

Examining Management Control Systems Packages and Organisational Ambidexterity - Case Tekla Oyj

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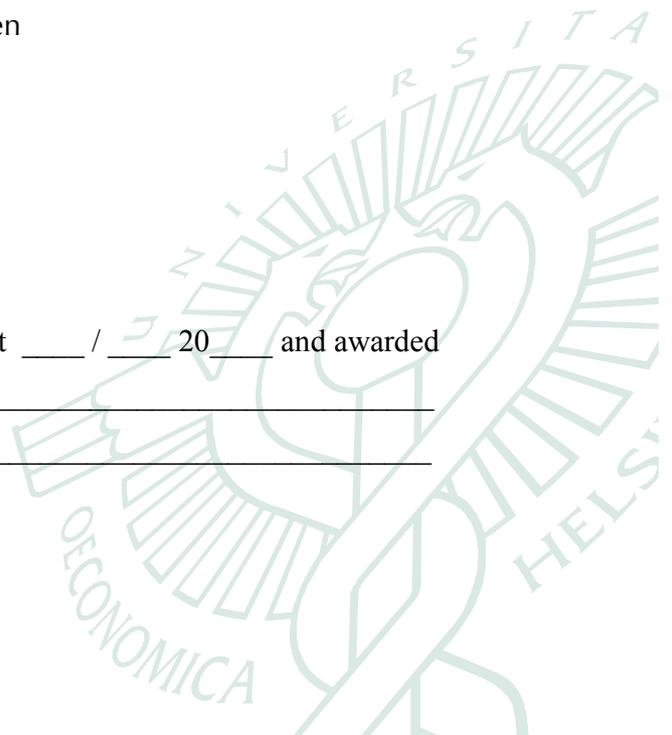
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EXAMINING MANAGEMENT CONTROL SYSTEMS PACKAGES AND ORGANISATIONAL
AMBIDEXTERITY

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Research objectives

The study endeavours both to examine management control systems packages operating within two business units of the case company and to compare and contrast how these control packages and their functionality stand vis-à-vis each other. Moreover, this thesis aims at assessing the performance implications of the management control system packages by examining whether control packages of certain kind, if any, enable a firm to achieve ambidextrous strategy, i.e. simultaneous effective execution of explorative and exploitative capabilities.

Sources and research method

The study draws on a wide array of theoretical references encompassing journal articles and books addressing management control systems, their operation as a package as well as organisational ambidexterity. The empirical evidence, in turn, was collected from a range of sources. These included eight interviews, a number of internal company documents, several business press reports and annual company reports. The various sources of evidence were used to provide multiple measures of the same issue (triangulation), rather than simply being used as mixed methods of data collection.

A case-based approach was employed in this study. The comparative case study was conducted by interviewing eight (8) representatives at both senior and middle management level. All interviews were recorded and transcribed. Once the analysis was completed, findings were fed back to the interviewees for review in order to ascertain the veracity of the researcher's understanding of various issues.

Results

Several findings emerge from the study. First, the control packages of the business units were found to be virtually akin to each other but, however, equally functional in the face of different contingencies. Second, the packages seemed to rely more on informal and "organic" controls as opposed to formal and "mechanistic" controls. Third, whilst cultural controls were argued to provide a contextual frame for other controls, reward and compensation controls were asserted to remain relatively separate from other package elements. Planning, cybernetic, and administrative controls, on the other hand, appeared to be tightly linked in practice. Finally, the business units' management control systems packages were argued to be of assistance in fostering organisational ambidexterity.

Key words

Management control systems package, exploration, exploitation, organisational ambidexterity

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1. INTRODUCTION

1.1 OBJECTIVE AND RESEARCH QUESTIONS

This empirical case study examines the management control systems package (henceforth MCSP) and its performance implications at the strategic business unit (SBU) level in a Finnish listed company – Tekla Oyj. Drawing on the typology presented by Malmi & Brown (2008), the study endeavours both to improve our understanding of what kind of MCSP configurations exist at the SBU level and to compare and contrast how these control packages and their functionality stand vis-à-vis each other. Moreover, this thesis aims to assess the performance implications of these MCSPs by examining whether control packages of certain kind, if any, enable a firm to achieve ambidextrous strategy. That is to say, in this thesis performance is conceptualised as a firm’s ability to jointly pursue both exploitative and explorative orientation, i.e. having a capability of being ambidextrous.

Specifically, the first objective of the study will be addressed by examining the various forms that MCSPs take in SBUs of the case company. However, of important note is that this study also pays particular attention to the possible interplay between various control elements and techniques within the package. The typology proposed by Malmi & Brown (2008) allows us to divide controls and control systems into five categories: planning, cybernetic, reward and compensation, administrative, and cultural controls (see Appendix A). When these elements of control are regarded as operating together in order to achieve organisational purposes, they are seen as a “package” of controls (Bedford, 2006). Secondly, the study seeks to shed more light on the perceived functionality of MCSPs. This functionality is based on the ideas of Gibson & Birkinshaw (2004) and in this thesis it refers to the capacity of a control package to simultaneously demonstrate alignment and adaptability across an entire business unit. Finally, the study aims to find out whether a company’s ability to concurrently be successful at both exploiting the present and exploring the future could be partly attributable to its MCSP.

1.2 MOTIVATION

The notion of management control systems (henceforth MCS) operating as a package is not new (Otley, 1980). Whilst the idea as such has existed for almost thirty years, the existing body of literature has attempted to study the MCS from a holistic point of view only to a scant extent (Abernethy & Chua, 1996; Alvesson & Kärreman, 2004; Bedford, 2006). However, it is well-recognised that instead of focusing on a single MCS element or practice (such as Balanced Scorecard or budget) alone a broader package approach should be taken when studying and considering management control systems (Fisher, 1998; Flamholtz, 1983; Otley, 1999; Bedford, 2006; Malmi & Brown, 2008). According to Malmi & Brown (2008), studying MCS in tandem would facilitate better theorising and thus more reliable conclusions about individual MCS practises and the designing of MCS packages. This insight is supported by Otley (1999), who argues that meaningful connections between the use of control systems and overall results emerge only when the overall system is considered.

Otley (1999) argues that in respect of MCS studies the current literature has focused excessively on examining only financial performance implications of MCS. Moreover, he believes that the economic perspective alone is not adequate in providing “a sufficiently rich picture of the internal activities of organisations to provide reliable guidance to the designers of management control systems” (p. 363). Ten years later an increasing body of literature has also addressed other performance implications (such as learning and behavioural implications) but the financial perspective continues to dominate. This study goes beyond financial performance implications by paying specific attention to organisational ambidexterity as a measure for performance.

Today’s contemporary organisations are in the face of a rapidly changing environment. Hence, it is increasingly acknowledged that in order to be successful in the long-term, a company is required not only to achieve alignment in its current operations but also to adapt effectively to the changing environmental demands (Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008). In other words, future’s successful organisations are ambidextrous (Tushman & O’Reilly, 1996). This emerges a relevant question: what does it require to become or to maintain the capability of being

ambidextrous? According to Jansen et al (2008b), the effort that academics have exerted to answer the question is still in its infancy. Since the prevailing literature explicitly fails to consider the functionality of MCSPs as a possible antecedent of a firm's ability to simultaneously explore and exploit, researching the relationship between MCSPs and organisational ambidexterity will substantiate and complement our understanding of the existing antecedents.

While the study appears to be justified from the theory's viewpoint, it is arguably evident that the matters addressed in this study are also of pragmatic relevance. What kind of control package designs, if any, could potentially have a favourable impact on a company's ability to be successful in the short-term as well as in the long-run is a question that can easily be regarded as a major issue to be solved in contemporary organisations. Furthermore, Otley (2001) argues that "the interest amongst real organisations in understanding and developing their systems of performance management has never been greater".

1.3 CONTRIBUTION

By analysing eight interviews conducted in two SBUs of a midsize Finnish listed company this thesis contributes to a larger MCSP research project conducted in Finland and endeavours, both as a part of the larger project and alone, to address the abovementioned gaps in the literature. Consequently, the present case study contributes to the current literature in three ways. First, by examining the forms that MCSP take in practice the study contributes to the scarce, but increasingly demanded, academic discussion on MCSP configurations. The thin stream of literature that has examined the issue comprises for example Abernethy & Chua (1996), Alvesson & Kärreman (2004), Bedford (2006) and Sandelin (2008). According to Bedford (2006) the first two case studies were conducted in rather unique organisational environments (a public teaching hospital and a management consultancy firm, respectively) and, also, take an institutional perspective. Sandelin's (2008) case study on the other hand focused on control system variety in a growth firm context.

Secondly, this thesis seeks to add to the extant body of organisational ambidexterity literature. Specifically, the study endeavours to contribute to the academic discussion on how organisations

actually balance and synchronise exploitative and explorative activities. While there are a number of studies addressing organisational ambidexterity's antecedents, the current literature on the issue contains several shortcomings and thus fails to substantiate our understanding of the antecedents (Raisch & Birkinshaw, 2008). In addition, the proposed antecedents hardly represent an exhaustive list of things that enable a firm to address exploitation and exploration simultaneously. Therefore, this study contributes to the literature also by potentially complementing and/or confirming that list.

Finally, by analysing the functionality and configurations of MCSPs this study provides a reflection on the contingency theory. That is, on the one hand, the comparison of the MCSP configurations of two considerably distinct business units sheds further light on the extent to which MCSPs evolve in response to firm specific contingencies as opposed to business unit specific contingencies and, on the other hand, the comparison of the functionality of these packages enables a reflection on the fit or alignment between the contingent variables and the MCSPs.

1.4 STRUCTURE OF THE STUDY

The remainder of the study is structured as follows. The next section provides a brief overview what is meant by management control systems and their operation as a package in this study, including the presentation of the best-known package frameworks in the management accounting literature. The following section addresses the performance concept, which in this study refers to organisational ambidexterity, and, specifically, takes a closer look at the existing literature on the antecedents of ambidexterity. The fourth section aims to synthesise the theoretical concepts of MCSP and organisational ambidexterity presented in the previous sections.

The used research method, data collection as well as measurement and validation of constructs are presented in the fifth section. The sixth section will outline the results of the comparative case study. The seventh section discusses the empirical findings and, finally, the last section draws the concluding remarks and limitations of the study, and proposes a number of avenues for future research.

2. MANAGEMENT CONTROL SYSTEMS

This section defines what is meant by management control systems and their operation as a package in this thesis. Once the appropriate definitions have been addressed the section turns to present the most relevant package conceptualisations in the management accounting literature. At the end of the section both limitations and advantages of each presented framework will be discussed.

2.1 DEFINITION OF MANAGEMENT CONTROL SYSTEMS

What constitutes an MCS is a question that has been answered in various ways in the existing management accounting literature (Fisher, 1998; Malmi & Brown, 2008; Merchant & Otley, 2007). Due to the absence of a general and well articulated definition, the interpretation of research results and design of MCS is somewhat problematic (Fisher, 1998; Malmi & Brown, 2008). This view is supported by Bisbe et al (2007) who argue that it is important to pay particular attention to the conceptual specification of the studied construct since a careful definition will foster both more effective research into MCS and progress in understanding the results.

The earliest definition of MCS was provided by Anthony (1965), according to whom management control is “the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organisation’s objectives”. Anthony’s (1965) definition is of slightly narrow nature since it separates management control from strategic control and operational control. Flamholz (1983), on the other hand, emphasises the behavioural aspect of MCS by arguing that individuals and organisations share only partially congruent objectives why it is necessary to channel human efforts toward a specified set of institutional goals, which inevitably leads to a need for control. The behavioural viewpoint is also supported by Merchant & Van der Stede (2003, p. 7) who argue that “...management control involves managers taking steps to ensure that the employees do what is best for the organisation. This is an important function because it is people in the organisation who make things happen...If all employees could always be relied on to do what is best for the organisation there would be no need for MCS”. In addition, MCS have been

conceptualised as formal, information-based routines and procedures managers use to maintain or alter patterns of organisational activities (Simons, 2000, p. 4).

As the definitions above indicate, some conceptualisations are broader than others. In respect of the broadest definitions where, for instance, strategy implementation and learning processes fall inside the scope, Merchant & Otley (2007, p. 785) state that “almost everything in the organisation is included as part of the overall control system”. This study, however, applies the definition provided by Malmi & Brown (2008), which draws a distinction between management control systems and decision support systems. Hence, systems solely designated to support decision-making of senior executives and managers are left out. The rationale behind this separation lies in the monitoring and guiding of subordinates as Malmi & Brown (2008, p. 290) articulate: “unless the support system is used by an individual (manager) to guide another’s (subordinate) behaviour then it is a decision support system, regardless of whether it is used by senior managers or provided by senior managers for their subordinate managers”. In aggregate, Malmi & Brown (2008, p. 290) define MCS as follows:

Management controls include all the devices and systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organization’s objectives and strategies, but exclude pure decision-support systems. Any system, such as budgeting or a strategy scorecard can be categorised as a management control system.

As Malmi & Brown (2008) point out, the definition is broader than definitions provided by Anthony (1965) and Simons (2000), since strategic and operational controls targeted at directing employees and other than information-based routines fall inside the scope, respectively. However, the definition is narrower than the ones that take decision support systems into consideration.

The above definition proposed by Malmi & Brown (2008) is, however, not exhaustive. Specifically, it can be queried what distinguishes a management control from a management control system? The authors argue that systems, rules, values and other activities that management puts in place in order to direct employee behaviour should be called management controls. Moreover, if these are complete systems, then they should be called management control systems (Malmi & Brown, 2008). What

constitutes a complete system then? If a complete system requires elements such as input, process, output and, most importantly, feedback, what would this mean in the context of management control systems? For instance, would an organisation's culture be considered as an MCS only if there is a feedback element in place that enables managers to monitor and take actions based on the feedback information?

Despite these open-ended questions it is thought here that the distinction between management controls and management control systems is rather theoretical - not empirical. Therefore, this study follows Malmi & Brown (2008) in defining management controls as an upper concept that includes devices and systems that managers use to ensure that the behaviours and decisions of their employees are consistent with the organisation's objectives and strategies. Hence, it is not of highest importance to debate whether a specific means of controlling subordinates' behaviours and decisions is called a device, practice, mechanism or a system as long as it can be identified as an independent means of management control and it eventually serves the purpose inherent to management control - attainment of organisation's desired objectives.

According to Merchant & Van der Stede (2003; p. 14), managers implement different control mechanisms, or management controls, and the collection of these control mechanisms used is generally referred to as a management control system. Malmi & Brown (2008), on the other hand, argue that organisations have numerous MCS and the whole system could be called a management control system only if these systems were designed and coordinated intentionally. As different systems are often introduced by different interest groups at different times, they argue, the controls should not be regarded as a single system. Instead, the collection of these different controls and control systems should be defined as a package of systems (Malmi & Brown, 2008). This is exactly the issue to be addressed in the next section.

2.2 MANAGEMENT CONTROL SYSTEMS PACKAGE

As it is mentioned above, the holistic perspective on management control systems is not new (Otley, 1980). The academics have acknowledged to an increasing extent that MCS should be considered as

operating together in order to better understand the design and use of MCS (Fisher, 1998; Langfield-Smith, 2007; Otley, 1999; Malmi & Brown, 2008). Bedford (2006) emphasises that the different MCS elements constitute a package if they operate together in order to achieve organisational outcomes. Following this line of argument, Fisher (1998) and Flamholz (1983) state that if the linkages between the control system elements (such as budgeting and organisation's culture) are not adequate, then the system (here MCSP) may not fulfil its intended functions. That is, the MCSP may fail to influence behaviour in its intended ways.

The underlying rationale of the MCS package phenomenon can be crystallised as Malmi & Brown (2008, p. 287) put it: "MCS do not operate in isolation." Indeed, it is logical to think that a firm employs various MCS that may have reciprocal linkages (Abernethy & Brownell, 1997) and, thus, the operation of a single system is quite likely affected by its closest contingency factors, i.e. other MCS. It is worth reminding that this thesis pays particular attention to the interplay between these control elements. Hence, this study acknowledges the fact that a company employs a combination of interrelated MCS and that they to some extent serve the same purpose of aligning individual's activities with organisation's desired objectives (Abernethy & Chua, 1996; Alvesson & Kärreman, 2004). Consequently, this thesis draws on the idea that this combination can be conceptualised as a "package" of controls and follows Malmi & Brown (2008, p. 287) in defining MCSP as follows:

As a general conception, a management control systems (MCS) package is a collection or set of controls and control systems. The individual control systems may be more traditional accounting controls such as budgets and financial measures, or administrative controls, for example organisation structure and governance systems, along with more socially based controls such as values and culture.

Previous literature provides numerous conceptual frames for studying MCS as a package (Sandelin, 2008). Consequently, different opinions exist whether a certain conceptualisation provides a better framework for studying MCSP than another. The following sections provide brief introductions to the three well-known frameworks proposed by Merchant & Van der Stede (2003), Simons (2000) and Malmi & Brown (2008). In respect of the three frameworks, each control element and its key systems will be outlined. Also, since this study primarily builds upon Malmi & Brown's (2008)

typology, the limitations and problems of the abandoned frameworks as well as the advantages of the selected one are discussed.

2.2.1 Object-Of-Control Framework

Merchant & Van der Stede (2003) argue that the need for management control exists due to three main causes: lack of direction, motivational problems, and personal limitations. To address these issues, they propose the object of control framework, which divides control practices into four groups. Literally, the classification stems from the different control objects that can focus on the results produced, the actions taken or the types of people employed and their shared norms and values. The next four sections will outline these groups of control practices, namely results controls, action controls, personnel controls, and cultural controls.

Results controls

According to Merchant & Van der Stede (2003), results controls are an indirect form of control since they influence employees' actions by linking rewards to desired results. In addition to monetary compensation the rewards include, among others, job security, promotions, autonomy and recognition. The authors argue that results controls are an essential prerequisite for employee empowerment since they provide a substantial amount of autonomy to the employees. The autonomy occurs due to the fact that the employees are being held accountable for the results they produce, not the actions they take. In other words, the results controls do not determine the actions employees should take but focus their attention to the results to be achieved and, hence, motivate them to take appropriate actions they believe will generate the desired results.

Merchant and Van der Stede (2003) propose four steps that are required for the implementation of results controls. First, an organisation should define the right performance dimensions to be measured, i.e. dimensions congruent with the organisation's goals and strategies. Second, it is required that the organisation measures performance on these dimensions. Third, the organisation ought to set specific targets for every aspect of performance dimension that is measured. Finally, the

organisation should provide rewards and punishments to promote the kind of behaviours that are in line with the desired results.

Action controls

Whilst results controls are an indirect form of management control, i.e. they do not determine the actions employees should take, action controls function vice versa. Indeed, action controls aim to ensure that employees perform certain actions that are in the organisation's best interest. The effectiveness and usability depend therefore on the managers' knowledge of the desired actions as well as their ability to ensure that these actions occur. In order to implement action controls managers need to know which actions best serve the attainment of organisation's desired objectives. (Merchant & Van der Stede, 2003) According to the authors, action controls come in four different forms: behavioural constraints, preaction reviews, action accountability and redundancy.

Behavioural constraints can be applied physically or administratively. Physical constraints include, for instance, computer passwords and limits on access to valuable and classified areas. Administrative constraints, on the other hand, comprise elements such as the restriction of decision-making authority (e.g. limiting the amount of expenditures a manager operating at a certain level can approve) and separation of duties (e.g. different persons receive checks and make payment entries). Preaction reviews refer to both formal and informal reviews of actions. A typical example of a formal preaction review is the requirement of approvals for expenditures of certain nature (such as capital expenditure). A coffee break conversation between a manager and a subordinate on progress of a certain project would be a simple example of an informal preaction review. (Merchant & Van der Stede, 2003)

According to Merchant & Van der Stede (2003), action accountability, the third form of action controls, relates to the idea of holding employees accountable for the actions they take. The requirements for implementing action accountability controls are virtually similar to the requirements presented in connection with the results controls. Therefore, in order to implement such controls an organisation should first define what actions are acceptable or unacceptable, communicate those definitions to employees, observe or otherwise track what happens and, finally,

reward appropriate actions and punish unacceptable actions. The authors state that the communication of the actions for which employees are held accountable can be carried out in two ways, either administratively or socially. Work rules, policies and procedures as well as company codes of conduct are typical examples of administrative modes of communication. If the actions are not communicated in written form they can be communicated orally for example in meetings or in private, face-to-face discussions. Sometimes the desired actions are not communicated at all since certain professions (such as lawyer, doctor and auditor) incorporate the premise of acting professionally. (Merchant & Van der Stede, 2003)

Finally, the authors propose redundancy as the fourth form of action controls. Redundancy refers to the assigning of an excessive amount of resources to conduct a task. The idea is to increase the probability that a task will be satisfactorily accomplished. However, as Merchant & Van der Stede (2003) point out, this is not a very common form of action controls due to its expensive and inefficient nature.

Personnel controls

Merchant & Van der Stede (2003) argue that personnel controls are aimed at serving three basic purposes and have three major implementation methods. Firstly, personnel controls help to make it clear to employees what the organisation expects from them. Secondly, they are of help in ensuring that each employee has all the necessary capabilities (such as experience and intelligence) and resources (e.g. information, time) to perform a good job. Thirdly, personnel controls may be used to increase the likelihood that employees will engage in self-monitoring.

The authors propose that personnel controls can be implemented through three major methods: (1) selection and placement of employees, (2) training, and (3) job design and provision of necessary resources. According to Merchant & Van der Stede (2003), selection and placement can sometimes be regarded as the single most important elements of an MCS (here MCS package). Finding the right people in the right place to do a particular job is of highest significance. Therefore, firms devote a considerable amount of time and effort to conduct it on a proper basis. Training obviously addresses the abovementioned purposes of personnel controls by providing information about organisation's

expectations and the best work practices. Moreover, training can have a positive effect on employees' motivation through giving a greater sense of professionalism. Finally, Merchant and Van der Stede (2003) argue that job design and provision of necessary resources can be used to increase the probability that an employee will succeed. This could imply, for instance, that employees' jobs are not too complex and there are all the necessary job-specific resources in place.

Cultural controls

Personnel controls seek to increase the likelihood of employees' self-monitoring, whereas cultural controls are used in order to encourage mutual monitoring. As organisation's culture is based on shared traditions, norms, beliefs, values, ideologies, attitudes, and ways of behaving, it creates a powerful group pressure on individuals who do not act compliantly. (Merchant & Van der Stede, 2003).

It is, however, questionable whether managers are able to create or shape organisation's culture even if they wanted to¹. Merchant and Van der Stede (2003) admit that cultures remain relatively fixed over time, but argue, however, that managers have five different methods of shaping culture (i.e. cultural controls): (1) codes of conduct, (2) group-based rewards, (3) intraorganisational transfers, (4) physical and social arrangements, and (5) tone at the top.

Codes of conduct refer to formal, written statements that in general terms describe what is meant by corporate values and commitments to stakeholders and how these should be reflected in each employee's behaviour. Sometimes codes of conduct may go beyond the above definition and include detailed behavioural guidance on specific issues. If the violation of this guidance leads to punitive

¹ In this respect there are three perspectives on culture. According to the first, optimistic, view culture can be changed (see e.g. O'Reilly, 1989 and Peters & Waterman, 1982). For instance, O'Reilly (1989) argues that it is possible to change or manage a culture by choosing the attitudes and behaviours that are required, identifying the norms or expectations that promote or impede them, and then taking action to create the desired effect. In contrast, the pessimistic view regards culture as unchangeable. The idea is succinctly captured by Hatch (1997, p. 235), who writes: "Do not think of trying to manage culture. Other people's meanings and interpretations are highly unmanageable. Think instead of trying to culturally manage your organization, that is, manage your organization with cultural awareness of the multiplicity of meanings that will be made of you and your efforts." Finally, the realistic approach adopts a more cautious view on culture. Meek (1988, p. 469-470) represents the realistic approach by stating: "Culture as a whole cannot be manipulated, turned on or off, although it needs to be recognised that some [organisations] are in a better position than others to intentionally influence aspects of it.... culture should be regarded as something an organisation "is", not something it "has": it is not an independent variable nor can it be created, discovered or destroyed by the whims of management."

consequences the type of control would rather be classified as an action control. Group-based rewards can also be seen as an overlapping control practice due to its close relation to results controls. The difference lies, according to the authors, in their different focus on rewards given for individual accomplishment. Consequently, the primary objective of group-based rewards is not to motivate the group members to achieve the rewards, but to reinforce communication of expectations and mutual monitoring within the group. (Merchant & Van der Stede, 2003)

Intraorganisational transfers seek to transmit culture through employee rotation. It is assumed that moving managers among functions and divisions will provide managers with a better understanding of the organisation as a whole. Physical arrangements (e.g. office plans, architecture and interior décor) and social arrangements (e.g. dress codes and vocabulary) can also be of help in shaping organisational culture. Finally, the authors propose that a proper tone at the top, which comes across through managers' statements and behaviours, is a way to shape the culture of an organisation.

2.2.2 Levers of Control Framework

The control framework of Simons (1990, 1991, 1995, 2000) is a widely used frame in the existing management accounting literature². The framework (see Appendix B) consists of four control systems: (1) beliefs, (2) boundary, (3) diagnostic, and (4) interactive systems. Simons (2000, p. 301) emphasises that an effective control environment is achieved by integrating all the four levers of control, since “The power of these levers in implementing strategy does not lie in how each is used alone, but rather in how they complement each other when used together. The interplay of positive and negative forces creates a dynamic tension...”

The four levers create tension in that two of the levers (the beliefs and interactive control systems) create positive energy, while the remaining two levers create negative energy (Simons, 1995). In other words, the beliefs and interactive systems are used to address the organisational need for innovation whereas the boundary and diagnostic systems are used to ascertain the achievement of

² As for the studies addressing differences between diagnostic and interactive control systems, please see e.g. Abemethy & Brownell (1999); Bisbe & Otley (2004); Henri (2006). As for the studies addressing the whole framework and the relationships among the levers of control, please see e.g. Tuomela (2005) and Widener (2007).

pre-established objectives (Simons, 1990, 1991, 1995, 2000). The following sections provide a more detailed picture of these levers of control.

Beliefs and boundary systems

Simons (1995, p. 34) defines beliefs systems as “the explicit set of organizational definitions that senior managers communicate formally and reinforce systematically to provide basic values, purpose, and direction for the organization”. A beliefs system therefore communicates core values related to business strategy in order to inspire employees to engage in search for new opportunities. The communication of beliefs is often conducted through a mission or vision statement and credos (Simons, 1995; Widener, 2007). According to Simons’ (1995, 2000) definition, these ways of communicating beliefs may be considered as a system when they are (1) formal, (2) information-based, and (3) used by managers to maintain or alter patterns in organisational activities.

Boundary systems, on the other hand, establish limits to strategically undesirable actions. According to Simons (1995, p. 39), a boundary system “delineates the acceptable domain of strategic activity for organizational participants”. The communication of boundaries is often conducted through codes of business conduct (Simons, 1995; Widener, 2007). By imposing such codes of conduct with incentives of punitive nature managers try to ensure that subordinates are not engaging in activities that could jeopardise the integrity of the business and are not dissipating resources through projects or actions that are not in line with the business strategy (Simons, 1995).

To sum up, the beliefs and boundary systems both intend to motivate employees’ opportunity-seeking; however, the beliefs systems do that in a positive way through inspiration whilst the boundary systems do that in a negative way through the demarcation of the opportunity domain. In addition, it is worth noting that the beliefs and boundary systems are not cybernetic, i.e. there is no feedback process in place that enables corrective actions by managers. Irrespective of the lack of this feature these systems provide a domain for organisational search activity and, hence, form a basis for diagnostic and interactive systems - more traditional cybernetic management control systems (Simons, 1995).

Diagnostic and interactive systems

Diagnostic and interactive control systems both refer to feedback and measurement systems but the difference between these systems lies in how they are used by managers. That is, managers choose to use certain control systems in an interactive manner and others diagnostically (Simons, 1990). Diagnostic systems are designed to ensure predictable goal achievement and, thus, the implementation of intended strategies (Simons, 1995, 2000). Furthermore, these systems allow managers to monitor and reward the achievement of pre-established goals through the review of critical performance variables. Diagnostic systems, in tandem with the boundary systems, intend to constrain employees' behaviour and allocate scarce attention (Simons, 2000).

Contrary to the diagnostic control systems, managers pay frequent and regular attention to interactive control systems and, hence, are personally involved in them. This attention signals the need for all organisational members to focus on the issues addressed by interactive systems, i.e. issues that are of strategic importance. This is expected to foster active and frequent dialogue and debate on strategic uncertainties. Therefore, interactive control systems activate organisational learning and, eventually, the emergence of new strategies. (Simons, 1990, 1991, 1995, 2000)

To summarise, the primary purpose of using feedback and measurement systems diagnostically is to provide motivation and direction to achieve organisational goals, whereas an interactive use of control systems intends to stimulate dialogue and organisational learning. In respect of the organisational learning, Simons (1995) argues that diagnostic control systems facilitate single-loop learning, whereas interactive control systems facilitate double-loop learning³. Finally, Simons (1995) emphasises that managers choose usually only one management control system to be used interactively (typically project management systems, profit planning systems, brand revenue budgets, intelligence systems and human development systems (Simons, 1991)) and that the control system used interactively in one firm may be used diagnostically in another.

³ Argyris (1977) defines organisational learning as the process whereby members of the organisation respond to changes in the internal and external environments of the organisation by detecting errors which they then correct so as to maintain the central features of the organisation. When the process enables the organisation to carry on its present policies or achieve its objectives, the process may be called *single-loop* learning. When learning encompasses not only detecting errors but also questioning underlying policies and goals it may be called *double-loop* learning.

2.2.3 MCSP Typology by Malmi & Brown

Malmi & Brown’s (2008) conceptual typology of an MCS package is based on the work of Brown (2005), who developed the typology by analysing and synthesising nearly four decades of MCS research. According to Malmi & Brown (2008), the typology provides a sufficiently broad, yet parsimonious, approach for studying the phenomenon empirically. In addition, they state that the aim of the typology is to “facilitate and stimulate discussion and research in this area, rather than suggesting a final solution to all related conceptual problems” (p. 291). As can be seen from Figure 1, the framework encompasses five types of controls: (1) planning, (2) cybernetic, (3) reward and compensation, (4) administrative, and (5) cultural controls. The following sections will outline these controls in more detail (presented also in Appendix C).

Figure 1. Management Control Systems Package by Malmi & Brown (2008)

Cultural Controls						
Clans		Values			Symbols	
Planning		Cybernetic Controls				Reward and Compensation
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measurement Systems	
Administrative Controls						
Governance Structure		Organisation Structure			Policies and Procedures	

Planning controls

Malmi & Brown (2008) divide planning into action planning and long-range planning. The former has a tactical focus and it determines goals and actions for the immediate future (usually a twelve-month period). The latter has a more strategic focus and it establishes goals and actions for the medium and long run. The authors argue that planning can be considered as an ex ante form of control due to three specific reasons. Firstly, planning directs effort and behaviour by setting out the goals of the functional areas of the organisation. Secondly, by providing the standards to be achieved

in relation to the goals, planning clarifies the level of effort and behaviour expected from the members of organisation. Thirdly, planning can assist in achieving goal congruence across organisation's functional areas, thereby controlling the activities of groups and individuals.

In addition, the authors point out that planning can accomplish two distinct tasks. First, it may be used to support ex ante decision-making. Second, it may be used as illustrated above, i.e. to create goal congruence within organisations. To be loyal to the MCS definition presented above, in the first case planning should not be labelled as an MCS, whereas in the latter case it should.

Cybernetic controls

Cybernetic controls base their functioning literally on the cybernetic logic. According to Otley & Berry (1980), control, in its full cybernetic sense, means monitoring activities and taking action in order to ensure that desired ends are attained. Malmi & Brown (2008) cite Green & Welsh (1988) in defining cybernetic control as having five specific characteristics (see Appendix C). In addition, Malmi & Brown (2008) emphasise that a cybernetic system can either be a decision support system or control system depending upon how it is used. Consequently, they state that "the linking of behaviour to targets, and establishing of accountability for variations in performance takes a cybernetic system from being an information system to support decisions, to a management control system" (p. 292).

Cybernetic controls contain four systems of which each has a significant prior literature stream associated with it, namely (1) budgeting, (2) financial measures, (3) non-financial measures and (4) hybrids that encompass both financial and non-financial measures. Regardless of a considerable amount of criticism, budgeting still has a role to play in contemporary organisations (Ekholm & Wallin, 2001). Specifically, when used as a control system, budgeting focuses on planning acceptable levels of behaviour and evaluating performance in the light of those plans (Malmi & Brown, 2008).

Financial measurement systems hold employees accountable for certain financial measures. These could include for example economic value added (EVA) and return on investment. Non-financial

measures are perceived as important for today's organisations especially due to their ability to identify the drivers of performance as well as to overcome the shortcomings of financial measures. (Malmi & Brown, 2008) A typical example of a hybrid measurement system is the Balanced Scorecard (BSC), which has received considerable attention amongst academics and practitioners in recent years⁴.

Reward and compensation controls

Reward and compensation controls intend to motivate and increase the performance of individuals and groups within organisations by attaching rewards to the achievement of goals. It has been argued that reward and compensation controls are of help in controlling employees effort direction (the tasks individuals focus on), effort duration (how long individuals devote themselves to the task), and effort intensity (the amount of attention individuals devote to the task). (Bonner & Sprinkle, 2002 cited in Malmi & Brown, 2008)

Malmi & Brown (2008) posit that organisations tend to provide rewards and compensation for various reasons, i.e. not all rewards and compensation are linked to cybernetic controls. Organisations may, for instance, attempt to retain its employees through rewards. Therefore, it is important to consider "alternative reward and compensation schemes, their intended purposes, and their links to various controls" (Malmi & Brown, 2008, p. 293).

Administrative controls

There are three groups of administrative control systems that Malmi & Brown (2008) argue will be of assistance in directing employee behaviour; organisation design and structure, governance structure as well as procedures and policies. Organisational design and structure work as control systems through organising individuals and groups in a way that both encourages certain types of contact and relationships, and enables employees' consistent and predictable behaviour. Malmi & Brown (2008) emphasise that as the design and structure of an organisation are alterable from

⁴ For a more comprehensive view on BSC and the effectiveness of BSC, please see e.g. Davis & Albright, 2004; Ittner et al, 2003; Kaplan & Norton, 1992, 1993, 1996a, 1996b and Malina & Selto, 2001.

managers' perspective, they can be categorised as control systems, as opposed to consider them as a contextual variable. This view is supported by Otley & Berry (1980, p. 232) who state: "Indeed, organisation can itself be viewed as a control process, occurring when groups of people feel the need to co-operate in order to achieve purposes which require their joint actions."

In general, governance structures within the firm direct employee behaviour through the monitoring of behaviour and the formal lines of authority and accountability (Malmi & Brown, 2008). More specifically, the authors propose that governance structures encompass, for instance, company's board structure and composition, various management and project teams, and systems (such as meetings and meeting schedules) that enable various functions and organisational units to co-ordinate their activities both vertically and horizontally.

Policies and procedures apply bureaucratic approach to directing employee behaviour. Hence, policies and procedures include e.g. standard operating procedures as well as rules and policies. In addition, action controls (i.e. behavioural constraints, pre-action reviews, and action accountability) proposed by Merchant & Van der Stede (2003) reckon among policies and procedures. (Malmi & Brown, 2008)

Cultural controls

The debatable question whether organisational culture can be labelled as an MCS, i.e. whether managers are able to use culture as a device or system in order to ensure that the behaviours and decisions of their employees are consistent with the organisation's objectives and strategies was discussed above. According to Malmi & Brown (2008), culture is a control system when it is used to regulate behaviour. Therefore, the authors explicitly assume that it is rather a matter of whether managers desire to use culture as a control system or not. This study acknowledges that culture is relatively stable across time and might occasionally be beyond managers' scope for control, but, nevertheless, it is assumed here that culture can be used - at least to some degree - as an MCS.

Malmi & Brown (2008) suggest three aspects of cultural controls: (1) value-based controls, (2) symbol-based controls, and (3) clan controls. Value-based controls are based on Simons' (1995)

beliefs systems, which intend to communicate core values derived from a company's business strategy. Malmi & Brown (2008) argue that values have an effect on behaviour through a three-level process. The first level refers to a deliberate recruiting of individuals whose values are in line with those of the organisation. On the second level individuals are socialised in an attempt to change their values to comply with the organisational values. Finally, "values are explicated and employees behave in accord with them, even if they do not adhere to them personally" (p. 294).

Symbol-based controls refer to visible expressions that organisations create to develop a culture of a particular type. These could include for example a building / work space design and dress codes. For instance, according to Malmi & Brown (2008), an open plan office could be put in place in an attempt to create a culture of communication and collaboration. The third group of cultural controls, i.e. clan controls, rest upon an assumption that organisations have distinct subcultures, or clans, and that each clan has members who share a set of skills and values instilled in them through a socialisation process. Clan controls direct employee behaviour by establishing values and beliefs through ceremonies and rituals of the clan. (Malmi & Brown, 2008)

2.2.4 Discussion on Presented Frameworks

First of all, it is worth noting that Simons' (1990, 1991, 1995, 2000) framework emphasises rather the distribution of management attention among control systems than the different types of control systems available for senior management. In addition, the distinction between diagnostic and interactive systems relates to the way in which certain control systems are used by senior management. In other words, Simons argues that a specific MCS can be used either diagnostically or interactively⁵. As one of the main purposes of this thesis is to examine the forms that MCS packages take in practice, Simons' framework does not provide a sufficiently broad conceptualisation in terms of various management control devices and systems. On the basis of prior studies, Simons'

⁵ Bisbe et al. (2007) argue that Simons' *interactive use of control systems* is one of the most ambiguous constructs in the MCS research. The authors identify five properties of interactive control systems: (1) an intensive use by top management, (2) an intensive use by operating managers, (3) a pervasiveness of face-to-face challenges and debates, (4) a focus on strategic uncertainties, and (5) a non-invasive, facilitating and inspirational involvement. That is, the question whether or not an MCS is used interactively is contingent upon the intensity of use, intensity of communication as well as the content and nature of communication.

framework appears to be better suited for MCS studies addressing strategy formulation, implementation and change.

After all, the object-of-control framework proposed by Merchant & Van der Stede (2003) is relatively similar to the typology of Malmi & Brown (2008). However, there are three main differences that deserve consideration. Firstly, Malmi & Brown (2008) consider planning as a separate type of management control, whereas Merchant & Van der Stede (2003) take a narrower view by classifying planning (as well as budgeting) as a subtype of financial results controls. Malmi & Brown (2008) appropriately argue that planning as an MCS does not necessarily require any link to finance. Indeed, Malmi & Brown (2008) include strategic and operational planning in management controls as long as they are effective in directing what people do. Regardless of this difference neither of the frameworks explicitly fails to consider planning as a way to direct employee behaviour, which is contrary to Fisher (1998), who argues that control is separable from the planning aspect. Simons (1995), in turn, argues that strategic planning can never be an interactive control system, since it focuses on strategy implementation which is rather inherent to diagnostic control systems.

Secondly, Malmi & Brown (2008) propose a more extensive conceptualisation of administrative controls available to managers - including organisational structure, which has commonly been regarded as a contingent variable by prior MCS research. Moreover, Merchant & Van der Stede's (2003) action controls (i.e. behavioural constraints, pre-action reviews, and action accountability) represent only one third (policies and procedures) of what Malmi & Brown (2008) propose are available administrative controls. Thirdly, the frameworks appear to classify control systems of an equivalent nature under different groups of controls. Specifically, whilst Merchant & Van der Stede (2003) consider personnel controls (selection and placement, training, as well as job design and provision of the necessary resources) as a distinct group of controls, Malmi & Brown (2008) would include selection under cultural controls, placement and job design under administrative controls, and training under both cultural and administrative controls depending on the purpose of the training. The provision of necessary resources would not, however, classify as an MCS since it is merely a prerequisite for proper work and does not direct employee behaviour as such (Malmi & Brown, 2008).

In respect of Malmi & Brown's (2008) typology, it is important to bear in mind that the typology as such lacks reputation as a generally accepted framework. Notwithstanding the lack of prior empirical research, the typology is a synthesis of significant MCS studies and, hence, possesses a considerable amount of academic background. The strength of the framework lies in the broad scope of controls it includes in the MCSP. In addition, the way in which Malmi & Brown (2008) have pictured the different controls in Figure 1 is not irrelevant. Cultural controls at the top indicate that they are assumed to represent broad, yet subtle controls that are slow to change and, thus, provide a contextual frame for other controls. Planning, cybernetic, and reward and compensation controls are presumably tightly linked in practice and, thus, are presented in sequential order from left to right. Finally, administrative controls at the bottom "create the structure in which planning, cybernetic, and reward and compensation control are exercised" (Malmi & Brown, 2008, p. 295). In conclusion, the typology of Malmi & Brown (2008) provides us with an umbrella under which MCS packages can be studied in a more comprehensive fashion.

3. PERFORMANCE

This section addresses the concept of performance and pays particular attention to organisational ambidexterity, which represents the measure of performance in this thesis. Furthermore, this section seeks to make it clear why economic perspective alone is not sufficient in assessing the possible performance implications of MCS. Once the foundation for other than financial performance implications has been rationalised, the section turns to introduce the concept of organisational ambidexterity by elucidating the prior research on the topic and, especially, on the antecedents of organisational ambidexterity.

3.1 PERFORMANCE IMPLICATIONS OF MANAGEMENT CONTROL SYSTEMS

If a broad view on the current MCS literature is adopted, one can identify a wide variety of performance implications that have been argued to stem from MCS⁶. A certain line of MCS research has focused on examining performance implications at the individual level by addressing issues such as motivation (see e.g. Kenis, 1979; Merchant 1981; Malina & Selto, 2001 and Hall, 2008), and role stress and clarity (see e.g. Burney & Widener, 2007 and Hall, 2008). At the organisational level the research has focused, along with the financial performance, on issues such as effective direction of attention (see e.g. Simons, 1990; Kaplan & Norton, 1992 and Widener, 2007), organisational learning (see e.g. Simons, 1990, 1995, 2000; Kloot, 1999, Chenhall, 2005; Henri, 2006 and Widener, 2007) as well as strategic management (see e.g. Simons, 1990, 1995, 2000; Kaplan & Norton, 1996; Abernethy & Brownell, 1999, Malina & Selto, 2001 and Chenhall, 2005).

However, a major part of the literature has tended to restrict itself to considering only financial aspects of performance (Otley, 1999). According to Otley (2001), performance is inherently multi-dimensional since different aspects of performance are relevant to different stakeholders. Furthermore, he argues that effectiveness can be assessed only in terms of objectives and strategy, and that the objectives of even a commercial enterprise cannot be reduced to the purely financial.

⁶ A broad view refers to the fact that *performance* is inherently an ambiguous term. As Otley (1999) argues, the term does not specify to whom the performance is delivered.

Therefore, Otley (2001) asserts that the effectiveness of an organisation could appropriately be measured through a capability aspect which refers to an organisation's potential to perform in the future periods. Moreover, he believes that this variable would reveal whether increasing efficiencies have been extracted from the organisational activities at the expense of adaptability. Otley's argument lends support to the choosing of organisational ambidexterity as the measure of performance, since it has been argued that the ability of an organisation to remain successful over long periods hinges on its ability to engage in both exploration and exploitation (Tushman & O'Reilly, 1996).

3.2 ORGANISATIONAL AMBIDEXTERITY

“The basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability.” Levinthal and March (1993, p. 105)

3.2.1 Definition of Organisational Ambidexterity

As Levinthal & March (1993) succinctly write, excelling at both exploration and exploitation (i.e. being ambidextrous) is deemed to be critical for firm survival and prosperity (Duncan, 1976; Gibson & Birkinshaw, 2004; He & Wong, 2004; March, 1991; Tushman & O'Reilly, 1996). Whilst the term *organisational ambidexterity* was initially used by Duncan (1976), it is March's (1991) pioneering article that has launched the increasing research on organisational adaptation (Gupta et al, 2006; O'Reilly & Tushman, 2008). The idea of the simultaneous pursuit of exploration and exploitation is well summarised by Levinthal & March (1993, p. 105) who state that “an organization that engages exclusively in exploration will ordinarily suffer from the fact that it never gains the returns of its knowledge”, and, on the other hand, “an organization that engages exclusively in exploitation will ordinarily suffer from obsolescence”. While the ambidexterity literature is virtually unanimous that organisations must engage both in exploration and exploitation and reach a balance between the two, some scholars have argued that such a consensus is somewhat premature and does not necessarily

apply to all contexts. Gupta et al (2006), for instance, assert that, under certain conditions, ambidexterity could be achieved at the level of a broader social system that encompasses multiple organisations. Therefore, the argument goes, if the balance between exploration and exploitation is achieved at the social system level it is justifiable that single organisations could focus solely on exploration or exploitation⁷.

Achieving ambidexterity is by no means easy, since exploration and exploitation require fundamentally different and inconsistent architectures, competencies, structures, strategies and contexts (Jansen et al, 2008b; Raisch & Birkinshaw, 2008). Indeed, O'Reilly & Tushman (2008) argue that exploration refers to search, discovery, autonomy, innovation, and embracing variation whereas exploitation, in contrast, refers to efficiency, increasing productivity, control, certainty, and variance reduction. Notwithstanding the obvious challenge to manage these contradictory tensions, the scholars have started to propose an increasing array of means how organisations achieve organisational ambidexterity (Raisch & Birkinshaw, 2008). These antecedents of ambidexterity will be elaborated further in the section 3.2.3.

To sum up, organisational ambidexterity can be viewed as an organisation's ability to be aligned and efficient in its management of today's business demands while, at the same time, being adaptive to the changing environment demands (Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008). Tushman & O'Reilly (1996) adopt a more innovation focused view and argue that an ambidextrous firm has a capability to both compete in mature markets (where cost, efficiency, and incremental innovation are critical) and to develop new products and services for emerging markets (where radical innovation, speed, and flexibility are critical). In keeping with the original meaning of the word "ambidextrous", ambidexterity can be, in broad terms, defined as organisation's ability to pursue two disparate activities at the same time (Gibson & Birkinshaw, 2004).

⁷ Gupta et al (2006) use the semiconductor industry as an example of a broader social system that enables single organizations to focus solely on exploration or exploitation. The semiconductor industry, they argue, is experiencing an ongoing disaggregation into "fabless" semiconductor companies (which only do product R&D) and fabrication companies (which only do contract manufacturing).

3.2.2 Prior Literature

Prior research on organisational ambidexterity comprises various literature streams. The theoretical lens through which the contradictory terms “exploration” and “exploitation” have been examined includes organisational learning, technological innovation, organisational adaptation, strategic management, organisational design, competitive advantage and organisational survival (Gupta et al, 2006; Raisch & Birkinshaw, 2008). In the contexts of organisational learning, technological innovation, organisational adaptation, strategic management, and organisational design the scholars have related organisational ambidexterity to concepts such as single-loop and double-loop learning, incremental and discontinuous innovation, evolutionary and revolutionary change, induced and autonomous strategic processes, and efficiency and flexibility, respectively (Raisch & Birkinshaw, 2008). This thesis does not explicitly select a specific theoretical lens, but instead adopts a view similar to Lubatkin et al (2006). That is, instead of focusing solely on one element of ambidexterity this thesis measures the general ambidextrous orientation whose existence (or non-existence) may be partly attributable to an MCSP of an organisation.

What the abovementioned elements of organisational ambidexterity have in common is the need for organisations to manage a balance between the two paradoxical activities. For example, it has been argued that long-term organisational success is achieved through a well-balanced combination of the two learning processes (Gupta et al, 2006; Levinthal & March, 1993; March, 1991). Similarly, a concentration solely on evolutionary change could lead to inertia, whereas too many revolutionary change actions could create organisational chaos (Levinthal & March, 1993; Tushman & O’Reilly, 1996). Duncan (1976), in turn, argues that organisations require both organic and mechanistic structures (initially introduced by Burns & Stalker, 1961) - the former to create innovations and the latter to implement and deploy them.

In addition to the various contexts in which the concept of organisational ambidexterity has been examined, the prior literature has also looked into several other interrelations. Some studies have focused on the antecedents of ambidexterity (e.g. Beckman, 2006; Jansen et al, 2006; Lubatkin et al, 2006; O’Reilly & Tushman, 2004; Smith & Tushman, 2005), while some have paid particular

attention to competitive benefits (e.g. Gibson & Birkinshaw, 2004; He & Wong, 2004). Moreover, some scholars have considered how environmental factors (such as environmental dynamism and competitive dynamics) and other moderators (such as market orientation, resource endowment and firm scope) affect the relationship between antecedents, elements of ambidexterity and firm performance (Raisch & Birkinshaw, 2008).

In terms of operationalisation, prior research has tried to measure organisational ambidexterity by a number of different means. For instance, O'Reilly & Tushman (2008) demonstrate how the life expectancy of firms has constantly decreased and yet, regardless of the high failure rates, some firms survive and prosper over long periods of time. Hence, it could be thought that in order for a company to achieve long life, it must be able to adapt and change. However, even though a company's long life might be an indication of organisational ambidexterity, it could also be argued that not every long-lived company is necessarily ambidextrous (e.g. by reason of a specific industry). Therefore, prior research has often endeavoured to capture the potential existence of both exploitation and exploration through constructs encompassing several items that reflect exploitation and exploration (such as existing versus new products and services, and existing versus new customer groups). In order to capture the potential existence of organisational ambidexterity, the scholars have for example added all the exploitation and exploration items together, subtracted exploitation from exploration and used an absolute difference score, and computed a multiplicative interaction between exploitation and exploration. These operationalisation issues will be addressed further in the fifth section.

Since the purpose of this study is, *inter alia*, to examine the association of MCSP with organisational ambidexterity, this study focuses on and contributes to the research on how companies actually achieve organisational ambidexterity. Therefore, it is of highest importance here to outline the antecedents of organisational ambidexterity in more detail.

3.2.3 Antecedents of Organisational Ambidexterity

There are very few prior studies that have tried to uncover how firms are able to attain organisational ambidexterity (Adler et al, 1999; Jansen et al, 2008b). However, over the past decade researchers have started to devote more energy to the investigation of organisational ambidexterity's antecedents (Raisch & Birkinshaw, 2008). Specifically, prior literature suggests three broad approaches that enable ambidexterity within an organisation⁸: (1) structural solutions, (2) contextual solutions, and (3) leadership-based solutions (Raisch & Birkinshaw, 2008). It is important to note that these approaches are not necessarily substitutes to each other. Conversely, many academics argue that the achievement of organisational ambidexterity not only requires separate structural subunits but also different competencies, systems, incentives, processes and cultures as well as ambidextrous senior teams and managers to be in place concurrently (O'Reilly & Tushman, 2004; O'Reilly & Tushman, 2008; Tushman & O'Reilly, 1996). However, the next three sections will elaborate on these approaches on a separate basis.

Structural solutions

Ambidexterity has been typically viewed in structural terms (Gibson & Birkinshaw, 2004). That is, it has been proposed that organisations could manage the conflicting demands of exploration and exploitation by putting in place "dual structures" that enable certain business units, or groups within business units, to engage in exploration while others engage in exploitation (Duncan, 1976). Gibson & Birkinshaw (2004) refer this to as *structural ambidexterity*. Raisch & Birkinshaw (2008) reviewed the relevant ambidexterity literature and came to distinguish between spatial separation and parallel structures in respect of structural ambidexterity.

Spatial separation refers to two structurally independent units that pursue either exploration or exploitation (O'Reilly & Tushman, 2004). Bradach (1997), for example, conducted a field study of five large U.S. chain organisations and revealed how chains met their dual objectives of achieving

⁸ These approaches do not include the solutions that aim to achieve organisational ambidexterity by engaging in only one activity at a time. That is to say, means such as externalising either explorative or exploitative activities through outsourcing or by establishing alliances as well as temporary cycling through periods of exploration and periods of exploitation are excluded from the analysis of organisational antecedents.

uniformity and system-wide adaptation by using “plural form” across the company and franchise units. Parallel structures, on the other hand, are based on the idea that the paradoxical demands could be addressed within a single business unit by creating both the primary task structure to ensure efficiency and the supplementary structure (such as project teams or networks) to ensure flexibility (Adler et al, 1999). In other words, Adler et al (1999) argue that ambidextrous designs are organisational forms that build internally inconsistent architectures and cultures into business units in order to facilitate both exploration and exploitation.

Most of the studies addressing structural ambidexterity emphasise that structural separation alone is not sufficient in achieving organisational ambidexterity - there is a need for several mechanisms that coordinate and integrate exploratory and exploitative efforts across organisational units (Smith & Tushman, 2005; Tushman & O’Reilly, 1996). Therefore, the extant body of literature proposes a wide array of integration and coordination mechanisms to support structural ambidexterity. These integration mechanisms will be presented here under the structural solutions although some of them could also classify as behavioural contexts or leadership processes. Therefore, the behavioural contexts and leadership processes presented below embrace only antecedents which, according to the literature, contribute independently to the achievement of ambidexterity.

It has been largely noted that senior executives play a crucial role in fostering structural ambidexterity (He & Wong, 2004; O’Reilly & Tushman, 2004; O’Reilly & Tushman, 2008; Smith & Tushman, 2005; Tushman & O’Reilly, 1996). This notion is well captured by Smith & Tushman (2005, p. 524), who note: “Where structural differentiation permits firms to explore and exploit, the top management team serves as the point of integration between these contrasting agendas.” Correspondingly, O’Reilly & Tushman (2008, p. 191) echo the need for integration as follows: “The crucial task here is not the simple organisational structural decision in which the exploratory and exploitative subunits are separated, but the process by which these units are integrated in a value-enhancing way.”

What do these integration mechanisms include then? O’Reilly & Tushman (2004, 2008) propose a set of senior team processes and actions that enable firms to integrate and recombine resources in an attempt to promote ambidexterity. These include the following actions and processes: (1) a

compelling strategic intent, (2) a clear and common vision and values (relentlessly communicated), (3) a strategically aligned senior team with a common-fate incentive system, (4) separate aligned organisational architectures (business models, competencies, incentives, metrics, and cultures) with targeted integration, and (5) the ability of the senior team to manage the inevitable trade-offs and conflicts, i.e. an ambidextrous leadership. Similarly, Smith & Tushman (2005) emphasise the strategic decision making and, particularly, the cognitive frames and processes that allow top management teams to effectively deal with strategic contradictions. Moreover, Jansen et al (2008a) lend support to the above integration mechanisms by asserting that a senior team shared vision and contingency rewards are associated with a firm's ability to combine high levels of exploratory and exploitative innovations.

Tushman & O'Reilly (1996), besides stressing the importance of ambidextrous managers, emphasise the role that a strong, widely shared corporate culture plays in integrating the structurally separate units. The authors discuss two examples of firms in which a successful management of organisational culture assisted in achieving ambidexterity and competitive advantage as well as two examples of firms in which a cultural inertia resulted in failure. According to Tushman & O'Reilly (1996), a tight-loose culture that provides consistency, promotes trust, and encourages identification and sharing of information and resources, is crucial for ambidextrous organisations.

Jansen et al (2008b) delineate structural ambidexterity and integration mechanisms in a different way. Instead of predicting a direct relationship between structural differentiation and ambidexterity, they examined how formal and informal senior team integration mechanisms as well as formal and informal organisational integration mechanisms mediate the relationship between structural differentiation and ambidexterity. The result of the study suggests that the previously asserted effect of structural differentiation on ambidexterity is indirect, operating through both informal senior team integration (that is, senior team social integration) and formal organisational integration (that is, cross-functional interfaces) mechanisms.

Contextual solutions

Gibson & Birkinshaw (2004) provide another path to ambidexterity. They developed the concept of *contextual ambidexterity* and defined it as “the behavioural capacity to simultaneously demonstrate alignment and adaptability across an entire business unit” (p. 209). Instead of structural solutions, ambidexterity, they argue, is best achieved by building a business-unit context that encourages individuals to make their own judgments as to how best divide the contradictory demands for alignment-oriented and adaptation-oriented activities⁹ (akin to exploitation and exploration). This logic that relies on individual employees to make their own choices is consistent with Adler et al (1999) who propose two specific mechanisms for reconciling the inherent tension between efficiency and flexibility: (1) meta-routines for systematising the creative process and (2) job enrichment schemes that enable workers to become more innovative and flexible in their routine tasks. Based on a survey of 41 business units of 10 multinational firms Gibson & Birkinshaw (2004) argue that a context characterised by a combination of stretch, discipline, support, and trust facilitates contextual ambidexterity. According to Gibson & Birkinshaw (2004), stretch and discipline represent the “performance management context” whereas support and trust form the “social context”. Furthermore, the authors stress the importance of senior executives who put in place systems that allow supportive contexts to emerge.

Also, Jansen et al (2005, 2006) have contributed to the research on contextual ambidexterity by examining exploratory and exploitative innovation at a large European financial services firm. The results of the former study indicate that a combination of decentralisation and connectedness enhances a unit’s ambidexterity and its ability to pursue exploratory and exploitative innovations simultaneously. The results of the latter study suggest that managers may develop densely connected social relations in an endeavour to increase a unit’s contextual ambidexterity. In these studies, decentralisation refers to the extent to which authority is delegated to lower levels of an organisational hierarchy. Connectedness, in turn, is defined as the density of social relations that serves as a governance mechanism and facilitates the exchange of knowledge. Therefore, in light of

⁹ Gibson & Birkinshaw (2004, p. 209) define alignment and adaptability as follows: “Alignment refers to coherence among all the patterns of activities in the business unit; they are working together toward the same goals. Adaptability refers to the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment.”

the earlier studies, it seems that contextual ambidexterity could be attained by creating a context encompassing both formal (decentralisation, stretch, and discipline) and informal (connectedness, support, and trust) mechanisms to develop concurrent and complex behavioural responses that foster ambidexterity.

Leadership-based solutions

The critical role that senior executives play in nurturing ambidexterity was stressed in connection with both the structural and contextual ambidexterity. However, leadership processes are increasingly conceptualised as an independent antecedent of organisational ambidexterity (Raisch & Birkinshaw, 2008). For example, Lubatkin et al (2006) argue that the ability to jointly pursue exploration and exploitation in small- to medium-sized firms hinges on the extent to which their top management teams are behaviourally integrated. The authors conceptualise behavioural integration to comprise three interrelated and mutually reinforcing top management team processes, namely collaborative behaviour, information exchange, and joint decision making. Moreover, the results of the survey of 139 small- to medium-sized firms suggest that top management team behavioural integration, which represents the level of wholeness and unity of effort, facilitates the processing of disparate demands essential to attaining ambidexterity.

Beckman (2006), on the other hand, examined the founding team composition and, in particular, its members' prior company affiliations as antecedents of organisational ambidexterity. She found out that the founding teams with common prior company affiliations engaged in exploitation, whereas diverse prior affiliations encouraged exploration. A mix of both diverse and common team affiliations was found to be a precursor to organisational ambidexterity. To sum up, it seems that the following top management team related issues are essential when aiming at ambidexterity: (1) a founding team possessing both diverse and common prior company affiliations, (2) the level of the team's collaborative behaviour, (3) the quantity and quality of information exchanged, and (4) an emphasis on joint decision making.

4. MCS PACKAGE AND AMBIDEXTERITY

This section discusses how the previously presented variables, MCSP and organisational ambidexterity, interrelate with each other in light of the extant body of research. Since the two concepts stem from the very different literature streams and the extent to which the prior research has examined the relationship of the two is noticeably scarce, the synthesis made here is believed to be of considerable relevance before turning to the empirical part of the thesis. Therefore, this section provides the foundation upon which the analysis and discussion can be built in the forthcoming sections.

The following will outline the linkages between organisational ambidexterity and the different elements of an MCSP as presented by Malmi & Brown (2008). Although the linkages will be presented on a separate control element basis it is of important note that this study does not aim to explore whether a certain control element alone acts as an antecedent of organisational ambidexterity, but to examine whether a package of certain configuration(s) promotes ambidexterity. This view is in line with the one of Gibson & Birkinshaw (2004, p. 210), who argue that ambidexterity “is achieved by building a carefully selected set of systems and processes that *collectively* define a context that allows...alignment and adaptability to simultaneously flourish” (emphasis added).

4.1 PLANNING CONTROLS AND AMBIDEXTERITY

There are no studies that explicitly relate planning to the achievement of organisational ambidexterity. However, O’Reilly & Tushman (2008) argue that an aligned senior team with a compelling strategic intent is needed as an integration mechanism in an attempt to promote ambidexterity. Malmi & Brown (2008), on the other hand, assert that planning can be used to create goal congruence within organisations. Thus, it can be argued that planning could serve as a process through which the senior team of an organisation jointly reaches a consensus among its members on how to best resolve the tensions inevitably resulting from the contradictory demands of exploration

and exploitation, which, in turn, has been argued to contribute to the attainment of ambidexterity (Lubatkin et al, 2006; O'Reilly & Tushman, 2004, 2008). Furthermore, as Malmi & Brown (2008) divide planning into action and long-range planning, planning processes arguably take place on a recurring basis in organisations and may thereby provide a potential arena through which the importance of both exploration and exploitation can be justified and the required integration reached.

4.2 CYBERNETIC CONTROLS AND AMBIDEXTERITY

Neither are there studies that explicitly examine the relationship between cybernetic controls (budgets, financial and non-financial measurement systems, and hybrid measurement systems) and organisational ambidexterity¹⁰. Gibson & Birkinshaw (2004) measured organisation context partly by a performance management factor, which consisted of questions related to performance measurement. Hence, it can be reasoned that different cybernetic control systems contribute to the creation of an organisation context (Davila, 2005) which encourages ambidexterity. For instance, consider an organisation that utilises BSC and aims to implement an ambidextrous strategy. Translating the ambidextrous strategy effectively into action would mean that the different measures of the BSC should reflect the desired actions and behaviours which are in line with the strategy (see e.g. Kaplan & Norton, 1993) and, thus, thought to be essential in achieving ambidexterity. Therefore, at least at the individual employee level (Gibson & Birkinshaw, 2004), it is theoretically reasonable that various measurement systems could be used to promote ambidexterity.

Budgets, as they still have a role to play in contemporary organisations (Ekholm & Wallin, 2000) and serve multiple purposes in organisations, for example, operational planning, performance evaluation, communication of goals and strategy formation (Hansen & Van der Stede, 2004), are arguably control systems that can have an influence on an organisation context and, hence, on

¹⁰ Of important note is that the MCS literature is increasingly adopting an alternative view on formal MCS, which have traditionally been regarded as systems that impose standardisation and reject innovations. The emerging view, which sees MCS as systems that support organisations in their effort to respond and adapt to changing environments, is captured by Davila (2005, p. 37), who writes: "Rather than a rigid mould that rejects the unexpected, MCS may be flexible and dynamic, adapting and evolving to the unpredictable needs of innovation, but stable enough to frame cognitive models, communication patterns, and actions." Davila (2005) discusses the different roles that formal MCS may play in managing various types of innovation, i.e. incremental and radical innovations (cf. incremental and discontinuous innovations proposed by O'Reilly & Tushman (2004)). The author asserts that measurement systems (such as BSC) may be used as interactive systems (Simons, 1995) that highlight opportunities for incremental innovations as well as for radical changes, but, otherwise, he does not discuss how these various types of innovation could be achieved concurrently.

organisational ambidexterity (Gibson & Birkinshaw, 2004). Specifically, the argument of Jansen et al (2008, p. 8) that organisational ambidexterity refers to “the routines and processes by which organizations...allocate, reallocate, combine and recombine resources and assets across differentiated units” lends support to this view since resource allocation is generally viewed as a potential reason why organisations use budgets¹¹.

4.3 REWARD AND COMPENSATION CONTROLS AND AMBIDEXTERITY

Incentive systems are a commonly proposed integration mechanism in the ambidexterity literature. Indeed, while most studies build upon the assumption that ambidexterity is for the most part achieved through a structural arrangement, the number of studies suggesting that incentive systems have a standalone value in achieving organisational ambidexterity is virtually zero. Therefore, the studies presented in the following consider incentive systems as an integration mechanism needed to support the structural separation.

In illustrating how ambidexterity was operationalised in two organisations, USA Today, a national newspaper, and Ciba Vision, a company engaged in contact lenses and related eye-care products, O'Reilly & Tushman (2004) described how the organisations revamped their incentive systems by replacing the unit-specific goals with an incentive system rewarding managers primarily for the overall company performance. Similarly, Jansen et al (2008a) conclude that senior team contingency rewards are of assistance in reconciling the considerable challenges that ambidexterity poses on senior teams in organisations. O'Reilly & Tushman (2008) point also to the fact that there needs to be a common incentive system for the senior team in place that is anchored on the company-wide metrics, not on the success of a separate unit.

Despite the apparent consensus among academics on the role that reward and compensations systems play in ambidextrous organisations, not every study supports this line of argument. Jansen et al (2008a) found no significant evidence that senior team contingency rewards contribute to the

¹¹ For a more comprehensive review of the potential reasons for which organisations use budgets, please see Hansen & Van der Stede (2004, p. 418).

achievement of ambidexterity. They acknowledge that senior team contingency rewards may be beneficial under certain organisational and industrial conditions but, however, question whether an establishment of outcome interdependency through such rewards actually results in balanced decision-making and effective management of strategic contradictions in senior teams.

4.4 ADMINISTRATIVE CONTROLS AND AMBIDEXTERITY

Administrative controls, encompassing organisation design and structure, governance structure, and policies and procedures (Malmi & Brown, 2008), have several linkages to the current literature on organisational ambidexterity. In particular, the achievement of ambidexterity through a structural solution (both spatial separation and parallel structures) has been widely proposed (e.g. Adler et al, 1999; O'Reilly & Tushman 2004, 2008; Jansen et al, 2008b). Since a design and structure of an organisation are considered to be alterable by senior managers and are thus labelled as MCS (Malmi & Brown, 2008) the structural requirements that ambidexterity poses can potentially be addressed by an MCSP.

Moreover, most of the proposed integration mechanisms have linkages to administrative controls. Cross-functional interfaces, such as liaison personnel, task forces, and teams (Jansen et al, 2008b), integrating meetings (O'Reilly & Tushman, 2004), centralisation / decentralisation, i.e. the extent to which decision making is concentrated in an organisation (Jansen et al, 2005, 2006) as well as the composition of the top management team (Beckman, 2006) are all matters that, according to Malmi & Brown (2008), fall inside the scope of the governance structures. However, the composition of the top management team could also be considered as a matter of selection and placement in which case it would be regarded as a cultural control (Malmi & Brown, 2008).

Finally, the policies and procedures lie at the heart of formalisation which Jansen et al (2005, 2006) consider as an organisational antecedent of ambidexterity. Furthermore, the policies and procedures arguably have an influence on the supportive organisation context which consists of four behaviour-framing attributes: discipline, stretch, support, and trust (Gibson & Birkinshaw, 2004) and, hence, may serve the achievement of contextual ambidexterity.

4.5 CULTURAL CONTROLS AND AMBIDEXTERITY

The MCSP typology of Malmi & Brown (2008) considers three separate cultural controls: value-based, symbol-based and clan controls, each of which has received more or less attention in the ambidexterity literature. What the ambidexterity literature especially emphasises is the significant role that culture plays in ambidextrous organisations (e.g. O'Reilly & Tushman, 2008; Tushman & O'Reilly, 1996). In addition, an overarching vision and values, relentlessly communicated, have been proposed to increase the likelihood of ambidexterity (O'Reilly & Tushman, 2004, 2008; Tushman & O'Reilly, 1996).

Tushman & O'Reilly (1996) argue that cultural inertia, the organisational equivalent of high cholesterol, which comes along the success and growth, can form a significant barrier to both incremental and discontinuous change to be handled simultaneously. The authors capture this view particularly well by raising a relevant question of the common challenge faced by managers across countries, industries, and firm sizes: "How can managers diagnose and actively shape organizational cultures to both execute today's strategies and create the capabilities to innovate for tomorrow's competitive demands?" (p. 20).

Malmi & Brown (2008) posit that the organisational culture could be altered, for example, through beliefs systems (Simons, 1995), which intend to communicate core values derived from a company's business strategy (e.g. ambidextrous strategy). Moreover, they propose that several symbol-based controls (such as building / work space design and dress codes) as well as clan controls could be used to develop a culture of a particular type. In respect of the clan controls it could be argued that the top management team forms a distinct clan. This would imply another possible linkage between cultural controls and organisational ambidexterity, since the demanded behavioural integration of the top management team (Lubatkin et al, 2006), for example, could probably be attained through the ceremonies and rituals of the clan, if these were used to establish values and beliefs reflecting the behavioural integration (collaborative behaviour, information exchange, and joint decision making).

It is mentioned in the previous sections that many of the package elements may contribute to the creation of a specific context for ambidexterity. The cultural controls appear to make no exception since it has been argued that context refers to the systems, processes, and beliefs that shape individual-level behaviours in an organisation (Ghosal & Bartlett, 1994). In fact, this definition is not far from the one provided by Malmi & Brown (2008), which defines MCS as systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organisation's objectives and strategies. Therefore, it seems reasonable to conclude that an MCSP is, among other linkages to ambidexterity, crucial in creating an organisation context that allows exploration and exploitation to simultaneously take place.

5. RESEARCH SITE AND METHOD

This section elaborates on the selected research site, the case study method, and the data collection process conducted at the case company. Specifically, the section will first give a brief description of the case company, Tekla Oyj, and explain why such an organisation was selected for this thesis. Secondly, the section will discuss the appropriateness of adopting a case-based approach when studying MCS from a holistic point of view. Finally, the data collection process and the used constructs will be reported and validated.

5.1 TEKLA OYJ

Tekla Oyj is a Finnish listed company engaged in developing and marketing model-based software solutions, products and services. Tekla is an international company having customers in more than 80 countries and own offices in twelve countries. Tekla was established in 1966, making it one of the oldest software companies in Finland. The Group is headquartered in Espoo, Finland and it employs nearly 450 people. Net sales of the Group for 2008 amounted to nearly 60 million euros, of which international operations accounted for more than 80 per cent.

The research site was selected primarily due to pre-existing personal contacts that the researcher had with the CFO of the organisation studied. Hence, the case study arose from what can be labelled as accidental access (Otley & Berry, 1994). Since the contact was made at the group level in the organisation, it enabled the researcher to extend the study to encompass both business units and to carefully select the most appropriate interviewees. Furthermore, the group level contact provided a considerable access to several intra-organisational documents, which allowed the researcher to gain a fuller understanding of the issues under investigation. However, a seemingly easy access to data sources was not the only aspect to motivate the selection of the case company. Indeed, as it will be argued below, Tekla can be regarded as an ambidextrous organisation and, therefore, it appropriately serves the purposes of this thesis.

As this study pays particular attention to MCSP at the strategic business unit level, a brief explanation of both of the business units is provided in order for the reader to gain an appreciation of the organisational context within which the various control systems were operating. Since Tekla's model-based software products are used in industries such as building and construction, energy distribution, and infrastructure management, the company operates through two distinct business units, Building & Construction (B&C) and Infra & Energy (I&E). The following will address each unit in more detail.

5.1.1 Building & Construction

Tekla's Building & Construction business area develops and markets the Tekla Structures software product for information-model-based design of steel and concrete structures as well as the management of fabrication and construction. B&C has four main customer segments: steel detailers and fabricators, construction companies and constructors, precast concrete fabricators, and engineering offices. B&C is a large, global, and growth oriented business area which has customers in approximately 90 countries. Furthermore, the international subsidiaries in twelve countries are for the most part engaged in B&C's business.

In 2008, the revenue of B&C amounted to 46 million euros of which 95% were generated by international operations. The revenue of B&C accounted for almost 80% of Tekla Corporation's total revenue in 2008. However, it should be noted that B&C is strongly dependent upon the situation of the global building industry. Therefore, B&C is significantly affected by the current economic slowdown having an adverse effect predominantly on the building industry. This was particularly evident in the first quarter of 2009 during which the revenue of B&C decreased by 27% year-on-year.

5.1.2 Infra & Energy

Tekla's Infra & Energy business area focuses on the development and sales of model-based software solutions that support customers' core processes. Its key customer industries encompass energy distribution, infrastructure management, water and sewage as well as infrastructure construction. I&E's product-based offering also comprises customer projects where product features are developed in cooperation with individual customers or customer groups. Revenue of the unit for 2008 totalled 13 million euros, of which international operations accounted for 39%. The revenue of I&E stood for slightly more than 20% of Tekla's total revenue.

Since the business unit has customers in about 10 countries, it is evidently a less global business than B&C. Indeed, whereas B&C is a large, global, and growth oriented business area, I&E is relatively small, concentrates mainly to the domestic markets, and is primarily held responsible for profitability objectives. Moreover, since municipal and public organisations constitute a considerable part of I&E's customers, it is not as vulnerable in the face of economic fluctuations as B&C. Whilst B&C faced a significant loss in revenue in the first quarter of 2009, I&E's revenue for the same period increased by 25% year-on-year. In addition, the way in which I&E does its software business is in contrast with the one of B&C. Specifically, while I&E's products are tailored in collaboration with customers and the sales process of I&E's products can take several years, B&C markets and develops software products that are sold to customers in a "commerce" fashion without major customisation.

Both the net sales and operating result of B&C and I&E between 2000 and 2008 are presented in Figure 2 and Figure 3, respectively. Of important note is that Energy & Utilities and Public Infra business areas constitute the basis upon which Infra & Energy business area was created as of 2006.

Figure 2. Net Sales by Business Area (2000–2008)

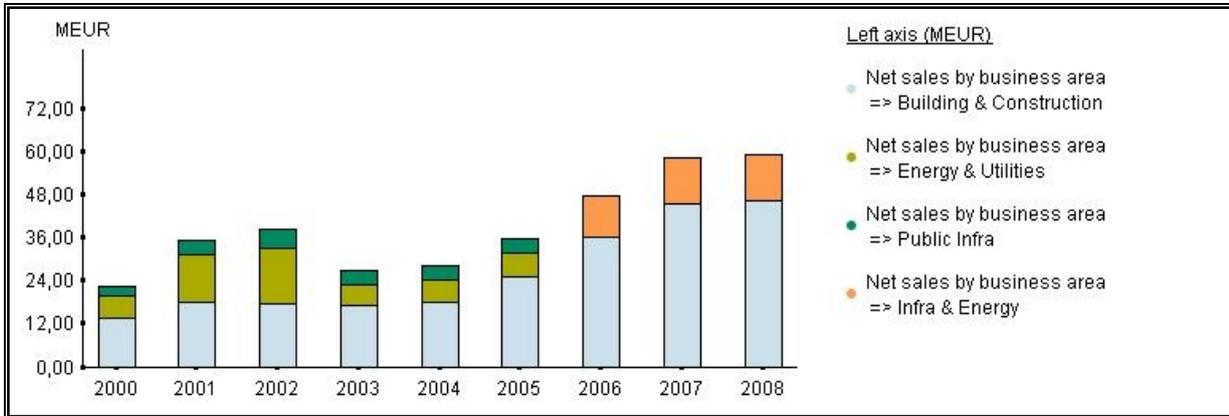
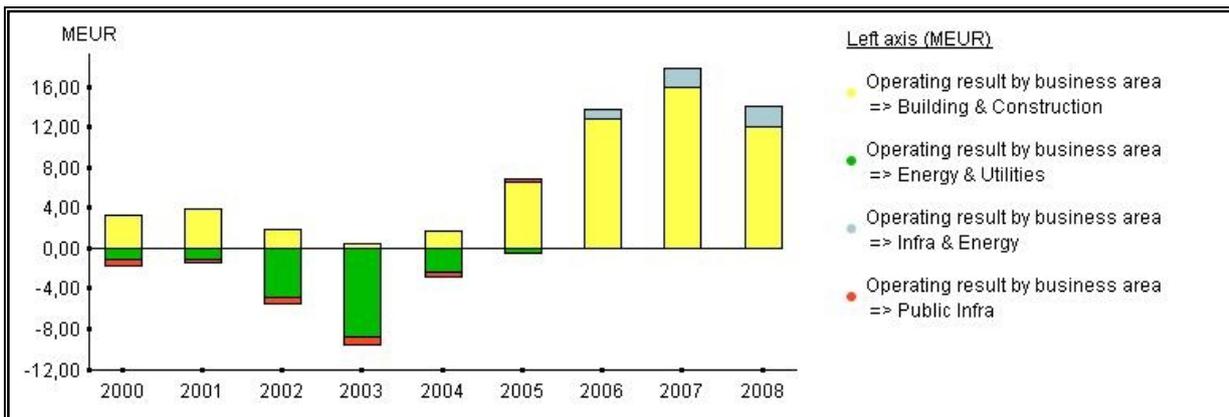


Figure 3. Operating Result by Business Area (2000–2008)



Taken together, Tekla’s business areas are relatively distinct from each other. Also, during the interviews the respondents strongly pointed to the fact that the business units have only few things in common and the cooperation between them is virtually non-existent. A Segment Director even stated that *‘we are like two different... we have been quite like two different companies’*. Moreover, the CFO of the company frequently referred to a portfolio management conducted at the group level. In respect of MCSP, the CFO commented that *‘in many management systems there is not a Tekla level template selected, I&E and B&C are ploughing their own furrows’*. The business area specific features as well as the potential synergies between the business units are presented in Table 1.

Table 1. Specific and Common Features of the Business Areas

	BUSINESS UNIT	
FEATURE	Building & Construction	Infra & Energy
Size	Large	Small
Target markets	Global	Domestic (mainly)
Customers emphasis	Private	Public and municipal
Relationship to customers	Distant	Close
Strategic priority	Growth	Profitability
Business environment	Unstable	Stable
COMMON FEATURES BETWEEN B&C AND I&E		
Portfolio Management Tekla Brand Common Values Common Technology Common IT Platform		

5.2 CASE STUDY RESEARCH

A case-based approach is said to be particularly appropriate in areas where existing theories are inadequate or incomplete (Otley & Berry, 1994; Scapens, 1990). Consequently, case studies are thought to be useful in generating hypotheses that can be tested later with larger samples (Scapens, 1990). Furthermore, Otley & Berry (1994) argue that the role of accounting and control cannot be fully understood in isolation, which calls for a case-based approach to be adopted. Similarly, Humphrey & Scapens (1996) believe that studies of accounting practice cannot be isolated from the influence of the wider social and political contexts. Scapens (1990), on the other hand, highlights the important role that case studies play in holistic research, a method seeking to locate social systems in their particular contexts and predominantly used by holistic researchers in the areas of social sciences. In addition, Cooper & Morgan (2008) argue that the case study research approach is useful where the phenomena under scrutiny are complex, dynamic and involve many variables.

In respect of the current study and its purposes, the case-based approach seems to provide a potentially fruitful method. This is due mainly to four specific factors. First, MCSP typology of Malmi & Brown (2008) is yet to be examined empirically as a theoretical framework. Second,

management accounting is increasingly regarded as normal social science (see Vollmer, 2009). Third, an MCSP is all about considering control systems from a holistic point of view, i.e. in their wider social, political and organisational contexts. Finally, an MCSP is a complex and dynamic matter, which comprises multiple variables within a single framework. Of note is also that within the case-based approach, it is believed that the studied phenomena are best captured by interviews supported by both internal and external documentation as opposed to a questionnaire. Although some questionnaire-based constructs were used, they were filled-in by the researcher during the interviews. This enabled the interviewees to comment on and the interviewer to elaborate on the questionnaire items, if necessary.

Keating (1995) posits four distinct types of case studies by categorising them by research scope. That is to say, case studies are categorised on the basis of their link to theory development process – theory discovery, theory refinement, and theory refutation. As this case study draws on a model that is assessed and potentially further specified through empirical examination, the current thesis can be considered what Keating (1995) labels as “theory specification case”. However, as the study also addresses the relation between MCSP and organisational ambidexterity, a phenomenon virtually ignored or at least inadequately explained in the current literature, the thesis has also features of what Keating (1995) labels as “theory discovery case”.

Scapens (1990) provides another categorisation of different types of case studies. Again, this thesis can hardly be classified solely into one of these types, since the study has features of both descriptive and exploratory case studies. That is to say, the current case study does not only endeavour to provide a description and comparison of the MCSPs used in practice, but also to explore reasons for possible attainment of organisational ambidexterity. However, to disentangle one type of case study from another is arguably a complicated task. As Scapens (1990) notes, these different types are not clear-cut, but, instead, the use of case study methods hinges on both the nature of the research and the methodology of the researcher.

5.3 DATA COLLECTION

Data on the company's control package and potential ambidexterity were collected from a range of sources. Firstly, these included eight interviews at different levels of the organisation. That is to say, four of the interviews took place with four members of Tekla's senior management team (level 1) and the other four with members of both business units' middle management (level 2). Secondly, a number of internal company documents were supplied by the CFO of the company. Finally, there were several business press reports and annual company reports available to the researcher. It is of importance to note that these various sources of evidence were used to provide multiple measures of the same issue (triangulation), rather than simply being used as mixed methods of data collection. Moreover, triangulation was sought by collecting multiple data points at different levels of the organisation.

Analysis and interpretation of the data was an iterative process, which fairly frequently involved collecting additional material in order to fine tune ideas and corroborate explanations. This was done to ensure, as far as possible, 'that the patterns adequately represent the observed world and are not merely a product of [the researcher's] imagination' (Ahrens and Dent, 1998, p. 9). Once the analysis was completed, findings were fed back to the interviewees for review in order to ascertain the veracity of the researcher's understanding of various issues.

5.3.1 Interviews

Eight interviews, altogether twelve hours long, were conducted during the spring of 2009 (see Appendix D). These eight interviewees spanned two hierarchical levels within the company (levels 1-2). For each business area (B&C and I&E), three interviews were conducted. These included: Executive Vice President, Director responsible for B&C business area (EVP, B&C), Senior Vice President, Director responsible for I&E business area (SVP, I&E) as well as two Segment Directors (SD 1 and SD 2) for both business units. Furthermore, it was regarded as fruitful and necessary to hold discussions with both Tekla's CFO and Vice President, Director responsible for Human Resources (VP, HR) along with the business unit directors. Each of the interviews were recorded and

transcribed on a verbatim basis in order to enable not only a more thorough analysis but also a use of direct quotations through which the case study is likely to gain more credibility.

The underlying purpose of the interviews was to meet the main subjects of the research and to observe the control mechanisms in order to ascertain the extent to which each control system contributed to the overall package of controls. The purpose was also to gain insight into the functionality of the control package as well as into the influence of the package configuration(s) on organisational ambidexterity. Interviews were hence of a semi-structured nature. This allowed the meetings to be guided by the beliefs and perceptions of respondents, as well as permitting factual information about the various control mechanisms to be obtained. Interviews of this nature also enabled the researcher to obtain further insight into the history, content and culture of the organisation. The agenda of the interviews included the following:

- The process and nature of both long-range and action planning.
- The design and use of cybernetic control systems.
- How employees and the interviewees themselves were evaluated and rewarded, and how they felt about this.
- The organisation and governance structure of the company, allocation of the decision rights within the company as well as the use and nature of policies and procedures.
- The significance of organisational values and culture as well as the existence and use of vision and mission statements.
- The potential existence of exploration and exploitation (i.e. ambidextrous orientation).
- The potential existence of structural ambidexterity as well as contextual ambidexterity, i.e. the functionality of management control systems packages.

In retrospect, the interviews were successful in shedding light on the desired information. Each individual interview provided a partial perspective regarding the many issues of interest, and in total, they gave a rich picture of the package of controls operating within the company. Furthermore, interviews identified differences among directors in their use of the company's various control mechanisms and their perceptions as to the efficacy of these mechanisms.

5.3.2 Intra-Organisational and Other Documents

The researcher was provided with several intra-organisational documents. These encompassed more specific illustrations of business areas' organisational structures, a number of documents elaborating on strategic issues (such as Tekla corporate model, corporate strategy management process, strategy framework, and strategy and business planning cycle). In addition, a detailed slideshow about the control and management practices of I&E was made available. Moreover, during the interviews some of the respondents supported their answers by showing documents addressing balanced scorecards and company-wide policies and procedures.

In respect of external documents, the researcher benefited from the information made available through the company's website. Specifically, the annual reports of the company as well as a financial analysis tool available on the website proved useful during the research process. Both the internal and external documentation provided additional information on the issues of interest. Indeed, they provided the researcher with multiple measures of the same issue (triangulation) and were of assistance in fine-tuning ideas and corroborating explanations that emerged from the interviews.

5.3.3 Measurement and Validation of Constructs

This thesis endeavoured to measure three distinct theoretical concepts. First, the MCSP operating in the case company was operationalised on the basis of the MCSP typology proposed by Malmi & Brown (2008). Since Malmi & Brown (2008) do not provide any explanation how different package elements should be operationalised and measured, a draft of interview questions addressing all MSC within the package was created based on a questionnaire provided by Bedford (2006). In order to ascertain the relevance and appropriateness of the questions, they were reviewed and commented by two scholars, both highly experienced with both the theoretical and pragmatic issues of management control systems and their operation as a package. In effect, these academics are the persons responsible for the larger research project to which this study is subordinate. Therefore, this study considerably benefited from the contribution of these two academics.

Second, contextual ambidexterity, i.e. functionality of an MCSP¹², was measured through a six-item measure provided by Gibson & Birkinshaw (2004). The interviewees were asked to indicate the degree (a 7-point scale) to which they agreed with the items presented in Appendix E. However, a minor alteration was made to the measure. In keeping with the core terminology of this thesis, it was regarded appropriate to replace the expression “management systems” with the expression “management control systems”.

Finally, this study captured the ambidextrous orientation by exploiting the 12-item measure provided by Lubatkin et al (2006). As with the previous measure, respondents were asked to assess their firm’s orientation using a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). However, the measure was slightly modified to better meet the demands of the current study. Both the original and altered versions of the measure are presented in Appendix F. The results were interpreted in the light of Gibson & Birkinshaw (2004), i.e. the company was considered as moderately ambidextrous if it got an ambidextrous rating above 4.00 and highly ambidextrous if it got an ambidextrous rating above 4.50. The ambidextrous rating was computed by adding all exploitation and exploration items together and dividing the sum by the number of items. The constructs measuring both contextual ambidexterity and ambidextrous orientation were also reviewed and approved by the abovementioned two academics.

¹² Of note is that the measure provided by Gibson & Birkinshaw (2004) was used beyond its original purpose of measuring contextual ambidexterity. This was due primarily to the fact that the measure provides essential information on the functionality of an MCSP. Consequently, this measure was used for two purposes in this study.

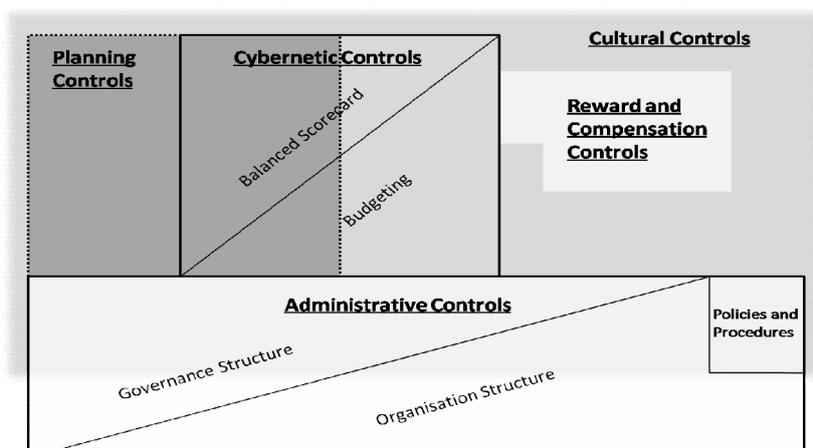
6. COMPARATIVE CASE STUDY

This section presents the results of the comparative case study. First, the studied and interpreted MCSP configurations will be briefly presented. In the second and third section, the observed MCSPs will be analysed vis-à-vis each other by paying particular attention to the similarities and differences between them. The fourth section describes how respondents perceived the functionality of the MCSPs operating within the business units and, finally, the fifth section addresses Tekla's organisational ambidexterity and its antecedents.

6.1 MANAGEMENT CONTROL SYSTEMS PACKAGES OF B&C AND I&E

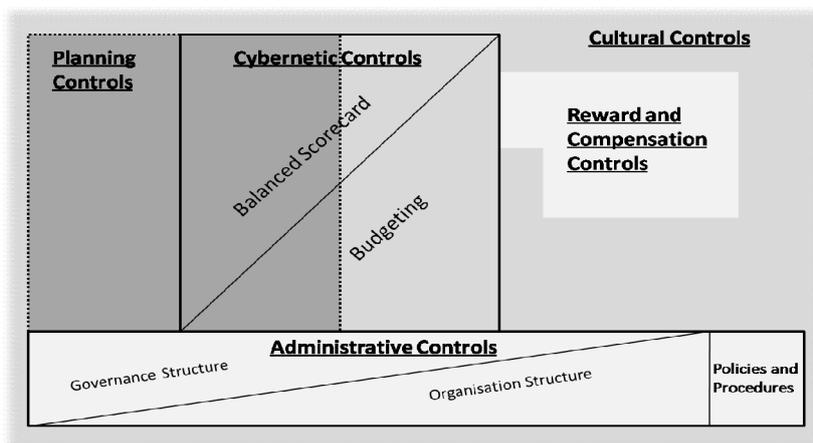
Drawing on the framework provided by Malmi & Brown (2008) this study endeavoured to uncover the configurations of control packages operating in the researched business units. Moreover, the researcher aimed at getting an appreciation of the interplay between the different MCS within the packages. As a result, two distinct MCSP illustrations were drawn in a fashion that seeks to capture both the significance and interrelatedness of the package elements (Figures 4 and 5 below).

Figure 4. Management Control Systems Package of B&C



The MCSP of B&C is illustrated in Figure 4. Of important note is that both the size and location of different control elements have a specific meaning in the figure. Indeed, the figure illustrates how (1) cultural controls are embedded in most of the other package elements, (2) planning controls and cybernetic controls overlap with each other and are linked to administrative controls, (3) and how reward and compensation controls are partially independent from other package elements (especially from cybernetic controls). Furthermore, the figure depicts (4) the emphasised role of planning, cybernetic and administrative controls, (5) a less important role of reward and compensations controls, and (6) an underlying but influencing role of cultural controls.

Figure 5. Management Control Systems Package of I&E



The MCSP of I&E is illustrated in Figure 5. Similarly, both the size and location of different control elements seek to illustrate the importance and interrelatedness of the package elements. Also the MCSP of I&E portrays how (1) cultural controls are embedded in most of the other package elements, (2) planning controls and cybernetic controls overlap with each other and are linked to administrative controls, and (3) how reward and compensation controls are partially independent from other package elements. What seems to be different is (4) the less important role of administrative controls in directing employee behaviour. Also, (5) both planning and cybernetic controls appear to play a slightly more important role in respect of I&E’s control package. As with the MCSP of B&C, (6) reward and compensations controls can be argued to have a less significant role and (7) cultural controls an underlying but influencing role in the MCSP of I&E. Of important

note is that the cultural controls cover the whole MCSP of I&E, whereas a part of the administrative controls in B&C's control package are not influenced by cultural controls.

The following two sections elaborate on the similarities and differences of these MCSPs, respectively. Notwithstanding this broad categorisation, there are, however, both similarities and differences between the business units in how they use various package elements. Therefore, the main thrust here is to label package elements as "similar" between the business units if they are argued to be more similar than they are different and, on the other hand, as "different" if they are argued to be more different than they are similar. It will be asserted below that the planning, cybernetic, reward and compensation, and cultural controls operate in a considerably similar fashion in both business units. Hence, the administrative controls constitute the main difference between the two packages.

6.2 SIMILARITIES OF MCSPs BETWEEN B&C AND I&E

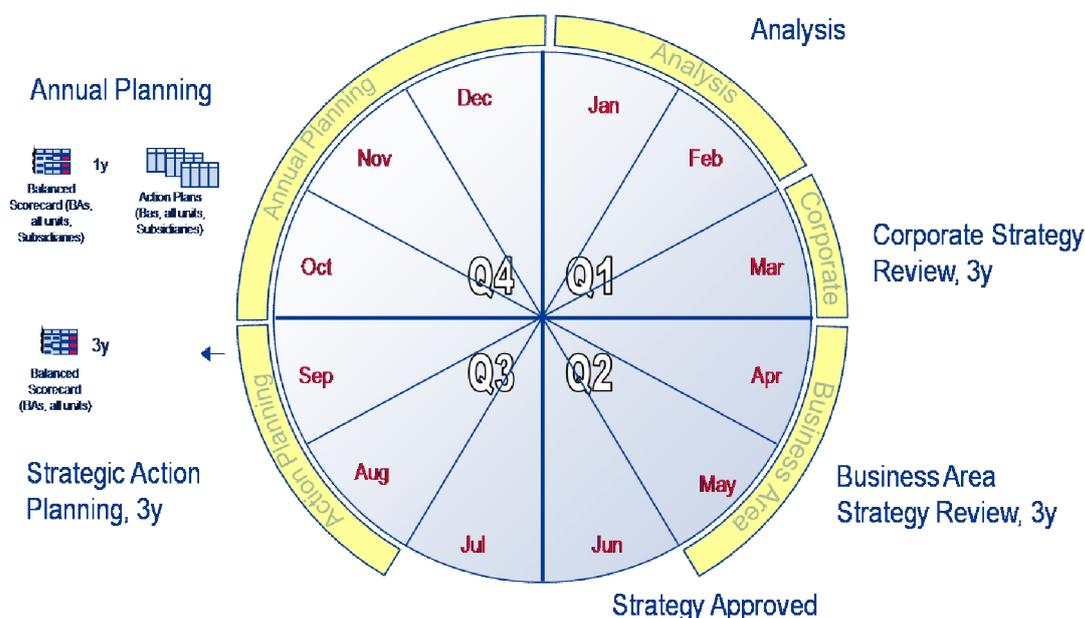
6.2.1 Planning Controls

Strategic planning of both B&C and I&E follows the general strategic planning cycle governed by the board of directors. Figure 6 depicts both the elements and timetable of the planning process. In terms of schedule, the strategy work of Tekla and its business areas takes place in early spring, after which the strategy is approved by the board of directors in June, followed by a strategic action planning after the summer and an annual planning in the fourth quarter. The duration of the strategic cycle has been set at three years but the three-year strategy is, however, reviewed on a yearly basis.

As it can be seen from the Figures 4, 5 and 6, both business units use BSC more as a planning device than in its traditional role as a strategic performance measurement system. This was succinctly put by the Segment Director 2 (I&E) who said that "*action plan equals balanced scorecard, it is the tool for action planning*". Moreover, the same Segment Director felt that '*the creation process of it [BSC] is relatively heavy in relation to the management of the operative business*', which suggests that the

emphasis of BSC is placed more on the planning and less on the performance management aspect of BSC. Also, though it is not to say that the BSC should be operated through a specifically designed IT solution, the way in which the BSC is administered in practice in both business units, i.e. through PowerPoint, to a certain degree lends support to the above interpretation.

Figure 6. Tekla Planning Cycle: Strategy



Moreover, the Figure 4 and 5 illustrate that budgeting, or rolling forecasting, is used less as a planning device and more as a cybernetic control system at the business area level. In respect of B&C, this can be due partially to the strong growth the unit has reached in the previous years, which has made forecasting particularly complicated. Also, the budgetary planning process and target setting is the primary planning tool at the corporate level, whereas business areas concentrate on planning the activities that are required in order for the business units to attain the desired ends. The Segment Director 1 (I&E) explained as follows: *'The strategy is bound by the budget. It starts to direct behaviour at the board, management and business area level and then we need to think how to generate those euros'*. More evidence corroborating the suggested view and use of these control systems will be provided in the cybernetic controls section.

Strategy work of both business areas is relatively strongly influenced by the board of directors. However, the highest level strategy work is conducted in a cooperative and discussing manner between the board and the management team. The Executive Vice President responsible for B&C explained as follows: *'...we have a relatively clear process, the board of directors guides at the corporate level. The board of directors considers the level of growth, investments and risk... It works quite well as a sparring mirror. We have a fairly strong board, which has good experience from our business, and they provide us with sparring.'* A similar view was provided by the CFO of Tekla who stated: *'The leaders of the business areas present the strategy of their own business areas to the board, and in that context a sparring and discussion take place between the board and management team whether the strategy is in the right ballpark and if the objectives are a) realistic and b) adequately challenging, and whether the focuses and intents set by the board are reflected in the strategy.'*

The cooperative and discussing way of planning can also be identified at the lower organisational levels, where the planning comprises the formulation of both long-term and short-term BSCs. Specifically, all respondents expressed the all-encompassing nature of planning which involves virtually every organisational participant. However, a major exception of this is the area organisation of B&C, of which only the largest area and the largest partner contribute to the planning process. The following comment by the Segment Director 2 (B&C) demonstrates the role of this participative planning: *'I think it [balanced scorecard] is strongly directive because it is participative at all levels. It is not just something that is created somewhere and then it would not be used for anything. Personally, I perceive it in an extremely strong way that it is very forcefully directive just because it has not been created in a dark room or somewhere far so that it would then be such an external tool. Rather, everyone has contributed to it and exerts effort.'*

The participative nature of planning was also evident in the I&E unit as comments such as *'...this is such a small team. And they participate in everything, together we think and ponder.'* (SD 1, I&E) and *'...at the segment level very robustly. The strategy and action plan of I&E are done for the most part by the management team, I mean the management team of I&E, but from that onwards we do it together'* (SD 2, I&E) illustrate. Moreover, the researcher was provided with a document elaborating on the management and control of the I&E business area. According to this document, the strategy is

created by the management team of I&E, but *the evaluation of the business area's strategy is conducted by the whole unit* and finally approved by Tekla's management team and board of directors. A planning process of this kind can be argued to be effective in direction of employee behaviour since participation and influence in strategy work is likely to increase commitment and therefore action (Bukh & Malmi, 2005).

Respondents were unanimous in their perception of the interrelatedness of long-range and short-term planning. For instance, a comment such as *'we have a three-year horizon... and it is reflected in budgets and action plans. From all of these we depress the key actions for 2009... And when we have nailed them down at the year level we then depress them to quarters in the form of an action plan'* (EVP, B&C) suggests that the planning process is done by linking the different elements of planning to each other in a consistent fashion. Indeed, throughout the interviews a view came across that the previous stage of the planning process acts as the basis for the next stage. According to Bukh & Malmi (2005), it is more likely that the behaviour of the employees are consistent with the objectives and strategies of the firm if they understand how their actions are related to more broad objectives of the firm.

The Segment Director 2 (I&E) clarified the interrelatedness as follows: *'It [strategic planning] is sort of a basis when we do action planning, which is the balanced scorecard. There is always a link how this is related to the strategy. This way we seek to ascertain also the fact that all strategic issues will be included in the action plan of the unit.'* Also, the Senior Vice President responsible for I&E explained the link between the strategic planning and short-term planning in a similar fashion: *'The structure of our strategy is such that there are vision elements, first comes this introduction and then there are six vision elements. Each vision element is corresponded by certain strategic objectives and actions. And they are relatively high level strategic objectives and actions, but they strongly direct this annual level action planning.'*

In respect of strategic objectives, the financial ones seem to dominate – at least in terms of measurability and specificity. Comments such as *'They [strategic objectives] often culminate in money. Targets are described through money'* (CFO), *'it is relatively challenging to set measurable targets, other than numerical... I would say that most of those [other than numerical strategic]*

objectives remain at sort of a gut feeling level and to be said, whether this has progressed to the desired direction' (SD 1, B&C), and *'financials, profit and so on are fairly accurate... Then the others are more like this, their measurability is not as accurate'* (SD 2, B&C) point to the fact that all but the financial strategic objectives are not highly explicit at the corporate or business unit level.

Also, the respondents working at the I&E business unit commented on the strategic objectives that *'more and more the challenge is the measurability, how to get right information that can be measured and followed that they have become materialised... we have a couple of clear strategic objectives... those can be measured in terms of revenue'* (SD 1, I&E), *'there are revenue targets, profitability targets, certain market targets, that we achieve something new'* (SD 2, I&E), and *'Strategic objectives are not measured on the three-year perspective and we have not even tried to measure... No measurable objectives are set there - quite the contrary, it is an issue of the yearly action plan. That is, the annual plan, the action plan needs to implement the strategy'* (SVP, I&E). Despite the lack of other than financial strategic objectives, it was emphasised in both business units that the precision and measurability of these objectives increase as the strategy is cascaded down through BSCs.

An essential part of the strategy work that is not included in the Figure 6, are the mission and vision statements. In B&C they are extensively used and communicated to employees *'in order for them to have an understanding of the core – what we do and why we do'* (EVP, B&C) and *'to reinforce the company's way of working and culture, and persistency in order to deliver the same message all the time'* (SD 2, B&C). Furthermore, especially the vision statement and vision elements can be argued to play a role in B&C since they are the basis upon which the strategy work and BSCs are built.

On the other hand, comments such as *'They [mission and vision statements] are a bit long... I hardly can remember what they are'* (SD 1, I&E) and *'in a way our vision and mission are sort of, especially in our unit but also at the Tekla level, I can't even remember them just like that even if I tried to mug them up to my head'* (SD 2, I&E) suggest that the mission and vision statements of I&E are likely to play a less significant role than it was argued in connection with the B&C. The Senior Vice President responsible for I&E confirmed that the mission statement is not actively used but, however, claimed that the vision statement is used and depicted through certain vision elements in

order to make it adequately concrete. Therefore, the business units seem to differ in the degree to which they use vision and mission statements as a part of their package of controls.

Taken together, the planning process of the both business units as a whole appears coherent and requires a considerable amount of management time. The strategic planning is done in an all-encompassing and participative way especially in the headquarters. The planning process of B&C partially excludes the area organisation from the strategy work. However, as the process advances the area organisation is more involved in the planning process. Therefore, it can be argued that the strategic planning along with action and annual planning constitute an essential part of the MCSP which directs employee behaviour within both the B&C and I&E units.

6.2.2 Cybernetic Controls

There are two distinct cybernetic control systems operating in both business areas. First, the rolling forecasting is a system that spans through the whole organisation. The CFO explained the system in the following way: *'A couple of years ago we have tried to get rid of the so called heavy budgeting. We refer it to as annual planning, which is updated with forecasts quarterly on a rolling basis... budgeting is taken to the level, where every company and every subsidiary abroad budget. Also the business areas budget and there it is taken to the level of an individual sphere of responsibility – we refer it to as cost centre level.'* The operation of the rolling forecasting as a cybernetic control system stems from five specific characteristics (based on Green & Welsh, 1988): (1) Tekla uses it in order to quantify the underlying activity, (2) it sets and updates the standards of performance and targets to be met in different organisational units, (3) various kinds of management teams, councils and area navigations form a feedback process that enables comparison of the outcome of the activities with the standard, (4) these different forums also enable variance analysis arising from the feedback, and (5) the interviewees claimed that they actively react to the results of the variance analysis and modify the underlying activities if necessary.

As it was noted in the foregoing, the annual planning, or rolling forecasting, plays a key role in the management of operative business, rather than as a tool for planning process at the business unit

level. On the other hand, it was argued that the BSC is merely used as a tool for planning. Therefore, the rolling forecasting seems to represent the major cybernetic control system operating in the business units. The Senior Vice President responsible for I&E perceived the rolling forecasting as particularly functional as the following comment illustrates: *'...we have the right forecasting process. We forecast financially, revenue forecasting, cost forecasting, profit forecasting, for me it is a splendid tool for managing business. And previously we did not have that at all, it was just a gut feeling where this is going. Now we get facts and when we take farther and farther the view under our scrutiny, it has been, if the operative profitability is considered, by far the best control system.'*

When asked whether either of the cybernetic control systems plays a more significant role in the management of the business area, the Segment Directors 1 and 2 (I&E) commented: *'They both have a role and the financial figures have a more forceful role'* and *'In my opinion sales, in which I have a background myself, it is more the budgetary-based follow-up'*. Also, irrespective of the complicated forecasting environment of the B&C business unit, also the interviewees from that unit perceived the budgetary control as more important of the two cybernetic control systems. This is well captured by the Segment Director 1 (B&C) who stated: *'I don't feel that I control those areas through balanced scorecards... I say, the areas are very much controlled by financials, there is a profit contribution measure for them and they need to generate that figure and it certainly directs. Those are profit centres and profit contribution directs all of them at the end of the day... At the B&C level the most effective controls are the financial targets. There is the budget and this financial, that is what I feel controls the areas most at the B&C level.'*

Furthermore, the CFO commented on the most effective control system as follows: *'If we talk about the short-term control mechanisms, not about the strategic cycle, then unfortunately they are the plans towards which we reflect. They are the most effective tool in our case'*. Therefore, it seems that budgeting, i.e. rolling forecasting plays a key role in both business units when it comes to the direction of employee behaviour and the management of operative business.

Second, both business units use the Balanced Scorecard (BSC), which, in its initial role as a strategic management system, endeavours to translate vision and strategy of a business unit into objectives and performance measures in four distinct areas: the financial, customer, internal-business-process,

and learning and growth perspectives (Kaplan & Norton, 1996b). Malmi (2001) argues that for a measurement system to be a BSC it should contain financial and non-financial measures, these measures should be derived from strategy and the measurement framework should contain perspectives derived from the original four. In addition, Malmi (2001) argues that a BSC can be applied in two distinct fashions. First, it can be used in a “management by objectives” manner, which, inter alia, involves target setting for BSC measures. Second, it can act rather as an information system than a steering device.

The BSCs operating in the business units do to meet the above criteria. The BSCs comprise both financial and non-financial measures, and they appear to be derived from the strategy (see the above arguments in respect of planning controls), but the perspectives are, to a degree, not clearly derived from the original four. Whilst the BSCs of I&E include the original four perspectives, as the Segment Director 1 (I&E) explained: *‘financial, then we have the customer perspective, internal operations, how it works, and then the competence and the growth of learning’*, in the B&C unit the selected perspectives are different, as can be noted from the following comment: *‘Then we looked at the balanced scorecard through four areas. Let’s take competitiveness, innovation ability. Then let’s take our actions and standards, like processes, customer value, and just numerical figures’* (SD 1, B&C).

Comments such as *‘We seek to define a measure for every [BSC item], but we easily might end up having a measure, that we measure how revenue has developed’* (SD 1, I&E), *‘The measuring of strategy clearly through a measure that everyone understands... it is more like a guideline at the moment. The financial measures are very clear, then there are more like guidelines and subjects’* (SD 2, B&C), *‘There [in the BSC] are a lot of such that is not easily measurable. I mean measurable in a way that [the items] would have a figure or schedule or such’* (EVP, B&C), *‘Is it necessary to measure everything? Euros are easy to measure and certain facts, but those more vague issues might be a bit hard to measure and to follow as well’* (SD 2, I&E) suggest that not every BSC item has a measure and a target. In addition, the follow-up of BSCs is done on a quarterly basis and, as it was noted above, budgeting plays a more important role in these follow-up sessions. Furthermore, the BSCs do not encompass targets for individual employees, but objectives that are shared between other subunit employees. Finally, the Senior Vice President responsible for I&E explained the role of

BSCs as follows: *'Perhaps the challenge of the action plan is a bit the fact that it tends to be development-oriented. There are development issues of operations and hence we do not go through it in these monthly meetings, we concentrate on them once in a quarter'*.

Since some of the BSC items do not necessarily have a measure, target or both, the tool is hardly used in a "management by objectives" manner. For the same reasons, hardly are they used as an information system. Thus, the described BSC of both B&C and I&E cannot be categorised according to Malmi's (2001) classification. Instead, in light of the above evidence, it can be argued that the BSCs are used merely as a planning tool in both business units.

However, as it was suggested in the foregoing, in its role as a planning tool the BSC seems to work relatively well. Though the BSCs of the business units cannot be regarded as BSCs in their original meaning, the contention of Kaplan & Norton (1996b) that the BSC provides a number of mechanisms for linking long-term objectives with short-term actions appears to be valid. Indeed, the development of the BSC in a participative and all-encompassing fashion forces the managers to develop a consensus around the business area's strategy, and allows the strategy to be communicated throughout the organisation. This communication is said to be of assistance in ensuring that employees understand the long-term strategy, the relations among the various strategic objectives, and the association between the employees' actions and the chosen strategic goals (Kaplan & Norton, 1996b).

This view is supported by Bukh & Malmi (2005), who assert that the involvement of subunit managers in creating business unit level strategy and, to a certain extent, the freedom to come up with means by which to contribute to the higher level objectives, are a prerequisite for a BSC and associated strategies to translate into action. In respect of Tekla, the interviews strongly indicated that employees (not only managers) not only fully contribute to the development of means by which to attain strategic goals, but also partially have a say in choosing the strategic targets. It can be regarded as important that such a dialogue takes place between the employees working at different organisational levels, since "this may contribute to bridging differences of perception and understanding so that goal congruence increases" (Nørreklit, 2000, p. 83).

Taken together, the budgeting (i.e. rolling forecasting) can be argued to play a more significant role as a cybernetic control system than the BSC in the management and control of the business areas. Secondly, the BSCs operating in the business units do not fully serve the purpose of a strategic performance measurement system, but are of significant assistance in the planning process. In effect, the BSCs described above resemble more the French *tableau de bord* than the original BSC introduced by Kaplan & Norton. This is due mainly to four specific factors (based on Bourguignon et al, 2004). First, there is room for negotiation and dialogue in the creation process of *tableau de bord*, as opposed to the top-down approach emphasised in respect of the BSC. Second, whilst the rewards are not based on performance with regards to *tableau de bord*, Kaplan and Norton (1996a, 1996b) argue that the reward systems should sooner or later be linked to scorecard measures¹³. Third, discussion is considered more important than implementation in respect of *tableau de bord*. Fourth, the *tableau de bord* does not explicitly rely on any specific strategic model and areas of measurements but on managers' conception of strategy, whereas the BSC is more a tool with predetermined categories.

6.2.3 Reward and Compensation Controls

Tekla's incentive plans are two-fold. On the one hand, there is a bonus pool arrangement covering multiple individuals across the firm and, on the other hand, a provision system for employees engaged in sales activities¹⁴. Of particular note is that the system is corporation-wide and, hence, is applied in both business units in a similar fashion. The bonus pool arrangement has the following features: (1) the method of determining the total amount of bonus pool is based on an explicit formula (involving accounting earnings and share price development), (2) the total amount of bonus pool is, however, not agreed-upon ex ante, but rather is left to the discretion of the board of directors, (3) the manner in which the bonus pool is allocated among the covered individuals hinges on the subjective performance evaluation of immediate supervisors.

¹³ Even though this will be explained in more detail in the next section, it can be noted that the reward system is not linked to scorecard measures in the business units.

¹⁴ These people include sales personnel and consultants who take care of the "repatriation of sales". These consultants are entitled to a fraction of the net sales budgets, but are not rewarded on the basis of sales budgets.

The CFO elaborated on the bonus pool arrangement as follows: *'...some years ago Tekla had a very detailed KPI system... In a sense it was problematic that the company incurred losses, but anyway quite different bonuses were paid on the basis of these KPI realisations. At that stage the system was taken to the other side... In a way it is considered what sort of starting and target level for the development of the share price is appropriate and then there are certain general upper level formulae. According to these measures it is calculated whether a distributable bonus pool is accrued and once the net profit for the period and other information have been revealed the board decides that the bonus pool for the previous financial year is X or Y. Taking, however, into account, that the decisions can be deviated from... Then it starts to cascade down. The board decides the first and the roughest apportionment of how much of the pool is given to the business areas and how much to the support functions.'*

By and large the described bonus system was perceived as having its pros and cons. First, the new system was believed to tackle the major problem of the previous KPI-based system, which suffered from the fact that KPIs agreed on a year in advance tend to dramatically change within that year and, therefore, are likely to lose their relevance. In addition, the Executive Vice President responsible for B&C felt that the KPI system, to some degree, led to sub-optimisation as some employees engaged in gaming activities. In the current system, the targets and the basis on which the employees are rewarded can be altered during the rewarding period due to the subjective performance evaluation conducted by immediate supervisors.

On the other hand, the problem of the current system was described as follows: *'What are the drawbacks then? That is the unforeseeability. When the pay-for-performance is distributed after the operational year based on a mechanistic system, where there is an element, let's say the share price development, which is completely independent of the individual that is rewarded'* (SVP, I&E), *'if I do a good job and the company does well, it will be shown in my bonus, but there is no guarantee and promise of it'* (CFO), and *'Now my people might do an excellent job in 2009, but as the environment is what it is, the result to be distributed next year, if the economy won't change, is absolutely less than have been distributed on the basis of the previous years'* (EVP, B&C). In addition, an issue that was not mentioned during the interviews is the argument that such a

corporation-wide bonus scheme might induce free-rider problems since employees bear the full cost of exerting extra effort but receive only a fraction of the benefits (Brickley et al, 2007).

Also, the subjective performance evaluation has both its advantages and drawbacks. First, the major advantage of the subjective approach is that it allows an employee's performance to be evaluated on a more comprehensive basis, since the aspects of job that are measured less easily can also be considered (Brickley et al, 2007). For example, Baiman and Rajan (1995) show that discretionary bonus schemes, in which an objectively-determined bonus pool is allocated to managers based on subjective evaluations of the managers' performance, enable the owner to use non-contractible information such as non-quantifiable or "soft" measures (e.g. the principal's personal observations of the manager's ability or effort level) to achieve an optimal improvement in managerial effort.

According to Brickley et al (2007), there are four potential problems with subjective performance evaluation: (1) shirking among supervisors, (2) forced distribution, (3) influence costs, and (4) renegeing. In other words, supervisors may shirk on performance evaluations, for instance, by rating all employees about the same, overstating the poor performers, compressing ratings around some norm rather than disentangling good performers from bad performers, or ranking employees based on personal likes and dislikes. Forced distribution refers to an allotment where a fixed fraction of employees is assigned to specific categories. This can also lead to inaccuracies – especially if applied to small groups. Influence costs include those unproductive activities employees engage in in order to influence outcomes (such as politicking for higher ratings by their supervisors). Renegeing refers to the potential that a firm will break a promise to reward superior performance, since the subjective measures are not verifiable.

Comments such as *'We seek first not to distribute equally, not to distribute 2000 per person, there have to be differences in performance, why that one got more and that one less. Another one is not to distribute 10 000 to one and zero to others'* (CFO) and *'Of course we need to aim at justice. If a business area makes a zero profit and there are money to be distributed, the persons responsible won't get anything, but the other people should get something if they have done their work well and right'* (VP, HR) suggest that the management of Tekla acknowledges the problems inherent to the current bonus system. Irrespective of the management team's intention to avoid these problems, the

interviews, however, revealed that some of the described problems might be present in the business units. While there was no indication of neither influence activities nor renegeing on promises, the freedom given to the supervisors to conduct the subjective performance evaluation as they see appropriate, might induce shirking and forced distributions.

Specifically, a number of methods of subjective performance evaluation were explained during the interviews. Some supervisors tend to base their evaluation on the BSCs and the set targets and some claimed to rely on a guidance document provided by the HR department of Tekla. Comments such as *'There are no such persons who would not do things and would try to shirk or something. Therefore, I don't face such situations that whether that person is more valuable than this one, because we cooperate extremely much and make results as a team, and then the basis is whether we have reached the results as a team, and then they [rewards] are distributed to everyone'* (SD 2, B&C), and *'standard minus and standard plus were the means by which I aimed at getting a perspective how it goes. And then I considered myself, whether performance is at standard, standard plus or standard minus... these would imply a five-week salary, and the standard would imply, let's say, a four-week salary, and standard minus implies a three-week salary'* (SD 1, B&C) can be regarded as indications of a sort of shirking and forced distribution, respectively. Therefore, the effectiveness of such a bonus scheme can at least be questioned.

Since there is a wide array of means how the subjective performance evaluations are conducted in the business areas, the link between the bonus scheme and other control package elements seems weak. That is, even though some supervisors may base their evaluations on BSCs, organisational values or on a corporation-wide guidance document, there is not such a systematic way in place that would form an explicit link to other controls. The provision system, on the other hand, is heavily based on budgeted sales and net sales, and is therefore tightly linked to cybernetic controls. In total, it seems that the reward and compensation controls are only partially linked to other controls within the business areas' MCSPs.

In terms of the steering and motivational effects of these reward and compensation systems, the provision system of sales people was perceived as very effective whereas the bonus scheme was not. One reason for the provision system, which is based on both personal and team level sales and net

sales budgets, to be regarded as effective might be the additional incentives included in the system. That is to say, if the target level is exceeded the “slope” increases in proportion, which *‘results in better and better rewarding’* (SD 2, I&E). In addition, as the sales people are also entitled to a fraction of the attainment of segment and business unit level sales targets, the system encourages co-operation among employees engaged in sales activities.

On the contrary, comments such as *‘It [rewarding system] is our Achilles heel’* (EVP, B&C), *‘but then again, it [reward system] is not the primary steering device, though maybe it should not be said aloud’* (SVP, I&E), *‘according to the personnel survey it [the bonus scheme] is not perceived as adequately motivative’* (VP, HR), and *‘I don’t feel that very much... the steering effect is not very strong, I think’* (SD 1, B&C) suggest that the bonus scheme does not play a key role in steering and motivating employees. The steering and motivational effects can further be questioned since the classification between the sales people and others seems to be open to interpretations. The following comment by the Segment Director 1 (I&E) illustrates this potential drawback: *‘There [in support functions] are individuals who support and feel that they support sales forcefully - that is true. There might be people who think that they should be entitled to a part of this [sales provision], and they are probably right about it, but the limits go somewhere.’*

It should be noted that the reward and compensation controls may also come in forms other than monetary. The Director responsible for Human Resources (HR) claimed that, according to the personnel satisfaction survey, a wide array of fringe benefits, common events, clubs and other activities among employees, competitive base salary as well as the flexibility that Tekla offers are highly appreciated among employees. Hence, it seems that the other forms of rewarding hardly provide major incentives but, on the other hand, do not cause demotivational effects.

Taken together, it seems that the reward and compensation controls are only partially linked to other control package elements. This lends support to the argument of Malmi & Brown (2008) who state that these controls might also be used for other reasons than achieving congruence between the goals and activities of employees and those of the organisation. In effect, it seems that the reward and compensation controls of Tekla, except for the provision system of sales people, do not play a key role in steering and motivating employees. Instead, it can be argued that they provide employees

with a sufficient level of compensation, which attracts and assists in retaining qualified employees without providing significant incentives. This view was succinctly captured by the Segment Director 1 (B&C), who stated: *'Does money motivate? I don't feel it is a very strong motivator at that point, but the lack of money is a demotivator. I consider it rather that way. If you get a good bonus and your salary is reasonable, you won't feel demotivated'*.

6.2.4 Cultural Controls

Tekla has four common values: (1) professional expert, (2) committed partner, (3) innovative pioneer, and (4) successful team. These values are the result of a participative value work and discussion which was conducted by the whole personnel in 2003 when a new CEO started to work for the company. The employees were expected to contribute to the discussion both before and after the values were decided. According to the Vice President (HR), this participative value discussion launched by the new CEO was an attempt to find something common for the two relatively distinct business units and to concurrently assess whether the old values from the 1990s were still valid.

The respondents were able to give many illustrations how the values are present in the organisation. As the following comments demonstrate, some felt that the values are relatively often referred to: *'I feel, that they [values] are quite often talked about here'* (VP, HR), *'they [values] are referred to, even in conversations, which is quite exciting. They are quite deep especially in Espoo [the headquarters], and many refer to them at meetings'* (SD 2, B&C). The Segment Director 1 (B&C) even claimed to have used the values as *'a tool of directing and management'* when considering between decision-making alternatives and guiding subordinates. In addition, the respondents described how values are present in the strategy work, target setting, subjective performance evaluation, and in the recruitment process. An essential part of the recruitment process at Tekla is formed by an aptitude test. Tekla has used the same tester for ten years, who *'knows exactly... how well the new persons will adapt to our culture and to our organisation'* (VP, HR).

However, while the interviewees claimed that the values are present and the behaviour of employees is in compliance with these values, none of them perceived them as a strong steering device.

Comments such as *'somehow I feel that they are not actively pushed... But then indirectly it, however, people have in a certain way internalised them and they act according to them. In that way they are the right values for Tekla'* (SD 1, B&C), *'the manner in which we work, it has adhered to everyone. How well they perceive that it came exactly from that value, that is a different thing, but the way in which we work and do things, that is very well instilled in the organisation* (EVP, B&C), *'they [values] just represent what we do'* (SD 1, I&E), and *'the general feedback is that we act in accordance with our values and they are shown in our operations... but, nevertheless, I don't think they are a very steering matter'* (CFO) suggest that the values are not actively used as a steering device, but still they are shown in day-to-day actions. This might be due to a strong organisational culture that is deeply embedded in the organisation. The following comment by the Senior Vice President responsible for I&E lends support to this interpretation: *'Tekla has a relatively strong corporate culture, and I&E has a corporate culture. Perhaps the values, which were polished in that certain project, perhaps they are just the tip of the iceberg... There is some activeness, but it's not on the lines, but it's the company's identity and spirit and value basis, which are much deeper than the values that we have polished and published.'*

The deepness of the culture (and also the values) was also evident in a comment by the Segment Director 1 (B&C), who stated: *'when we conducted this big process and they [values] didn't change, so in that way they are reasonably deep what people think'*. Also, the following comment by the Vice President (HR) suggests that the organisational culture has long historical roots and the values are a manifestation of something deeper and more influential: *'Personally I think that the values well represent this company. It would be harder to imagine better values. I have been here for 25 years, and I have some sort of understanding of what kind of company this was in the 1980s and what it's like now. Ok, of course we are more global and larger and fancier, but the basis is formed by the very same values that have always been appreciated here.'*

Similarly, the CFO referred to a benchmark survey results and claimed: *'what is felt here [in Tekla] on a stronger basis than outside in average comparisons is the fact that the Tekla spirit and the Tekla atmosphere are perceived as very good, which is extremely good of course'*. Hence, it seems that Tekla's "way we do things around here", (i.e. the Tekla spirit, the Tekla atmosphere, Tekla's organisational culture) is relatively strong and directs employee behaviour both on its own and

indirectly by underpinning other control package elements. The latter assertion is strongly supported by a comment of the CFO, who claimed that *'the value basis goes top-down through the organisation; it's embedded in all steering and planning mechanisms'*. Therefore, it is argued here that the cultural controls are an essential part of the MCSP in both business units and they provide a contextual frame for other MCS within the package.

Though the cultural controls are argued to operate in a similar way in both B&C and I&E, the organisational area that is covered by these controls is not equally wide. This is due primarily to the fact that the global area organisation of B&C comprises subsidiaries in a number of countries having considerable cultural differences. Furthermore, the Segment Director 2 (B&C) asserted that *'a major effort'* is needed in order for Tekla to implement its values on a global basis. The Segment Director 1 (B&C) explained the minor role of value-based management in respect of the area organisation as follows: *'When we go to the areas, I try to look things by way of strategy. This is such work that complies with the strategy, what we do, but I don't rely on values'*. Consequently, it seems that Tekla has not actively endeavoured to instil values in its global employees and, hence, the extent to which cultural controls assist in directing the behaviour of area organisation's employees can be argued to be scant.

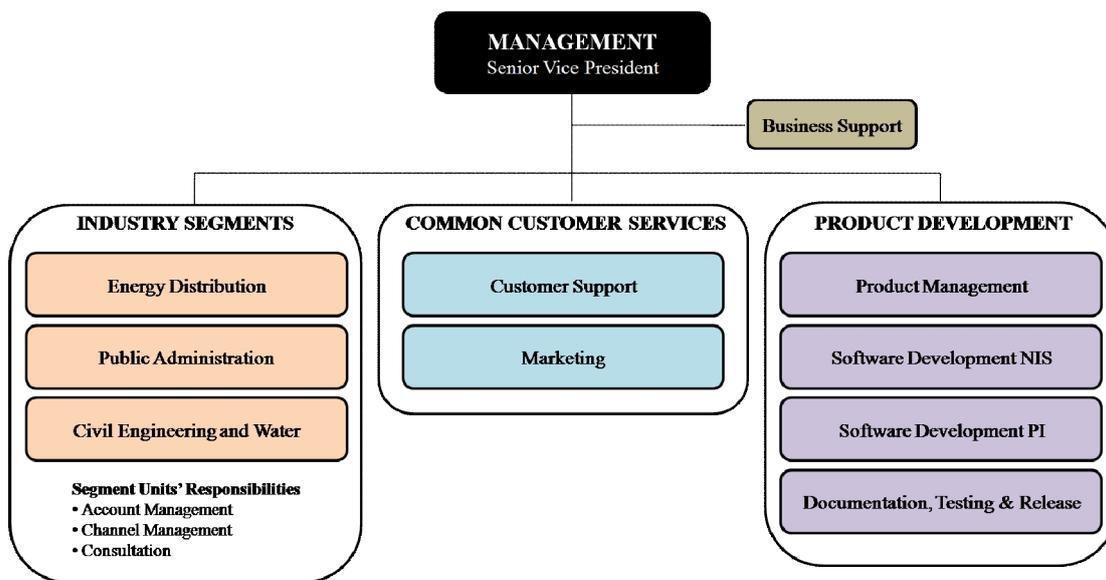
6.3 DIFFERENCES OF MCSPs BETWEEN B&C AND I&E

6.3.1 Administrative Controls

Malmi & Brown (2008) divide administrative controls into three groups: organisation structure, governance structure, and policies and procedures. As a general conception, it can be noted that the administrative controls operating in the business units are not entirely different. The major and, as it will be argued, influential difference emerging is the global area organisation which mainly supports the business of B&C. As for both the governance structure and policies and procedures, it is argued that they are not completely different between the business areas, but have several similarities. These observations will be elaborated further below.

First, in respect of organisation structure, both business units rely nowadays on a matrix organisation, albeit I&E only as of 2009 and B&C already as of 2006. The reshaped organisation structure was claimed to be a respond to the inadequate support provided by the previous, function-based, structure in fostering a customer orientation. The organisation chart of I&E is depicted in Figure 7. The figure illustrates that the segments and units are allocated according to two main processes: customer process and product development process. The three segments and two customer services units carry out the customer process and the four product development units are responsible for the product development process. Of note is that the segments are responsible for both the account and channel management as well as for the consultation.

Figure 7. Infra & Energy Organisation Chart



The organisation of B&C also encompasses industry-specific segments (albeit four instead of three) and three functions. These segments include: (1) steel, (2) precast, (3) engineering, and (4) contractor, and the three functions comprise: (1) product development, (2) business administration, and (3) B&C marketing. Even though there is a slight difference between the business units with regard to the responsibility of channel management, which in I&E's organisation belongs to the segments and in B&C's organisation to the business administration function, the organisation

structures seem considerably akin to each other. This similarity is also evident in the way in which the decision rights are allocated within the business units as well as in the degree of hierarchy – both laying emphasis on an empowerment aspect.

The interviewees claimed that, in most cases, the decision rights are decentralised as long as the decisions comply with the agreed budgets and BSCs. In respect of investment decisions, there are specific euro limits based on the level of hierarchy at which the decision is made (i.e. 2 000 000 for CEO, 300 000 for a business unit leader or a member of the management team, and 20 000 for a segment or unit manager). In practice, however, the decision rights are often assigned to and the decisions are agreed on by specific councils (explained later in the section), but comments such as *'I think everybody knows what we are seeking... We don't have such formal hierarchy that you would need to come and ask'* (SD 1, I&E) and *'Pretty much people are able to and do decide on their own matters, because they are smart and skilful people'* (SD 2, I&E) suggest that the employees are relatively empowered at all hierarchical levels.

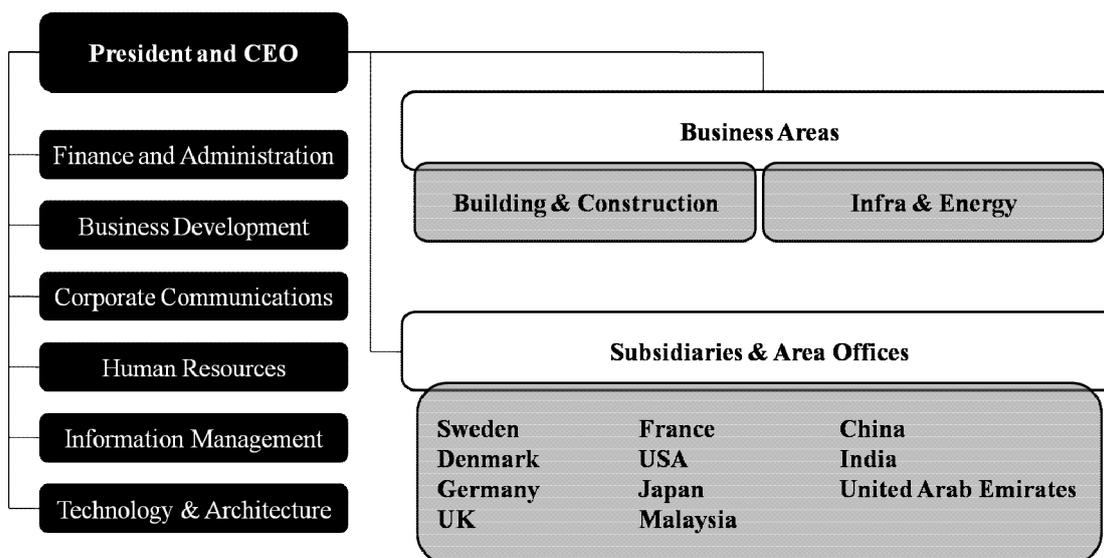
The decentralisation of decision rights can be argued to accord with Tekla's mode of operation. Since Tekla is engaged in portfolio management at the corporate level and the two business units are fairly different and, hence, the management of them requires plenty of local knowledge, it makes sense to leave most decisions to the business units' discretion (Brickley et al, 2007). Decentralisation also enables the senior management to focus on strategic decisions and promotes the training and motivation of the employees to which the decision rights are assigned (Brickley et al, 2007).

Also in terms of hierarchy, the respondents emphasised the empowerment aspect. Indeed, a maximum of four hierarchical levels can be found within the business units (business unit leader→segment/unit director→group manager→"shop floor"). However, in many segments and units there is not a group manager post, which reduces the hierarchical levels to three in many cases. In addition, in order for the researcher not to get a wrong appreciation, the interviewees accompanied their answers with comments such as *'luckily we are small and we consider ourselves as relatively flexible just that we don't have multistage hierarchies'* (CFO), *'but it [hierarchy] is, how would I put it, more like administrative'* (SD 2, I&E), *'then however, if we think of our cooperation in different contexts, it is very networked. More like networked or project-like is what could describe it'* (SD 2,

B&C) and *'this seems a bit hierarchical, though we are however fairly dynamic at the end of the day'* (SD 2, I&E).

Notwithstanding the apparent resemblance of organisation structures, the factor that substantially disentangles B&C's matrix from I&E's corresponding structure is what the interviewees from B&C referred to as *'virtual organisation'*, *'virtual operations model'*, and *'network organisation'*. This virtual organisation embraces the B&C organisation, international subsidiaries and area offices as well as a partner network. As it can be seen from Figure 8, there is no reporting relationship between the business areas and the international subsidiaries and area offices. Instead, the subsidiaries and area offices directly report to the CEO. Hence, the relationship between B&C and the area organisation is of colleague-to-colleague nature, or as the Segment Director 2 (B&C) put it: *'in the network, the post doesn't dictate the strength of the voice. Instead, it is very personal, colleague to colleague'*. The Segment Director 1 (B&C) described the virtual organisation as follows: *'It's not a very easy organisation model but, on the other hand, if we think about empowerment. When me and my friend had a long history in Tekla and we looked at B&C, the organisation is like an anthill. The hill grows and everybody works, but if you look at it from outside, you can't see what the management model and structure are in it. You have so many dimensions in the matrix, you've got countries, you've got functions, you've got segments. I think it was a good comparison.'*

Figure 8. Tekla Organisation Chart



This virtual organisation was perceived as very powerful in directing employee behaviour. The interviewees referred to the virtual or network organisation on many occasions irrespective of the specific package element under discussion. The following comments highlight the arguably strong steering effect of the virtual organisation on employee behaviour: *'I think it's strongly this networking, we have succeeded in creating such a culture for Tekla. Actually, I believe that if a person doesn't have a personal interest in being part of the network, it's very complicated to work at Tekla'* (SD 2, B&C), *'then the comment can come through the network, and usually at some point the specific group guides the person... perhaps the signals come typically through the network... because it's so varied, you are a part of many groups and networks, and therefore the network itself gives you feedback in a way'* (SD 2, B&C), and *'we talk about a concept of virtual organisation, which is the most difficult management model to control. People generally aim for hierarchical structures and when we have broken those hierarchical structures by creating this kind of virtual organisations, it also means that you don't have all the resources... It forces you into a certain cooperation of this kind'* (EVP, B&C). Therefore, it seems that the virtual organisation is a significant part of the day-to-day actions of B&C's employees and being part of this network induces a certain way of working and communicating and, hence, acts as an effective means of directing employee behaviour.

Also, the fact that Tekla and its both business areas have altered their organisation structures relatively often implies that the organisation structure is believed to provide an effective means of managing business and directing employee behaviour. A good example of this is the new matrix organisation of I&E. The Segment Director 1 (I&E) who inherited a responsibility from the old organisation structure of I&E explained the effect of the new segment-based organisation as follows: *'I still have this consultancy responsibility, but the directive factor is clearly the challenge of the matrix organisation. That is, the segment is, however, what conditions the actions'*.

In sum, the organisation structure seems to direct employee behaviour in both business units. The frequent occurrence of the virtual organisation of B&C during the interviews indicates that the steering effect is likely to be stronger in B&C than in I&E. However, the use of organisation structure in both units lends support to the notion of Malmi & Brown (2008) that organisational design and structure work as control systems through organising individuals and groups in a way that

both encourages certain types of contact and relationships, and enables employees' consistent and predictable behaviour.

Second, what lies at the heart of the governance structures applied in the business units, are the different councils, management teams and meetings taking place on a regular basis. As it is depicted in Figures 4 and 5 above, the governance structures forge a strong link with both the planning and cybernetic controls. This is clearly attributable to the role of these councils and meetings as a reviewer, follower and supervisor of issues such as strategy and its implementation, budgetary targets and BSCs. Indeed, the governance structures seem to constitute a part of what the Senior Vice President responsible for I&E labelled as '*management system*', which includes strategy, action plans, and the management of operative business (i.e. management teams as well as financial forecasting and follow-up).

The governance structures of I&E consist of three management teams. The first one is the actual management team of I&E and it includes all segment/unit leaders and a couple of invitees. This team assemble for a meeting on a quarterly basis to review revenue, cost and result forecasts as well as the business unit's action plan. In addition, there are two smaller management teams, which meet on a monthly basis and involve various experts across the business unit. The customer management team concentrates on following that the sales and consultation are in line with the plans, whereas the management team for product development focuses on monitoring a product road map and its euro targets.

The governance structures of B&C also consist of three management teams. These three are the system and process council, the operative sales and marketing council, and the product development council. Of important note is that there is not an actual management team of B&C. These councils involve many employees across the business unit and, surprisingly, are not chaired by the Executive Vice President who is merely a member of these councils. Moreover, due to the global network organisation which is mainly responsible for the sales of B&C, there are area specific management reviews or area navigations taking place on a quarterly basis. Since the subsidiaries and area offices are profit centres, these navigations concentrate on monitoring the profit contributions and on reviewing market conditions. The importance of these area navigations is illustrated by the fact that

both the CEO and CFO participate in these navigations in order to enable a more rapid and less hierarchical decision making.

Since the governance structures are an essential part of the management system in both business units, they deal with strategy implementation, budgets and BSCs, they involve a number of employees across the business unit, a considerable amount of decision rights are assigned to them, and they occur on a recurring basis, it is argued here that these management teams, councils, area navigations and other meetings have an important role in directing employee behaviour. Consequently, the governance structures of both B&C and I&E can be argued to form an important interface between the planning, cybernetic, and the administrative controls within the MCSPs.

Finally, the role of policies and procedures is argued to be a supportive one as opposed to a strongly directive and restrictive one in both business units. Though the interviewees felt that there are documented rules, policies and procedures in plenty, none of them perceived them as having a strong effect on employees' day-to-day actions. This interpretation is supported by comments such as *'That shows in a way, that even though we have rules, it is not a strong bureaucrat direction'* (SD 1, B&C), *'Perhaps they are more like general instructions, just like the ones of financial administration and finance, but the processes don't restrict anybody up to a very accurate level'* (VP, HR), and *'It doesn't start from the idea of creating directions, instead, we develop our operations and document when consider it as necessary'* (SVP, I&E). Moreover, according to some interviewees certain policies and procedures could be better adhered to, which further highlights the merely supportive nature of these controls.

6.3.2 Summary

The research findings concerning the MCSPs are summarised in Table 2. As it can be noted, the MCSPs of the business units are considerably akin to each other. Indeed, in respect of planning, cybernetic, reward and compensation, and cultural controls, the packages operate in a relatively similar fashion within the business units. Hence, the global organisation of B&C along with its effects on other controls (e.g. planning and cultural controls) constitutes the most apparent difference between B&C and I&E.

Table 2. Summary of the MCSP Findings

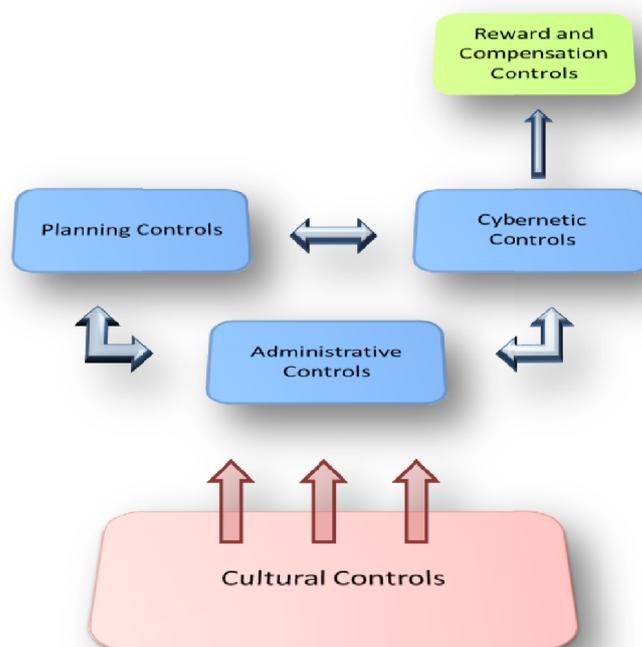
MCSP Element	B&C Specific Factors	Common Factors	I&E Specific Factors	Role within the MCSP
Planning Controls	Mission and vision statements are actively used, subsidiaries and area offices are partly excluded from strategy work	Follows a common strategic cycle, BSC as a planning device, a participative and coherent nature of planning, emphasis on financial strategic objectives	Vision statement and vision elements are used, but mission statement is not	The participative and coherent nature of planning suggests a strong steering effect, interrelate with cybernetic controls (BSC and budgeting) and administrative controls
Cybernetic Controls		Budgeting, i.e. rolling forecasting, is the primary cybernetic control system, BSCs used merely "in a tableau de bord fashion"		Budgeting perceived as the most effective control system throughout the organisation, BSC strongly contributes to the direction of employee behaviour merely as a planning device
Reward and Compensation Controls		The major incentive system is based on a mechanistic model after which it hinges on subjective performance evaluation of immediate supervisors, a separate incentive system exists for sales people		In part separate from other control elements, the level and content of rewarding do not cause demotivation, but steering effect can strongly be questioned, since the reward and compensation are partially beyond employees' control
Administrative Controls	Virtual organisation encompassing the Finnish matrix organisation, subsidiaries and area offices, and a partner network, no actual business unit management team, quarterly area navigations	Matrix organisation in Finland, three empowered management teams meeting on a recurring basis, a supportive role of policies and procedures, an emphasis on empowerment throughout the administrative controls	An actual management team for I&E business unit exists	Interrelate with planning and cybernetic controls by providing a structure for them, as for B&C, the steering effect is strong due to virtual organisation and recurring governance structures emphasising empowerment, as for I&E, the steering effect is not as strong, yet significant
Cultural Controls	Local cultures in subsidiaries and area offices	Well understood values as a result of a company-wide value workshop, deeply instilled culture and way of working		A pervasive element of control, which provides a contextual frame for other controls and significantly directs employee behaviour

Moreover, if the controls are classified according to Chenhall's (2003) grouping¹⁵, the research findings indicate that the "organic" forms of MCS seem to play a more dominant role than the "mechanistic" forms of MCS in fulfilling the intended functions of the MCSP. This is due to the

¹⁵ According to Chenhall (2003), mechanistic controls rely on formal rules, standardized operating procedures and routines, whereas organic systems are more flexible, responsive, involve fewer rules and standardized procedures and tend to be richer in data.

following controls representing the “organic” forms of MCS: (1) social controls (organisational culture and values emphasising empowerment), (2) personnel controls (emphasis on recruitment), (3) sophisticated integrative mechanisms (management teams, organisation structures, and area navigations emphasising decentralisation), (4) prospect controls (focus on plans and future through strategic planning, BSCs and rolling forecasting), and (5) strategic interactive controls (planning in general and the BSC in particular). On the other hand, the high budget use (importance and involvement) can be argued to represent the only “mechanistic” form of MCS operating within the business units (see Chenhall, 2003, p. 133). Hence, it seems that the business units do not heavily rely on formal and restrictive control systems and mechanisms in their MCSP configurations.

Figure 9. Interplay between the Control Package Elements



The observed interplay between the five control elements within the business units is illustrated in Figure 9. First, the cultural controls at the bottom represent broad, yet subtle controls that are slow to change and, thus, provide a contextual frame for other controls. This is in line with the notion of Flamholtz (1983, p. 158–159), who asserts that “culture is... in fact, the starting point for the design

of an organizational control system, because it determines (or at least ought to determine) the nature of the other components”. Second, planning, cybernetic, and administrative controls in the middle are interrelated since planning and cybernetic controls seem to be tightly linked in practice and administrative controls are argued to create the structure in which they are exercised. Finally, reward and compensation controls remain relatively separate from other package elements since they are partly determined by factors beyond strategic and action plans as well as budgetary targets. In sum, these findings strongly corroborate the presumptions of Malmi & Brown (2008), except for the fact that they assumed reward and compensation controls to be tightly linked with planning and cybernetic controls.

6.4 FUNCTIONALITY OF MCSP

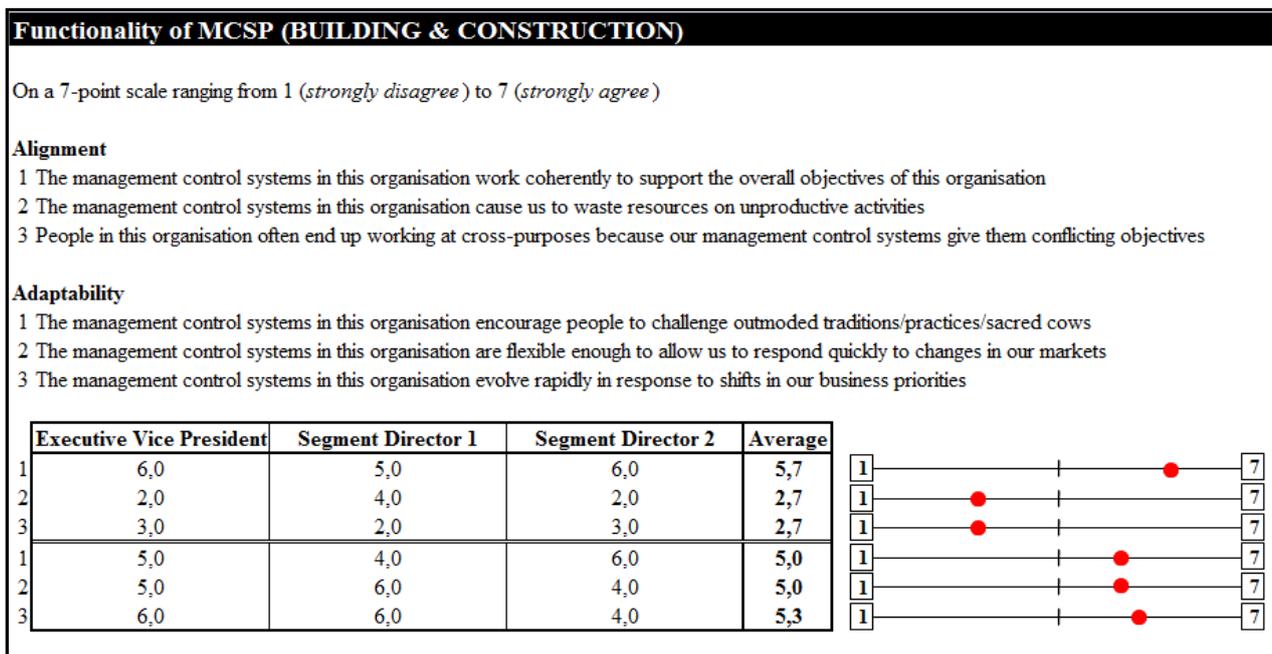
Whether the interviewees from the two business units perceived their MCSPs as functional or not was measured through a six-item measure provided by Gibson & Birkinshaw (2004). In this study this measure is also used beyond its initial purpose of measuring contextual ambidexterity, since it is believed to provide essential information on control package’s functionality. Of important note is that the results presented below are not based on any statistical analysis due to the low amount of respondents. Instead, the analysis is primarily based on the comments by which the interviewees elaborated on their answers. The two sections below will elaborate on how the respondents evaluated the functionality of their business unit’s MCSP.

6.4.1 Building & Construction Business Area

The results concerning the functionality of B&C’s MCSP are depicted in Table 3. In terms of alignment, it seems that the MCS within the package work coherently, they waste resources on unproductive activities only to a scant extent, and they are unlikely to give employees conflicting objectives. However, the interviewees admitted that *‘the classical area-headquarters conflict comes every now and then’* (EVP, B&C). In terms of adaptability, the interviewees strongly felt that the MCS encourage people to challenge outmoded traditions, practices and sacred cows, as the following

comments indicate: *'It starts from our people, our people question. In that way it starts from the systems that we have such a challenge-permitting atmosphere. It's in the culture'* (EVP, B&C), *'it [challenge] is strongly in the culture'* (SD 2, B&C), and *'there's high empowerment in Tekla and you are allowed to question everything and in principle everything is questioned'* (SD 1, B&C).

Table 3. Functionality of MCSP in the Building & Construction Business Unit



Moreover, the respondents claimed that the MCS are flexible and responsive in the face of rapid changes in markets as well as in business priorities. The Executive Vice President responsible for B&C illustrated this argument as follows: *'There are always structures that make it stiff. So we are relatively fast versus our competitors... There is a significant matter at which we aim through this virtual organisation. Typically our competitors are such organisations that they might have different organisations for Europe and USA. That is, it's very complicated for them to move knowledge and capabilities across geographical frontiers. Let's say that a salesman in a certain situation when he meets a customer in Germany, we have a fairly efficient global virtual organisation in a sense that we have best practices, how to present things and sell in a specific situation and the support material relating to that... we are able to distribute that efficiently and quickly. And it comes from this virtual*

organisation... We are able to distribute it on a rapid basis versus a more hierarchical and such organisation that is divided into compartments abroad.'

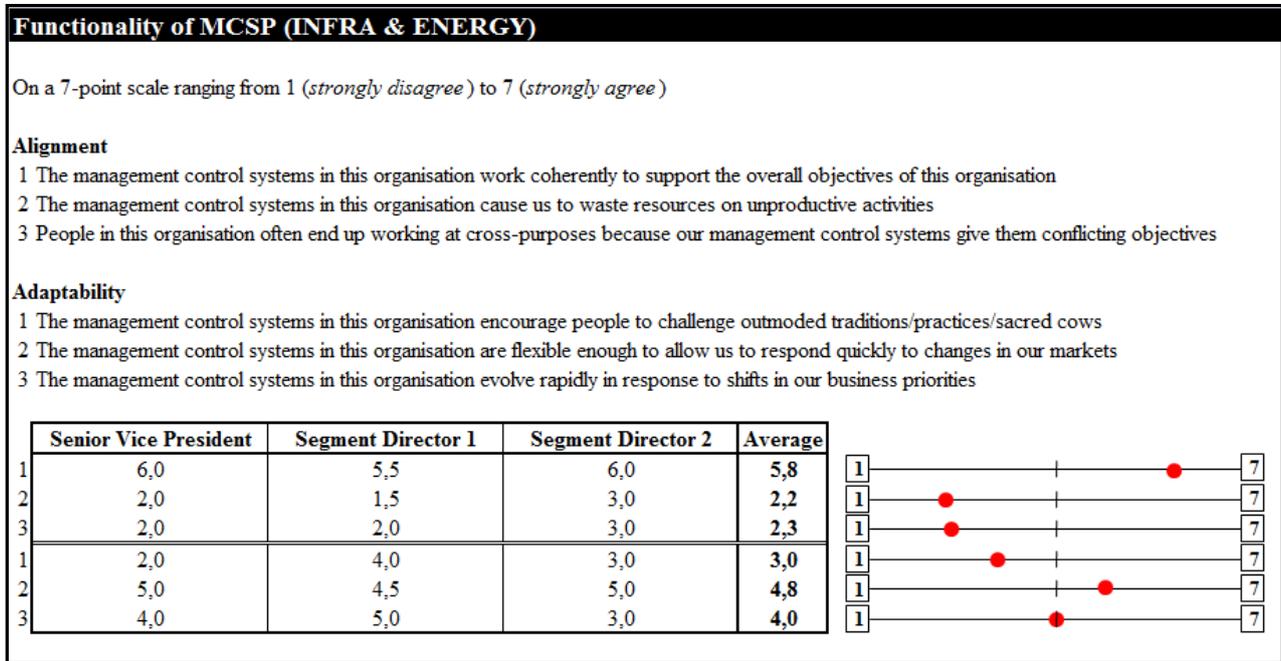
However, a contrary argument was provided by the Segment Director 2 (B&C) who felt that the package as a whole works well, but the virtual organisation could be more agile than it currently is. Taken together, it seems that the MCSP of B&C is perceived as working well and being internally consistent, i.e. the MCS within it have been designed (intentionally or unintentionally) to achieve similar ends (Abernethy & Chua, 1996). In addition, it should be noted that the cultural and administrative controls were frequently referred to when asked about the functionality of B&C's package of controls, which highlights the important role of these controls within the MCSP.

6.4.2 *Infra & Energy Business Area*

Table 4 summarises the results regarding the functionality of I&E's MCSP. In respect of alignment, the interviewees representing I&E perceived their MCSP as coherent in supporting the overall objectives of the business unit, efficient in employing resources, and consistent in providing employees with organisational objectives as the corresponding interviewees representing B&C.

However, the interviewees did not perceive the MCS as encouraging in challenging outmoded traditions and practices. However, comments such as: *'I don't think whether they are such flexible, but in a way the operations model is however flexible if needed'* (SD 2, I&E) and *'I just keep relaying the extent to which it [occurred flexibility] was a management system bound case... It starts from the people that now something has to be done and the management system bent to that relatively well'* (SVP, I&E) indicate that the respondents may have not considered informal controls (such as cultural controls) as MCS. Instead, the comments suggest they might have merely considered controls included in the *management system* described above (i.e. strategy, action plans, and the management of operative business (management teams as well as financial forecasting and follow-up)).

Table 4. Functionality of MCSP in the Infra & Energy Business Unit



Furthermore, the MCS operating within I&E were claimed to be relatively flexible in the face of changes in markets, but only averagely responsive when confronted by changes in business priorities. However, comments such as *‘I don’t think these systems evolve very rapidly, when they are done once a year, then that’s it’* (SD 2, I&E) and *‘Are they supposed to evolve, or are they flexible in a way?... if a management control system includes a capability to react to changes in business priorities, then it doesn’t have to change’* (SVP, I&E) indicate, on the one hand, that the interviewees’ conception of MCS may have again been restricted to the ones included in the *management system*, and, on the other hand, that the MCS in effect are perceived as responsive in the face of shifts in business priorities. Therefore, it is argued here that the MCSP of I&E is also perceived as working well and being internally consistent – both in terms of alignment and adaptability.

Also, if a view is adopted according to which an MCSP is functionally effective if a business unit is successfully executing its strategy, both B&C and I&E can be argued to have a functionally well-working MCSP. This is due to the success that the growth-oriented B&C has achieved revenue-wise in the past nine years, i.e. the revenue has more than tripled (see Figure 2 above). On the other hand,

the I&E business area has succeeded in achieving its profitability targets since during its existence in 2006, 2007 and 2008 the unit has reached operating result percentages of 8.8, 15.4, and 15.2, respectively. Hence, there is both subjective and objective evidence supporting the assertion that the business units' MCSPs are robust in terms of functionality.

6.5 TEKLA AND ORGANISATIONAL AMBIDEXTERITY

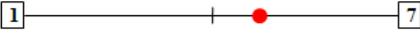
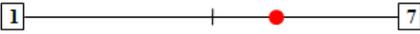
The results of Tekla's ambidextrous orientation are illustrated in Table 5. The results show that, in general, the interviewees perceived Tekla as an ambidextrous organisation, which engages both in exploration and exploitation. Another piece of evidence lending support to this interpretation is the fact that Tekla has prospered and survived for over 40 years in a fast-changing business environment¹⁶. Therefore, during these decades Tekla must have been able to sustain its competitive advantage in the face of environmental transitions and to fight against becoming inert as it ages. That is to say, Tekla must have been able to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability, i.e. it must have been able to execute ambidextrous strategy.

How has Tekla succeeded in this challenging task of pursuing exploitation and exploration concurrently? The empirical evidence of this case study indicates that this capability is at least partially attributable to the MCSP of the company (substantially akin to the MCSPs of the business units). In effect, the MCSP is argued to enable not only structural ambidexterity but also contextual ambidexterity. Specifically, the administrative controls operating within the company are argued to operate as antecedents of structural ambidexterity whereas the contextual ambidexterity is believed to be achieved through an internally consistent MCSP.

¹⁶ For a comprehensive discussion on the high failure rates and deteriorating life expectancy of contemporary firms, see O'Reilly & Tushman (2008, p. 186–187).

Table 5. Ambidextrous Orientation of Tekla Oyj

Ambidextrous Orientation (TEKLA Oyj)									
On a 7-point scale ranging from 1 (<i>strongly disagree</i>) to 7 (<i>strongly agree</i>)									
Exploitative orientation					Explorative orientation				
FIRM THAT ENDEAVOURS AND HAS SUCCEEDED IN:					FIRM THAT ENDEAVOURS AND HAS SUCCEEDED IN:				
1 Lowering costs					1 Looking for novel technological ideas by thinking "outside the box"				
2 Improving the reliability of its products and services					2 Basing its success on its ability to explore new technologies				
3 Increasing the levels of automation in its operations					3 Creating products or services that are innovative to the firm				
4 Increasing existing customers' satisfaction					4 Looking for creative ways to satisfy its customers' needs				
5 Fine-tuning what it offers to keep its current customers satisfied					5 Aggressively venturing into new market segments				
6 Penetrating more deeply into its existing customer base					6 Actively targeting new customer groups				
	B&C				I&E				
	CFO	VP (HR)	EVP	SD 1	SD 2	SVP	SD 1	SD 2	Average
1	4,0	4,0	3,0	4,0	5,0	4,0	5,5	3,0	4,1
2	6,0	5,0	6,0	4,0	5,0	4,0	4,8	5,0	5,0
3	5,0	5,0	5,0	2,0	5,0	2,0	5,0	3,0	4,0
4	6,0	5,0	6,0	5,0	5,0	6,0	5,0	6,0	5,5
5	5,0	4,0	6,0	3,0	5,0	6,0	5,0	6,0	5,0
6	5,0	4,0	4,0	4,0	3,0	3,0	6,0	6,0	4,4
	5,2	4,5	5,0	3,7	4,7	4,2	5,2	4,8	4,7
1	7,0	6,0	6,0	5,0	5,0	4,0	5,5	5,0	5,4
2	6,0	6,0	6,0	6,0	6,0	5,0	6,0	5,0	5,8
3	6,0	5,0	6,0	6,0	6,0	6,0	5,5	5,0	5,7
4	5,0	5,0	4,0	6,0	5,0	7,0	5,0	5,0	5,3
5	5,0	4,0	5,0	4,0	3,0	2,0	4,5	3,0	3,8
6	4,0	4,0	6,0	4,0	3,0	2,0	5,0	4,0	4,0
	5,5	5,0	5,5	5,2	4,7	4,3	5,3	4,5	5,0
Ambidexterity (all 12 items were added together)									
	5,3	4,8	5,3	4,4	4,7	4,3	5,2	4,7	4,8

Thus, structural ambidexterity seems to be attributable to administrative controls in general and to organisation structure in particular. As it was noted in the foregoing, both B&C and I&E have an own product development unit in their matrix organisations. However, the product development of I&E solely concentrates on developing existing products whereas in B&C the focus is on developing both new and existing products ‘on a “forty-sixty” basis’ (SD 2, B&C). Furthermore, the interviewees from I&E clarified that the lower ratings of exploitation-related questions (focus on existing customers and products, and cost efficiency) and the higher ratings of the exploration related questions (focus on new market segments, customers and products, and innovativeness) when the

company-wide orientation is considered, are due to B&C's influence, which suggests that, as a general conception, B&C engages more in exploration whereas I&E is merely an exploitation oriented business unit. Also, the segment-based organisation can be argued to promote ambidexterity through assigning specific segments to "explore" new customers, markets and products, while certain segments continue to "exploit" existing customers, markets and products.

The Executive Vice President responsible for B&C explained the rationale behind this idea as follows: *'When we have expanded our clientele, we search all the time for new type of customers and we needed persons responsible for customers to build new business for Tekla, because otherwise the euros disappear. One sells by ten million and the other by hundred thousand but the idea is that the customer segment of hundred thousand sells some day by ten million. In order for it to get its own attention and leader, who is only held responsible for the hundred thousand and not for the ten million, then the attention in building that customer segment's business is entirely focused on that... This is the way to get the new business take-offs. They need to be measured and they need to be held accountable completely separately, and consider separately. Otherwise they won't develop.'*

Therefore, since the explorative capabilities are primarily located in B&C and the exploitative capabilities in I&E but also in B&C, the structural ambidexterity of the case company seems to be a combination of spatial separation (O'Reilly & Tushman, 2004) and parallel structures (Adler et al, 1999). However, as it has been argued, the structural separation alone is not sufficient in an attempt to attain organisational ambidexterity (Smith & Tushman, 2005; Tushman & O'Reilly, 1996). Indeed, it is argued here that contextual ambidexterity is needed to complement the structural means of achieving ambidexterity.

According to Gibson & Birkinshaw (2004), a context characterised by a combination of "stretch", "discipline", "support", and "trust" facilitates contextual ambidexterity. The ways in which the five different MCSP elements contribute to the creation of such effective organisation context are discussed below. Firstly, and perhaps most importantly, the strong and widely shared organisation culture of Tekla promoting empowerment and allowing employees to question everything is believed to contribute to the attainment of contextual ambidexterity (Tushman & O'Reilly, 1996). Moreover, the culture along with common values and vision statements and elements are argued to contribute to

the establishment of “stretch” (Gibson & Birkinshaw, 2004). Also, recruitment, which according to Malmi & Brown (2008) classifies as a cultural control, was perceived as crucial in promoting ambidexterity in general and exploration in particular. The Segment Director 2 (B&C) explained this as follows: *‘not every individual acts so creatively and splendidly, but others have more enthusiasm for thinking things forward and the others have more an ability to do things as agreed upon... the recruitment is perhaps the most essential phase in that how to recruit such people to work who are capable...’*.

Second, Tekla’s organisation (especially B&C’s virtual organisation) and governance structures emphasising decentralisation, cooperation, and efficient information sharing are also argued to further foster organisational ambidexterity (Jansen et al, 2005). These controls increasing knowledge what has happened in other parts of the business, and promoting cooperation and sharing of best practices through a number of forums and councils are also argued to contribute to the establishment of “support”. Third, the participative and dialogue-like planning process, encompassing both strategic planning and action planning (BSC), can be thought to contribute to the establishment of a context promoting “trust” (Gibson & Birkinshaw, 2004). Fourth, cybernetic controls, and in particular, budgeting was perceived to bring cost efficiency and to promote the business units along with their international subsidiaries and area offices to strive to meet the profit contribution targets. Therefore, the budgeting, or rolling forecasting, is likely to contribute to the establishment of “discipline” (Gibson & Birkinshaw, 2004).

Finally, the ambidexterity literature argues that there needs to be a common incentive system for the senior team in place that is anchored on the company-wide metrics, not on the success of a separate unit (Jansen, 2008a; O’Reilly & Tushman, 2004, 2008). Though Tekla’s incentive system is anchored on the overall company performance at the highest level, the further allocation of the bonus pool is based on unit-specific performance. Therefore, the influence of reward and compensation controls on the attainment of organisational ambidexterity at Tekla can at least be questioned.

Taken together, it seems that a package of controls may play a key role in fostering organisational ambidexterity. It was argued that administrative controls are likely to act as an antecedent of structural ambidexterity, while cybernetic, cultural, administrative, and planning controls contribute

to the establishment of “discipline”, “stretch”, “support”, and “trust”, respectively. Hence, these controls are argued to collectively contribute to the establishment of an effective organisation context that allows contextual ambidexterity to flourish.

7. DISCUSSION

This section discusses a number of findings emerging from the study. First, the MCSP findings will be discussed in the light of contingency theory. Second, the section discusses the described roles and uses of different control package elements and links these various controls to the levers of control framework provided by Simons (1990, 1991, 1995, 2000). Finally, the role of an MCSP and its elements in fostering organisational ambidexterity will be discussed.

It was argued above that both B&C and I&E have a functionally well-working MCSP despite the distinct circumstances in which they operate and the parallel of their control packages. According to the contingency theory, however, the effectiveness of an MCSP hinges on the level of fit or alignment between the contingent variables and the MCSP (Drury, 2004). Of important note is that it seems relevant to study the impact of contingency variables on the configuration of business units' MCSP within a single firm – especially if the business units are highly independent of each other (see e.g. Govindarajan, 1984; Otley 1978). Another view is to assume that the contingency factors influence at a firm level irrespective of the similarities and differences between business units within that firm.

Given the above reasoning, an important question arises: if two virtually similar MCSPs can be equally effective in the face of different contingencies, can two different MCSPs be equally effective in the face of similar contingencies? That is to say, are there MCSP configurations that are equifinal¹⁷? Although there are very few MCS studies that have addressed equifinality (Bedford, 2006), the idea that control systems can act as substitutes has been suggested by a number of scholars (Abernethy & Chua, 1996; Dent, 1990; Fisher, 1995; Huikku, 2007). Moreover, a few studies have suggested that an informal control practice could replace, at least partially, a formal control practice (Huikku, 2007), and that an equal control of activities could be achieved by different formal control systems (Gerdin, 2005). Sandelin's (2008) case study is the first one to examine whether various configurations of control systems (i.e. MCS packages) can provide an equal final state. The results of

¹⁷ Whilst the contingency theory rests upon the assumption that there is a deterministic relationship between context and organisational design, equifinality undermines this assumption and, conversely, suggests that an equally good final state can be achieved through several different organisational structures even in the face of similar contingencies (Gresov & Drazin, 1997).

his study lend support to Huikku's (2007) findings in that they indicate that a relatively simple and less accounting-centric control package can be functionally equivalent with more formal and accounting-centric packages if the internal consistency¹⁸ holds.

Why are the control packages then so similar? One explanation could be the point made by the Vice President (HR) who stated: *'if the other business unit develops balanced scorecard forward, then another unit takes it in use afterwards. And if a good procedure is created somewhere, they are aware of this and they follow... These best practices are copied from a unit to another'*. Another explanation may be the abovementioned idea that the contingency factors are primarily confronted by a firm, rather than the business units operating within that firm.

An interesting finding of the study is the manner in which the BSC is used in both business units, i.e. merely as an overarching planning device. Although the BSC seems to work relatively well in its intended use and can, therefore, be argued to have achieved a level of "success" (see Andon et al, 2009), it might well be that the BSC is still evolving in both B&C and I&E. Indeed, according to Bukh & Malmi (2005), very few firms are able to succeed with their first attempt to develop a BSC. Usually, they argue, the experiences gained from developing the first BSC lead to major changes in both the structure of the BSC and the management process around. This view was supported by the Segment Director 1 (B&C) who commented on the specificity of BSC as follows: *'We have a really young organisation here... we have grown to this during the past one and a half years, whereupon it has an effect on the fact that... Every year you are able to improve, at once besides everything else it is difficult to take through an accurate [BSC]. I have tried that when we first made it [BSC] at a general level, now we took it to a slightly more specific level, but so that next year we would be able to take it to a bit more specific level.'*

Another interesting finding is the key role that administrative controls in general and organisation structure in particular, play in the direction of employee behaviour in the business units. In effect, the virtual organisation of B&C was argued to "force" employees into a certain way of working,

¹⁸ An MCSP is considered to be internally consistent when the different control systems of the package are designed to achieve similar ends (Abernethy & Chua, 1996) Sandelin (2008, p. 338), based on the previous notion by Abernethy & Chua (1996), furthers the argument by stating that "each control element contributes independently and directly to goal attainment; internal consistency echoes independent yet goal-consistent design of control elements".

contacting and building relationships. This finding is particularly important since prior research has considered organisation design and structure merely as a contextual variable, rather than as a MCS that senior management can use as a means of directing employee behaviour within an organisation (Malmi & Brown, 2008). Furthermore, it was also argued that cultural controls play a dominant role in the business units' MCSPs. Indeed, the interviewees emphasised Tekla's widely shared organisational culture which promotes high empowerment and an atmosphere that allows everything to be questioned. However, irrespective of the engineering-oriented personnel and organisation, the presence of this culture seemed not to weaken the role of strategies and to strengthen the role of diagnostic measurement (Kasurinen, 2002).

Conversely, it was argued that not only the senior management but also employees at lower organisational levels placed considerably effort on strategy work in both B&C and I&E. In addition, the budgeting (or rolling forecasting) was perceived as important but however, it was not argued to play more than a neutral role in both MCSPs. Hence, it seems that the MCSPs of B&C and I&E are characterised more by "organic" or informal controls, as opposed to "mechanistic" or formal controls. This lends support to the findings of Marginson (1999) who found the control situation of a major British organisation to be of informal nature. The final comment made by the Executive Vice President responsible for B&C succinctly highlights this important role of informal controls in the case company: *'People are divided into certain main categories according to their social style. Other people want, they are more like "planners", they want a more strict remit whereas others are more in that "not so strict limits and more autonomy". Our employees are emphasised in this "not so strict limits and more autonomy" category, when the majority is in that crib. And thus it means that then there's less such steering that is strict. Such a group doesn't need them that much. Then the group which according to their social style belongs to the category expecting more precise areas of responsibility and so, they suffer a bit from it, because majority of the organisation don't even perceive them as necessary.'*

How can the package configurations be understood in the light of Simons' levers of control framework (beliefs, boundary, diagnostic and interactive systems)? First, cultural controls, i.e. the widely shared organisational culture along with the deeply instilled values influencing all aspects of organisational activity, seem to align well with Simons' beliefs systems. Second, since managers pay

frequent and regular attention to the participative and dialogue type planning process and, hence, are personally involved in it, the planning controls (strategic planning and BSC) can be argued to work as an interactive control system within the business units. Moreover, as budgeting (or rolling forecasting) and the incentive systems of Tekla allow managers to monitor and reward the achievement of pre-established goals, it is argued here that both cybernetic controls and reward and compensation controls act as a diagnostic control system. Finally, the administrative controls were argued to encourage certain types of work, contact and relationships, and to enable employees' consistent and predictable behaviour. Therefore, in Simons' terms, they can be considered as boundary systems. This illustration indicates that the business units have an internally consistent MCSP where MCS seem to complement each other in an attempt to achieve similar ends. However, the above depiction does not lend support to the notion of Simons (1995), according to which strategic planning can never be an interactive control system.

The final point deserving further discussion is the finding that an internally consistent MCSP can be of assistance in fostering organisational ambidexterity. Specifically, it is depicted in the foregoing how a set of MCS may collectively define a context that allows exploitation and exploration to concurrently flourish. However, it can also be discussed which elements of the control package seem to contribute to the attainment of exploitation and which ones are more likely to promote exploration. This discussion does not apply to structural ambidexterity, since the contribution of administrative controls, and especially organisation structure, seems fundamental. In terms of contextual ambidexterity, however, the empirical evidence suggests that cybernetic controls (budgeting or rolling forecasting) are likely to support exploitation whereas cultural and planning controls seem to encourage exploration. Administrative controls, on the other hand, can be thought to foster both exploitation and exploration.

In particular, this is due to (1) the role of budgeting in promoting efficiency, control, certainty, and variance reduction, (2) the role of organisation culture and values in encouraging search, discovery, and innovation, (3) strategic planning and the BSC providing '*room for innovation*' (Senior Vice President, I&E), and (4) the role of administrative controls in encouraging certain types of work, contact and relationships (i.e. control and certainty) as well as in supporting autonomy. Also, it is worth noting that the idea of accounting-centric MCS encouraging employees to innovate and

challenge outdated traditions and practices (i.e. to engage in exploration) was perceived as odd. When asked what would be the device through which such behaviour could be encouraged, most of the respondents referred to employees and recruitment. This is in line with the notion of Merchant & Van der Stede (2003), according to whom the selection and placement can sometimes be regarded as the single most important elements of an MCS (here MCSP). In sum, in light of the evidence of this case study, it seems that accounting-centric and more formal MCS are likely to foster exploitation whereas more informal and “organic” controls seem to contribute to the attainment of exploration.

8. CONCLUDING REMARKS

8.1 SUMMARY

This empirical case study sought to examine the operation of management control systems as a package and the performance implications of MCSPs at the strategic business unit level in a Finnish listed company – Tekla Oyj. Drawing on the typology presented by Malmi & Brown (2008), the study endeavoured to uncover what kind of MCSP configurations exist at the SBU level and to compare and contrast how these control packages and their functionality stand vis-à-vis each other. In addition, this thesis examined whether control packages of certain kind, if any, enable a firm to jointly pursue both exploitative and explorative orientation, i.e. to execute ambidextrous strategy. By analysing eight interviews conducted at the senior and middle management level this thesis contributes to a larger research project on management control systems and their operation as a package.

Several research findings emerge from the study. First, the MCSPs of two distinct business units were found to be considerably akin to each other and equally functional in the face of different contingencies. Specifically, the MCSPs of the business units were characterised by (1) a participative and coherent planning process, (2) BSCs used “in a tableau de bord fashion”, (3) a company-wide budgeting (or rolling forecasting) process acting as a primary cybernetic control system, (4) a partially separate incentive system from other controls, (5) organisation and governance structures emphasising decentralisation and empowerment, and (6) an overarching and deeply instilled organisation culture. The global virtual organisation of B&C was argued to constitute the main difference between the business units. As a general conception, the packages were argued to lay emphasis on “organic” and informal controls as opposed to “mechanistic” and formal controls.

In respect of the interplay between the control package elements, the cultural controls at the bottom were argued to represent broad, yet subtle controls that are slow to change and, thus, to provide a contextual frame for other controls. Planning, cybernetic, and administrative controls in the middle, on the other hand, were believed to be interrelated since planning and cybernetic controls appeared to

be tightly linked in practice and administrative controls were found to create the structure in which they are exercised on a recurring basis. Finally, reward and compensation controls were asserted to remain relatively separate from other package elements due to their partial determination by factors beyond strategic and action plans as well as budgetary targets.

Notwithstanding the considerably different contingency factors faced by the business units, the fairly akin MCSPs of B&C and I&E were found to be equally functional on the basis of subjective and objective measures. This questions the basic idea of contingency theory that the effectiveness of an MCSP hinges on the level of fit or alignment between the contingent variables and the MCSP. Therefore, it was argued that the contingency factors might rather have an influence on company level MCS than on MCS at the business unit level. This finding also raises a question about potential equifinality of the control packages. That is to say, if two fundamentally similar MCSPs can result in an equally good final state even in the face of different contingencies, can two different MCSPs be equally functional or effective in the face of similar contingencies, i.e. can the package configurations be equifinal.

In respect of organisational ambidexterity, it was argued that an internally consistent package of controls together with a sound selection and use of control package elements may play a key role in fostering organisational ambidexterity. It was argued that administrative controls are likely to act as an antecedent of structural ambidexterity, while cybernetic, cultural, administrative, and planning controls contribute to the establishment of “discipline”, “stretch”, “support”, and “trust”, respectively. In other words, these controls were argued to collectively contribute to the establishment of an effective organisation context that allows contextual ambidexterity to occur. Finally, even though particular attention was paid to how an MCSP as a whole contributes to the attainment of organisational ambidexterity the findings suggest that accounting-centric and more formal MCS are likely to foster exploitation whereas more informal and “organic” controls seem to foster exploration.

In sum, it seems that an effective organisational control can be attained by means of “organic” and informal controls without relying heavily on accounting-centric controls. In effect, it can also be argued that it could be in the best interest of the senior management to lay stress on informal controls

as part of their company's MCSP. Indeed, emphasising informal controls would not only provide an attracting way to direct employee behaviour but also potentially assist an organisation in attaining explorative capabilities which in conjunction with exploitative capabilities allow organisational ambidexterity to flourish.

8.2 LIMITATIONS OF THE STUDY AND AVENUES FOR FUTURE RESEARCH

This study is subject to a number of limitations. First, even though the typology of Malmi & Brown (2008) was argued to provide us with an umbrella under which MCS packages can be studied in a more comprehensive fashion, it also provides us with a somewhat predetermined framework for MCSP. That is, since the definition of MCS used in this study asserts that management controls include all the devices and systems managers use to ensure that the behaviours and decisions of their employees are consistent with the organisation's objectives and strategies, there is a possibility that, in effect, all MCS having an effect on employee behaviour are not necessarily captured by the framework of Malmi & Brown (2008). It should be remembered, however, that this typology builds upon a wide array of MCS research and is, therefore, likely to encompass the most relevant and common MCS operating within organisations.

Second, a caveat of the study is that the analysis is primarily based on the subjective assertions of interviewees. For instance, it has been posited that when asked about the connections the organisation has made between its strategic intent and the means by which it hopes to realise them, senior managers may have a need to elaborate their strategies more precisely in order to maintain a good fit between objectives, plans and performance measures (Otley, 1999). In addition, the control package (and especially administrative controls in it) of I&E was fairly new to the interviewees which may have had an effect on the picture and opinion that they have about these controls and their functionality. However, this study sought to avoid this caveat, as far as possible, by using various sources of evidence to provide multiple measures of the same issue (triangulation).

Third, this study is based on a single case from which it is difficult to make generalisation to wider population. Also, care is needed when interpreting the results since the packages and the linkages

between the controls are not necessarily optimal. However, the research findings of this study encourage further examination of management control systems packages, the configurations they take in practice, the interplay between various control mechanisms as well as the antecedents of organisational ambidexterity. Indeed, future research should not only exert more effort to examine the configurations that management control systems packages take in practice in various contexts but also to further uncover how various control package elements interrelate with each other.

For example, are there trade-offs between control package elements? Do administrative controls play a key role in other control packages and if yes, in which industries? What are the manners in which a BSC is used as part of an MCSP – e.g. in a “management by objectives” fashion, as an “information system” or perhaps in a way that resembles the French *tableau de bord*? What is the role of reward and compensation controls in relation to other control elements and in steering employee behaviour within an organisation? Can an informal and “organic” control package be equally functional with a package relying primarily on formal and “mechanistic” controls? Do cultural controls really form a contextual frame for other controls and are planning, cybernetic and administrative controls tightly interrelated in practice? Furthermore, both configurations and linkages between the control package elements should be addressed against the functionality and/or performance they produce. For example, is an internally consistent control package a prerequisite for organisational ambidexterity? What are the configurations through which it could be attained and in which settings? Do we need all elements of an MCSP to establish an effective context for organisational ambidexterity to occur?

These questions are likely to provide fruitful avenues for future research but addressing them is by no means easy since the operation of management control systems as a package and organisational ambidexterity are arguably multifaceted phenomena. Therefore, larger research teams and research programs, such as the one to which this study is a subordinate, are presumably necessary when studying these issues. In respect of research methods, longitudinal case studies and large-sample empirical studies are believed to provide the most appropriate approaches forward. However, the interviews conducted for this thesis lend support to the notion of Malmi & Brown (2008) that interviews are likely to provide an appropriate means to collect large datasets, rather than questionnaire surveys. This is due mainly to the need to ascertain that the interviewees have understood the concepts and issues of interest whereby the findings are likely to stem from rigorous

scientific research. The above questions and points are of considerable relevance, since understanding the configurations and interplay between the MCSP elements and the association of MCSP with organisational ambidexterity is not only likely to fill a major gap in the extant body of literature but also to help practitioners in coping with the inevitable challenge of firm prosperity.

REFERENCES

- Abernethy, M.A., & Brownell, P. (1997). Management control systems in research and development organizations: The role of accounting, behavior and personnel controls. *Accounting, Organizations and Society*, 22, 233–248.
- Abernethy, M.A., & Brownell, P. (1999). The role of budgets in organizations facing strategic change: an exploratory study. *Accounting, Organizations and Society*, 24, 189–204.
- Abernethy, M.A., & Chua, W.F. (1996). Field Study of Control System “Redesign”: The Impact of Institutional Process on Strategic Choice. *Contemporary Accounting Research*, 13 (2), 569–606.
- Adler, P.S., Goldoftas, B., & Levin, D. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, 10, 43–68.
- Ahrens, T., & Dent, J.F. (1998). Accounting and Organizations: Realising the Richness of Field Research. *Journal of Management Accounting Research*, 10, 1–39.
- Andon, P., Baxter, J., & Chua, W. F. (2007). Accounting Change as Relational Drifting: A Field Study of Experiments with Performance Measurement. *Management Accounting Research*, 18, 273–308.
- Anthony, R. (1965). *Planning and Control Systems: A Framework for Analysis*. Boston, Harvard University.
- Alvesson, M., & Kärreman, D. (2004). Interfaces of control. Technocratic and socio-ideological control in a global management consultancy firm. *Accounting, Organizations and Society*, 29, 423–444.

Argyris, C. (1977). Organizational learning and management information systems. *Accounting, Organizations and Society*, 2, 113–123.

Baiman, S., & Rajan, M.V. (1995). The Informational Advantages of Discretionary Bonus Schemes. *The Accounting Review*, 70 (4), 557–579.

Bedford, D.S. (2006). *PhD Proposal*. School of Accounting, University of Technology, Sydney.

Bisbe, J., Batista-Foquet, J., & Chenhall, R. (2007). Defining management accounting constructs: A methodological note on the risks of conceptual misspecification. *Accounting, Organizations and Society*, 32, 789–820

Bisbe, J., & Otley, D. (2004). The effects of the interactive use of management control systems on product innovation. *Accounting, Organizations and Society*, 29, 709–737.

Beckman, C.M. (2006). The Influence of Founding Team Company Affiliations on Firm Behavior. *Academy of Management Journal*, 4, 741–758.

Bonner, S.E., & Sprinkle, G.B. (2002). The Effects of Monetary Incentives on Effort and Task Performance: Theories, Evidence, and a Framework for Research. *Accounting, Organizations and Society*, 27, 303–345.

Bourguignon, A., Malleret, V., & Nørreklit, H. (2004). The American balanced scorecard versus the French tableau de bord: the ideological dimension. *Management Accounting Research*, 15, 107–134.

Bradach, J. (1997). Using the Plural Form in the Management of Restaurant Chains. *Administrative Science Quarterly*, 42, 276–303.

Brickley, J.A, Smith, C.W., & Zimmerman, J.L. (2007). *Managerial Economics and Organizational Architecture*. Fourth Edition. McGraw-Hill.

Brown, D. A. (2005). *Management Control Systems as a Coupled Package: An Analytical Framework and Empirically Grounded Implications*. PhD Thesis. University of Technology, Sydney.

Burney, L., & Widener, S.K. (2007). Strategic performance measurement systems, job-relevant information, and managerial behavioural responses – role stress and performance. *Behavioral Research in Accounting*, 19, 43–69.

Burns, T., & Stalker, G.M. (1961). *The management of innovation*. London: Tavistock.

Chenhall, R.H. (2003). Management control systems design within its organizational context: findings from contingency-based research and directions for the future. *Accounting, Organizations and Society*, 28, 127–168.

Chenhall, R.H. (2005). Integrative strategic performance measurement systems, strategic alignment of manufacturing, learning and strategic outcomes: an exploratory study. *Accounting, Organizations and Society*, 30, 395–422.

Cooper, D.J., & Morgan, W. (2008). Case Study Research in Accounting. *Accounting Horizons*, 22 (2), 159–178.

Davila, T. (2005). The Promise of Management Control Systems for Innovation and Strategic Change, in Chapman, C. S. (ed.). *Controlling Strategy: Management, Accounting, and Performance Measurement*, Oxford: Oxford University Press, 37–61.

Davis, S., & Albright, T. (2004). An investigation of the effect of balanced scorecard implementation on financial performance. *Management Accounting Research*, 15, 135–153.

Dent, J.F. (1990). Strategy, Organisation and Control: Some possibilities for accounting research. *Accounting, Organizations and Society*, 15, 3–25.

Drury, C. (2004). *Management and cost accounting*. London: Thomson.

Duncan, R. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. H. Killman, L. R. Pondy & D. Sleven (Eds.), *The management of organization, 1*: 167–188. New York: North Holland.

Ekholm, B-G., & Wallin, J. (2001). Is the annual budget really dead? *The European Accounting Review*, 9 (4), 519–539.

Fisher, J.G. (1998). Contingency Theory, Management Control Systems and Firm Outcomes: Past Results and Future Directions. *Behavioral Research in Accounting*, 10, 47–64.

Flamholtz, E.G. (1983). Accounting, budgeting and control systems in their organizational context: theoretical and empirical perspectives. *Accounting, Organizations and Society*, 8, 153–169.

Gerdin, J. (2005). Management accounting system design in manufacturing departments: an empirical investigation using a multiple contingencies approach. *Accounting, Organizations and Society*, 30, 99–126.

Ghosal, S., & Bartlett, C. (1994). Linking organizational context and managerial action: The dimensions of quality in management. *Strategic Management Journal*, 15, 91–112.

Gibson, C.B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47, 209–226.

Govindarajan, V. (1984). Appropriateness of accounting data in performance evaluation: An empirical examination of environmental uncertainty as an intervening variable. *Accounting, Organizations and Society*, 9 (2), 125–135.

Green, S., & Welsh, M. (1988). Cybernetics and Dependence: Reframing the Control Concept. *Academy of Management Review*, 13 (2), 287–301.

Gresov, C., & Drazin, R. (1997). Equifinality: Functional equivalence in organization design. *Academy of Management Review*, 22 (2), 403–428.

Hall, M. (2008). The effect of comprehensive performance measurement systems on role clarity, psychological empowerment and managerial performance. *Accounting, Organizations and Society*, 33, 141–163.

Hansen, S.C., & Van der Stede, W.A. (2004). Multiple facets of budgeting: an exploratory analysis. *Management Accounting Research*, 15, 415–439.

Hatch, M.J. (1997). *Organization theory: Modern, symbolic, and postmodern perspectives*. Oxford: Oxford University Press.

He, Z.-L., & Wong, P.-K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15, 481–494.

Henri, J. (2006). Management control systems and strategy: a resource-based perspective. *Accounting, Organizations and Society*, 31, 529–558.

Huikku, J. (2007). Explaining the non-adoption of post-completion auditing. *European Accounting Review*, 16, 363–398.

Humphrey, C., & Scapens, R.W. (1996). Theories and case studies of organizational accounting practices: limitation or liberation? *Accounting, Auditing & Accountability Journal*, 9 (4), 86–106.

Ittner, C.D., Larcker, D.F., & Randall, T. (2003). Performance implications of strategic performance measurement in financial services firms. *Accounting, Organizations and Society*, 28, 715–741.

Jansen, J.J.P., George, G., Van den Bosch, F.A.J., & Volbreda, H.W. (2008a). Senior Team Attributes and Organizational Ambidexterity: The Mediating Role of Transformational Leadership. *Journal of Management Studies*, 45, 982–1007.

Jansen, J.J.P., Van den Bosch, F.A.J., & Volbreda, H.W. (2005). Exploratory innovation, Exploitative innovation, and Ambidexterity: The Impact of Environmental and Organizational Antecedents. *Smalenbach Business Review*, 57, 351–363.

Jansen, J.J.P., Van den Bosch, F.A.J., & Volbreda, H.W. (2006). Exploratory innovation, Exploitative innovation, and Performance: Effects of Organizational Antecedents and Environmental Moderators. *Management Science*, 52, 1661–1674.

Jansen, J.J.P., Tempelaar, M.P., Van den Bosch, F.A.J., & Volbreda, H.W. (2008b). Structural Differentiation and Ambidexterity: The Mediating Role of Integration Mechanisms. *Organization Science*, (forthcoming).

Kaplan, R.S., & Norton, D.P. (1992). The balanced scorecard: measures that drive performance. *Harvard Business Review*, January–February, 71–79.

Kaplan, R.S., & Norton, D.P. (1993). Putting the Balanced Scorecard to Work. *Harvard Business Review*, September–October, 134–147.

Kaplan, R.S., & Norton, D.P. (1996a). Using the balanced scorecard as a strategic management system. *Harvard Business Review*, January–February, 75–85.

Kaplan, R.S., & Norton, D.P. (1996b). *The Balanced Scorecard: Translating Strategy into Action*. Boston, MA: Harvard Business School Press.

Kasurinen, T. (2002). Exploring management accounting change: the case of balanced scorecard implementation. *Management Accounting Research*, 13, 323–343.

- Keating, P.J. (1995). A Framework for Classifying and Evaluating the Theoretical Contributions of Case Research in Management Accounting. *Journal of Management Accounting Research*, 7, 66–86.
- Kenis, I. (1979). Effects of Budgetary Goal Characteristics on Managerial Attitudes and Performance. *The Accounting Review*, 4, 707–721.
- Kloot, L. (1997). Organizational learning and management control systems: responding to environmental change. *Management Accounting Research*, 8, 47–73.
- Langfield-Smith, K. (2007). A Review of Quantitative Research in Management Control Systems and Strategy, in Chapman, C. S., Hopwood, A. G. and Shields, M. D. *Handbook of Management Accounting Research*, Vol 2. 753–783.
- Levinthal, D.A., & March, J.G. (1993). The myopia of learning. *Strategic Management Journal*, 14, 95–112.
- Lubatkin, M.H., Simsek, Z., Ling, Y., & Veiga, J.F. (2006). Ambidexterity and Performance in Small- to Medium-Sized Firms: The Pivotal Role of Top Management Team Behavioral Integration. *Journal of Management*, 5, 646–672.
- Malina, M.A., & Selto, F.H. (2001). Communicating and controlling strategy: An empirical study of the effectiveness of the balanced scorecard. *Journal of Management Accounting Research*, 13, 47–90.
- Malmi, T., & Brown, D.A. (2008). Management Control Systems as a Package – Opportunities, Challenges and Research Directions. *Management Accounting Research*, 19, 287–300.
- March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2, 71–87.

- Marginson, D.E.W. (1999). Beyond the budgetary control system: towards a two-tiered process of management control. *Management Accounting Research*, 10, 203–230.
- Meek, V.L. (1982). Organizational culture: origins and weaknesses. *Organization Studies*, 9, 453–473.
- Merchant, K.A. (1981). The Design of the Corporate Budgeting System: Influences on Managerial Behavior and Performance. *The Accounting Review*, 4, 813–829.
- Merchant, K.A., & Otley, D.T. (2007). A Review of the Literature on Control and Accountability, in Chapman, C. S., Hopwood, A. G. and Shields, M. D. *Handbook of Management Accounting Research, Vol 2*. 785–802.
- Merchant, K.A., & Van der Stede, W.A. (2003). *Management control systems: performance measurement, evaluation and incentives*. Harlow, UK: Financial Times/Prentice Hall.
- Nørreklit, H. (2000). The balance on the balanced scorecard – a critical analysis of some of its assumptions. *Management Accounting Research*, 11, 65–88.
- O'Reilly, C.A. (1989). Corporations, cultures and commitment. *California Management Review*, 31, 9–23.
- O'Reilly, C.A., & Tushman, M.L. (2004). The Ambidextrous Organization. *Harvard Business Review*, 82, 74–81.
- O'Reilly, C.A., & Tushman, M.L. (2008). Ambidexterity as a Dynamic Capability: Resolving the Innovator's Dilemma. *Research in Organizational Behavior*, 28, 185–206.
- Otley, D.T. (1978). Budget Use and Managerial Performance. *Journal of Accounting Research*, 16 (1), 122–149.

Otley, D.T. (1980). The Contingency Theory of Management Accounting: Achievement and Prognosis. *Accounting, Organizations and Society*, 5 (4), 413–428.

Otley, D.T., & Berry, A. (1980). Control, Organization and Accounting. *Accounting, Organizations and Society*, 5 (2), 231–244.

Otley, D.T., & Berry, A. (1994). Case study research in management accounting and control. *Management Accounting Research*, 5, 45–65.

Otley, D.T. (1999). Performance management: a framework for management control systems research. *Management Accounting Research*, 10, 363–382.

Otley, D.T. (2001). Extending the boundaries of management accounting research: developing systems for performance management. *British Accounting Review*, 33, 243–261.

Peters, T., & Waterman, R.H. (1982). *In Search of Excellence: Lessons from America's Best-Run Companies*. New York: Harper and Row.

Raisch, S., & Birkinshaw, J. (2008). Organizational Ambidexterity: Antecedents, Outcomes, and Moderators. *Journal of Management*, 34 (3), 375–409.

Sandelin, M. (2008). Operation of Management Control Practices as a Package – A Case Study on Control System Variety in a Growth Firm Context. *Management Accounting Research*, 19, 324–343.

Scapens, R.W. (1990). Researching management accounting practice: the role of case study methods. *British Accounting Review*, 22, 259–281.

Simons, R. (1990). The role of management control systems in creating competitive advantage: new perspectives. *Accounting, Organizations and Society*, 15, 127–143.

Simons, R. (1991). Strategic orientation and top management attention to control systems. *Strategic Management Journal*, 12, 49–62.

Simons, R. (1995). *Levers of control: how managers use innovative control systems to drive strategic renewal*. Boston, MA: Harvard Business School Press.

Simons, R. (2000). *Performance measurement and control systems for implementing strategy*. Upper Saddle River, NJ: Prentice Hall.

Smith, W.K., & Tushman, M.L. (2005). Managing Strategic Contradictions: A Top Management Model for Managing Innovation Streams. *Organization Science*, 5, 522–536.

Tuomela, T-S. (2005). The interplay of different levers of control: A case study of introducing a new performance measurement system. *Management Accounting Research*, 16, 293–320.

Tushman, M.L., & O'Reilly, C.A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38, 8–30.

Vollmer, H. (2009). Management accounting as normal social science. *Accounting, Organizations and Society*, 34, 141–150.

Widener, S.K. (2007). An empirical analysis of the levers of control framework. *Accounting, Organizations and Society*, 32, 757–788.

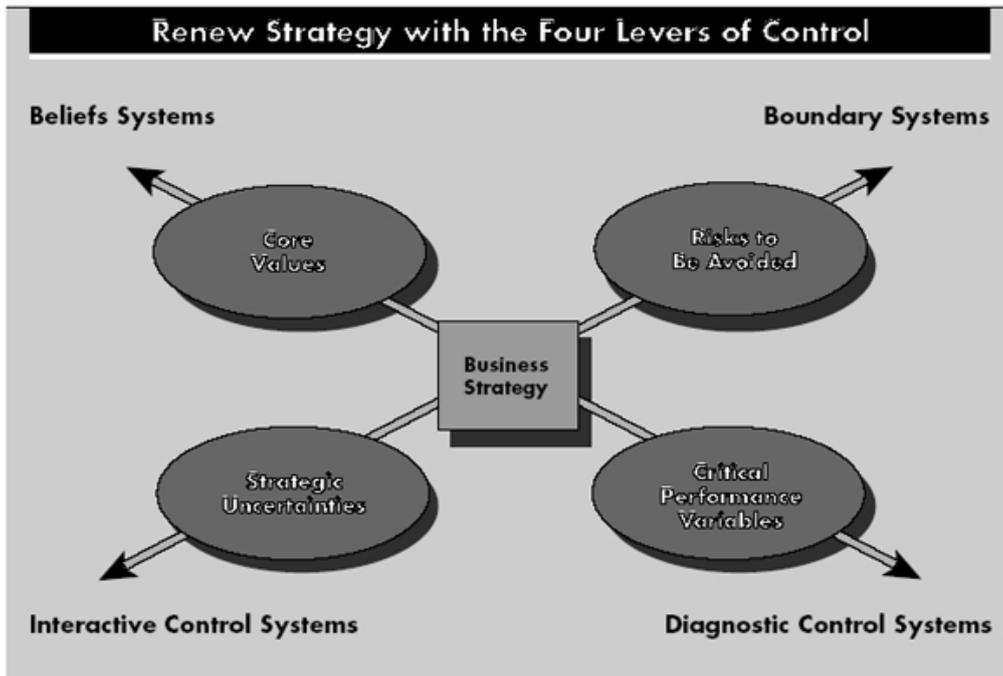
APPENDICES

APPENDIX A: MANAGEMENT CONTROL SYSTEMS PACKAGE

Cultural Controls						
Clans		Values			Symbols	
Planning		Cybernetic Controls				Reward and Compensation
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measurement Systems	
Administrative Controls						
Governance Structure		Organisation Structure			Policies and Procedures	

Source: Malmi & Brown (2008)

APPENDIX B: SIMONS' LEVERS OF CONTROL FRAMEWORK



APPENDIX C: DESCRIPTION OF MCSP ELEMENTS

Elements	Description	Components
Planning	Ex-ante form of control (Flamholtz et al., 1985); first it sets out the goals of the functional areas of the organisation thereby directing effort and behaviour; second, it provides the standards to be achieved in relation to the goal, making clear the level of effort and behaviour expected; third, it enables congruence by aligning goals across the functional areas of an organisation, thereby controlling the activities of groups and individuals.	Action planning – goals and actions for the immediate future, usually a twelve-month period, are established; has a tactical focus. Long-range planning - the goals and actions for the medium and long run are established; has a more strategic focus.
Cybernetic	There are five characteristics of cybernetic control (Green & Welsh, 1988). First, there are measures that enable quantification of an underlying phenomenon, activity or system. Second, there are standards of performance or targets to be met. Third, there is a feedback process that enables comparison of the outcome of the activities with the standard. This variance analysis arising from the feedback is the fourth aspect of cybernetic control systems. Fifth is the ability to modify the system’s behaviour or underlying activities.	<i>Budgets</i> (Bunce, Fraser & Woodcock, 1995; Hansen, Otley & Van der Stede, 2003) <i>Financial measures</i> (Ittner & Larcker, 1998) <i>Non-financial measures</i> (Ittner & Larcker, 1998) <i>Hybrids</i> that contain both financial and non-financial measures such as the Balanced Scorecard (BSC) (Greenwood, 1981; Kondrasuk, 1981; Ittner & Larcker, 1998; Kaplan & Norton, 1992, 1996 a b, 2001 a b; Malina & Selto, 2001)
Reward/compensation	Motivating and increasing the performance of individuals and groups through attaching rewards to control effort direction, effort duration, and effort intensity.	Attaching rewards and or compensation to achievement of goals (Flamholtz et al., 1985; Bonner & Sprinkle, 2002)
Administrative	Administrative control systems are those that direct employee behaviour through the organizing of individuals (organisation design and structure), the monitoring of behaviour and who employees are made accountable to for their behaviour (governance); and through the process of specifying how tasks or behaviours are to be performed or not performed (policies and procedures), (Simons, 1987).	<i>Organisational design and structure</i> (Otley & Berry, 1980; Emmanuel, Otley & Merchant, 1990; Abernethy & Chua, 1996; Alvesson & Karreman, 2004) <i>Governance structures</i> within the firm (Abernethy & Chua, 1996) <i>Procedures and policies</i> (Macintosh & Daft, 1987; Simons, 1987)
Culture	The values, beliefs and social norms which are established influence employees behaviour. (Birnberg & Snodgrass, 1988; Dent, 1991; Pratt & Beaulieu, 1992).	<i>Value-based controls</i> (Simons, 1995) <i>Clan controls</i> (Ouchi, 1979) <i>Symbols</i> (Schein, 1997)

Source: Malmi & Brown (2008)

APPENDIX D: A SCHEDULE OF INTERVIEWS CONDUCTED

Interview	Date	Interviewee	Subject of Interview	Duration (min)
1	22 January 2009	Executive Vice President, CEO's deputy, responsible for Building & Construction business area (EVP, B&C)	MCSP and Organisational Ambidexterity	90
2	22 January 2009	CFO	MCSP and Organisational Ambidexterity	90
3	23 January 2009	Vice President, Director responsible for Human Resources (VP, HR)	MCSP (emphasis on reward and compensation, and on cultural controls) and Organisational Ambidexterity	90
4	27 March 2009	Segment Director, Precast, Building & Construction (SD 1, B&C)	MCSP and Organisational Ambidexterity	90
5	27 March 2009	Segment Director, Engineering, Building & Construction (SD 2, B&C)	MCSP and Organisational Ambidexterity	90
6	31 March 2009	Senior Vice President, Director responsible for Infra & Energy business area (SVP, I&E)	MCSP and Organisational Ambidexterity	90
7	1 April 2009	Segment Director, Civil Engineering and Water, Infra & Energy (SD 1, I&E)	MCSP and Organisational Ambidexterity	90
8	1 April 2009	Segment Director, Public Administration, Infra & Energy (SD 2, I&E)	MCSP and Organisational Ambidexterity	90

APPENDIX E: CONTEXTUAL AMBIDEXTERITY CONSTRUCT

<p>*AMBIDEXTERITY IS THE MULTIPLICATIVE INTERACTION OF ALIGNMENT AND ADAPTABILITY</p> <p>Alignment</p> <ol style="list-style-type: none"> 1 The management systems in this organisation work coherently to support the overall objectives of this organisation 2 The management systems in this organisation cause us to waste resources on unproductive activities 3 People in this organisation often end up working at cross-purposes because our management systems give them conflicting objectives <p>Adaptability</p> <ol style="list-style-type: none"> 1 The management systems in this organisation encourage people to challenge outmoded traditions/practices/sacred cows 2 The management systems in this organisation are flexible enough to allow us to respond quickly to changes in our markets 3 The management systems in this organisation evolve rapidly in response to shifts in our business priorities

Source: Gibson & Birkinshaw (2004)

APPENDIX F: AMBIDEXTROUS ORIENTATION CONSTRUCT

*BEFORE MODIFICATION	
Exploitative orientation	Explorative orientation
FIRM THAT:	FIRM THAT:
1 Commits to (improve quality and) lower cost	1 Looks for novel technological ideas by thinking "outside the box"
2 Continuously improves the reliability of its products and services	2 Bases its success on its ability to explore new technologies
3 Increases the levels of automation in its operations	3 Creates products or services that are innovative to the firm
4 Constantly surveys existing customers' satisfaction	4 Looks for creative ways to satisfy its customers' needs
5 Fine-tunes what it offers to keep its current customers satisfied	5 Aggressively ventures into new market segments
6 Penetrates more deeply into its existing customer base	6 Actively targets new customer groups
*AFTER MODIFICATION	
Exploitative orientation	Explorative orientation
FIRM THAT ENDEAVOURS AND HAS SUCCEEDED IN:	FIRM THAT ENDEAVOURS AND HAS SUCCEEDED IN:
1 Lowering costs	1 Looking for novel technological ideas by thinking "outside the box"
2 Improving the reliability of its products and services	2 Basing its success on its ability to explore new technologies
3 Increasing the levels of automation in its operations	3 Creating products or services that are innovative to the firm
4 Increasing existing customers' satisfaction	4 Looking for creative ways to satisfy its customers' needs
5 Fine-tuning what it offers to keep its current customers satisfied	5 Aggressively venturing into new market segments
6 Penetrating more deeply into its existing customer base	6 Actively targeting new customer groups

Source: Lubatkin et al (2006)