also contribute to strategy formation, *albeit* in a reactive way. For example, this research finds the use of a mutually-agreed **boundary** system between firm and clients is emphasised (and mobilised in isolation) as a short-termist approach when there is a lack of common practice to manage a new initiative. While it serves as a boundary to define the scope of the activities and restrict the degree of freedom when managing a contract (strategy implementation), it has an indirect influence by restricting individual creativity and behaviour that stimulates strategy formation, i.e. developing a sustainability strategy to fit with the mutually-agreed **boundary** system. Accordingly, this research provides new insights on the under-researched boundary system with an emphasis on its role in managing emerging sustainability initiatives.

Further, some studies call for an integrated approach for performance measurement (Chenhall & Euske, 2007; Cuganesan et al., 2012) that would bring benefits for more useful and holistic results (Tessier & Otley, 2012). However, this research identifies

²⁶ It was not always possible to identify or articulate a distinction between how MCS are used for strategic formation or implementation.

some potential for an ad hoc approach, instead of an integrated approach, because managers can deal with risk and uncertainty more effectively in this way. Alternatively, this research proposes that external stakeholders can help the organisation to better understand and manage externalities in the process of strategic decision-making.

7.3.2 Contribution to the literature on ‘accounting-for-sustainability’

Previous accounting-for-sustainability studies highlight the problem that sustainability is ambiguous and elusive (Gasparatos et al., 2009; Gray, 2010) and difficult to commensurate (Samiolo, 2012; Unerman & Chapman, 2014). Particularly in the area of social sustainability, the lack of homogeneity due of its continued vibrancy leads to a lack of coherence (Gray, 2002). This research suggests accounting and control practices are at the centre of these sustainability challenges (and hence possible remedies), and therefore enables the root causes of sustainability challenges to be investigated in a more coherent approach.

The imperfect measurability of the outputs is considered as a challenge (or even a shortcoming) when employing MCS (Frame & O’Connor, 2011). While highlighting that some areas of social impact are difficult (or even impossible) to measure and commensurate, this research suggests there is a need to include a wider variety of performance measures (financial and non-financial; quantitative and qualitative); and the inclusion of narrative information enables managers to retrospectively interpret a sustainability strategy. As a consequence, the usefulness of sustainability data can be enhanced when translating ‘numeric counts’ into organisational sustainability decision-making. Specifically, *Violet’s* managers embrace a greater variety of performance measures due to the motive/pressure from external stakeholders, i.e. the three strategic motivations as mentioned in section 7.2. While *Violet’s* managers favour a universal measurement approach, they tend to apply different measures to best fit policy-specific and project-specific requirements.

Besides, using *Violet’s* health and safety strategy as an example, the research finds narrative information may support social and environmental sustainability by providing incremental information that is not fully captured in quantitative measures (both

financial and non-financial measures) to allow retrospective interpretations of strategy, and therefore improve the usefulness of sustainability data.

7.4 Practical Contributions

Observations about the in-depth case study at *Violet* can be used to develop a number of practical recommendations. In general, this research contributes to practice at three levels. First, it investigates how MCS could be mobilised by *Violet* and its key stakeholders when addressing sustainability strategy. Case-specific knowledge is generated throughout the process about the mobilisation of MCS to build a case of sustainability and effectively engage with stakeholders. Secondly, interview data from external stakeholders, including customers and industrial partners, contributes to recommendations for the construction (and product) sector. Several challenges and opportunities are identified regarding working with industrial partners. Finally, in light of the two Acts – the Modern Slavery Act (2015) and the Public Services (Social Value) Act (2012) – this research finds *Violet*, as well as the sector, are still in the process of understanding and developing strategy to cope with the requirements of these Acts.

Accordingly, recommendations are made below to suggest how policy makers could go further in terms of communication and regulation. The sub-sections make some practical recommendations about developing a case for sustainability and enhancing organisational understanding of sustainability; and outline some key elements that can be taken from this research to foster sustainability performance at three different levels: (i) *Violet*, (ii) the construction (and product) sector, and (iii) policy and regulation.

7.4.1 Practical recommendations for *Violet*

To begin with the ordering of levers that *Violet* could deploy in the future, in response to regulation, it seems that *Violet's* use of the **boundary** lever first is in the company's best interest when such regulations is immature (emergent). However, the priority/emphasis of such lever could be shifted towards **interactive** lever upon the change of maturity status of the regulation. In other words, the deployment of lever of control should be re-evaluated when regulation becomes well-established and understandings around the topics becomes clear.

Regarding to the internal communication about sustainability, while *Violet's* sustainability team clearly appreciates the scope of sustainability and why it is an important strategy to manage, communicating sustainability beyond the sustainability team is difficult. There are two key concerns in *Violet's* strategy decision-making – which are: (i) “license to operate” and (ii) revenue opportunity – identifying these offers potential to strategise sustainability effectively, and better communicate the importance of sustainability strategy. This research also suggests that there are two key features allowing a sustainability strategy to shape the culture and practice of the company: (i) an individual’s ability to contribute; and (ii) the visibility of the consequences (values). Accordingly, it is suggested that *Violet* establishes a consensus as to why sustainability is a necessary issue to be managed, the assigns responsibility via target setting and the bonus system, appropriate to each individuals’ contribution to the company. This helps to provide specific focus and foster sustainability performance, rather than thinking too broadly about sustainability (section 7.4).

Furthermore, there is a clear intention to integrate data systems, which incorporates a strategic motivation from the parent company (*Magenta*) to integrate management systems of UK business. *Magenta* has imposed top-down pressure to create consistency across its business operations, which could be disruptive in the short term. It also provides a strategic motivation and opportunity for *Violet's* employees to understand how sustainability relates to their job, and identify potential revenue opportunities.

In terms of effective engagement with stakeholders, this research finds that narrative information plays an important role when communicating social performance with both internal and external stakeholders. For example, rich qualitative information is used to narrate and evidence sustainability strategy. This contingent approach is useful to communicate the consequences (values) of an issue and encourage managers to contribute to corporate targets. However, qualitative data is often prepared to serve only a specific purpose and not stored in an integrated database, and therefore has less ability to consistently shape the culture of the organisation. There is a clear opportunity for *Violet* to use its sustainability data to better effect. Accordingly, a recommendation is made to encourage the development of an integrated database to

support better understanding of sustainability for all stakeholders. Table 7.1 provides an overview of the recommendations about the key issues when addressing different strategic intentions:

Strategic intentions	Key issues	Recommendations
Communicating sustainability strategy	Individuals beyond the sustainability team encounter challenge to understand the value of sustainability.	<ul style="list-style-type: none"> • Use the two key concerns to establish consensus about what sustainability is necessary to be managed. • Assign responsibility to individuals through the establishment of target and bonus systems. • Make sustainability clearly visible and specific to individuals' contribution to <i>Violet</i>.
Data system integration	Top-down pressure from the newly formed parent company is disruptive to <i>Violet's</i> sustainability agenda in the short term.	<ul style="list-style-type: none"> • Aware of the opportunity through the database integration process. • Time is needed to unfold its implication on <i>Violet's</i> sustainability agenda.
Effective engagement with stakeholders	Similar expectations in general, but prioritised differently in inconsistent formats across stakeholders.	<ul style="list-style-type: none"> • Develop an integrated database to support better understanding of stakeholders, especially for the systems that are used to address stakeholder interface. • 'Sandbox' compliance statistic and performance measures, narrative information <i>per se</i>, from previous project could be useful to guide the change of focus.

Table 7.1: An overview of the practical recommendations to *Violet's* strategic intentions

7.4.2 Practical recommendations for the construction (product) sector

Some interview evidence from *Violet's* industrial partners and customers identifies certain industry-wide sustainability challenges, relating to acquiring general knowledge about the measurability of sustainability and the ability to commensurate (i.e. making things equal) to other strategic goals. Because of *Violet's* representative (well-recognised) position within the sector, some of the knowledge in this research might lead to further understanding of these challenges.

While the financial driver is clearly the priority, this research has found that it is difficult (if not impossible) to transform certain aspects of social sustainability into a common metric, e.g. by means of quantification and economic calculations. This is a challenge for communication and evaluation of the implementation of sustainability strategy. Accordingly, this research suggests there is a need to embrace a greater variety of performance information, which includes quantitative measures (e.g. financial and non-financial information) as well as qualitative measures (e.g. narratives and case studies) to present sustainability information in ways that clearly resonate with users.

A recent example is the co-development of an industrial handbook which consists of a KPI template that aims to tackle the ongoing issue around the measurement of social value. However, this technical guidance focuses primarily on the quantitative measures, including both financial and non-financial measures, with minimal emphasis placed on the opportunities about qualitative measures. Aligning with the findings that qualitative information can help interpret sustainability strategy, it is suggested that the next step for the working party is to explore and manifest the potential of using qualitative measures to better communicate social sustainability.

7.4.3 Practical recommendations for policy and regulation

Government and the regulatory bodies who make decisions regarding local plans have the 'legal power' to grant a license to operate, which is necessary for *Violet's* (as well as the sector's) future operation, and so directly affects its future profit and capacity. Findings confirm that government has a key role in sustainable development and pushing the business. Their expectation and requirements are translated through their own MCS, for example, industrial documents, planning conditions and the legal framework, to influence *Violet's* internal MCS (section 6.2.1). It then becomes vital for the government and regulatory bodies to clearly communicate how the notion of sustainability is defined and cascaded down from HM government to local councils and procurers, ultimately shaping *Violet's* sustainability practices.

While some mature legal frameworks provide a broad boundary about pollution, environmental protection and health and safety, several concepts derived from the emerging Acts, such as the Modern Slavery Act and the Public Services (Social Value) Act, are still ambiguous to the sector. There is a lack of understanding and varied approaches to these Acts. It is worth emphasising that these pieces of legislation require *Violet* and other stakeholders to engage with issues that are not readily commensurable, and thus, there is a legislative environment which is driving the need for intersubjective consensus that has not been seen before. One may suggest that time is needed for the sector to explore ways to respond to these Acts.

This research suggests that instead of waiting for the perfect solution to come out, policy-makers could place greater emphasis on the use of SBSC to mandate (while maintain a degree of flexibility) reporting on social sustainability, and not only for major publicly-funded projects. There is potential for government to lead the use of SBSC by example (such as the London Olympics 2012). With the employment of SBSC as a project management approach by the government, it is hoped that major companies would be motivated to explore this approach to advance sustainability practice.

7.5 Limitations

This research suffers from several limitations which further research may remedy. As with all research, choices made in the methodology and methods to develop interpretive knowledge towards ontological and epistemological viewpoints may vary from others, but one is the feature, not disadvantage, of qualitative research (Denzin & Lincoln, 2000). Although the transferability of case-specific knowledge to other institutions may be compromised, nuanced understandings can be presented and contributed to theoretical advancement (Eisenhardt, 1989), and have potential to propel future research.

In terms of the case company, the findings relate to the use of a single case organisation based in the United Kingdom, where the reporting on sustainability is not mandated by law or regulation, and there is also no one standard or agreed way to compose sustainability information for reporting purposes. As a consequence, a degree of variation in crafting sustainability information across different organisations cannot be avoided, and variations in understanding are always possible.

The coding process involves transcription by the researcher, and minor changes of language to make sense of the quote and for presentation purposes are unavoidable. This is mitigated through data triangulation, which checks if there is significant variance to the data from other sources, and the researcher's and his supervising team's due diligence.

Findings related to the development (integration) of MCS are subject to changes as a result of ongoing merger and acquisition and system integration projects at *Violet*. This limitation nonetheless provides a helpful foundation for the discussion about the development process of MCS in a dynamic environment. Indeed, the changes in *Violet's* parent company offer a future research opportunity to follow up the development progress with the same case organisation.

As qualitative case study research that engages with business, limitation to access data is inevitable. First, several, ongoing (major infrastructure) projects have restrictions on confidentiality so that internal physical evidence, such as documentation

and reports, cannot be removed or obtained from the case organisation. This is mitigated through obtaining views from interview data supplemented by exploring publicly-available information. Data from past projects also provide a good analogy about practices, in which a degree of similarity can be expected. Secondly, the availability of 'ideal' informants did not always fit into the schedule of this research for practical reasons. For example, informants recommended an interview with the President of Finance, Head of Procurement, Chief Executive Officer (CEO) and parent company's managers, all located in Zurich. A degree of proximity can be achieved through interviewing the people who are working closely with the ideal informants, who include the Vice President of Finance, Senior Business Development Manager (Major Projects), CEO Assistant, and the people who previously worked for the parent company (Senior Project Manager, Head of Strategy).

Finally, as with every inductive research study, discussion and conclusion of this research is derived from the knowledge and background of the researcher, critical and constructive feedback from supervisors, and current knowledge as it exists in the literature. This can (and should) be challenged by academics and other readers.

7.6 Direction for Future Research

Subject to the above limitations, the scope of this thesis cannot adequately treat and discuss all the ideas generated through the findings and discussions, so this section presents several areas that could be selected for future research.

First and foremost, this is exploratory case study research, which may prove one way of practice, with a primary focus on how managers perceive stakeholder influences. Future research that delves more deeply into other organisations could address this limitation. Additional work could take the form of gathering data to investigate the sector as a whole, validating the conclusion via another case study and/or a quantitative study. Although the viewpoints of stakeholders and the dynamic relationship between firm and stakeholders are considered to some extent in this thesis, the findings are not as comprehensive as they could be, mainly due to relatively limited data from external stakeholders. Future research could focus on obtaining and theorising the story from the stakeholders' perspective about how they proactively drive the sustainability strategy to affect their supply chain, and thus further knowledge about the dynamics between the organisation and stakeholders.

Secondly, the steadily increasing attention on Simons' LOC framework suggests its continued usefulness in explaining how MCS is used in organisations (Martyn et al., 2016, p. 299). As depicted in the limitations, the case organisation is in the process of developing (integrating) MCS, which are subject to changes from ongoing merger and acquisition. These development and integration processes offer an opportunity to investigate the development of MCS in a dynamic environment, which could be followed by longitudinal research to overcome the time constraint of this PhD.

Thirdly, as identified in section 7.2, **boundary systems** are mobilised by *Violet's* managers as well as stakeholders to provide a strategic motivation (i.e. revenue opportunities) to *Violet*. Simons suggests the uses of the four levers of control should be balanced, but little is known about the links between boundary systems and stakeholders. Therefore, how (if possible) could they provide other strategic motivations for the company to adopt? This research suggests such systems are emphasised (as a short-termist approach) when there is a lack of understanding of a

particular issue, to protect the interests of both parties through providing a boundary to regulate behaviour. It would be interesting for future research to investigate if such a motive still exists when the practice becomes mature.

Fourthly, the transformative nature of sustainability provides an opportunity to embrace a breadth of issues across research disciplines. This research discusses the potential of using intersubjective consensus to mitigate the commensuration challenge. Future research could explore if concepts from social science disciplines, such as sociology, knowledge management and political science, are helpful to mitigate sustainability challenges. Additionally, acts such as the Modern Slavery Act (2015) and the Public Services (Social Value) Act (2012) are still relatively new and the case organisation is in the process of making sense of and incorporating these into its sustainability strategy. Future research could investigate how these (and other public policy instruments) shape the use of MCS and evaluate if Simons' LOC can provide useful insights in explaining the organisational uses of MCS.

Lastly, a sophisticated MCS – Sustainability Balanced Scorecard (SBSC) – is identified as a powerful and essential tool in managing a major public infrastructure project. Yet, the case organisation has not developed an SBSC internally to manage sustainability data. A probable cause is that there is a lack of common understanding, at both intra- and inter-organisational levels, about the employment of SBSC. The adoption of SBSC, which is now required for public projects, provides opportunities for future research to explore the implementation of SBSC in managing such projects.

[Research papers in development](#)

Upon completion of the PhD, this thesis is expecting to develop three papers (co-authored with supervisors), *targeting Management Accounting Research; Journal of Business Ethics; Accounting, Auditing & Accountability Journal; and Accounting, Organizations and Society:*

1. [The case for theory synthesis in sustainability accounting: Augmenting Simons' LOC to incorporate Stakeholder Theory.](#)

While acknowledging the value of various frameworks in furthering academic knowledge in the field of sustainability accounting, this study argues that a theoretical

synthesis is key to developing a coherent set of theoretical underpinnings. The empirical findings (from a case study) demonstrate that such a theoretical synthesis is possible and has the potential to consolidate and deepen the use of management accounting theory to investigate sustainability. Specifically, this study suggests that Stakeholder Theory can supplement Simons' Levers of Control (LOC) framework as a means to convey the achievement (and challenges) of sustainable development.

2. *Mobilising interactive control systems to manage externalities in strategy: How do external stakeholders use interactive controls to drive strategic renewal?*

The effects of interactive uses of management control systems have been addressed thoroughly in the literature. As proposed by Simons, interactive control systems give internal managers the freedom to focus on external conditions in a rapidly changing market. This paper shows that interactive controls are used by managers to effectively manage the "fluidity" of sustainability strategy. Furthermore, a major difference was identified in the actual use of interactive control when compared to the normative literature. Findings reveal that interactive control systems can also be mobilised by external stakeholders to influence a firm's sustainability strategy.

3. *Commensuration in accounting-for-sustainability: An empirical case study of a major UK construction product company*

Literature suggests there is a lack of definitive texts for thinking about sustainability in management accounting studies, but this study responds directly to calls to investigate the potential for using extant accounting mechanisms to cope with sustainability challenges. The findings suggest that various performance measures are used by managers to establish an intersubjective consensus between sustainability strategy and other strategic goals. So, the ability to commensurate sustainability performance to other strategic goals, financial goals per se, is important and helpful for sustainability related decision-making. Although this study confirms that traditional monetary measurement is still desired by managers, using qualitative measures to narrate social and environmental performances enables sustainability information to be presented in a way that resonates with stakeholders.

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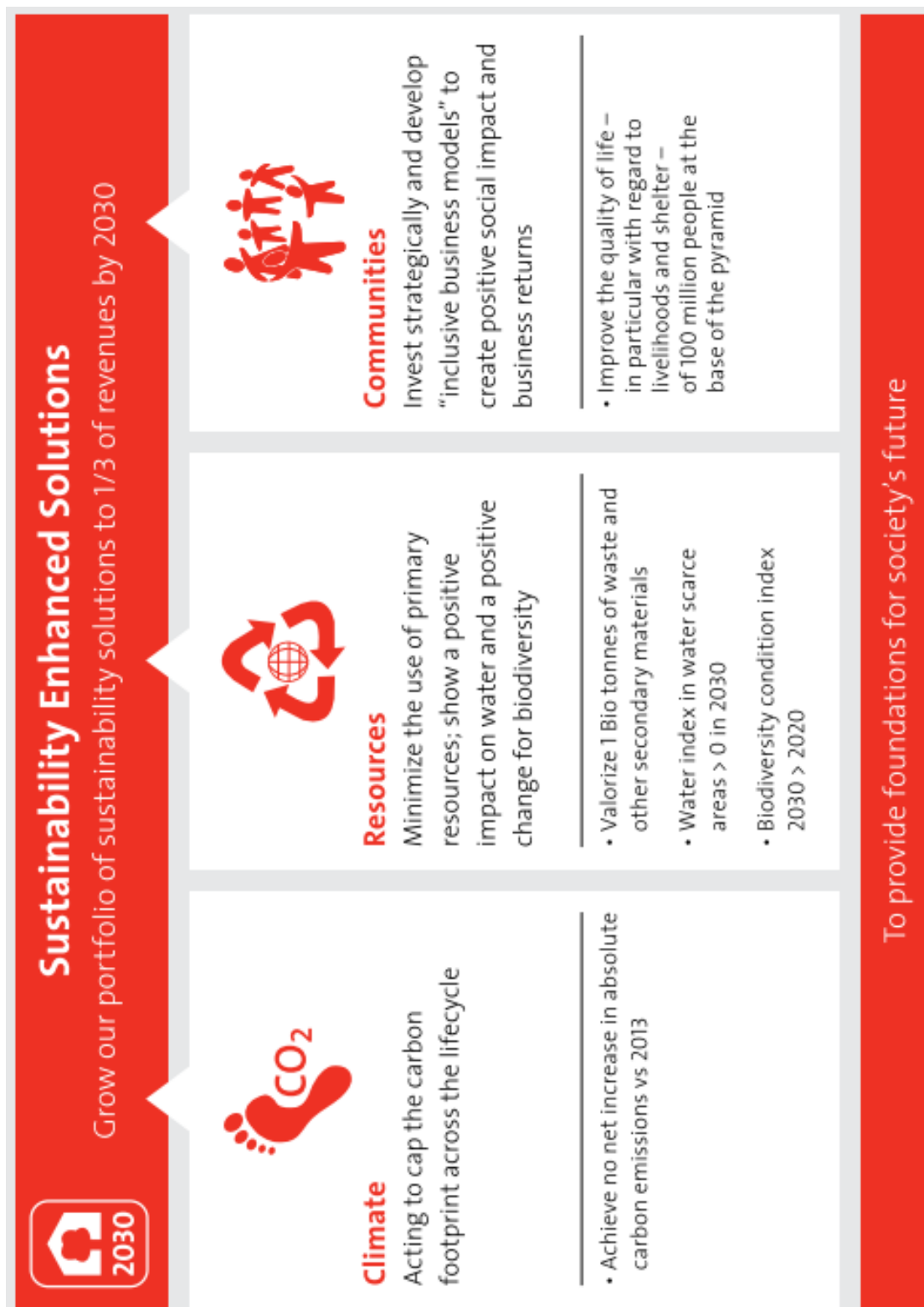
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Appendix

I. *Magenta's sustainability roadmap*



II. Invitation letter sent to potential case organisations



The XXXXXX [REDACTED]

The aim of my study is to explore the relationship between (a) sustainability, (b) performance measurement systems (PMS), and (c) strategic decision-making processes by engaging with business. My intention is to make more 'visible' (Hopwood, 2009) the meanings attached to sustainable development by research participants within an organisational context. Specifically, my study seeks to answer 'how' practitioners develop PMS to manage progress on sustainable development, and its potential to motivate (and/ or hinder) sustainability-related decision-making. What is the role of PMS on enhancing understanding of the notion of sustainability as perceived by organisational members?

Potential Research Design (Subject to negotiation)

This study is expected to divide into three phases and relies on interviews, attendance at meetings and documentation. The first two phases aim to obtain data from different hierarchical levels at the XXXXXX. The final phase aims to both to report back to the company and to ask for clarification/updates on progress.

Confidentiality

In order to guarantee the anonymity of the company and its personnel, a fictional name and company position will be used to indicate the company and the interviewees respectively. The locality of the company will be described as located in the Asia Pacific region. I am happy to discuss the proviso of guaranteeing the anonymity of the XXXXXX with the key gatekeeper.

Phase 1

At the beginning of the case study, this phase is designed to obtain a holistic view on how the XXXXXX develops a sustainability framework; the strategic side (oversight, vision, leadership and direction) on sustainability; the XXXXXX's environmental stewardship; and the thinking that underlies the rationale behind financial and non-financial performance indicators. From a preliminary background search, interviews with the following individuals and

groups, and observation of meetings, might provide information on how sustainability is conceived in the XXXXXX:

- General Manager – Sustainability
- The XXXXXX Sustainability Advisory Committee
- Chief Financial Officer
- Director and management team
- Manager in charge of vision and performance

Phase II

This stage aims to gain more details by asking how the sustainability programme and tools are implemented? How do individuals and/or groups develop performance indicators to help progress sustainable development? How does the programme and tools influence the work of individuals and/or groups? How to connect non-financial data with financial activities? How does the XXXXXX promote sustainability strategy to the stakeholders? How does the XXXXXX utilise data from external stakeholders in monitoring progress?

- Sustainability Working Group
- Managers and Staffs who have responsibility for implementing sustainability in the organisation
- Project/ programme managers
- Management Accountants

Besides, since the XXXXXX develops a strong relationship with stakeholders that offers potential to interview the role holders responsible for monitoring and delivering on corporate sustainability performance to gain insight from the other side of the actual work.

- Tenants and communities representatives
- Staffs in charged on waste management pilot programme and promoting community connectivity, neighbourhood development scheme
- Representatives from the XXXXXX [REDACTED] Programme

- Participants in Tenant Academy sessions

Phase III

Aims to report findings and a summary to the XXXXXX and ask for clarification after the preliminary data analysis process. It is possible to conduct a focus group for a small team of people.

I hope the above information could delineate my research study. At this stage, the research design is in draft form since I am not yet in the organisation. If access is granted, the above phases are open to discussion with the General Manager of sustainability - [REDACTED], and I would return to Hong Kong to conduct the subsequent activities.

Drafted by

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School of Business and Economics
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III. Research design for Violet

XXXXXX UK Ltd

Research Aims

The aim of this study is to explore the relationship between (a) sustainability, (b) performance measurement systems (PMS), and (c) strategic decision making processes by engaging with business. My intention is to make more 'visible' (Hopwood et al., 2010) the meanings attached to sustainable development, and its potential to motivate, and/ or hinder, sustainability-related decision-making.

This study employs a single case study (Ryan et al., 2002; Yin, 2003), which allows for in-depth and rich qualitative data to be generated by focusing on understanding the sustainability-related dynamics present within a single setting (Eisenhardt, 1989). The main unit of analysis is the levers of control framework (Simons, 1995) mobilised at XXXXXX including the use of PMS to manage stakeholder expectations on sustainability. The study intends to explore the role of PMS on staff perception of sustainability. To explore the role of PMS on enhancing understanding of the notion of sustainability as perceived by organisational members, how different controls are used based on the perceived importance of stakeholders, and how managers translate the relative power bases of stakeholders into the use of positive and negative controls.

As recognised in the preliminary interview, I understand that XXXXXX has business with the UK government and Heathrow Airport, and considers government as one of the most *powerful stakeholders* (Chen & Roberts, 2010; Cho et al., 2015). Accordingly, stage 2 of the research design focuses on the key stakeholders.

Potential Research Design

The main informants within XXXXXX who acted as gate keepers and facilitated access to appropriate contacts are working for the sustainability team. The data for this case study intends to combine individual interviews with senior managers and executives who are engaging in mobilising PMS and sustainability programmes; attendance at workshops and/ or meetings with XXXXXX employees; and the review of documentation.

As identified in our preliminary on-site discussions held in December 2015 along with review of the available documents, this study is expected to divide into four main phases with different objectives to be achieved in each phase.

Phase 1

Aggregates Industries acts actively in sustainability reporting since 2000 with an increasing breadth of data and scope. At the beginning of the case study, this phase is designed to obtain a holistic view on how XXXXXX engages itself in sustainability issues, which covers XXXXXX's vision, leadership and direction on sustainability, by interviewing the following individuals:

- Head of Sustainability – [REDACTED]
XXXXX is the gate-keeper of this study, who is overseeing the overall sustainability strategy and communication for both internal and external purposes, and stakeholder management. XXXXX has also agreed to facilitate access to appropriate contacts within XXXXXX.
- Sustainability Manager – [REDACTED]
XXXXX is the Sustainable Products Manager responsible for internal and external reporting for sustainable development metrics and carbon calculation for different stakeholders. XXXXX also has rich experience about sustainable construction supplies, material innovation and product life-cycle analysis. Different products have different sustainability drivers to meet with the requirements of customers. For instance, government regulation on producing certain products is necessary to be managed in developing organisation's strategies.

- Publicly available documentation from UK Government, Civil Aviation Authority and other partners.

Since XXXXXX has engaged with the UK government for different projects, it could be possible to obtain government documentation to understand how government prioritise its partner's sustainability performance. Besides, the Heathrow runway project offers an opportunity on how XXXXXX attempts to address the concerns of stakeholders (stakeholder pressures). This enables insights on stakeholder expectations to be obtained and then to analyses how XXXXXX "manage" these needs and translate into its strategies.

- Workshop with XXXXXX's employees
Professor Jacqueline Glass has offered an opportunity for data collection through an internal workshop with XXXXXX employees at Loughborough University. The participants would be students registered on the Management and Leadership (XXXXXX) programme at the University, i.e. executive education. Contributing to the workshop provides an opportunity to discuss with XXXXXX employees, as industrial practitioner and internal stakeholders, on sustainability practices from different roles within XXXXXX. It is also possible to conduct follow-up interviews with the students to better understand their views on the sustainability drivers. Dr. Suzana Grubnic and Professor Jacqueline Glass will help in facilitating my input into the workshop.]

- XXXXXX's documents on past activities
Documents such as employee satisfaction surveys after participation on sustainability programmes. The aim to review these documents is to better incorporate the views of XXXXXX employees (as an internal stakeholders) in my study. Also, reviewing documentation enables me to triangulate data from different sources to increase the validity of the study.

- Chief Financial Officer – [REDACTED]
John has ultimate functional responsibility for accounting and finance, risk and assurance for the company, who is experienced in compliance on accounting for sustainability and the use of performance measures. Given his rich history working as a member of Board (he has been a Board member since 2004), XXXXX might provide nuanced information on the development of accounting practices for sustainable development from a finance perspective.

- Vice President Finance – [REDACTED]
XXXXX reports to the Chief Financial Officer. XXXXX has rich experience in cost management, managerial finance and forecasting. Discussion with him offers potentials to better understand the performance measurement development process and implementation.
- Lead of Health & Safety Director – [REDACTED]
XXXXX is engaged in developing a positive and practical Health and Safety culture and practice. XXXXX is working on developing and implementing HSE standards and complying with the XXXXX (parent company) standards. Also, XXXXX is involved in monitoring and reporting company performance on H&S at a corporate level. The programmes related to this study include "XXXXX" and "XXXXX."

Phase II

This stage aims to obtain insights on various stakeholder groups to address how XXXXX identifies sustainability issues, manages or influences its stakeholders. Particularly, this phase focuses on (i) the license for XXXXXX to operate and (ii) the key stakeholders. Questions on how do the respondents seek to satisfy/ manage external stakeholders; how does the powerful stakeholder potentially affect XXXXXX's sustainability drivers; how do stakeholder concerns translate into the use of positive and negative controls, are the objectives in this stage. In order to fulfil objectives in this stage, the following could be useful data sources:

After obtaining a holistic view on the sustainability strategy from XXXXXX's senior management and stakeholders, this stage is a substantive phase designed to obtain details on the development and implementation of sustainability programmes. This phase aims to obtain understandings on how the company develops performance measures (PM)/ key performance indicators (KPI) to capture the data for their strategic decision-making purpose, and how the company develops performance indicators to help progress sustainable development. Data can be collected through interviews and shadowing the participants (if possible) of the sustainability programmes held by XXXXXX.

██████████
██████████
██████████

As my study progresses, I expect to focus on one or two programmes and I intend to interview a number of participants. This aims to obtain details on the strategy formation and implementation, which potentially offers an opportunity to understand how the organisation evaluates/ measures the effectiveness of these programmes. It helps to develop the KPI in assessing performance on sustainability and identifies aspects that help or hinder XXXXX's development of sustainability programmes.

In addition, I understand there is a strong connection between XXXXXX and Loughborough University, Civil and Building Engineering School in particular. Jacqui is a potential interviewee to my study by accumulating industrial sustainability practice and more background information on XXXXX from her years of experience in co-operating with XXXXX.

██████████
██████████
██████████
██████████

The final stage aims to report findings and a summary to XXXXXX. This could offer an opportunity for interview respondents to expand on or clarify points made.

I hope the above information could delineate my research study. At this stage, this research design is in draft form and I am happy to discuss my action plan with the relevant personnel. My main site of study is located at Loughborough University, however, I would visit XXXXXX (XXXXX) to conduct interviews and attend meetings to fit with the informant's availability.

Confidentiality

In order to guarantee the anonymity of the company and its personnel, a fictional name would be used provided to the company, and the interviewees would be referred to by the position held in the company. The locality of the company will be described as one of the leaders in the construction supplies industry located in the UK. The proviso of guaranteeing the anonymity of the organisation is open to discussions with the gatekeeper.

Drafted by
Fong-Ching Lam

Doctoral Researcher
School of Business and Economics
Loughborough University
Leicestershire LE11 5TU UK



IV. Ethical clearance (Adapted)

form from the Sub-Committee's web page. A signed copy of this Checklist should accompany the full Research Proposal to the Sub-Committee.

Space for Additional Information and/or Information on Generic Proposals as requested:

Click here to enter text.

For completion by Supervisor

Please tick the appropriate boxes. The study should not begin until all boxes are ticked.


- The student has read the University's Code of Practice on investigations involving human participants
- The topic merits further research
- The student has the skills to carry out the research or is being trained in the required skills by the Supervisor
- The participant information sheet or leaflet is appropriate ✕
- The procedures for recruitment and obtaining informed consent are appropriate

Comments from supervisor:

Click here to enter text.

Signature of Applicant: Fong-Ching Lam

Signature of Supervisor (if applicable): Click here to enter text. *Stjepanovic (DR SUZANA GRUBANIC)*

Signature of Dean of School/Head of Department or his/her nominee: Click here to enter text. 

Date: 12th April 2016

V. Interview brief for a specific interview

Dear Sir or Madam,



Re: Case Study Interview Request

I am a registered Doctoral student in the School of Business and Economics at Loughborough University. My studies are fully funded by a PhD studentship which I secured following a competitive process.

The aim of my thesis is to understand the role of management accounting practices in advancing sustainable development, broadly defined as pursuing environmental, social and economic goals. More specifically, my study seeks to examine the inter-relationship between sustainable development, performance measurement systems and strategy.

Following a meeting with Ms XXXXX and Mr XXXXX on XXXXX, I am grateful for the granting of data access to XXXXX to support my studies. Having carefully read XXXXX's sustainability reports along with discussions with your sustainability team, I am impressed by your strong commitment to delivering sustainability through different activities, including responsible sourcing, environmental protection, stakeholder communication, and your Health & Safety programme. I also understand that XXXXX has strong connections with Loughborough University in developing sustainable solutions for the construction industry. Your support for my study offers the potential to gain theoretical and practical knowledge on sustainability. I believe that conducting research at an organisation with strong sustainability commitments could help further contribute to a wider sustainable movement.

My research is qualitative in nature and would rely primarily on data collected through interviews, observation of meeting and documents. I would greatly appreciate if you would agree to an interview in the first half of 2016 in order to explore your experiences of sustainability, performance measurement and strategy.

I will spend January 2016 reviewing academic literature on two theoretical models with the purpose of combining them in a way that could help me contribute to knowledge. I also seek to review XXXXX's publicly available documents in order to have a good background of the company prior to collecting primary data. It is also worth pointing out that I will be going to Hong Kong in early February and will return to the UK later in the same month. I would be pleased to meet you whilst I am collecting data at your company. I hope this brief on my research study is helpful to you. Please do contact me if you need further details.

Looking forward to hearing back from you.

Yours faithfully,
Fong-Ching Lam
Doctoral Researcher
School of Business and Economics
Loughborough University



Interview Questions

New role – Financial Controller

Further to our last discussion, we did talk about the role of financial controller, who acts as an intermediary between the business and the finance team. Can you update me your role as the financial controller for a certain region? What are your job and responsibility?

Overview of the MCS

Identified MCS in place:

- 1) [Employee Evaluation System], follow-up
- 2) [The Alliance Programme], checked
- 3) Violet's [Strategic Plan]
- 4) [Incidents Database] is about business operation, now you have more involvement with the business, are you using it?
- 5) [Enterprise Resources Planning (ERP)] – Oracle software, EBITA

As suggested in the literature, MCS examples include:

- 1) Budgeting
- 2) BSC - Strategic planning and management systems to align business activities to organisational vision and strategy.
- 3) Project Management Systems – Reports information about the discovery and integration of new technology project.
- 4) Intelligence Systems - Reports information on social, political and technical business issues.
- 5) Profit Planning Systems to report information about revenue, development and protection of new products.
- 6) Brand Revenue Systems – Reports information about revenue, market share, shipment data by product category.

MA has a role to provide *financial information* support; can you give me some examples? Through Brand revenue systems, which in this case can be the [products]. Profit planning systems and budgeting, any example?

The use of non-financial information

[Recent major incidence] – what kind of data or information has been discussed? Any use of performance measures?

- o Managers intend to rank performance, e.g. 1-5, to quantify and thus allowing performance to be compared. How to ensure the reliability and objectivity in this circumstance?
- o Do you think the use of qualitative measures help to visualise patterns through giving you a general view/feeling of performance? [Examples]
- o Can you tell me more about the [Incidents Database] system? What are your uses of it? What kind of data is included within the system?
- o I have a discussion with the principal sustainability manager at [Customer]. There is a 360 degree feedback about suppliers' performance, and there is a similar process within Violet. What is your experience about this feedback process, what is involved?

Social Values – Impact

- o Visualising the social values can be difficult, let's say the impacts of a social value cannot be easily quantified. [e.g. employment] What is your experience?
- o What do you think about the use of qualitative measures to visualise sustainability (or other) values?
- o In our last discussion, about preventing complaint. "By putting an interactive measuring before it gets to a complain details." Can you give more details on the use of interactive measuring?

Customer Orientation

"Good Reputation" in the industry because Violet is providing customers with what they want rather than what we are providing.

- o How to capture the expectation of customers? Is it often that they would translate

Put this into sustainability context – if clients or contractors have sustainability related targets:

- o What is the ways that they are going to communicate with Violet? Is there any use of performance measures? Can you give me an example?
- o I am still looking for some evidence about the relationship between stakeholders and Violet. Customer is no doubt a key stakeholder. How & customer influence the use of PMs within Violet? Can you give me some examples?

I am a Doctorial Researcher from the School of Business and Economics at Loughborough University, working on management accounting for sustainable development research. My study aims to explore the role and use of management accounting tools in progressing organisation's sustainability agenda, the objectives for this study are:

- 1) To explore the role and use of management accounting tools in progressing organisation's sustainability agenda; and
- 2) To explore the potential in using the stakeholder theory to supplement existing management controls systems.

My intention is to make more 'visible' the meanings attached to sustainable development through the use of management accounting tools, for example: performance measurement systems, control systems, and planning and resources allocation process.

Interview Guide

Sustainability

- What is your view on sustainability?
- Previous discussion with informant depicted that there are difficulties to define and communicate sustainability issues. Do you agree?
Different people do it [sustainability] in different ways. There are so many frameworks exist in building construction industry.
What are the frameworks that you have chosen to follow? (GRI) What is the reason you are adopting this framework? (In line with parent company policy?)
- XXXXXX's sustainability agenda includes a wide range of activities, what is XXXXXX's priority now? Why is it important?
- During the data collection period in XXXXXX, it is not likely that there is an existing framework to cover every element of sustainability, but a generic strategic plan and sustainability policy to guide the direction of sustainability. Do you agree?

My definition of performance measurement system (PMS) is the system which gathers and uses information to evaluate performance to ensure organisational goal achievement. Literature suggests PMS has different roles and uses, for example: (i) to communicate the 'beliefs' and strategies of the company, (ii) to monitor and control performance diagnostically, (iii) to legitimise organisation's strategies, and (iv) to be used interactively to identify emerging threats and opportunities.

- How to use *performance measures* to ensure supply chain meet set sustainability requirements? Can you give me an example?
- What would be the key perspectives being reviewed and discussed regularly?
- What are the key performance indicators/ measures? How these data being obtained and analysed?
- Have you perceived difficulty to measure (quantify) monitoring learning and development performances? How to overcome?
- How to embed sustainability objectives into different project? Subsequently, how to monitor and control the progress and achievement? Can you give me an example?
- Do you think the use of performance data helps to communicate the vision and beliefs of the company?

Stakeholders

- Who are the key stakeholders (both internal and external) that have an influence on your jobs?
- How stakeholders (supply chain partner) use performance data/ measure to communicate their expectation and performances on sustainability achievement? Can you share with me the relevant documents, e.g. industrial conferences?

Performance Measurement Systems – XXXXXX

I understand that there XXXXXX's employees have an individual PMS – XXXXXX, and this is about the annual reviewing period, can you share your experience on your performance evaluation process? |

VI. List of interview

Interview	Informant's Position	Duration (Minutes)
2015		
1	Head of Sustainability	75
	Sustainable Product Manager	
2016		
2	Head of Sustainability	30
	Sustainable Product Manager	
	Workshop at Loughborough University	60
3	Director of Health and Safety	45
4	Senior Management Accountant	80
5	Head of Communication	60
6	Submission Manager - Contracting	80
7	Vice Finance President	75
8	Management System Manager	70
9	Sustainable Product Manager	70
10	Head of Quality and Business Improvement	75
11	Certification Company - Director of Sustainable Products	70
12	Inhouse Independent Consultant	100
13	Senior Business Development Manager	60
14	Performance Management Tools Owner	60
15	Head of External Affairs/ CEO Assistant	70
	External Affairs Adviser	
16	External Consultant - Supply Chain	30
17	Senior Estates Manager	60
18	External Consultant - Sustainability Tools	60
19	Head of Strategy	60
20	External Consultant - Social Values	60
2017		
21	External Sustainability Auditing – Managing Director	60
	Sustainability Audit - Senior Consultant	
22	HR Resourcing Partner	60
23	Head of Learning and Development	60
24	Supply Chain Compliance Manager	70
25	Customer - Principal Sustainability Manager	90
26	Sustainable Product Manager	70
27	Head of Business Improvement & Contracting	30
28	Submission Manager - Contracting	100
29	Financial Controller	45
Total (Hours)		32.25

VII. Workshop schedule, materials and list of delegates

Today's Agenda

- ▶ 17:00 Welcome and Introduction
- ▶ 17:25 Sustainability
- ▶ 17:30 Stakeholder Management
- ▶ 17:35 Performance Measurement
- ▶ 17:40 Task One - Discussion
- ▶ 17:55 Task One - Sharing
- ▶ 18:05 Task Two - Discussion
- ▶ 18:20 Task Two - Sharing
- ▶ 19:00 Close and Depart



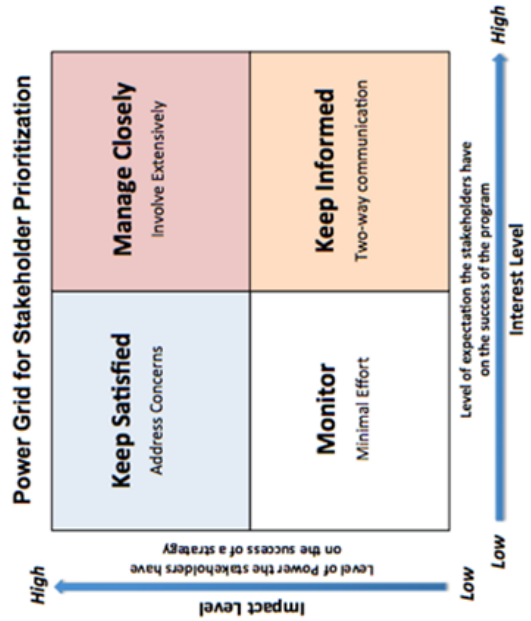
Delegates' Job Title
Business Manager
Commercial Manager
Contracts Manager
Distribution Manager
Head of Sustainability
National Account Manager
Operations Manager
Quarry Manager
Senior Management Accountant
Shipping Manager
Submissions Team Manager
Technical Manager
Territory Sales Manager

Task One – Stakeholder Assessment and Management

1. Identify potentially relevant stakeholder groups.
2. Identify the social claims and issues that each of the stakeholder groups could raise.



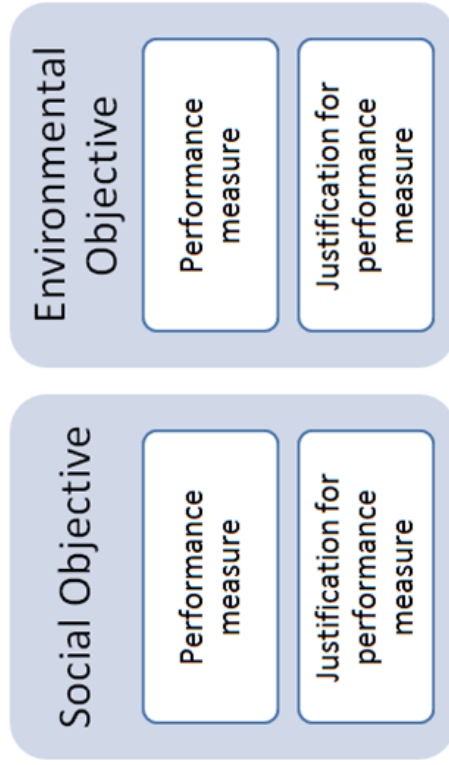
3. What information needs do you think each stakeholder will require from AI as the project progresses?
4. Where would you place each stakeholder in Mendelow's (1991) Stakeholder Prioritisation Grid? Why?



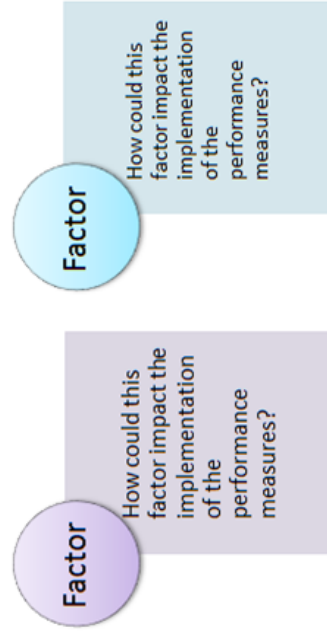
(Adapted from Mendelow, 1991)

Task Two – Strategic Performance Measurement

1. Identify two social objectives and two environmental objectives that AI should strive toward achieving.
2. For each objective, provide a corresponding performance measure that could be used by AI to assess progress.
3. Justify the use of each performance measure.



4. Identify two important practical matters that will impact on the implementation of the performance measures:



VIII. A schedule of artefacts

<i>Source of Data</i>	<i>Year</i>
<i>Internal Documentation</i>	
Sustainability Reports	2000-2017
Construction Strategy Paper	2012
ISO Certificates	-
Environmental Assessment Report	-
Responsible Sourcing Strategic Guide	2013
Project Advertisement and Newsletter for Residents	2014
Project Application Supporting Statement	2013
Sustainability Team Structure	2015
Employee Assessment and Corporate Value Guidance Notes	2016
Environmental Policy	2016
People Development Scheme	2015
Quality Policy	2016
Strategy Booklet - Corporate Values and Vision Statement	2016
Sustainability Policy	2014
Sustainability Poster	-
Supplier Assessment Tool, and Guidance	2016
Sustainable Procurement Information Package	2016
Past Projects KPI	-
Past Projects Quality Measurement Reporting Documents	-
Intranet Supporting Systems Overview	2017
Sustainability Questionnaire Package	2014
<i>External Documentation</i>	
The Highway Client's Guidance Notes for Managing Performance Toolkit on Category Management Frameworks	2016
The Highway Client's Record of Stakeholder Engagement	2012
The Highway Client's Supplier Guide	-
The Highway Client's Sustainability Policy	2015
Past Project - Planning Permission, and Conditions	2010
Customer's Sustainable Procurement Policy Receipt and Compliance Form	2015
Customer's Supplier Appraisal (PQQ)	2016
Government - Industrial Strategy	2017
Government - Procurement Action Plan	2006
Government - Sustainable Development Strategy	2005
Government - National Planning Policy Framework	2012
Supply Chain Partner - Sustainability Performance Toolkits	-
Supply Chain Partner - Online Training Documents	2017
Parent Company - Sustainability Reports	2014-2017
Parent Company - Sustainability Development Ambition Statement	2016

IX. Lists of codes and nodes

	Nodes	Sub-Nodes: Highlighted Issues
Sustainability	Context	
	Environmental	Health and Safety
	Social	
Economic		
Theoretical Frameworks		
Simons Levers of Control	Belief Systems	Culture
	Boundary Systems	
	Diagnostic Control Systems	
Stakeholder Theory	Interactive Control Systems (Internal Control Systems)	Audit Process
	Internal Stakeholders	Parent Company
	External Stakeholders	
Researching Issues		
Performance Measurement	Quantitative Measures	Financial Measures
	Qualitative Measures	Non-financial Measures
Strategic Decision-Making	Strategy Formation	Narrative Data
	Strategy Implementation	

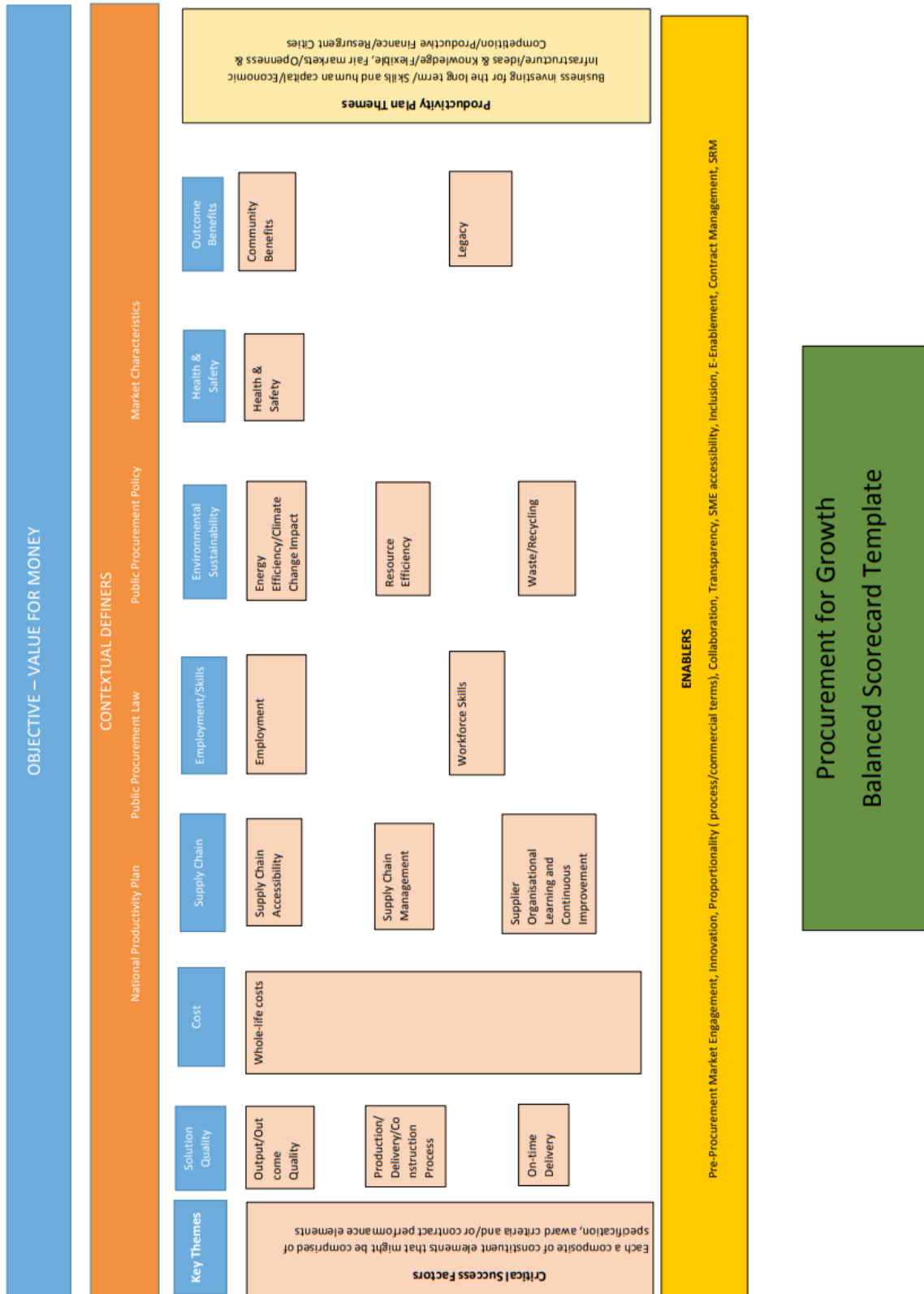
X. Adapted template – PQQ

Generic Score Table		
Satisfaction	Score	Description
Exceptionally Satisfied	10	All aspects exceed expectations considerably. Supplier can evidence that best practice identified and accepted within the definition of the 8 scoring criteria has been either deployed on schemes delivered by other suppliers or led to processes being changed and improved.
Highly Satisfied	8	All aspects are satisfactory and there is evidence that several aspects are exceeding expectation. Supplier is successful in identifying notable or demonstrates innovative best practice which provides a benefit to the scheme/Highways England and can provide evidence of work performed.
Satisfied	6	All aspects are satisfactory or, where they are not, they are balanced by others being exceeded. This is where the contract is being met and the contracting body is satisfied with the Supplier's performance.
Slightly dissatisfied	4	Some minor aspects are currently unacceptable and slightly outweigh those which are satisfactory to the extent that the project manager seeks improvement. This concern should be itemised in the scheme issues register and recorded in the record of progress meeting minutes/action points.
Very dissatisfied	2	A key aspect is currently unacceptable to the extent that the project manager considers that significant intervention is required. The project manager should have escalated this concern in writing. Detail should also be recorded in the scheme issues register.
Totally dissatisfied	0	More than one key aspect is currently unacceptable to the extent that it calls into question the Supplier's capability. Detail should also be recorded in the scheme issues register.

Scheme Name: [REDACTED]	Tier 1 Main Contractor: [REDACTED]	Reporting Period: [REDACTED]
Category: [REDACTED]	Lot Group: [REDACTED]	Framework Supplier: [REDACTED]
1. Product		Score
1.1 Incorporation and understanding of design input & Programme		[REDACTED]
1.2 Successful delivery of task objectives		[REDACTED]
Product Total		[REDACTED]
2. Service		
2.1 Consultation and liaison with all relevant authorities and stakeholders		[REDACTED]
2.2 Identification, management and mitigation of risks		[REDACTED]
2.3 Identification and conversion of opportunities		[REDACTED]
2.4 Innovating and sharing best practice used within the task (Continuous Improvement)		[REDACTED]
Service Total		[REDACTED]
3. Right First Time		
3.1 How well work has been produced that is right first time (ie. impact of errors)?		[REDACTED]
Right First Time Total		[REDACTED]
4. Cost		
4.1 Is spend profile as expected?		[REDACTED]
4.2 Accuracy, timely submission and completion of invoices and accounts		[REDACTED]
Cost Total		[REDACTED]
5. Time		
5.1 Reliability and accuracy of works programming and durations of activities		[REDACTED]
Time Total		[REDACTED]
6. Health and Safety		
6.1 Health and Safety Systems implemented		[REDACTED]
6.2 Demonstrate effectiveness of H&S Management		[REDACTED]
Health & Safety Total		[REDACTED]
Overall Supplier Score		[REDACTED]

<p>6.2 Demonstrate effectiveness of H&S Management</p> <p>Deploy effective H&S and constantly strive to minimise accidents.</p> <p>Reporting mechanism in place for accidents, incidents, and near misses (visibility of processes).</p> <p>All permits in place prior to any works being undertaken. Consistent high SHE inspection scores.</p> <p>Effective use of appropriate tools and plant - all documentation and checks in place for equipment. Cleanliness and tidiness of the operations</p> <p>Agreed scoring measures to be used in addition to Generic Score Table.</p>	<p>What evidence will be provided and what constitutes the various scores:</p> <p>Annual Accident Frequency Rate (AFR) target (set by HA Board) for all CM work packages:</p> <p>10 - Monthly data & rolling 12 months AFR is NIL.</p> <p>8 - Monthly data & rolling 12 months AFR 0.001 - 0.094.</p> <p>6 - Monthly data & rolling 12 months AFR 0.095 - 0.10.</p> <p>4 - Monthly data & rolling 12 months AFR 0.11 - 0.20..</p> <p>2 - Monthly data & rolling 12 months AFR 0.21 - 0.30.</p> <p>0 - Monthly data & rolling 12 months AFR > 0.30.</p>	<p>Fwk supplier evidence for period measured:</p> <p>[REDACTED] continue to support the Contracts Zero Tolerance. [REDACTED] Director level attendance to H&S supply chain workshops and a zero accident incident record continues. Total Safe Hours Worked now exceeds 1.5million</p> <p>Tier 1 comments:</p>
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XI. A template of government’s Sustainability Balanced Scorecard (SBSC)



Adapted from UK Government, via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/560248/Balanced_Score_Card_-_Annex_A.pdf