

What Do We Know about Management Control Systems and Strategy?

Kim Langfield-Smith

Over the past decade, there has been a massive growth in published research that investigates the interrelationship between management control systems (MCS) and strategy. It is a popular theme and much of the research has important practical implications for the design of MCS and the formulation and implementation of strategy in a range of organizations. The previous two chapters set out a broad range of theoretical perspectives that have emerged to help us understand the ways in which MCS both direct strategic thinking and influence behaviours towards the attainment of strategic goals. This chapter focuses on some key areas of empirical research that investigate strategy and MCS.

The purpose of the chapter is to summarize and explain what we know about this relationship, and what we need to investigate in the future. The objective is not to provide a comprehensive review of all papers that have been written in the area, but to explore this relationship through examining a series of issues that have emerged as central in this literature. These are the relationships between performance measures and reward systems including the balanced scorecard (BSC) and business strategy; capital investment processes and the initiation of strategic investment projects; interactive controls and strategic change; operational strategies and control systems; the design and operation of MCS in interfirm relationships, such as joint ventures and outsourcing; and the strategic style of corporate headquarters (HQ) and the MCS of business units.

Each of these themed areas is appraised, to assess what we can conclude in terms of the practical implications of the research. The chapter concludes with a discussion of some of the areas where we are still developing our knowledge. Some of these topics will be explored in detail in subsequent chapters.

Early research

Despite the intense interest in business strategy in the academic and professional literatures, up to the mid-1990s there were relatively few

empirical papers published in the area of strategy and MCS. This was emphasized by Langfield-Smith (1997), who provided a review and critique of empirical research in the area and highlighted a range of deficiencies and areas for future research.¹ This review concluded that research published up to that time was fragmentary, and the approach taken and research findings were sometimes conflicting.

Up to the mid-1990s, much of the research that studied strategy and MCS adopted a contingency perspective, where the focus was on the fit between business strategy, some aspects of MCS, other contextual variables, and sometimes organizational effectiveness. Business strategy was characterized using various typologies: prospector/defender, differentiation/cost leadership, and build/harvest. It has been argued that when common characteristics of these strategy classifications are considered, particularly the degree of environmental uncertainty, prospector/differentiation/build strategies are at one end of a continuum, and defender/cost leadership/harvest are at the other end (Shank and Govindarajan 1992; Langfield-Smith 1997). This apparent equivalence makes it easier to compare and integrate the results of various studies.

The research of the 1980s and 1990s was dominated by studies that utilized surveys, which took a snapshot of the status of the business strategy and various aspects of MCS at a point in time. Many of these studies adopted a content approach, while only a few used case study approaches to focus more on process. However, the Langfield-Smith (1997) review took place at an early stage in the 'life cycle' of MCS/strategy research, and it is timely to revisit the area to review achievements and new directions.

In the following sections, recent research that addresses MCS and strategy is discussed by major theme.

Performance measures and reward systems and business strategy

A significant area of research in this area is the fit between strategy and performance and reward systems. Relative to other published studies in strategy/MCS, this is one area where there is a critical mass (Langfield-Smith 1997). When the 'equivalence' of various strategic typologies used

¹ Langfield-Smith (1997) provided a review of survey research up to 1992 and case study research up to 1995.

in these studies is taken into account, the findings are consistent. More recent work has focused on the BSC and its capacity to direct strategic thinking and behaviours.

Simons (1987), Govindarajan (1988), Gupta (1987), Porter (1980), and Govindarajan and Gupta (1985) provide consistent evidence that objective performance evaluation and reward systems support defender strategies, whereas for prospector strategies more subjective performance evaluation is appropriate. One aspect that may be driving this consistency is the level of environmental uncertainty associated with prospector-type strategies and defender-type strategies. Prospector-type strategies are usually associated with high levels of environmental uncertainty, where it may be difficult to set targets accurately and to measure objectively managerial performance. Many studies have found a positive relationship between high environmental uncertainty and subjective performance evaluation (see Briers and Hirst (1990) for a review). In these situations, critical success factors include new product development, innovation, and R&D. These goals tend to be long term and difficult to quantify, and so may be better served by subjective measures. Defender-like strategies are associated with low environmental uncertainty and a focus on stability and internal efficiency implies there is a high knowledge of input-output relationships. Thus, it is easier to develop objective performance measures and targets.

In Langfield-Smith (1997), areas for future research were identified: the mix of salary and non-salary components of rewards, the potential for linking managerial performance to both business unit and corporate performance, the frequency of performance measures and reward payments, and performance and rewards systems of employees other than middle and senior managers. Chenhall and Langfield-Smith (2003) address the last of these future research areas. They provide a detailed case study of how a performance measurement and gainsharing reward system was used to achieve strategic change over a fifteen-year period. The gainsharing system applied to employees and managers at all levels, and was introduced to encourage increased productivity, at a time when the competitive market was stable and predictable. Targets were based on material and labour productivity and the strategic orientation of the business was towards productivity, efficiency, and profitability. In its early years, the gainsharing scheme was successful in overcoming hostility and low morale within the workforce, and it was successful in encouraging the cooperation of employees to work towards the successful implementation of strategic initiatives. Gainsharing is a mechanistic form of control system, and hence it was supportive of the high level of

certainty and stability in the external and internal environment and of managers' attempts to encourage organizational trust.

Over time, the company found itself competing in an increasingly competitive marketplace as global competitors began to enter local markets, and as customers increased their demands for high-quality products and prompt delivery. The company came to focus on cost reduction, cycle time, quality, and flexibility. The measures within the gainsharing scheme were adjusted to reflect increased needs for productivity improvements. However, the company found it necessary to develop more creative and innovative ways of competing, to boost overall competitiveness and performance to higher levels. A series of management initiatives were introduced, such as total quality management (TQM) and value-added management, and eventually self-managed work teams were formed. During these developments, the gainsharing scheme remained, but was not as effective as in the early days. The firm introduced team-based structures to enhance employee enthusiasm to work towards sustaining strategic change. However, this did not result in significant performance improvements. This result was attributed, in part, to the continued role of the gainsharing scheme, a mechanistic control, which inhibited the development of the personal trust that was needed to encourage employees to adopt creative and flexible approaches to management and to work effectively in team structures.

Since the early 1990s, BSC has emerged as a popular framework for combining financial and non-financial performance measures. It has been well documented and praised in a range of professional journals. By providing explicit links between strategy, goals, performance measures, and outcomes the BSC is presented as the key to achieving high-level performance (Kaplan and Norton 1992, 1996). The BSC is said to provide a powerful tool for communicating strategic intent and motivating performance towards strategic goals (Ittner and Larcker 1998). However, despite the high profile and apparent high levels of acceptance of BSC in practice, there has been only limited research attention given to testing the claims or outcomes of the BSC and the processes involved in using the BSC for its intended purposes (Ittner and Larcker 1998; Ittner et al. 2003b; Malina and Selto 2001; Bisbe and Otley 2004).

Hoque and James (2000) was one of the first papers to address empirically the BSC and strategy linkage. Taking a contingency approach, they hypothesized that organizational performance is dependent on the usage of BSC, which was influenced by three contextual variables: organizational size, stage of product life cycle, and strength of market

position. BSC usage was measured by asking managers the extent to which they used twenty performance measures to assess the organization's performance. These measures covered the four dimensions of the Kaplan and Norton (1992) BSC. This study found that larger organizations were more likely to make use of a mix of measures. One reason suggested was that larger firms can more easily afford to support a more sophisticated system of performance measures. It was also suggested that firms that had a higher proportion of new products also made greater use of the BSC. However, there was no relationship found between market position and the use of BSC measures. An important feature of the BSC that was not investigated in this study was the 'fit' between the design of the BSC and the strategy of the firm. The measure that was used to assess usage of BSC did not assess the cause-and-effect linkages between the measures within and between the different perspectives, nor did it assess the alignment of these measures with the competitive strategy of the firm. This is critical, as the BSC is not just a collection of financial and non-financial measures; it is an integrated set of measures based on the firm's business model (Kaplan and Norton 1996). Even so, it has been argued that even when measures are selected to reflect a business model, major shifts in the environment can cast doubt on whether 'balance' has or will continue to be achieved (Ittner and Larcker 1998).

Ittner et al. (2003a) studied how different types of performance measures were used in a subjective BSC bonus plan, in a financial services firm. Using a BSC to reward managers has the potential to counter many of the criticisms of short-term accounting-based reward systems. However, Ittner et al. (2003a) found that the varying subjective weighting given by managers to performance measures allowed supervisors to ignore many of the performance measures when undertaking evaluations and awarding bonuses, even when some of those measures were leading indicators of the bank's strategic objectives of financial performance and customer growth. In addition, a large proportion of the bonuses awarded were not a 'legitimate' part of the system, as they were based on criteria not included in the BSC. The weightings used in the reward system were regarded with uncertainty and criticized by managers as being based on favoritism. The BSC and the reward system were abandoned.

What is of interest in this case study is how an apparently 'balanced' scorecard of measures was used in a way that was inconsistent with the original 'good intentions'. The focus of the measures used to award bonuses was more on achieving financial outcomes. It seems that

in some situations the technical design of a reward system or BSC may be less important than the implementation issues. This issue is expanded in Hansen and Mouritsen (2005). Ittner et al. (2003a) argued that psychology-based explanations can be more relevant in explaining the success of a compensation scheme than economic-based explanations. Further support for the importance of implementation of the BSC is provided by Banker et al. (2004) in their experimental study of the judgment effects of performance measures and strategy. They found that the evaluations of business unit managers were influenced more by measures linked to strategy than those not linked to strategy, but only when managers are familiar with details of the business unit strategies.

One innovative study of the BSC is Malina and Selto (2001), which is a case study that focuses on the effectiveness of the BSC as a management control to communicate strategy. The BSC is designed to aid in communication by specifying the causal linkages between various performance measures and strategic outcomes, and hence provides an understanding of the decisions and activities that must be followed to achieve high financial performance (Kaplan and Norton 1996). Malina and Selto (2001: 54) summarized the characteristics of an effective management control device that can lead to the achievement of targeted outcomes as having the following control attributes:

First, attain strategic alignment:

- A *comprehensive* but parsimonious set of measures of critical performance variables, linked with strategy;
- Critical performance measures *causally linked* to valued organizational outcomes;
- *Effective*—accurate, objective, and verifiable—performance measures, which appear to be related to effective communication.

Second, to further promote positive motivation, an effective management control device should have the attributes of:

- Performance measures that reflect managers' *controllable actions* and/or *influenceable actions*,
- Performance targets or *appropriate benchmarks* that are challenging but attainable,
- Performance measures that are related to *meaningful rewards*.

(Italics from original reference).

Malina and Selto (2001) stated that adherence to these attributes within the BSC should lead to strategic alignment and positive performance

outcomes for the organization. The case study provided evidence that the BSC may provide *opportunities* for the development and communication of strategy. In their case study, managers reorganized their resources and activities to achieve the required performance targets, which they perceived as improving the overall performance of the company. However, like all performance measurement systems there were difficulties experienced in the design and implementation of the BSC, which influenced the perceived credibility of the BSC and resulted in conflict and tension that led to the inability of the BSC to meet its stated outcomes. Difficulties included the development of inaccurate or subjective measures, top-down rather than participatory communication process, and the use of inappropriate benchmarks for performance evaluation. There should be little surprise at these shortcomings, as these types of difficulties are common to performance measurement systems in general (see Merchant 1989; Simons 2000). In particular, Ittner et al. (2003b) found that subjectivity in the design of the performance measures and reward system in the BSC of a financial services firm led to uncertainty and complaints among managers, and the abandonment of the BSC. We might expect that the BSC will share some design issues with that of other 'non-balanced' performance measurement systems.

Capital investment processes and initiation of strategic investments

There has been only limited research on controls over capital investment decisions and business strategy. This is despite the significant implications that many capital investment decisions have for the strategic direction and the long-term success of a business.

Some of the literature of the 1980s and early 1990s took a contingency approach to considering the form of capital expenditure evaluation process that should be used under various organizational and strategy situations (Larcker 1981; Haka 1987; Shank and Govindarajan 1992). For example, Haka (1987) focused on the fit between the use of DCF techniques for capital expenditure evaluation and specific contingencies of business strategy, external environment, information systems characteristics, reward systems structure, and degree of decentralization. Another stream of research highlights the limitations of the use of accounting-based methods to evaluate capital investments, arising from the difficulty of incorporating measures of strategic issues that go to the heart of

a firm's competitiveness (Kaplan 1986; Samson et al. 1991). An outcome of this research stream is the development of decision rules for tailoring capital investment decision models to a given strategy. However, these static decision models do not provide insights into how control systems can encourage the initiation of capital investment proposals that support a specific strategy and the long-term performance of a firm (Slagmulder 1997). While Haka (1987) states that the firm's strategy influences the search process for attractive capital investments, encouraging managers to direct their attention to certain forms of projects, there is only limited research that has examined the MCS processes that can be used to provide incentives to direct attention towards such strategic searches. These are even more important in large complex organizations, where there is high reliance on indirect ways of controlling behaviour and decisions. O'Leary and Miller (2005) provide a case study of capital investment decisions.

Slagmulder (1997) takes a grounded theory approach to study the control systems associated with the evaluation of multiple investment projects across six companies. Rather than aligning specific forms of controls with specific forms of strategy, she focuses on how the MCS for strategic investment decisions (SIDs) adapt as a response to strategic change. She proposes that the primary role for the control systems used in SIDs is to achieve alignment between the firm's investment stream and its strategy. Specifically, as the external environment of the firm changes, the MCS used to control SIDs must also be modified to maintain strategic alignment in the selection and evaluation of strategic investment projects.

Strategic misalignment can be caused by vertical or horizontal information asymmetry about the strategy of the organization, a lack of understanding about the strategic implications of an investment, and a lack of goal congruence among managers at different levels. Such strategic misalignment can be apparent in four ways. First, there may be poor strategic fit that can lead to valuable projects never being proposed or overlooked in the evaluation process, or inappropriate projects being approved. Second, there may be low responsiveness in the MCS where the procedures are poorly structured and inefficient, delaying decision-making. Third, an inefficient MCS can be in place involving too many managers and excessive managerial time. Finally, there may be inefficient use of capital through approval of investments with low returns or of duplicate investments in different parts of the firm.

Slagmulder (1997) proposed four ways for changing controls in the face of a changing environment and strategy: introducing new control mechanisms for SIDs, changing the tightness of controls, changing the

degree of formalization of controls, and changing the locus of decision-making. For example, a change in strategy may cause the attractiveness of certain projects to decline, and the guidelines over the mix of projects that senior management advises may be submitted for approval may change. In addition, the availability of a new technology in the marketplace may lead to a shift in strategy and to a loosening of controls over the level of investment hurdles for those technology-type projects, or to a shift in responsibility away from middle managers to more senior managers who can speedily make decisions to invest in the right technology. For the alignment process to work, the information that flows up and down the organization must be effective.

This study provides a perspective of how the processes for encouraging the initiation and the evaluation of various capital investment proposals may be adapted to accommodate and support changes in business strategy. So rather than matching the type of strategy to the attributes of MCS, the focus is on continually adapting MCS to provide incentives and encouragement for managers to submit capital investment proposals that support an evolving strategy. The drive to achieve strategic alignment underlies the process.

Miller and O'Leary (1997) also focus on the processes of aligning capital investment decisions with strategy. They provide a case study of changes that were made to controls over capital budgeting practices at Caterpillar in 1997 to accommodate a change in focus from a mass production technology to flexible manufacturing systems. Like many organizations, Caterpillar evaluated capital investment proposals as discrete projects, and this was thought appropriate in managing investments in the company's mass production technologies. Post-audits of some investments were undertaken to assess whether outcomes for asset functionality and net present value (NPV) matched forecasts. However, this system failed to recognize the complementarity between some investment projects.

A new control system was developed based on defining and managing 'investment bundles', which were capital investment proposals consisting of diverse and mutually reinforcing assets needed to manufacture a set of core product modules. Investment bundles were formed to improve the functionality, cost, and competitiveness of key product assemblies. Plant managers were given the task of replacing low-velocity functional plant layouts with high-velocity, core-product production modules, with integrated technologies to reverse the company's severe cost disadvantage relative to competitors, and to increase to production responsiveness to shifts in demand.

The evaluation of a proposed investment bundles took place through a 'concept review', which aimed to ensure that the proposal supported the firm-level vision of modern manufacturing. Managers needed to provide a 'convincing demonstration' that the proposal would improve the competitiveness of manufacturing processes. This process was described by some managers as 'tense, difficult and painful'. Senior head office (HO) managers examined the concept at a high level of detail and plant managers were encouraged to learn from other plants' experiences.

The implementation of capital investments was managed through 'bundle monitors', where each investment bundle was regarded as a responsibility centre. These performance reports were given high status within the company and became one of the three major measurement systems for cost management at the plant level. Results for each investment bundle were compared with internal and external benchmarks to monitor the impact of the implementation on competitiveness. Process capability targets were developed for a specific investment bundle and were particularly important in measuring the performance of competitive design and development, and the internal rate of return (IRR) needed to be traced to improvements in product and process competitiveness. Bundle monitors were used intensely by senior managers to facilitate the implementation of investment bundles that were underperforming.

This case provides an example of how control systems can reinforce the new strategy at the proposal, evaluation, and monitoring stages of capital investments. Intense involvement in the process by senior managers through consultation, meetings, and reports was important in emphasizing the critical strategic issues and in encouraging managers to orient their thinking towards the new strategy. This process of *interactive use* of control systems (see the following section) and the heavy emphasis on assessing the strategic impact of the expenditure is a stark contrast to 'traditional' capital investment expenditure and evaluation controls that emphasize individual projects and their impact on NPV.

Interactive controls and strategic change

Simons (1990, 1995) presented a framework that highlights how MCS can be used by senior management to direct attention to areas of strategic uncertainties and thus effect strategic change. When senior managers select controls to be used interactively, they pay frequent and regular attention to monitoring these controls. This sends signals to all

organizational members to collect relevant information, and to engage in face-to face dialogue and debate, which leads to a focus on strategic uncertainties. This process may lead to strategic change, through the formation of emergent strategies. In contrast, when controls are used in a diagnostic manner, they are used on an exception basis to monitor and reward the achievement of goals. Controls will support key success factors and the current strategy. Thus, in contrast to the content-focused studies in the 1980s and 1990s, Simons' framework does not examine which controls are used to support certain strategies; it considers the style of use of formal controls by senior management.

Abernethy and Brownell (1999) studied how budgets can be used interactively in a hospital setting, to moderate the relationship between business strategy and organizational performance. They found that organizational performance would be enhanced if budgeting was used interactively in an organization to reduce the disruptive effect associated with strategic change. The interactive mode was characterized as an ongoing dialogue between organizational members as to why budget variances occur, how systems and behaviours could be adapted to minimize variances, and the actions that should be taken. This facilitates organizational learning. Survey data were collected from sixty-three public hospitals. The aspect of strategic change that was studied was the move to a more market-oriented stance, which was common across the hospital sector.

Bisbe and Otley (2004) provide a comprehensive study of the effect of the interactive use of control systems on product innovation. They conducted a survey of 120 medium-sized mature Spanish manufacturing firms, and tested whether the interactive use of controls leads companies to develop and launch new products, and whether it contributes to the impact of the new innovative products on organizational performance. The control systems that were studied were the budgeting system, the BSC system, and the project management system. Their results indicated that in low innovating firms, the use of an interactive control system may lead to greater innovation, by providing guidance for the search, triggering, and stimulus of initiatives and through providing legitimacy for autonomous initiatives. However, in high innovating firms, interactive use of controls seemed to reduce innovation. This was thought to be caused by the filtering out of initiatives that result from the sharing and exposure of ideas. Another finding was that the interactive use of controls moderated the impact of innovation on organizational performance. This was thought to be a result of the direction, integration, and fine-tuning those interactive control systems

provide. Overall, support was found for the positive impact of formal MCS on innovation and long-term performance.

Operational strategies and control systems

The focus of most studies up to the mid-1990s was on relating the design of MCS to business strategies, which were identified in generic terms: differentiation versus cost leadership, prospector versus defender. However, in recent years, a range of studies have emerged that focus on specific aspects of differentiation, such as strategies based on quality, timeliness, reliability, and customer service. These aspects of strategies form the focus of operational strategies. Various management innovations such as TQM, just in time (JIT), business process engineering, and continuous improvement have developed to support such strategies, and there are consequent implications for the development of MCS. These MCS include 'strategically focused' MCS that have only emerged in recent times, such as activity-based cost management (ABCM) and target costing. They also include more traditional forms of MCS, such as performance measurement systems and budgeting systems, which may be tailored to provide specific support for the operational strategy. The following section provides a review of studies that have focused on the design of MCS to support quality strategies, product-related strategies, and manufacturing flexibility strategies.

Quality strategies

The earliest studies that focused on quality strategies and MCS were Daniel and Reitsperger (1991, 1992). In two more recent related studies, Daniel and Reitsperger (1994) and Daniel et al. (1995) focused on the relationships between MCS and quality strategies in US and Japanese firms. They distinguished between two forms of quality strategies: zero-defect strategy and economic conformance level (ECL) strategies.²

² The ECL model of quality control assumes that 'quality is costly' and proposes that a cost-minimizing quality level can be achieved by balancing prevention and appraisal costs against internal and external failure costs. The optimal ECL is the points at which costs are minimized—where the marginal prevention and appraisal costs equal marginal failure costs. Under this model the ECL would never occur at the zero-defect level. A zero-defect strategy focuses on continuous improvement to achieve perfect quality performance.

While the literature suggests that Japanese managers follow a zero-defect quality strategy and US managers an ECL strategy (e.g. Hayes 1981; Schonberger 1982), Daniel and Reitsperger (1994) found that most of the Japanese and US managers in their sample adhered to a zero-defect quality strategy, with significantly more followers in the USA than in Japan. The aspect of MCS that was studied in both Daniel and Reitsperger (1994) and Daniel et al. (1995) was the provision of goal setting and feedback information about quality performance.

Daniel and Reitsperger (1994) found that while US manufacturing managers adhered to zero-defect strategies more than Japanese managers, fewer US managers received MCS information to support their zero-defect strategies. Japanese managers were found to receive MCS regardless of which of the two quality strategies they followed. Interestingly Daniel et al. (1995) found that in US companies, as managers moved up the corporate hierarchy they viewed quality as a high strategic priority and were provided with more quality goals and more feedback on quality performance. Quality strategies and feedback in US companies were linked, but quality as a goal setting was not associated with a quality strategy. In the Japanese companies no association was found between quality strategies and the quality goals setting or feedback.

In a survey of automotive and computer companies across four countries, Ittner and Larcker (1997) found that organizations following a quality-oriented strategy made greater use of strategic control practices that were consistent with the quality orientation. The strategic control practices were oriented towards specifically supporting a quality strategy, and focused on strategic implementation practices (action plans, project controls, and management rewards), internal monitoring practices (feedback mechanisms, meetings, and board reviews) and external monitoring practices (benchmarking, market research, and strategic audits of products and processes). However, the extent of the relationship between strategy and control practices varied by country. The results indicated that in US and German organizations there was a very strong relation, while in Japan extensive use was made of quality-related control systems, regardless of the strategic orientation. Interestingly, the alignment of quality strategies and strategic control practices was not always associated with high organizational performance, and this varied by industry. For some control practices there was a negative performance effect, suggesting that formal control systems might reduce performance.

Product-related strategies

Product-related strategies may be considered an aspect of not only business strategy but also operational strategy, as their success may be affected directly at the manufacturing, marketing, or product design levels.

Davila (2000) studied MCS in new product development projects and became aware of the role of MCS in reducing uncertainty. MCS were a source of information used to close the gap between information required to perform a task and information already on hand (Tushman and Nadler 1978). He argued that as well as strategy and structure influencing the design of MCS in the new product development area, three forms of information gap (uncertainty) shape the design of MCS. These are market-related uncertainty, technology-related uncertainty, and project scope. Using both case studies and a survey, Davila (2000) included both financial and non-financial information in his definition of MCS. He found that cost and design information had a positive effect on performance, but time-related information hinders performance. He also found that cost information was related to a low-cost strategy and time-related information to a time-to-market strategy. However, there was no significant relationship between customer information and customer strategy. Davila (2000) found that MCS were not the only source of information used to reduce uncertainty and that when technology is the main source of uncertainty, prototyping may substitute for MCS. However, when uncertainty comes from project scope or from the market, MCS are more suited to reducing that uncertainty.

Abernethy et al. (2001) presented five case studies that focused on product diversity and the design of the product costing system. While costing systems are not always considered an aspect of MCS, in this case the orientation was the use of costing systems to facilitate decision-making and control. The study questioned the accepted premise that sophisticated costing systems are associated with high levels of product diversity and high levels of investment in advanced manufacturing technology (AMT) and the associated increase in overhead cost. They found that higher the product diversity, the more sophisticated is the costing system, while low product diversity is associated with a simple costing system. They found that if there was little or no investment in AMT, an increase in product diversity would create a demand for a sophisticated costing system. If there was a larger investment in AMT, the costing system may not be as sophisticated.

Manufacturing flexibility and customer-focused strategies

Abernethy and Lillis (1995) interviewed managers of forty-two manufacturing businesses to study the impact of a manufacturing flexibility strategy, as a form of customer-responsive strategy, on the design of MCS. From their interviews they extracted a series of constructs. Flexibility was defined as having three dimensions: technological difficulty in making product changes, strategic commitment to flexibility, and turn-around time to meet customer demands. MCS were defined in terms of integrative liaison devices—teams, task forces, meetings, and spontaneous contacts—and efficiency-based performance measures. As predicted, they found a positive relation between a flexibility strategy and the use of integrative liaison devices, supporting the role of such devices to manage functional interdependencies needed in the pursuit of flexibility. However, for both flexible and non-flexible firms there was a positive relation between the use of integrative liaison devices and firm performance. There was a negative relation between the use of efficiency-based performance measures for the evaluation of manufacturing performance and the commitment to flexibility, and only in firms that were ‘not flexible’ did the use of efficiency-based performance measures correlate with higher firm performance.

Perera et al. (1997) extended Abernethy and Lillis (1995) by using a survey method to examine customer-focused manufacturing strategies that included cost, quality, flexibility, and dependability. They set out to research an unanswered question from Abernethy and Lillis—whether firms that follow a customer-focused strategy emphasize non-financial manufacturing measures, and whether that is associated with enhanced performance. Support was found for the association between a customer-focused strategy and an emphasis on non-financial measures. However, there was no link to performance. One explanation provided for this result is that the role of the operational measurement system is to direct attention and to motivate managers to focus attention towards those aspects of operations that are of strategic importance, so relevant outcomes may be increased job satisfaction and motivation rather than firm-level performance outcomes. As with many studies of this nature that seek to relate the use of various practices and systems with improved firm performance, there are always questions about the nature of the lag between behavioural outcomes and firm-level performance, or more broadly how or if this linkage works in the light of so many other factors that may mitigate such relationships.

MCS and strategy in interfirm relationships

In recent years, the design and operation of MCS in interfirm relationships has sparked the interest of several researchers. MCS is said to play a role in the management of interdependencies between organizations, in situations of outsourcing, joint ventures, and other strategic alliances. Most studies have taken a process approach to examining the issues, and various frameworks have been used to interpret the findings. For example, Mouritsen et al. (2001) used actor-network theory, and van der Meer-Kooistra and Vosselman (2000) and Langfield-Smith and Smith (2003) use a modified transaction cost economics approach. However, to date there are few studies that have focused on strategy and MCS in interfirm relationships.

Mouritsen et al. (2001) provide two case studies of outsourcing that highlight the interdependencies between strategy and control systems of both partners. It is widely believed among many researchers and practitioners that an important determinant of success in interorganizational relationship is a supportive cooperative relationship based on trust. Thus, careful consideration is needed in designing the control system to manage the relationship. In both case studies, outsourcing was regarded as part of the strategy of the firms, and was considered critical for maintaining competitiveness. In both companies the advent of outsourcing left a gap in the control system and new controls were introduced to reinstall control and to retain a sense of involvement in the outsourced activities.

The strategy of NewTech was focused on rapid technological development. Technological innovation was considered key to maintaining competitiveness, and in the light of this, some would say that such a critical function should not have been outsourced. Functional analysis, a part of target costing, was introduced to regain control over the product development function and became a way to improve the suppliers' understanding of the technology, strategy, and organization and to direct the suppliers' development activities. NewTech became a technology coordinator and manager through these changes, and gained a new identity.

Lean Tech found that, as customer demands changed, the strategy of flexibility towards individual customers gave way to productivity. This led not only to the outsourcing of production, but also to a lack of control over those outsourced processes. Open book accounting was introduced to provide logistics management with access to time and

cost information about production processes, which assisted the company to coordinate supplier activities and improved production flexibility. However, open book accounting also led to a new conception of competitive strategy and a reinterpretation of what technological edge and customization meant for the firm.

In both these case studies, the new controls that were introduced to gain control over the outsourced activities led to changes in company perception of what were the core competencies of the two firms and new conceptualizations of the nature of their strategy and competitive edge.

Strategic style of corporate HQ and the MCS of business units

The spread of multinational organizations and the increasing complexity of many business structures and arrangements have highlighted the difficulty of managing at a distance, and the importance of achieving control and strategic objectives. Some of the earliest research into management control addressed the issue of decentralization, and specified appropriate control mechanisms. Bruns and Waterhouse (1975) found that larger organizations tend to be more decentralized and place greater reliance on formal administrative controls, such as budgets (see Chenhall (2003) for a review of the literature). Distance seems to make control more difficult, as there is less visibility of operations.

There are two interrelated perspectives that may be taken into account when researching this issue: the control systems that are used by the parent to control business units, and the control systems that are used within business units. Chenhall (2005) distinguishes between the 'outside-in' and 'inside-out' perspectives in considering the relationships between strategy and MCS. However, the design of MCS within business units can be influenced by a variety of factors, including the will of the head office (HO) or parent company. Such MCS may be imposed by mandate on divisions or subsidiaries to satisfy desires for uniformity across a wider organization. Parental control can also extend to actions and activities that exert control through various socialization experiences and HRM interventions. From an HO perspective, one of the challenges in controlling, particularly far-flung divisions, is communicating and coordinating decision-making, behaviours, activities, and operations.

There are several ways of conceptualizing the form of control exercised by a parent. Yan and Gray (2001) distinguish between strategic control (exercised by the parent company or HO), operational control (exercised by the business unit/divisional management), and structural control (where procedures and routines are imposed on the business unit by the parent). Nilsson (2000) and Chung et al. (2000) both used the classification of financial control, strategic planning, and strategic control. Ahrens and Chapman (2004) adopted an enabling and coercive classification to describe the control style of the HO.

Nilsson (2000) found a relationship between the parenting style and the MCS in four company groups, as well as a relationship between the business strategy pursued and the MCS. The Goold et al. (1994) classification of parenting style of financial control, strategic planning, and strategic control were used. A parenting style of financial control implies a high degree of decentralization, where strategic planning is carried out by the business units and those business units operate in stable mature industries where there are opportunities to generate strong profit and cash flows. In these situations a cost leadership strategy is appropriate and the parent exercises controls through financial targets and reporting. A strategic planning style involves a high degree of synergy between the business units and the parent, and parental involvement in planning and decision-making. This is thought to suit situations where there is a turbulent competitive environment and where a long-term perspective is relevant. A differentiation strategy is often followed by the business unit. Control is exercised by parents through their involvement in the decision-making process and an emphasis on informal planning and follow-up and non-financial information.

Chung et al. (2000) investigated how the strategic management (parental) style employed by corporate HO to manage a diverse range of subsidiaries affected the type of controls used. Again, the three forms of strategic management style were strategic planning, strategic control, and financial control (Goold and Campbell 1987). For those HOs using a financial control style, emphasis was on output controls, namely setting and monitoring financial targets. The development of business strategy was delegated to the business units. The strategic planning style entails the HO participating with and influencing the business strategy of the business unit, and close interaction with the business unit is required. A heavy focus was on behaviour controls. HOs that had a strategic control style are strongly committed to decentralization, so they will not directly impose business strategies or interfere in major decisions. Rather, they will look for ways of socializing managers of subsidiaries

into the philosophy of the HO. While results did not support their hypotheses for the strategic planning and strategic control style, they found that a strategic control style was the most prevalent. They also found a strong emphasis on socialization controls across all subsidiaries.

Ahrens and Chapman (2004) used a framework of coercive and enabling (Adler and Borys 1996) uses of MCS to view the relationship between HO and operational units within a restaurant chain. Coercive use is a top-down approach that emphasizes centralization, pre-planning, and detailed specification of organizational rules. An enabling use aims to design a formal system that capitalizes on the intelligence of managers by helping operational managers to deal more effectively with contingencies, rather than tightly constraining them. The usability of formal systems can be assessed in terms of repair, internal transparency, global transparency, and flexibility. Repair provides the capability for users to fix breakdowns in control processes. Internal transparency is an understanding of the workings of local control processes whereas global transparency is an understanding of where and how these local processes fit into the control systems of the organization as a whole. Flexibility is the employees' discretion over the use of control systems, even to the point of turning these controls off. In their case study, Ahrens and Chapman (2004) found that the HO used a mixture of coercive and enabling controls. While this chapter does not deal explicitly with strategy, it is argued that enabling control systems can provide operational managers with the capability to deal with emerging contingencies in a way that will further the local and organization-wide goals. In the case of their restaurant chain case study, customer satisfaction was a driver of sustained financial success. This was a broader concept than producing high-quality meals and attentive service; it captured the restaurant 'experience'. Thus, rigidly specified rules would not necessarily provide the answer to achieving this strategic goal. Restaurant managers needed to be able to respond to local circumstances, but without violating strict efficiency parameters.

Summary and directions for future research

This chapter presented some research studies in the area of MCS and strategy, following several themes. These are the relationship between performance measures and reward systems (including BSC) and business strategy; capital investment processes and the initiation of strategic

investment projects; interactive controls and strategic change; operational strategies and control systems; the design and operation of MCS in interfirm relationships, such as joint ventures and outsourcing; and the strategic style of corporate HQ and the MCS of business units. Various different approaches have been taken in these studies, which have added to our understanding of the complexity of the MCS–strategy relationship. However, there is still so much that we need to understand, which could form the focus for future research.

One promising direction for future research is in the area of performance measurement, reward systems, and BSC. Ittner et al. (2003b) emphasized the need to go beyond the search for alignment of performance measures with strategy, to investigate more fully specific value drivers of strategic success. ‘Traditional’ approaches to the study of performance measures and strategy have focused on the use and benefits of, or emphasis on, performance measures (Abernethy and Lillis 1995; Chenhall and Langfield-Smith 1998; Baines and Langfield-Smith 2003) and this is also true for empirical studies that have focused on BSC and strategy (see Hoque and James 2000). However, other studies have highlighted the critical nature of implementation issues, including behavioural issues, in influencing whether or not these frameworks achieve their intended outcomes. In pursuing this issue in more detail, Ittner et al. (2003a) highlight the various interpretations that companies may give to operationalizing the BSC concept, so that many firms do not fully adopt the original Kaplan and Norton prescription. Many of the future research directions in the area of performance measures and strategy highlighted in Langfield-Smith (1997) remain unanswered, but perhaps we have now moved on to focus on more important and challenging areas.

Several studies have highlighted the many functions that control systems may play within an organization, in influencing strategic change, strategic thinking, and performance. Performance targets may direct employee efforts towards improving key success criteria of the firm (Chenhall and Langfield-Smith 2003). MCS may direct managerial thinking towards initiating capital expenditure proposals that consider the impact of the project on competitiveness (Miller and O’Leary 1997; Slagmulder 1997). MCS can also influence managers’ conceptions of the purpose and strategic direction of the firm (Mouritsen et al. 2001), and lead to the building up of strategic knowledge among managers and employees. Simons’ framework focuses attention on how managers can select certain controls to use interactively to guide and direct attention towards strategic uncertainties and strategic change.

As organizations expand globally and operations move beyond their traditional boundaries, there is a need to understand how MCS can be designed and used to control these decentralized operations, and outsourced or joint venture activities, to promote strategic thinking, strategic behaviour, and sustained performance. It is only in the last few years that these areas have emerged and they represent large unexplored opportunities for future studies.

Control systems seem to be designed to meet several purposes. However, can control systems that focus on influencing strategic thinking also motivate employees to perform, as well as provide accountability and control? Further research is needed to enhance our understanding of the multiple objectives of control systems and whether a control system that is designed to effect change or to influence thinking can be used for other purposes.

This chapter has highlighted several areas for future research, which are developed in other chapters of this book. These include developing an understanding of how multiple objectives of control systems can be achieved (Hansen and Mouritsen 2005); how strategic capital investment practices and processes can be developed to encourage strategic thinking; the design of controls systems in interorganizational relationships (Miller and O'Leary 2005); and how MCS can be designed and used to promote improved strategic performance and control through the creation of strategic knowledge and strategic thinking (Ittner and Larcker 2005). These topics will be explored in more detail in subsequent chapters.

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