

Levers of control, complementariness, tensions and budget use: a case study

Kaveesha Rathnasekara and Tharusha Gooneratne

Abstract

Purpose – *The purpose of this paper is to identify the complementariness and tensions in the use of management control systems diagnostically and interactively, using a budgetary control example, drawing empirical evidence from a clustered firm, “Pattern On”, which is engaged in the manufacture of apparels.*

Design/methodology/approach – *This paper uses the qualitative methodology and case study approach. Face-to-face in-depth interviews were carried out as the main source of data collection, supplemented by an analysis of internal documents.*

Findings – *The field data from this study shows that both diagnostic and interactive controls appear in the clusters of PatternOn. However, the extent of use, the way they are perceived by employees, consequences, complementariness and tensions differ among the clusters. It further suggests that interactive and diagnostic controls have their own positive and negative implications on organisational activities. Therefore, rather than ruling one type as superior, what is best depends on the particular organisational circumstances.*

Research limitations/implications – *This paper is a useful addition to the current body of management accounting literature, particularly to budgeting and to the levers of the control framework and highlights the use of a domain theory in a research study.*

Practical implications – *It provides insights to practitioners regarding the simultaneous use of controls, diagnostically and interactively, and how any resulting tensions are managed.*

Originality/value – *Using a budgetary control example, this paper shows how controls are used diagnostically and interactively while emphasising the complementariness and tensions created by such levers. This is important as most prior research has explored diagnostic and interactive use in isolation, while budgetary control, as well as the role of domain theory has not been their focus.*

Keywords *Tensions, Interactive, Levers of control, Diagnostic, Apparel firm, Complementariness*

Paper type *Research paper*

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1. Introduction

Over the years, management control systems (MCS) have been subjected to scholarly enquiry, as well as to practitioner interest. MCS comprise of a wide range of tools and mechanisms which facilitate managerial decision-making by formulating plans and exerting controls while being used to regulate the behaviour of members of an organisation. Such tools and mechanisms include budgets, standard operating rules and procedures, reward systems, strategic planning systems, operational controls, values and norms, etc. (Chenhall, 2003), with budgets being prominently used in organisations (Libby and Lindsay, 2010; Bunce *et al.*, 1995; Hansen *et al.*, 2003; Otley, 1999).

The arena of MCS and strategy carries a rich account of levers of control (LOC) literature, where MCS are clustered into four systems according to their relationship to strategy and their use by top managers, such as belief systems, boundary systems, diagnostic control systems and interactive control systems (Simons, 1995a, 1995b). Ever since its introduction in 1995, Simons' LOC framework has received significant attention from researchers. While

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there is a considerable body of literature premised on various facets of LOC, it has also been used as a theoretical frame of reference in the arena of management accounting research [Widener (2007), Henri (2006), Tuomela (2005), Widener (2007), Henri (2006), Baird *et al.* (2019), Hoque and Chia (2012), Sheehan (2006), Rezanian *et al.* (2016), Naro and Travaille (2011), Kruis *et al.* (2016), Frezatti *et al.* (2017), Su *et al.* (2017), Makoto and Matsuo (2017)]. In spite of the extensive focus on Simons' framework and the four levers in isolation, studies founded upon the interrelationships, complementariness and tensions in the simultaneous use of diagnostic and interactive levers, although important, have been rather limited [see the review paper by Martyn *et al.* (2016)].

Using the two levers, diagnostic and interactive in conjunction balances control with creativity (Simons, 1995b), and this is particular important for contemporary organisations, as amid rising complexities, managers inevitably need to deal with changing conditions through proactive responses to increasing opportunities and competitive forces. The simultaneous use of the twin levers will enable managers to maintain sufficient control, efficiency and productivity while unleashing the creative potential of employees by giving them freedom to be innovative and flexible (Simons, 1995b). Given such importance and scant attention by prior researchers, our paper using a budgetary control example and drawing data from an apparel firm in Sri Lanka empirically explores how diagnostic and interactive use of MCSs are used in facilitating a control environment, amid the complementariness and tensions surrounding these levers. The research questions of this paper are:

- RQ1.* How are budgetary controls used diagnostically and interactively in the case study firm?
- RQ2.* Do diagnostic and interactive uses complement each other, or are there any tensions in the simultaneous use of these two levers of control and how are any such tensions managed?

This paper contributes to the existing management accounting literature, principally to budgeting and LOC, by offering an in-depth analysis of how controls are used diagnostically and interactively, amid the complementariness and tensions surrounding such uses. Such an illustration, although important, to date has not been the focus prior researchers. In terms of theory, we add to the ongoing dialogue on what counts as theory in management accounting research extending the wisdom espoused by researchers such as Lukka and Vinnari (2014), Malmi and Granlund (2009) as well as Lukka and Modell (2017), and by highlighting the use of domain theory in a research study. From a practitioner perspective, this paper is of relevance to the business community. It offers insights regarding simultaneous use of the LOC, any resulting tensions and how such tensions are managed amid pressures of today's rapidly changing business settings while harnessing the potential of diagnostic controls through resource optimisation and that of interactive controls through providing opportunity and dialogue.

The remainder of this paper is organised as follows: Section 2 provides a review of prior literature covering MCS and budgeting as well as Simons' LOC framework. Section 3 outlines the research context as well as the methodology and theory. Case study evidence detailing the budgetary control system of the firm, how budgets are used diagnostically and interactively, complementariness as well as tensions between the two LOC is presented in Section 4. Section 5 discusses the findings of the study and presents the conclusions outlining its contribution to literature, practice and suggesting directions for future research.

2. A glimpse of literature

2.1 Management control systems and budgeting

MCS comprises of a wide range of formal and informal approaches and mechanisms which assist organisations in developing and maintaining viable patterns of behaviour. Among

various modes of management control, budgeting has been used as a popular tool in organisations across the globe (Libby and Lindsay, 2010; Bunce *et al.*, 1995; Hansen *et al.*, 2003; Otley, 1999). As Otley and Pollanen (2000) espouse the past 25 years have seen a stream of studies that have sought to explore the influence of budgetary controls on managerial performance. Twenty years on, we see a further proliferation of this literature.

Budgetary control involves developing a plan, and periodically comparing actual expenditures and income against that plan to determine achievement of the budget and decide on the future course of action. It strives to control spending, achieve targets and financial goals (Dunk, 1989). Seeing in this manner, budgets are a major component of an MCS and serve several crucial functions, including being a framework for judging organisational performance and being a basis for evaluating employee performance and rewards, as well as coordinating and controlling organisational activities. Previous literature has provided significant insights on its role in the control arena of organisations (Epstein and McFarlan, 2011; Lau and Tan, 2015). Adding to this recognising the wide scope nature of MCS more contemporary tools, such as the balanced and scorecard (BSC), activity-based costing (ABC), benchmarking, target costing, etc. have been added to the banner of MCS.

Quite apart from the above, MCS, in the apparel industry in Sri Lanka, which is the context of this paper has been subjected to scholarly enquiry (Gamage and Gooneratne, 2017; Wijethilake, 2017). Gamage and Gooneratne (2017) espouse how management controls in an apparel group in Sri Lanka take shape amid the tensions between external institutional forces and internal dynamics arising from different power and interest held by internal managers, as well as from intra-organisational norms, rules and taken-for-granted assumptions. Furthermore, Wijethilake (2017) has explored what forms of institutional pressures can influence sustainability practices, how organisations respond to institutional pressures for sustainability and how MCS support strategic responses to such pressures. Differing from the above, in this paper using a budgetary control example, we delve into the complementariness and tensions in the use of diagnostic and interactive levers of control.

2.2 Simons' levers of control framework

Keeping with the burgeoning literature, various frameworks relating to MCS have been developed across time. The LOC is arguably one such important framework which is widely discussed in the literature [Marty *et al.* (2016)]. The central theme of the LOC framework (Simons, 1995a, 1995b) is that the control of business strategy is achieved by balancing the forces of four different levers of control: beliefs (core values), boundary (behavioural constraints), diagnostic (monitoring) and interactive (management involvement). Beliefs systems are used to secure commitment towards goals and inspire employees to search for new opportunities (such as through vision and mission), whereas boundary systems set limits on opportunity-seeking behaviour (in terms of what is acceptable and not) and direct employees to meaningful end points. Diagnostic systems monitor and motivate performance while providing direction to employees for aligning their behaviours with the achievement of organisational goals, whereas interactive systems stimulate organisational learning and emergence of new ideas.

More importantly, in terms of strategic use, MCS can be deployed diagnostically and interactively. Control systems can be used diagnostically, like traffic lights, to signal success in critical indicators using quantitative data and statistical analysis (Simons, 1995a). Although budgets are claimed to be one of the most persistent types of diagnostic control (Horngren *et al.*, 2009), action plans, detailed financial targets and numerical comparison of actual outcomes with targets and explanation of variances are all forms such controls. However, corrective actions alone are not sufficient for sustainability; new ideas must be developed (Henri, 2006). Interactive control allows top management to send signals that stimulate and concentrate organisational attention towards their preferences,

strategic uncertainties, goals and objectives (Simons, 1995a). This kind of control system to work needs a high level of top management involvement, providing an agenda and a forum for subordinates and supervisors for regular face-to-face dialogue and interactions throughout the organisation to promote discussion. Interactive systems are forward-looking (Widener, 2007). Bisbe *et al.* (2007) identify interactive control systems as multi-dimensional practices which promote “active dialogue and debate”. However, the interactive discussion of specific performance metrics may initiate resistance for they increase the visibility of actions (Tuomela, 2005).

Together diagnostic and interactive levers create a dynamic tension which has two effects:

1. ensuring that positive effects of interactive use of capabilities will be achieved; and
2. by imposing constraints for compliance diagnostic lever exert negative pressure on these capabilities.

Widener (2007) asserted that relations between the two controls are interdependent, and Tuomela (2005) subscribed to the view that measurement systems can be used both diagnostically and interactively. The commonality is evident among these researchers in that they all pronounce the complementary nature of these twin levers (Tuomela, 2005; Widener, 2007), whereas Mundy (2010) noted how dynamic tensions are created through managers’ efforts at arriving at a strategic fit balancing these twin uses.

The LOC framework has formed the theoretical base for a number of empirical enquiries taking a quantitative stance in the arena of control. For instance, Henri (2006) focused on Canadian manufacturing firms, tests the relationships between organisational culture and performance measurement systems (PMSs), whereas Widener (2007), using the LOC framework explored the antecedents of control systems through survey data from 122 Chief Financial Officers. On a comparable note, Sheehan (2006) offers how the four levers relate to each other and how they can be used to effectively implement strategy, whereas Rezanian *et al.* (2016) using survey data explored the associations between the four control systems and project performance. Besides, the role of the BSC as a tool of interactive and diagnostic control in the design and the use phase has also been subjected to enquiry by Naro and Travaillé (2011). Adding to this has been the association between interactive and diagnostic approaches in organisational life cycle stages in Australian manufacturing organisations (Su *et al.*, 2017) as well as the link between these two uses of MCS and innovation processes in Brazilian organisations (Frezatti *et al.*, 2017). Furthermore, how different LOC complement each other in crafting realised strategies in Spanish hospitals (Naranjo-Gil, 2016), as well as the moderating effects created by diagnostic use and interactive use on strategy-performance (Arachchilage *et al.*, 2013) have captured research interest. Adding to this list is the work on the effect of diagnostic and interactive uses of MCSs and managerial coaching on employee teams in a Japanese automotive supplier (Makoto and Matsuo, 2017), as well as the concept of balance in business firms in the Netherlands (Kruis *et al.*, 2016), to the use of MCS across different modes of innovation and the effects on firm performance in Australian firms (Bedford, 2015). Previous literature also encapsulates survey studies on budgeting and LOC founded upon application of budgets using diagnostic and interactive approaches in Iranian companies (Ali Abadi *et al.*, 2016) as well as the distinction between diagnostic and interactive controls, determinants and effects of the use of budgets in German manufacturing firms (Hofmann *et al.*, 2012).

Taking a different methodological orientation, the longitudinal, multiple method case study on a UK power generation firm by Herbert (2009) explored the concept of employee empowerment, and the implications for MCS. Besides, the in-depth case study of Pešalj *et al.* (2018) which shows how multiple MCS and PMSs are used simultaneously for managing performance, in the context of small- and medium-sized enterprises (SMEs) depict the flavour of LOC framework. While the Finnish case study by Tuomela (2005) reported on the diagnostic and interactive use of the BSC, Hoque and Chia (2012) focusing

on an Australian multinational subsidiary of a manufacturing company explored how interactive and beliefs systems work together with diagnostic and boundary systems amid a strategic change following a corporate takeover.

Differing from these research attempts, our paper adds to the current body of literature by using a budgetary control example drawn from a clustered apparel firm to illuminate how diagnostic and interactive systems could be used to facilitate a controlled environment amid the complementarity and tensions surrounding these levers. This although important has captured limited research attention.

3. Research context, methodology and theory

3.1 Research context

The apparel manufacturing industry is one of the main contributors to Sri Lanka's economy ([Industry Capability Report: Sri Lanka Apparel Sector, 2017](#)). The country is among the top apparel producers in the world ([Wijethilake, 2017](#)), and the industry has recorded substantial growth levels over the past four decades. As the country's leading export, it currently accounts for approximately 40% of total exports and provides about 33% of the employment in the manufacturing sector. Earnings from apparel exports were \$4.8bn in 2017. Sri Lanka has built its competitive edge through value addition, rather than through cheap production cost, with greater emphasis placed on product quality and its ability to manufacture niche products. The apparel industry in Sri Lanka carries a large manufacturing capacity and accounts for 17% of the market share of the US apparel imports ([Industry Capability Report: Sri Lanka Apparel Sector, 2017](#)). Sri Lankan apparel industry is known to be the "hub of South Asian fashion" with a pool of talented designers, on-line, real-time interaction with brands while having many courses at leading universities dedicated to the apparel industry which are bringing out qualified graduates each year.

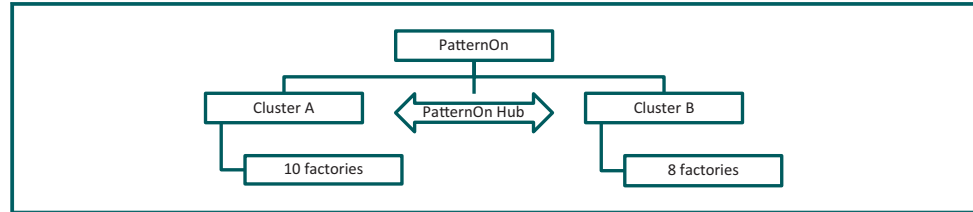
The case study apparel firm under inquiry, PatternOn is a non-listed, privately owned entity which manufactures intimate apparel, sportswear, performance wear and swimwear. As became evident through internal documents of the company, it was established in the early 1900s, and is now one of the three leading global conglomerates in the apparel industry in Sri Lanka. PatternOn is specialised in providing end-to-end supply chain solutions to the apparel industry through factories in Sri Lanka, Bangladesh, Vietnam and Ethiopia. Their products are renowned for high quality, zero defects as well as for unique designs and finishing. The firm has a manufacturing capacity of about 5 million pieces per month within Sri Lanka.

The Sri Lankan operations of PatternOn are divided into two clusters, for the ease of operations, along with a central control unit. [1] A number of factories are assigned to each cluster, and each cluster fulfils orders placed by international buyers assigned to them. Accordingly, Cluster A consists of 10 factories which employ over 12,000 employees, whereas cluster B consists of 8 factories located island-wide with over 10,000 employees. These clusters report to the head office of the company and each cluster is headed by a chief executive officer (CEO), who is appointed by the board of directors. As organisational records revealed, the head office provides directions and guidelines to clusters. Additionally, there is a separate entity formed as a hub for the entire group, which is involved in handling centralised financing in terms of shared services (named as "PatternOn hub" for the purpose of this paper). This hub oversees the overall financial position, controls both clusters, and provides them with the information required for decision-making. [Figure 1](#) shows the organisational structure of PatternOn.

3.2 Methodology and theory

3.2.1 Qualitative methodology and case study approach. This study used the qualitative methodology ([Silverman, 2000](#)) which is known to be useful in exploring the meaning that

Figure 1 Organisation structure



people attach to their experiences, enabled through building in-depth, face-to-face interactions with organisational members. Within the qualitative methodology, this paper follows the single explanatory case study approach (Yin, 2009). Explanatory case study approach is appropriate when the focus of the study is to answer “how” and “why” questions; contextual conditions are believed to be relevant to the phenomenon under inquiry; it is not possible for the researcher to control events. Such case studies focus on phenomena within the context of real-life situations, and in the current paper, we provide an explanation for the complementariness and tensions in the use of MCS diagnostically and interactively, in a clustered firm seen through Simons’ LOC framework using the explanatory case study approach.

Yin (2009) further stresses that a single case study is apt when the case represents a unique case or an experience. PatternOn revealed a unique case, for it consists of two clusters and a central unit (hub). This study draws on interviews evidence gathered from representatives of both clusters as well as the hub. Furthermore, during pilot interviews, it was made to understand that the two clusters lay varying levels of emphasis on management controls. Being a clustered firm further reinforced the suitability of selecting PatternOn as a unique case for this study.

3.2.2 Data collection and analysis. Data collection for the study was carried out through a pilot study done in March to April 2018, with three key personnel in the area of accounting and finance. This enabled in obtaining a basic understanding of the company operations, structure, controls, management accounting reports prepared, etc. Pilot study data collected on management controls triggered the idea of leaning on Simons’ LOC framework to explore the use of MCS with a focus on budgetary controls, which is widely seen in the organisation. Building upon the pilot study findings, the main study was conducted during the period from August to November 2018, which involved interviews with functional heads and other managers.

The initial interviews were with the key members of the finance divisions of the clusters and head office as it was made to understand that they play a significant role in the design and implementation of management controls. Interviews were thereafter extended to other areas, such as marketing, production and supply chain, human resources, etc. as initial data revealed that key members of these areas are also involved in the decision-making process relating to interactive and diagnostic control mechanisms. In this manner, a total of 13 face-to-face in-depth interviews were conducted: 8 in cluster A; 3 in cluster B; and 2 at the PatternOn hub, which provides shared services to both clusters.

Table 1 presents a list of interviewees. Each interview lasted between 20 min and 1 hr and 15 min. Additionally, clarifications and further insights were obtained through several rounds of telephone conversations with various managers interviewed.

Interview data was complemented by a review of documents, such as functional budget working reports, excel sheets with estimates and variance analysis reports as well as key performance indicators (KPIs) worksheets. Interviews were voice recorded and transcribed verbatim. Thereafter transcripts were analysed in isolation and taken together as a whole.

Table 1 Informants of the study

Cluster	Designation of the interviewee	Number of interviews	Key role
Cluster A	Divisional head of finance	01	Is the head of finance division of the cluster and directly reports to the CEO of cluster
	Manager – finance	01	Is responsible for the finance operations of the cluster and reports to the head of finance of the cluster
	Assistant manager – operational finance	01	Is directly reporting to the finance manager of cluster. A representative of managerial layer of cluster
	Senior manager – merchandising	01	Is directly reporting to the Chief Marketing Officer of the cluster and is directly engaged in production decisions
	General manager – supply chain	01	Is directly reporting to the CEO of the cluster and is directly engaged in decisions involved in production and raw material supply
	Senior manager – HR operations	01	Is responsible for managing HR-related functions and is directly involve with HR-related matters of the cluster
	Manager – HR administration	01	Is responsible for managing HR-related functions and is directly involve with HR related matters of the cluster
	Manager – environment and sustainability	01	Is responsible for managing sustainability and environmental issues and directly reports to the Director of environment and sustainability compliance
Cluster B	Divisional head of finance	01	Is the head of finance division of the cluster and directly reports to the CEO of cluster
	Marketing manager	01	Is directly reporting to the Chief Marketing Officer of the cluster and is directly engaged in marketing and sales of the business
	Senior manager – HR operations	01	Is responsible for managing HR-related functions and is directly involve with HR related matters of the cluster
Hub	Manager – finance	01	Is responsible for the finance operations of the cluster and reports to the head of finance of the cluster
	Assistant manager – operational finance	01	Is directly reporting to the finance manager of cluster. A representative of managerial layer of cluster

Then the main themes were identified and categorised based on the two levers of Simons' framework; diagnostic and interactive, grouping similar ideas together.

3.2.3 Theory. Researchers hold different views on what can be counted as a theory in management accounting research, such as method theory and domain theory (Lukka and Vinnari, 2014). What is widely considered as a theory by the research community is method theories, which are meta-level conceptual systems or theoretical lens, originated in other disciplines (fields), such as economics, psychology or sociology. Taking this path and relying largely on lenses such as on agency theory, institutional theory, structuration theory, actor-network theory researchers have explored management accounting issues (Lukka and Modell, 2017).

On the other hand, a domain theory (in the management accounting research arena), refers to a body of knowledge on a substantive topic area such as management control, performance measurement, cost accounting important in the field or situated in the domain of management accounting (Lukka and Vinnari, 2014; Lukka and Modell, 2017), where the role of theory is to explain issues of practical relevance to a broad audience. A domain theory in management accounting, while being problem-focused, strives to theorise, for instance, about management accounting practice with the aid of domain theory, in the area of performance measurement, cost accounting or management control using ABC, BSC, quality costing and Simons' LOC framework, etc. Seeing in this manner, domain theories assert how one should be doing something and why, leading to practice-relevant management accounting research (Malmi and Granlund, 2009).

Through this paper, we subscribe to domain theory. Accordingly, rather than using a (method) theory borrowed from another field, we position our data within a (domain) theory, in the arena of management control, Simons' LOC framework to shed light on an issue of

interest to accounting practice, i.e. “what” accounting and control methods (e.g. budgetary control) to use, “how” (e.g. diagnostically and interactively) amid complementariness and tensions, within a particular organisational context.

4. Case study evidence

Interview data revealed budgetary control to be the primary mode of management control in PatternOn, which is used both diagnostically as well as interactively. Among the twin uses of budgetary control, complementariness and tensions arise, which need to be managed to enable an effective control environment. These deliberations are elaborated in this section.

4.1 Budgetary controls

Evidence from our field data suggests that since its inception, PatternOn has placed high importance on budgets. The Head of Finance – Cluster A noted:

Budgets are really important because everything we do as a company is mostly decided based on budgets [...] and of course, it has always been the biggest task of the finance division to oversee the budgetary processes. Now, if you take the time we spend on the preparation of budgets, it extends up to three months and there are days during the period when we work for thirty to thirty-five hours continuously.

Our interview encounters revealed that almost all employees of the firm contribute to budget preparations in one way or another, such as being accountable and creating compliance in their actions. According to the Head of Finance – Cluster A, the budget preparation process is based on 100% participation and involvement of every party. He espoused:

We make sure to get inputs from all the relevant parties in preparing budgets, and also their signatures should be placed on the proposed budget to be approved. Actually, the main purpose of this participative process is to assure their compliance and accountability towards achieving the targets. But, it doesn't mean that we get all the figures proposed by them just as it is, instead every proposed figure is being analysed and the rationale behind them are asked etc.

Seeing in this manner, in budget preparation involvement of all departments and functional heads are obtained; they are given the chance to take part in budget meetings, figures proposed by them form the basis for discussion. The words of Manager – Finance of Cluster A reinforced the above stating, “The decision-making process is more of a top-down system, but the company culture seems to be a bottom-up participative culture where the ideas and opinions from the lower levels are equally taken into consideration in preparing the budgets.” Similarly, a Merchandising Manager of the cluster highlighted the importance of using the opportunity of participative budgeting system wisely. He commented:

Initially we look at the trends and decide different or same product categories to hit the top line. Sometimes we have to do additions to budgets based on changing market conditions. So, we have the freedom to decide and give suggestions to improve on what's good, but we have to be careful since everything we say is not going to be accepted and left unquestioned.

Manager – Environmental and Sustainability of Cluster B noted his involvement in the budgetary process. As he espoused:

Prior to budget preparations, during the period from October to November the finance division requests budget details from each function. We also give details and reports, but we don't participate in meetings. Instead with the reports we provide necessary workings for estimated figures for the next year.

Accordingly, it is apparent that majority of the heads and senior managers are involved in the budgetary process by providing estimates through various calculations, worksheets

and reports regarding forecasted figures for the upcoming year, as well as by participating in meetings where decisions relating to budgeting are taken.

4.2 Diagnostic and interactive use of budgets

This section presents how budgetary controls are used diagnostically and interactively in PatternOn, through the use of various reports and formats (diagnostic), as well as forums and discussions (interactive). Manager – Finance of Cluster A stated that within his cluster a greater emphasis is placed on discussion. He added:

Our reward systems are 100% linked to the annual budget. Therefore, everyone is focused towards achieving targets [...] we have monthly and quarterly review meetings and we discuss the performance of the previous month and the performance projection for the upcoming three months. If there are deficits in budgeted performances, the management accounting team suggests an action plan for each factory, to be discussed with the factory accountants to recover such deficits.

Expressing a rather different view, the Assistant Finance Manager of PatternOn hub, representing Cluster B, emphasising the extensive use of report based figures and KPI's stated:

Yes, the cluster has monthly review meetings. They have certain controls and KPIs to review performances, therefore what they mainly do is reviewing those KPIs, whether they have been realistic, achievable, whether there are any results that are unacceptable, if so their ranges and likewise, they assess everything compared to the budget reports. Actually more than this, we have a colour coded control system even though we don't call it by the name "traffic light system". What we believe is that red is critical. Since we analyse monthly, we understand what we should do and what happens, we see what we can do to take corrective actions and we work on that. So it is very clear. But each measure has different ranges which decide the colour to which they belong.

Seeing in this manner, unlike the Manager – Finance of Cluster A, the Assistant Finance Manager – Cluster B voiced his thoughts in favour of diagnostic controls for they are clear and straight forward to monitor in terms of achievement of targets.

Several others shared their insights on the uses of control mechanisms, with varying degrees of emphasis placed on diagnostic and interactive controls. For instance, Assistant Manager – Finance of Cluster A stated, "we have weekly KPI achievement review meetings arranged with the CEO through Skype every Wednesday. For that, we have allocated a time slot to each factory and division to discuss with the CEO regarding the achievement of KPIs that drives the company, such as on time delivery, efficiency, etc." He further emphasised their focus on discussion-based controls stating:

Apart from KPI review meetings, we have weekly profitability meetings to assess profitability of individual customers, weekly overhead projection meetings and many other active discussions where important decisions are taken by comparing budgets with the actual and to take corrective measures.

His comments provide further evidence that priority is given to interactive controls at Cluster A. Differing from this, Finance Manager of Cluster B noted that his cluster is oriented more towards diagnostic controls and measures. He said, "in our cluster we look at the weekly revenue report and monthly activity report prepared based on monthly performance based figures. These are some of the key data we refer in decision making". As the words of interviewees revealed diagnostic and interactive control systems have their own merits. According to the Merchandising Manager of Cluster A, it is essential for an organisation to have interactive controls. He stated:

Of course, it's good to have meetings and discussions to make decisions. Anyway, we can't work in isolation because it's not about fulfilling our personal needs, it's the organisational goal

what we should achieve. Therefore, it is the responsibility of the whole company to work together to achieve those goals [...] so there is no point in having all these goals limited to documents. In fact, interactive sessions give us space to learn and look at the world from different perspectives.

Similarly, a manager from Cluster B highlighted the need of interactive controls stating, "Discussions should be there especially for finance divisions as they need to evaluate revenue and expenses figures, decide what's good for the company and give good earnings to owners and employees. Therefore, meetings should be there". Moreover, its Senior Human Resources Manager commented, "without discussion sometimes we cannot rationalise our requests, figures under today's challenging and uncertain situations. So, we need to have discussions and meetings".

Seeing in this manner, interviewees from both clusters, acknowledged the use and existence of interactive control systems. Nevertheless, Cluster A appeared more oriented towards interactive controls, whereas Cluster B seems to be bent towards diagnostic controls. Further insights on this were provided by the Assistant Finance Manager of Cluster B:

Our decision making is mostly based on data and numbers. We take decisions by looking at past trends, how the cluster has performed and accordingly we allocate costs to the upcoming year by looking at the numbers. Therefore, we need reports, documents, pre-determined figures and standards to compare our outcomes, track the progress, monitor results and forecast future.

He further added:

I don't think anyone would say that they can succeed without numbers and figures. Nobody can work only with imagination and what they believe to be right. If I take an example, our cluster prepares a report called 'pre-seen profit' based on the revenue and cost figures for a particular month and based on that, we decide which buyers need to be prioritised and which styles generate most profits to the company. Therefore, I strongly believe that no company would sustain without having a number base behind their decisions.

In this manner, the two clusters display varying levels of emphasis on diagnostic and interactive controls. Our field data also depict that clusters of PatternOn do not exclusively rely on a single use; instead, there is an element of concurrent use of diagnostic and interactive controls, as espoused by our interviewees. This explicably gives rise to complementariness and tensions, and the next section elaborates on this.

4.3 Complementariness between the two levers of control

In this section, we explore how the simultaneous use of budgetary controls via diagnostic and interactive use complement each other, and what tensions occur in the control arena of the firm. According to the Merchandising Manager of Cluster A, it is not a single system that leads a company towards success. He commented:

I don't see the use of meetings, and standards or figures based reports separately. What I believe is that none of these give a meaning if they are taken separately. You cannot conduct a meeting without looking into numbers. What we do in meetings is basically discussing the figures given in reports and worksheets, we discuss KPIs, we decide what needs to be done in order to overcome bad situations and improve good situations. So, if we don't have supporting documents and figures, there's no point of just having review meetings.

He further added:

Say dashboards for example, they display details of selling price per piece, available capacity, raw material write-off, order to ship ratios, cut to ship ratios and various other ratios and they are categorised into colours as red and green mainly. Imagine if one ratio gives a critical result which needs improvement. How can we take necessary actions to correct it without having collective

discussions? On the other hand, imagine we didn't have anything like a dashboard to view the performance outcomes. If so, how can we even know that such a bad situation exists?

In favour of the above statements, Manager – HR Administration of Cluster A stated, “of course, we need both types of controls. Budget figures are already there in the work sheets, it is well documented. Only having them in documents wouldn't help us get it approved. We need meetings and discussions”. In similar vein, Assistant Finance Manager of PatternOn hub, representing Cluster B mentioned:

We need to have data to justify something and give reasons with evidence. Normally, we know what questions are going to be raised at us during meetings, so we can prepare in advance [...] and based on KPIs they review our performance and discuss at meetings. So, even in deciding our rewards and bonuses, both these types of controls are used.

Senior Manager – HR operations of Cluster B too reinforced the above. As he stated:

People who participate in those meetings have their own reports to present and give reasons to support, in other words, they use those reports and figures to say why we achieved it and how we are going to achieve it. But sometimes the counter parties may have some other ways of doing things, and at a meeting there will be different experts, so when I present, someone else will give another idea which is superior to mine, in such cases we will accept it. Having documents and reports mean that we have details in our hand, but on the table, at the meeting we need to discuss everything related to them. Discussions and reports are two different things; we cannot sacrifice one over the other.

According to the data gathered, it is evident that the manner in which complementary use of diagnostic and interactive controls are perceived by managers has led to a positive control environment emerging in PatternOn. As Assistant Finance Manager of PatternOn hub, representing Cluster B mentioned:

We have constructive arguments for a common goal based on the budgets prepared, not to put someone down, but to achieve a common goal. Obviously, as a company with different types of personalities, not 100% of the employees agree on having focus on KPIs, performance and all. But in this company, I haven't seen much of negative behaviour. Everyone seems to be driven towards achieving targets for performances and since such meetings trigger out ways of achieving targets, both control reports and meetings are given importance. I think the company is encouraging employees to look at both which is ultimately good for the company.

The above empirical evidence shows the complementariness between the two levers of control; diagnostic and interactive when implemented simultaneously. It was further apparent that the two levers also work interdependently in creating a controlled environment within the organisation. For instance, diagnostic control reports, documents and pre-determined figures, such as KPIs form the base for most interactive sessions, such as budget preparation meetings, budget review meetings and KPI review meetings. On the other hand, there would be no use of preparing reports, figures, budgets or similar documents and calculating measures if the firm does not depend on such figures for decision-making done at various meetings. Seeing in this manner, simultaneous use of the two levers; diagnostic and interactive control systems complement each other in the context of PatternOn.

4.4 Tensions between the two control systems

Notwithstanding the above, as our evidence gathered through interviews reveal the simultaneous use of diagnostic and interactive controls also give rise to tensions within the two clusters of PatternOn. As Marketing Manager of Cluster A stated:

Sometimes we need to look beyond the figures and details given by various reports. There can be situations when the profit figures display large unfavourable balances, but if you look at the

customer wish lists and preferences you might need to take completely contradicting actions to assure customer satisfaction. In such cases if we only look at the figures given in reports and documents and take decisions we might lose some of our major customers. At the same time, if we decide through meetings that we will be satisfying the customers no matter what the consequences may be, then again we might incur huge losses, which is not good to the company.

Similarly, the Environmental and Sustainability Manager of Cluster A commented in favour of the above stating, “having both types of controls may be sometimes unrealistic and often a pain because, if we really look at the business environment, taking decisions after several rounds of discussions, forecasts and calculations do not always work. As the business environments and the economic and political situations are fast moving, companies should also have some kind of actions to face them”. He further commented:

There can be situations when the changing governments impose new rules and regulations, say every factory needs to have a water treatment plant by the end of this year as announced by the government. In such a situation we need fast responses. There’s no way we can wait until the finance division allocates funds for our division and the proposed figures get approvals through several rounds of discussion. We need to implement the decision fast as it is going to affect the whole company.

In this manner, the simultaneous uses of interactive and diagnostic controls systems may not complement in situations such as emergencies, where immediate responses are critical. This calls for a prompt action to create a better control environment amidst tensions between them.

Faced with tensions, clusters take measures to manage tensions and ensure smooth operations. For instance, Environmental and Sustainability Manager elaborated how such situations are usually taken care of. He added:

Because the process of getting approvals takes time, and when emergency situations happen it is very hard, we sometimes request higher amounts for the respective year’s budget. Through that what we try is to get the funds as early as possible. If we could get approval for a budget for a higher amount than we need for the next year, what we do is we use them for the following years’ needs in advance which help us to get the benefits also in advance. This does not always work and contradicts with limited budget allocations. But still, we try to do that since chances are there that they sometimes work.

Furthermore, the Marketing Manager of cluster A stated:

We need to have both types of controls in place; that means numbers, reports and ratios as well as discussions to take decisions. Apart from that we need to extend our projections and concerns beyond the normal boundaries so that we can capture external threats and opportunities. We should not limit our discussion points to what is already displayed in reports and pre-set standards.

As the foregoing interview evidence suggest, while each clusters may be more oriented towards a particular use (diagnostic or interactive), the simultaneous use of controls systems is acknowledged and appreciated in PatternOn.

5. Discussion and conclusion

Leaning on Simons’ LOC framework, in this paper, we explore the complementariness and tensions in the diagnostic and interactive use of MCS drawing empirical evidence from an apparel manufacturing firm, PatternOn where budgetary control is used as the main control tool. Complimentary use of these dual LOC has been advanced by a number of previous researchers (Henri, 2006; Tuomela, 2005; Widener, 2007; Hoque and Chia, 2012; Sheehan, 2006; Rezanian *et al.*, 2016; Naro and Travailé, 2011; Mundy, 2010). This ranges from the relationship between the use of MCS and organisational capabilities (Henri, 2006) to the

interplay of different LOC with a focus on a 3K Scorecard (Tuomela, 2005) as well as BSC (Naro and Travallé, 2011). Multiple interdependent, co-existing and complementary relations among control systems (Widener, 2007; Hoque, and Chia, 2012) and associations between the four levers and project performance (Rezania et al., 2016), enabling (beliefs and interactive) and constraining (boundary and diagnostic) use of LOC (Baird et al., 2019), as well as dynamic tensions in balancing controlling and enabling uses of MCS (Mundy, 2010) too add to this list. With the focus on the complementary use of diagnostic and interactive control, this paper is alongside prior literature above. Nevertheless, differs from such previous related work, for it is premised upon budgetary control and involves a qualitative inquiry founded upon a clustered apparel firm.

Field data from our clustered firm show that diagnostic and interactive controls appear in both clusters of PatternOn (A and B). However, the extent of use, the way they are perceived by employees, their consequences, complementariness and tensions differ among the two clusters. Although Cluster A displays more emphasis on interactive controls, Cluster B is oriented towards diagnostic controls. The paper thus depicts that even within the same firm; the extent of use of interactive and diagnostic controls may differ among different clusters. Previous literature notes that by giving more attention to interactive controls there is a greater possibility for an organisation to be successful (Tuomela, 2005; Widener, 2007). However, the findings of this paper do not make a clear point in this regard. For example, internal document analysis of PatternOn showed that Cluster A, which has given priority to interactive use encounters declining performance, and Cluster B, with moderate dependency on interactive controls and high reliance on diagnostic controls, shows growing profits over time.

While Bisbe et al. (2007) offer implications for MCS research on the interactive use of control systems, Curtis et al. (2017) identifies several characteristics of interactive control systems, such as enabling discussion in meetings among superiors, subordinates and peers; becoming a means for continual challenge and debate of data, assumptions and action plans; providing a common view of the organisation; enabling the organisation to focus on critical success factors and developing a common vocabulary across the organisation. Even though the majority of the interviewees in Cluster A commented in favour of interactive controls, enabling continual challenge, dialogue and debate which are a key characteristic of an interactive system were scarcely visible in Cluster A. According to interview findings, although meetings were held regularly, subordinates and peers did not actively engage in dialogue and debate in the presence of the top management, instead passively accepted the wisdom espoused rather than questioning them. In such a context, control systems used can hardly be identified as interactive. This observation is somewhat attuned to the Sri Lankan culture where most individuals hesitate to participate in open discussions. Dominating characteristics of key personnel may have also triggered such a scenario, where subordinates have no choice other than to agree and obey regardless of whether the decisions made appear right or wrong. Seeing in this manner, although Cluster A had given more prominence to interactive controls, its use is rather fragmented, and a fully-fledged interactive control system is not visible, and management control data and plans generated through the budgeting system rarely becomes an interactive forum. This dilutes the use of MCS interactively. Quite apart from the above, it was seen that Cluster B has a well-developed colour-coded indicator system and a unique diagnostic control system in the form of a "flash report". This report is generated daily and provides a comparison of daily and cumulative year-to-date and month-to-date comparison of the achievement of efficiency, cut-to-make margins and other related information which needs continuous monitoring and compliance with budget targets. It is closely reviewed by the director board. One may view that the existence of such wide encompassing diagnostic control mechanisms which are regularly monitored by the top management as a possible reason for the high profitability in Cluster B. In that sense, the findings of this paper differ from

previous literature (Tuomela, 2005), which suggests that interactive controls are more useful than diagnostic controls.

Tuomela (2005) nevertheless identifies certain advantages of diagnostic control systems compared to interactive systems. For instance, diagnostic control systems are rather straightforward, requires an immaterial amount of discussions for decision-making, thus less time consuming, makes it easy to set targets and little resistance is seen compared to interactive controls. In contrast, interactive controls can sometimes be troublesome as time spent on data gathering creates more problems, needs several rounds of discussions, increases the visibility of action and thus instigate resistance from individuals. Adding to this, although the top management is supposed to be heavily involved in interactive control systems, practically, such systems may not be extensively used by high-level managers. Our paper shares similar sentiments illuminating that at times diagnostic controls may show superior benefits compared to interactive controls.

There is a stream of LOC framework inspired survey studies premised upon the relationship between interactive and diagnostic use, their link to performance, etc. [Henri (2006), Widener (2007), Sheehan (2006), Rezania *et al.* (2016), Naro and Travaillé (2011), Su *et al.* (2017), Arachchilage *et al.* (2013), Frezatti *et al.* (2017), Naranjo-Gil (2016), Makoto and Matsuo (2017), Kruis *et al.* (2016), Bedford (2015), Ali Abadi *et al.* (2016), Hofmann *et al.* (2012)]. However, such studies do not provide an in-depth understanding of the use of these twin levers in a particular organisational context. On a similar tone, although there is also a number of case studies on various facets of interactive and diagnostic use (Tuomela, 2005; Herbert, 2009; Pešalj *et al.*, 2018), clustered firms despite being important has not been explored by previous researchers, hence the focus of this paper.

An important deliberation emerging from the findings of this paper is that both interactive and diagnostic controls have their own positive and negative implications on organisational activities, and rather than ruling one type as superior; what is best depends on the particular organisational circumstances. In certain scenarios diagnostic systems via monitoring and rewarding achievement of specified goals will be preferred, whereas in others interactive systems through active management involvement, which stimulates organisational learning and emergence of new ideas (Simons, 1995a) would be more suitable.

Seeing in this manner, this study makes several contributions to the current body of management accounting knowledge, particularly to budgeting as well as to LOC literature, by providing an in-depth analysis on how controls are used diagnostically and interactively in a clustered apparel firm, with a focus on budgetary controls, which although important to date has received limited attention from researchers. In our clustered firm under enquiry, the twin uses, manner in which they are viewed by employees, consequences, complementariness and tensions vary among the clusters, indicating that interactive and diagnostic controls have their own pros and cons. Thus, rather than singling out one type as superior; what is apt depends on the particular organisational circumstances. Such deliberations regarding simultaneous use of this LOC are significant to accounting practitioners in contemporary organisations, in achieving control of business strategy by balancing diagnostic and interactive use, amid complementariness and tensions, within a particular organisational and social context. For these twin uses reinforce one another, and can aid managers in achieving the balance between employee empowerment and effective control by ensuring that benefits of innovation and creativity (through interactive use) are not achieved at the expense of target achievement and efficiency (through diagnostic use). In terms of theory, our paper contributes to the ongoing dialogue on theory in management accounting research extending the wisdom espoused by previous researchers [Lukka and Vinnari (2014), Malmi and Granlund (2009), Lukka and Modell (2017)] highlighting the use of domain theory in a research study. Although this paper focusing upon diagnostic and interactive use under Simons' LOC framework has explored the use of budgetary control in

a clustered apparel firm, future researchers are inspired to draw on the LOC framework to identify how a controlled environment is achieved in other industries, different organisational contexts.

Note

1 For the purpose of this paper, clusters are denoted as A and B.

References

- Ali Abadi, F.J., Yazdani, A. and Jamali, E. (2016), "Determinants and effects of diagnostic and interactive use of budget in Iranian companies", *International Journal of Business and Economics Research*, Vol. 5 No. 3, pp. 46-54.
- Arachchilage, N., Dilhani, K. and Smith, M. (2013), "The effects of the diagnostic and interactive use of management control systems on the strategy-performance relationship", *Journal of Applied Management Accounting Research*, Vol. 11 No. 1, pp. 9-27.
- Baird, K., Su, S. and Munir, R. (2019), "Levers of control, management innovation and organisational performance", *Pacific Accounting Review*, Vol. 31 No. 3, pp. 358-375.
- Bedford, D.S. (2015), "Management control systems across different modes of innovation: implications for firm performance", *Management Accounting Research*, Vol. 28, pp. 12-30.
- Bisbe, J., Batista-Foguet, J.M. and Chenhall, R. (2007), "DeWning management accounting constructs: a methodological note on the risks of conceptual misspecification", *Accounting, Organizations and Society*, Vol. 32 Nos 7/8, pp. 789-820.
- Bunce, P., Fraser, R. and Woodcock, L. (1995), "Advanced budgeting: a journey to advanced management systems", *Management Accounting Research*, Vol. 6 No. 3, pp. 253-265.
- Chenhall, R. (2003), "Management control systems design within its organizational context: findings from contingency-based research and directions for the future", *Accounting, Organizations and Society*, Vol. 28 Nos 2/3, pp. 127-168.
- Curtis, E., Lillis, A. and Sweeney, B. (2017), "Simons' levers of control framework: commensuration within and of the framework", *Advances in Management Accounting*, pp. 87-121.
- Dunk, A.S. (1989), "Budget emphasis, budgetary participation and managerial performance: a note", *Accounting, Organizations and Society*, Vol. 14 No. 4, pp. 321-324.
- Epstein, M.J. and McFarlan, W. (2011), "Measuring efficiency and effectiveness of a non-profit's performance", *Strategic Finance*, Vol. 93 No. 4, pp. 27-345.
- Frezatti, F., Bido, D., Cruz, A. and Machado, M. (2017), "Impacts of interactive and diagnostic control system use on the innovation process", *Brazilian Administration Review*, Vol. 14, pp. 1-24.
- Gamage, S.D.D. and Gooneratne, T. (2017), "Management controls in an apparel group: an institutional theory perspective", *Journal of Applied Accounting Research*, Vol. 18 No. 2, pp. 223-241.
- Hansen, S.C., Otley, D.T. and Van der Stede, W.A. (2003), "Practice developments in budgeting: an overview and research perspective", *Journal of Management Accounting Research*, Vol. 15 No. 1, pp. 95-116.
- Herbert, I. (2009), "Business transformation through empowerment and the implications for management control systems", *Journal of Human Resource Costing & Accounting*, Vol. 13 No. 3, pp. 221-244.
- Henri, J.F. (2006), "Management control systems and strategy", *Accounting, Organizations and Society*, Vol. 31 No. 6, pp. 529-558.
- Hofmann, S., Wald, A. and Gleich, R. (2012), "Determinants and effects of the diagnostic and interactive use of control systems: an empirical analysis on the use of budgets", *Journal of Management Control*, Vol. 23 No. 3, pp. 153-182.
- Hoque, Z. and Chia, M. (2012), "Competitive forces and the levers of control framework in a manufacturing setting: a tale of a multinational subsidiary", *Qualitative Research in Accounting & Management*, Vol. 9 No. 2, pp. 123-145.

- Horngren, C.T., Dartar, S.M., Foster, G., Rajan, M.V. and Ittner, C. (2009), *Cost Accounting: A Managerial Emphasis*, 13th ed., Pearson Education, NJ.
- Industry Capability Report: Sri Lanka Apparel Sector (2017), "Sri Lanka: Export Development Board (EDB)", Industry Capability Report: Sri Lanka Apparel Sector, Sri Lanka.
- Kruis, A.M., Speklé, R.F. and Widener, S.K. (2016), "The levers of control framework: an exploratory analysis of balance", *Management Accounting Research*, Vol. 32, pp. 27-44.
- Lau, C.M. and Tan, S.L. (2015), "Budget targets as performance measures: the mediating role of participation and procedural fairness", *Advances in Management Accounting*, Vol. 20, pp. 151-185.
- Libby, T. and Lindsay, R.M. (2010), "Beyond budgeting or budgeting reconsidered? A survey of North-American budgeting practice", *Management Accounting Research*, Vol. 21 No. 1, pp. 56-75.
- Lukka, K. and Modell, S. (2017), "Interpretive research in accounting: past, present and future", in Hoque, Z., Parker, L.D., Covalleski, M.A. and Haynes, K. (Eds), *The Routledge Companion to Qualitative Accounting Research Methods*, Routledge, London, New York, NY, pp. 36-54.
- Lukka, K. and Vinnari, E. (2014), "Domain theory and method theory in management accounting research", *Accounting, Auditing & Accountability Journal*, Vol. 27 No. 8, pp. 1308-1338.
- Malmi, T. and Granlund, M. (2009), "In search of management accounting theory", *European Accounting Review*, Vol. 18 No. 3, pp. 597-620.
- Martyn, P., Sweeney, B. and Curtis, E. (2016), "Strategy and control: 25 years of empirical use of simons' levers of control framework", *Journal of Accounting & Organizational Change*, Vol. 12 No. 3, pp. 281-324.
- Makoto, M. and Matsuo, T. (2017), "The effect of diagnostic and interactive uses of management control systems and managerial coaching on reflection in teams", *Journal of Accounting & Organizational Change*, Vol. 13 No. 3, pp. 410-424.
- Mundy, J. (2010), "Creating dynamic tensions through a balanced use of management control systems", *Accounting, Organizations and Society*, Vol. 35 No. 5, pp. 499-523.
- Naro, G. and Travaillé, D. (2011), "The role of the balanced scorecard in the formulation and control of strategic processes", *Journal of Applied Accounting Research*, Vol. 12 No. 3, pp. 212-233.
- Naranjo-Gil, D. (2016), "Role of management control systems in crafting realized strategies", *Journal of Business Economics and Management*, Vol. 17 No. 6, pp. 865-881.
- Otley, D. (1999), "Performance management: a framework for management control research", *Management Accounting Research*, Vol. 10 No. 4, pp. 363-382.
- Otley, D. and Pollanen, R.M. (2000), "Budgetary criteria in performance evaluation: a critical appraisal using new evidence", *Accounting Organizations and Society*, Vol. 25 Nos 4/5, pp. 483-496.
- Pešalj, B., Pavlov, A. and Micheli, P. (2018), "The use of management control and performance measurement systems in SMEs", *International Journal of Operations & Production Management*, Vol. 38 No. 11, pp. 2169-2191.
- Rezania, D., Baker, R. and Burga, R. (2016), "Project control: an exploratory study of levers of control in the context of managing projects", *Journal of Accounting & Organizational Change*, Vol. 12 No. 4, pp. 614-635.
- Sheehan, N. (2006), "Want to improve strategic execution? Simons says levers", *Journal of Business Strategy*, Vol. 27 No. 6, pp. 56-64.
- Silverman, D. (2000), *Doing Qualitative Research: A Practical Handbook*, Sage, Thousand Oaks, CA.
- Simons, R.A. (1995a), *Levers of Control*, Harvard Business School Press, Boston, MA.
- Simons, R.A. (1995b), "Control in an age of empowerment", *Harvard Business Review*, pp. 80-88.
- Su, S., Baird, K. and Schoch, H. (2017), "Management control systems: the role of interactive and diagnostic approaches to using controls from an organizational life cycle perspective", *Journal of Accounting & Organizational Change*, Vol. 13 No. 1, pp. 2-24.
- Tuomela, T.S. (2005), "The interplay of different levers of control: a case study of introducing a new performance measurement system", *Management Accounting Research*, Vol. 16 No. 3, pp. 293-320.

Widener, S.K. (2007), "An empirical analysis of the levers of control framework", *Accounting, Organizations and Society*, Vol. 32 Nos 7/8, pp. 757-788.

Wijethilake, C. (2017), "Strategic responses to institutional pressures for sustainability: the role of management control systems", *Accounting, Auditing & Accountability Journal*, Vol. 30 No. 8, pp. 1677-1710.

Yin, R.K. (2009), *Case Study Research: Design and Methods*, 4th ed., Sage, Thousand Oaks, CA.

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