SENIOR MANAGEMENT USE OF MANAGEMENT CONTROL SYSTEMS IN LARGE COMPANIES

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Abstract

The use of management control systems in large companies remains relatively unexplored. Indeed, only a few studies of senior managers' use of management control systems consider multiple controls in companies. This paper explores data from a comprehensive survey of the use of management control systems in 120 strategic business units at some of the largest companies in Denmark. The paper identifies how senior management guides and controls their subordinates to meet their companies' objectives. The presentation and discussion of the results, including citations from executive managers, use Ferreira and Otley's (2009) conceptual and holistic framework for performance management systems, supplemented by elements of contextual factors and organisational culture. Further, selected researchers' perceptions of the purpose of using management control systems are related to practitioners' ideas of the purpose of using such systems. Finally, the paper discusses the usability of the 12 questions in Ferreira and Otley's framework for exploring empirical survey data.

Keywords: Management Control Systems, Large Companies, Denmark

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1. INTRODUCTION

Many empirical research projects have investigated one or two control systems (e.g. Chong and Mahama, 2014; Ho et al., 2014); however, surprisingly few have looked empirically at a broad scope of management control systems (MCS) in companies (Malmi and Sandelin, 2010; Strauss et al., 2013). Research in MCS has focused on 'how to design MCS in order to produce the desired outcome' (Malmi and Brown, 2008 p. 288). By expanding MCS studies to include multiple controls within a company, it is possible to avoid focusing solely on accounting-based controls and to include the effects of informal and non-calculative controls such as value statements and administrative controls. The same trend is seen in research literature in the area of design and the use of MCS in Danish companies (e.g. Israelsen et al., 1996; Jensen et al., 2011; Lennon, 2012; Madsen, 2012); in fact, no MCS research studies grounded in a large data sample include multiple controls in Danish companies. In addition, little empirical evidence exists regarding MCS elements which are seen as important in managing large companies and the factors which senior management see as the key to companies' success.

The purpose of this paper is to provide a snapshot of how senior management in large companies use MCS to affect subordinates' behaviour in order to ensure the most effective and efficient way to fulfil organisational objectives and strategies. Based on data from a comprehensive survey of 120 of Denmark's 318 largest companies, this paper explores senior management's perception of the relative importance of each control mechanism as well as the weight and ranking of different groups of controls in order to direct and manage subordinates' behaviour in the best interests of companies. The paper uses an MCS framework to organise the empirical study of practices as a means of describing and interpreting the results of a large sample of survey data. Additionally, the paper

compares researchers' ideas of the purpose of an MCS package[10] with practitioners' ideas of the purpose of such a package. Finally, the paper discusses the usefulness of the MCS framework when analysing survey data.

The paper is structured as follows. In sections two and three, the concept of MCS is discussed; then, the framework used to analyse the data is selected. In section four, the methods used to develop the empirical study and data collection are described. In section five, the results of the data are explored by using descriptive statistics as well as quotes from the participants. In section six, the paper lists and discusses the key findings of senior managers' use of MCS and discusses researchers' and practitioners' opinions of the purpose of an MCS package. Further, the usability of Ferreira and Otley's (2009) framework when exploring survey data is discussed. Finally, in section seven, the conclusion is drawn, recognising some of the limitations of the study and outlining some avenues for future research.

2. LITERATURE REVIEW

The aim of MCS is to support managers in achieving companies' objectives (Cugueró-Escofet and Rosanas, 2013; Flamholtz, 1996; Merchant and Otley, 2007; Merchant and Van der Stede, 2012; Strauss et al., 2013). MCS have two functions: planning and control activities, and encouraging employees to be creative and to search for opportunities and problem solutions (Mundy, 2010; Simons, 1995). MCS consist of control devices and systems which managers use to direct employee behaviour, such as strategic, tactical, and operational plans; instructions; and values (Ferreira and Otley, 2009; Malmi and Brown, 2008; Merchant and Otley, 2007). MCS include both cybernetic and rule-driven controls, for example, planning, measurement, and reward systems (Flamholtz, 1996). They also include more complex and value-based controls such as cultural and administrative controls (Heinicke et al., 2016; Otley, 2016). In reality, companies operate many systems with similar or near-similar functionality. According to Malmi and Brown (2008), MCS should be studied as one package. Looking at MCS as a package implies that the package contains multiple controls working simultaneously, some overlapping, some depending on or influencing each other; however, they all have the same overall goal, namely to guide and direct employees to achieve a company's objectives. Despite the fact that not all controls are aligned and that they may be both loosely and tightly connected, together they form a package of controls which serves a company's overall goals; hence the term 'management control systems as a package' (Ferreira and Otley, 2009; Grabner and Moers, 2013; Malmi and Brown, 2008; Strauss et al., 2013).

An MCS package has more than one purpose. It must be comprehensive enough to ensure that 'management can be reasonably confident that no major unpleasant surprises will occur' (Merchant and Van der Stede, 2012 p. 12), 'resources are obtained and used effectively and efficiently in the accomplishment of the organisation's objectives' (Anthony, 1965 p. 17), and 'some controls are included to encourage employees to be innovative' (Simons, 1995). Further, an MCS package must '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' (Malmi and Brown, 2008 p. 290). Thus, a company's senior management group has to design a comprehensive MCS package which includes controls which encourage the company to innovate and create. At the same time, the MCS package must ensure that the company has diagnostic[11] controls which help the company perform optimally (Mundy, 2010; Simons, 1995). In recognition of this, managers may combine the controlling and enabling uses of MCS to create dynamic tensions which produce unique organizational capabilities and competitive advantages (Ahrens and Chapman, 2004; Henri, 2006a; March 1991; Mundy, 2010; Simons, 1995; Widener, 2007).

3. CHOICE OF FRAMEWORK

Researchers have developed frameworks to be used for studying a company's MCS as a package (e.g. Anthony, 1965; Ferreira and Otley, 2009; Fisher, 1995; Flamholtz et al., 1985; Malmi and Brown, 2008; Otley, 1980, 1999; Simon, 1995). These MCS frameworks identify various types of controls and variables in the MCS package and highlight the importance of the different controls used in a company as well as of matching the use of controls with the organisational context in order to obtain better performance. The aim of these frameworks is to support researchers in their empirical studies of companies' design and use of MCS. In addition, the frameworks encourage empirical researchers to include the study of multiple MCS within a company and take a holistic look at the MCS and the links between different designs and uses of MCS within an MCS package. However, not all previously published MCS frameworks have been used for empirical survey data; thus, their usability for research which includes large data sets has not been tested.

The Ferreira and Otley (2009) framework (Figure 1)[12] is chosen as the basis for the analysis of this empirical study. This framework is selected from among comprehensive MCS frameworks (e.g. Ferreira and Otley, 2009; Malmi and Brown, 2008; Simons, 1995). The framework is coherent and gives

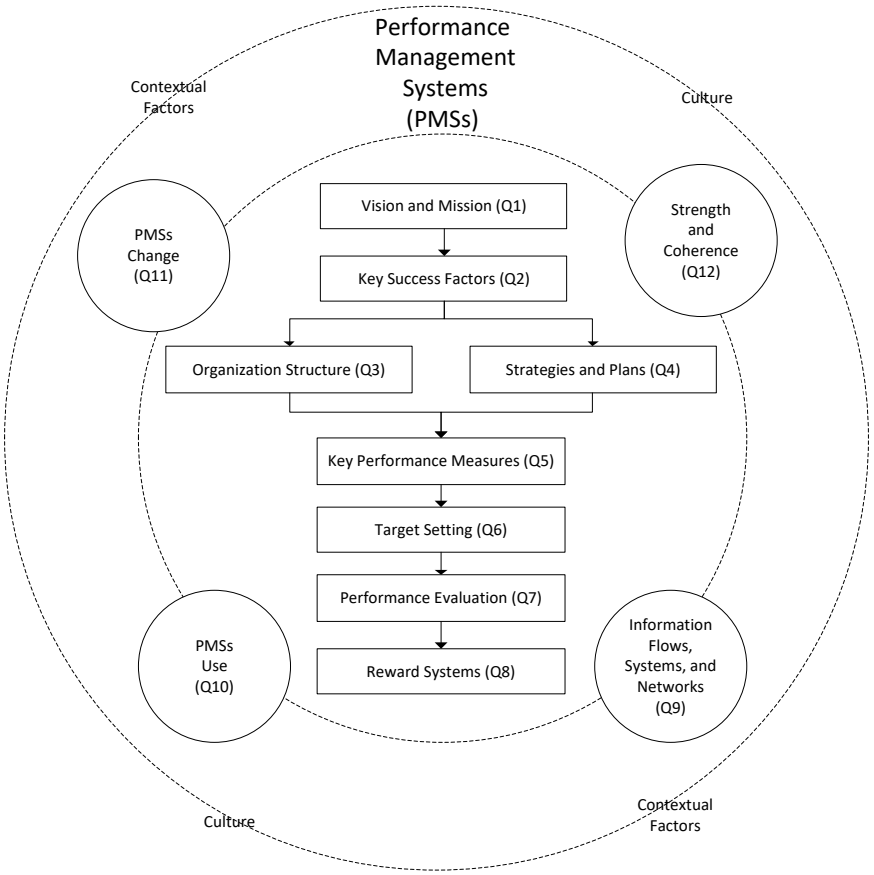
[10] The general conception of the term 'management control systems (MCS) as a package' is a collection of all control devices and systems within an organization which managers use to ensure that subordinates' behaviours are consistent with their organizations' objectives. The controls can be multiform, from traditional accounting controls such as budgets and performance evaluation to broader and more social controls such as administrative and cultural controls. The numbers and types of control are not the same in all organizations. It is a management responsibility to develop an optimal MCS package which will guide and direct subordinates to act in the most efficient and effective way in order to secure organizational objectives (Abernethy and Chau, 1996; Alvesson and Karreman, 2004; Flamholtz et al., 1985; Grabner and Moers, 2013; Malmi and Brown, 2008; Otley, 1980; Simons, 1995; Strauss et al., 2013).

[11] Diagnostic controls are critical performance variables which can be 'used to motivate, monitor, and reward [the] achievement of specified goals' (Simons, 1995 p. 7).

[12] Ferreira and Otley used the term 'performance management' rather than 'management control' because they found that MCS 'has become a more restrictive term than was the original intention' (Ferreira and Otley, 2009 p. 264). Despite Ferreira and Otley's (2009) concerns about the restrictiveness of the term 'MCS', the literature on MCS shows that the broad definitions of MCS are comprehensive in a similar manner to the various definitions of PMS and include all aspects of management and organizational controls at all levels in a company (e.g. Berry et al., 2005; Ferreira and Otley, 2009; Malmi and Brown, 2008).

a guideline for a 'natural way' of presenting MCS because it is organised in accordance with the typical order in which managers are expected to develop and use management control processes. The framework is constructed very specifically by the use of 12 questions, thus ensuring a concise way of studying an organisation's use of MCS. Ferreira and Otley (2009) aimed to build a framework which gives a comprehensive view of controls used for managing organisational performance and provides 'a managerial emphasis, by integrating various dimensions of managerial activity with the control system' (Ferreira and Otley, 2009 p. 266).

Figure 1. The performance management systems (PMSs) framework by Ferreira and Otley, 2009



The framework is organised into three levels. The first covers eight questions which focus on MCS elements. The second consists of four questions regarding the use, interrelationship, coherence, and flexibility between all the MCS used in companies. This second level of questions regarding the use of, and coherence in the use of, MCS is an extension to almost all other MCS frameworks (e.g. Malmi and Brown, 2008; Otley, 1999). Finally, Ferreira and Otley (2009) added a third level which includes organisational culture and contextual factors to the model of their framework. However, Ferreira and Otley (2009) did not consider this third level a part of their framework because they regarded contextual factors and organizational culture 'more as contingent variables that might explain why certain patterns of control are more or less effective, rather than characteristics of the control system that need to be incorporated into a description' (Ferreira and Otley, 2009 p. 267). The framework can be used by practitioners and researchers when identifying a company's design and use of MCS.

The questionnaire used (see section 4) in the empirical study contained more subjects than those covered by Ferreira and Otley's (2009) 12 questions. It also addressed the two areas of organisational culture and external environmental factors, which Ferreira and Otley (2009) explicitly excluded from their framework. In addition to answering Ferreira and Otley's 12 questions (at the first and second levels), the analytical part of this study discusses senior managers' approach to using cultural and contextual factors as active MCS (at the third level) and considers how these controls work compared with other more tangible and internally controlled MCS. Additionally, the study discusses the usability of Ferreira and Otley's (2009) framework to identify, describe, and explore survey data. Finally, the paper compares researchers' perceptions of the purpose of using an MCS package with practitioners' ideas of the purpose of using MCS.

4. METHOD AND DATA COLLECTION

In 2010, Malmi and Sandelin developed the international research project 'Management Control

Systems as a Package' (Malmi and Sandelin, 2010). The purpose of this research project is to map how senior management in large companies apply their management control on middle managers. The research project is designed as a quantitative survey, and the tool used is a comprehensive standardised questionnaire. The questionnaire is structured on the basis of Malmi and Brown's (2008) MCS framework and extended by questions regarding organizational factors, MCS use, and the organizations' environments, whereas the content and definition of the questions are inspired by organizational design literature and strategic management literature on ambidextrous organizations (Malmi and Sandelin, 2010). Despite the questionnaire being based on Malmi and Brown's (2008) framework, this framework is not used to analyse the data. Malmi and Brown's (2008) framework organises MCS into boxes in terms of the types of control but does not, in the same way as Ferreira and Otley's (2009) framework, provide a tool to be used when analysing data. Further, Malmi and Brown's (2008) framework does not include the use, interrelationship, coherence, and flexibility between all the MCS employed in companies. However, Ferreira and Otley (2009) include all these in the second level of their framework. This study describes how the data collection was carried out in Denmark and presents the results of the Danish part of the study.

The ORBIS database was used to select the largest companies in Denmark. The criterion employed to define 'large companies' was 'active private companies with 250 or more employees[13] in 2009 or 2010'. Large companies were chosen because such companies are expected to have more sophisticated needs for MCS (Malmi and Sandelin, 2010). Large companies 'tend to have more power in controlling their operating environment' (Chenhall, 2006 p. 98). In addition, larger numbers of employees, processes, and objectives demand a need for the decentralisation of authority (Chenhall, 2006). Consequently, the use of MCS increases, and MCS which help to achieve integration and which uniform the companies have to be implemented. The lists from ORBIS were checked manually for duplicates and companies which had been closed or sold – all of which were deleted. From this quality-checked total list of 318 companies, a random sample was selected for interviewing. The basis for selection was 'every third company' (Cochran, 1977). In order to ensure a high response rate, five response-enhancing techniques were used (Anseel et al., 2010): 1) the researchers contacted potential respondents personally by phone, 2) sponsorship by Aalborg University and Copenhagen Business School was highlighted, 3) the research topic's (MCS) relevance for the respondents was highlighted, 4) the participants were promised anonymity, and 5) the questionnaires were completed at an interview conducted by two researchers. The interviews typically lasted from two to three hours and were conducted by two researchers to ensure the uniformity and objectivity of the questions. In addition, the interviews were recorded to safeguard response validity. In one sense, this was a classic survey; the sample size was large, the sampling was random, and statistics were used to analyse the data. However, although we used the same questionnaire in all companies, the face-to-face interviews moved the survey in the direction of a cross-sectional field study (Lillis and Mundy, 2005; Merchant and Manzoni, 1989). In addition, the interviews enabled us to collect statements from respondents which supplemented the survey data.

Data were collected from October 2011 to March 2013. With a positive response rate of 74%, 163 companies were contacted in order to obtain the target sample of 120 companies. Of these companies, 72 had more than 1,000 employees and 48 had fewer. In the data, three industry sectors were represented by 56 manufacturing, 19 trade (retail and wholesale), and 45 service companies. Data on the interviewees' positions, educational backgrounds, and durations of employment in the companies they represented are shown in Appendix A. Most questionnaire responses were given as Likert scales of importance or frequency from 1 to 7[14], and the remaining responses were selected from closed lists of categories (e.g. ownership type). There were no right or wrong responses, and 'not applicable' (N/A) was provided as an option for some of the questions. In this study, descriptive statistics are used for analysing similarity, differences, and patterns.

5. THE USE OF MANAGEMENT CONTROL SYSTEMS IN LARGE DANISH COMPANIES

This section presents and interprets the results in terms of how the survey data related to Ferreira and Otley's (2009) questions.

5.1. Question 1 – Vision and mission

Respondents were asked to indicate to what extent 'their vision statement was so concise that subordinates remember it'. On the Likert scale, 75% of the responses were 4 or above. It is not only the answers in Table 1A which show that senior managers prioritise employee knowledge of a company's vision and mission. Some companies make their mission and vision statements visible by writing them on Christmas decorations, posters, brochures, and mouse pads. However, when asked 'if the vision will guide their subordinates to say "no" to some business opportunities', only 59% rated this 4 or above on the scale. Yet, the distribution for the two questions differs. The responses to the first question centred around 4 to 6 on the scale, while responses to the second question were distributed almost equally along the scale, with 10 to 17% for each point (SD 1.95). Thus, even if the mission and vision seem to be important for senior managers, at least some claim that it is not concise enough to guide subordinate behaviour.

[13] In the European Union, large companies are defined as non-subsidiary independent companies which employ more than 250 employees (OECD June 2000).

[14] The Likert scale in the survey is organised as follows. 1: Not at all, 2: To a very low extent, 3: To a lower than medium extent, 4: Medium extent, 5: More than medium extent 6: To a high extent, and 7: To a very high extent. If not otherwise mentioned in this study, this is the scale used when referring to survey responses.

Table 1A. The use of vision, mission, and other value statements as MCS

Please indicate to what extent: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
1Aa. do you count on value and mission statements guiding actions of your subordinates?	120	1	7	4.69	1.61
1Ab is the vision statement so concise that your subordinates remember it at all times?	120	1	7	4.56	1.64
1Ac. do you count on the vision statement to guide the actions of your subordinates?	120	1	7	4.44	1.61
1Ad. is the vision statement so specific that it guides your subordinates to say 'no' to some business opportunities?	120	1	7	3.97	1.95

5.2. Question 2 – Key success factors

Question 2 focuses on 'key success factors (KSFs) that are believed to be central to the organisation's overall future success' and how such factors 'are brought to the attention of managers and employees' (Ferreira and Otley, 2009 p. 267).

In order to identify the key success criteria, respondents were asked to indicate the extent to which they agreed with each of a series of statements regarding ways of gaining success and competing. The statement that 'our success is driven by thorough customer and industry understanding' obtained the highest score with a mean of 6.2. In relation to this high score, respondents added that 'customer and industry understanding is critical' (Company C) (Appendix B shows a list of the respondents which are quoted in this study; in order to ensure the participants' anonymity, the companies are listed by a letter rather than by their names), 'the company's success definitely depends on customer and industry understanding' (Company K), and 'to provide "state of the art" [products and services], we need to know what drives our customers' (Company G). Table 2A shows that retention and satisfying customer needs are the companies' highest priorities. It may be somewhat surprising that in general neither sales price nor product novelty seems to be regarded as the most important factor for company success.

Table 2A. Reasons for company success

Please indicate to what extent you agree with the following: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
2Aa. Our success is driven by thorough customer and industry understanding	120	2	7	6.23	0.92
2Ab. Our SBU succeeds because we deepen and create long-lasting customer relationships	120	3	7	6.03	1.08
2Ac. Our SBU succeeds because we find creative solutions to satisfy our customers' needs	120	2	7	5.65	0.95
2Ad. Our SBU succeeds because we are able to create innovative products/services	120	1	7	4.88	1.65
2Ae. Our SBU succeeds because we increase the level of automation in our operations	120	1	7	4.83	1.58
2Af. Our success depends on market share of our product/service	120	1	7	4.63	1.84
2Ag. Our SBU succeeds because we find new customer segments and needs	120	1	7	4.44	1.42
2Ah. Our success is driven by open collaboration with various organisations	120	1	7	3.93	1.85
2Ai. Our SBU succeeds because we are able to explore and develop new technologies	120	1	7	3.76	1.94
2Aj. We compete on lowest price	120	1	7	3.44	1.86
2Ak. Our success depends on product/ service novelty	120	1	7	3.41	1.76

In relation to how the KSFs are brought to the employees' attention, the survey asked 'if values, purpose, and direction are codified in formal documents' (Table 2B). On the Likert scale, 66.7% answered 6 or 7 about the extent to which values and purpose were codified in formal documents (mean (M) 5.5), and 62% answered 6 or 7 about the extent to which direction was codified (M 5.4). These results show that most large companies codify vision, mission, and KSFs in formal documents. As for the mission and vision, KSFs were also visually highlighted on different platforms. One of the respondents had hung posters with pictures of customers and statements of KSFs in order to roll out a new strategy called 'customers' preferred choice'. This respondent said, 'Our goal was to put the customer, not our product, at the centre to ensure that all our employees understood the change which had taken place in the market. The trend in the world has changed to "good enough", so the Chinese are competing more and more fiercely here. People will not pay extra because you put a "shiny bell" or something similar on your product. "Good enough" is the starting point, and then you must try to differentiate from there' (Company B).

Table 2B. Documentation of value statements

Please indicate to what extent: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
2Ba. the values and purpose of the SBU are codified in formal documents? (e.g. value statements, credos, statements of purpose)	120	1	7	5.51	1.68
2Bb. the direction of the SBU is codified in formal documents? (e.g. vision statement, statement of strategic intent)	120	1	7	5.38	1.58
2Bc. formal statements of values are used to motivate subordinates in sharing responsibility?	120	1	7	4.80	1.81

5.3. Question 3 – Organizational structure/ Administrative controls

Organisational structure, governance structure, and policies and procedures are bundled into one group of controls named 'organisation structure' in Ferreira and Otley's (2009) framework. These administrative controls define the responsibility and accountability of a company's employees. This group of administrative controls guides and directs employee behaviour in relation to the roles, policies, and structures in an organisation (Malmi and Brown, 2008).

Senior managers were asked to what extent they use policies and other guidelines to guide and direct subordinates. The results (3Ab, Table 3A) show that 75% of the respondents answered with a score of at least 4 or more, which shows that policies and procedures are important MCS in large companies. While several of the companies participating in this survey are listed and/or subject to strict national and international regulations, part of their policies and rules are required by outside stakeholders. Some of the companies even have a mandatory e-learning programme for their procedures which all staff must follow in their respective fields (e.g. Companies A and L). One manager made it very clear that 'if employees violate [company rules], this will have consequences for them. They will get a written warning' (Company A). Only two measures were used to a lesser extent: a 'written guide which stipulates specific areas for, or limits to, opportunity search and experimentation' and 'communication in writing regarding the risks and activities to be avoided by subordinates'. Only high-technology companies, banks, some construction companies, and a few other consultancy and production companies found these very important.

Table 3A. Policies and guidelines on subordinate behaviour

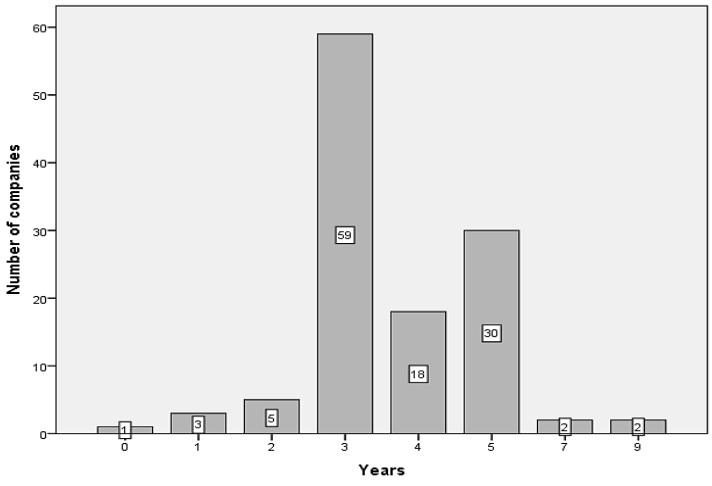
In guiding and directing subordinate behaviour, to what extent does SBU senior management: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
3Aa. make the sanctions of unethical business conduct known to subordinates (e.g. by written statements)?	120	1	7	5.17	1.83
3Ab. employ written authorisation levels and decision rules?	120	1	7	4.98	1.76
3Ac. specify minimum requirements (e.g. ROI, implementation times) for business opportunities?	120	1	7	4.88	1.72
3Ac. apply sanctions to subordinates who engage in risks outside organisational policy, irrespective of the outcome?	120	1	7	4.87	2.10
3Ad. review plans before action?	120	1	7	4.78	1.33
3Ae. use company-wide codes of conduct or similar statements?	120	1	7	4.78	1.90
3Af. actively communicate in writing the risks and activities to be avoided by subordinates?	120	1	7	4.37	1.86
3Ag. employ written guidelines that stipulate specific areas for, or limits to, opportunity search and experimentation?	120	1	7	3.73	2.20

5.4. Question 4 – Strategies and plans

According to Porter (1996), strategies describe how to achieve a mission and vision through establishing a competitive advantage. An effective strategy enables managers to use their company's capabilities and resources to exploit opportunities and limit threats from the external environment (Simons, 1995). Strategies and plans are *ex-ante* forms of control (Flamholtz et al., 1985), where objectives are set to direct and guide employee behaviour. Planning provides standards, sets goals, and defines a clear level of expected effort and behaviour. Finally, planning aids consistency by aligning goals across the functional areas of a company through the control of the activities of groups and individuals (Malmi and Brown, 2008).

Figure 2 shows that 107 of the 120 companies work with a three- to five-year strategic planning period. The few companies which have a shorter strategic planning period are companies which were strongly affected by the financial crisis which emerged in late 2008. The four companies which have the longest strategic planning period are those which are very dependent on research to ensure future income.

Figure 2. Strategic planning periods



Creating valuable strategies has a high priority in large Danish companies (Table 4A). This is underpinned by the statement of one CFO, who said, 'Definitely, specifying objectives, that is the purpose of strategy', adding that 'ways of creating competitive advantage are the reason for developing a strategy' and 'programs and resources are absolutely high [priority] too, these are what we need to achieve our objectives. We actually spend much time on strategic planning' (Company G).

Table 4A. Strategic planning

Please indicate how much weight your SBU's strategic planning puts on specifying… (1: Not at all, 7: Very significantly)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
4Aa. objectives	120	1	7	5.59	1.35
4Ab. ways of creating competitive advantage	120	1	7	5.18	1.28
4Ac. programmes and resources	120	1	7	4.59	1.49

The formation of strategic ends (goals) and means are mainly undertaken by senior management (ends: 60%; means: 50.8%), or by including one level of managers below senior management (ends: 28.4%; means: 35.8%). The translation of strategy into short-term action plans is a predominantly top-down driven process because only 10% of senior managers responded that the process was undertaken by applying the bottom-up method (Table 4B). Some senior managers argued that the need for top-down strategic planning was a result of the increasing amount of uncontrollable factors occurring in the external environment since the start of the global financial crisis in late 2008. For example, a chief executive officer (CEO) explained, 'Our remaining challenges are the low margin we have and the changing market, so we need to be very quick to make changes – resource adjustments, structural adjustments – especially when the market declines. The market fell by 20% from 2008 to 2010. It was close monitoring which ensured that we got through the crisis. It has been a tough process, and we have made many cuts, including among the central staff, where one-third are left. We have also achieved some synergies; we have implemented some systems. So, we have made savings, through improved processes and decreases in volume' (Company E). Hence, these changes call for continuous senior management attention to ensure that companies are flexible enough to follow market changes over time. Consequently, MCS strategic planning elements seem today to be top-down driven.

Table 4B. How strategic ends and means are translated into short-term action plans

Please indicate how strategic ends and means are translated into short-term action plans in your SBU	*Number of companies*	*Percentage*	*Cumulative Percentage*
1. Action plans are decided at the top and given to lower level to be implemented	23	19.2	19.2
2. Important areas of action are defined at the top and subordinates are required to develop specific action plans	56	46.7	65.8
3. Action plans arise in intensive negotiations within planning guidelines given from the top	29	24.2	90
4. Action plans are based on subordinates' interpretations of how to effect upper-level strategic objectives	4	3.3	93.3
5. Subordinates autonomously determine actions within strategic themes across the business	8	6.7	100
Total	120	100	

Short-term planning includes budgetary and performance measurement systems. The two systems often operate together and are applied to the same large extent. Budgetary and performance measurement systems are primarily used more for diagnostic purposes rather than interactive[15] purposes (Table 4C). This is a change compared with the results found in a former survey study by Nilsson and Kald (2002), who discovered that managers in large Danish companies use MCS as much interactively as diagnostically. The senior managers explained this change in terms of the changed market conditions caused by the global financial crisis. Budgeting has a long history in Denmark both in academia and in practice (Israelsen et al., 1996; Näsi and Rohde, 2007) and is still very popular. In relation to budgeting, the interviewed respondents stated, 'The budget is the nerve of our company' (Company I) and 'The management team use budgets to ensure that we are going in the right direction, and we will immediately adjust if something indicates that we are moving in the wrong direction' (Company D). Another chief financial officer (CFO) added, 'Budgeting and performance measurement are high-level [priorities]; we are very good at operational control and at getting things done' (Company F).

Table 4C. Diagnostic and interactive use of budgetary and performance measurement systems

Use of budgetary systems (1: Not at all, 7: Very large extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
4Ca. Diagnostic	120	1	7	5.58	1.38
4Cb. Interactive	120	1	7	4.58	1.40
Use of Performance measurement systems (1: Not at all, 7: Very large extent)	***N***	***MIN***	***MAX***	***MEAN***	***SD***
4Cc. Diagnostic	120	1	7	5.45	1.48
4Cd. Interactive	120	1	7	4.46	1.44

[15] Interactive controls are controls which can be 'used to stimulate organisational learning and the emergence of new ideas and strategies' (Simons, 1995, p. 7).

5.5. Question 5 – Key performance measures

Key performance measures (KPMs) are quantifiable financial and non-financial values which companies use to account for and compare performance success in terms of meeting objectives, KSFs, strategy, and plans (Ferreira and Otley, 2009). KPMs have to be company specific or even department specific, depending on priorities and performance objectives. By aligning KPMs with strategic performance goals, a very important link between operations, strategy, and goals is established (Chenhall, 2003, 2005). By routinely monitoring its KPMs, a company gains valuable insights into the performance of its business and gains the strategic awareness required to make the right decision at the right time.

Respondents were asked 'to indicate to what extent they base subordinates' performance evaluation on different performance measures' (Table 5A). The companies focus more on shareholder value (e.g. 5Aa, 5Ac, and 5Af) than on employee value (5Ag), use more financial than non-financial key performance measures, and value individual actions and activities. The performance measures are often aggregated and summarised (e.g. earnings before interest and taxes (EBIT), profit, revenue and market share) and are less detailed (e.g. budget line, volume, time, and quality).

Table 5A. The performance measures on which senior management base subordinates' performance evaluation

Please indicate to what extent SBU senior management bases subordinates' performance evaluation on: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
5Aa. Financial measures	120	2	7	5.89	1.21
5Ab. Non-financial measures	120	2	7	5.14	1.23
5Ac. Aggregate, summarised measures (e.g. EBIT, Profit, ROI, ROCE, market share, brand value, brand image, total customer satisfaction, etc.)	120	1	7	5.14	1.66
5Ad. Individual effort	120	1	7	5.09	1.32
5Ae. Actions and activities undertaken	120	1	7	5.08	1.27
5Af. Detailed measures (e.g. budget line, input volume, time, quality etc.)	120	1	7	5.08	1.46
5Ag. Achievements in leadership behaviour	120	1	7	4.54	1.64

The survey also examined the extent to which senior management account for and compare subordinate performance through 'internal' or 'external' benchmarks, 'past performance', or 'absolute pre-set numbers' (Table 5B). Of the 120 respondents, 92 answered with a score of 6 or 7 in relation to using 'absolute pre-set numbers'. In comparison, they reported using 'internal' and 'external' benchmarks to a much lower extent (internal M 3.8, external M 3.1). However, 'external' benchmarks are used less because detailed information from competitors is often difficult to access. Moreover, companies have sufficient easily accessible, high-quality internal information to be able to perform internal benchmarking (e.g. Companies B and J). In relation to the question of 'to what extent the senior managers evaluate subordinates' performance in relation to an external benchmark', only 12 out of 120 weight this at 6 or 7. When it comes to 'past performance' dynamics in the market in which each company operates, this has a strong influence on the relevance of examining prior results. However, in all the companies, knowledge about 'past performance' is relevant information which is used to plan and evaluate subordinates' performance.

Table 5B. Other methods by which senior management evaluate subordinates' performance

Please indicate to what extent SBU senior management evaluates subordinates' performance in relation to: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
5Ba. Absolute, pre-set numbers	120	1	7	5.89	1.36
5Bb. Past performance	120	1	7	4.56	1.65
5Bc. Internal benchmarks	120	1	7	3.84	2.01
5Bd. External benchmarks	120	1	7	3.12	1.73

5.6. Question 6 – Target setting

Pre-set targets are MCS figures which motivate employees to perform in specific areas by setting clear goals which indicate performance targets for individual or group success. In order to encourage employees to perform their best in the interest of a company, targets must be specific, clear, measurable, achievable, timely, and challenging while still being realistic. The targets are linked to the evaluation of subordinates and often to financial rewards (Merchant and Van der Stede, 2012).

All the companies use target setting to guide and direct subordinate behaviour. As with planning, target setting is mainly a senior management-driven process, where the 'senior management set targets and pass them on to subordinates' or 'senior management set targets, but revise them in negotiation with subordinates' (Table 6A). The targets, action plans, and resource commitments are closely followed and regularly updated (Table 6B). Among the companies, 39% update their targets annually. These companies are characterised by working in less dynamic markets or having longer processing times and/or product life cycles (e.g. construction and pharmaceutical companies). Another 41% of the companies update their targets monthly or quarterly. These companies work in more dynamic external environments and have the ability to make rapid changes, which may give them opportunities to gain some competitive advantage; for example, by being first-movers in products or markets. All the companies update their action plans and resource commitments more often than, or with the same frequency as, they update their targets. Such action plans and resource commitments are variables which it is possible to adjust in relation to demand from, and the needs of, the external environment in which the companies operate (Table 6B).

Table 6A. How short-term targets are set

Please indicate how short-term targets are set in your SBU	*Number of companies ENDS*	*Percent ENDS*	*Number of companies MEANS*	*Percent MEANS*
0. N/A	0	0	1	0.8
1. Senior management sets targets and passes them on to subordinates	27	22.5	14	11.7
2. Senior management sets targets but revises them in negotiation with subordinates	69	57.5	57	47.5
3. Target-setting is a quite long, iterative negotiation process between organisational levels	12	10.0	27	22.5
4. Subordinates set targets autonomously, but they are subject to senior-management acceptance	11	9.2	20	16.7
5. Subordinates set targets autonomously with little, if any, management involvement	1	0.8	1	0.8
Total	120	100.0	120	100

Table 6B. The frequency with which targets, action plans, and resources are updated

Please indicate how often targets, action plans and resource commitments are updated in your SBU	*Number of companies TARGETS*	*Number of companies ACTION PLANS*	*Number of companies RESOURCE*
0. N/A	0	1	1
1. Almost continuously (i.e. on a weekly basis)	6	8	29
2. Monthly	14	34	35
3. Bimonthly	0	1	1
4. Quarterly	35	44	38
5. Three times a year	4	8	9
6. Biannually	14	12	4
7. Annually	47	12	3
Total	120	120	120

5.7. Question 7 – Performance evaluation

In this question, Ferreira and Otley (2009) concentrated on the processes which managers use to evaluate subordinates. Over the last two decades, the emphasis on measuring the performance of individuals and companies has increased (Espeland and Sauder, 2007). The purpose of using performance evaluation has focused strongly on 'providing feedback for learning and continuous improvement' (M 5.6) and 'directing subordinates' attention towards important issues' (M 5.6), and, to a lesser extent, on 'determining subordinates' compensation' (M 4.4). The evaluation of business performance is more intensive than the evaluation of leadership performance (Table 5A). The same pattern appears in the frequency of formalised performance evaluation, where 48.3% evaluated business performance monthly and 58.3% evaluated leadership performance once a year (Table 7B).

Table 7A. Purposes of using performance evaluation

Please indicate how important the following purposes of performance evaluation are in your SBU: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
7Aa. Provide feedback for learning and continuous improvement	120	2	7	5.63	1.02
7Ab. Direct subordinates' attention to important issues	120	1	7	5.56	1.08
7Ac. Determine subordinate compensation	120	1	7	4.37	1.78

Table 7B. The frequency with which formalised performance evaluations are conducted

Please indicate how often formalised performance evaluations are conducted in your SBU	*Number of companies LEADERSHIP*	*Percent LEADERSHIP*	*Number of companies BUSINESS*	*Percent BUSINESS*
0. Not applicable (N/A)	2	1.7	0	0
1. Monthly	9	7.5	58	48.3
2. Quarterly	8	6.7	21	17.5
3. Three times a year	1	0.8	5	4.2
4. Twice a year	27	22.5	9	7.5
5. Once a year	70	58.3	27	22.5
6. Less frequently than once a year	3	2.5	0	0
Total	120	100	120	100

5.8. Question 8 – Reward systems

Reward systems include financial (e.g. bonuses, salary increases, share-based rewards, and stock options) and non-financial (e.g. promotions, extra holidays, recognition, and education) rewards (Table 8B). There is apparently a link between rewards, employee behaviour, and organisational performance; however, the complexity of cause-and-effect links is very high (Ferreira and Otley, 2009; Hopwood, 1972).

All the companies use non-financial rewards to motivate and guide their subordinates in order to reach the company, departmental, and individual goals. Of the companies, 95 pay bonuses to their subordinates at level 3 in the organisational

hierarchy. A small number of the companies also award share-based rewards and stock options. Most of the 95 companies evaluate performance 'on the basis of quantitative metrics' (M 5.8) and 'use predetermined criteria in evaluation and rewards' (M 6.1) (Table 8A). However, the pre-set goals for bonus payments can be changed based on actual circumstances, but mainly in cases of uncontrollable factors where subordinates cannot be held accountable for changes (e.g. major changes in legislation or plans in regard to market changes or natural disasters) (e.g. Companies B and O). Bonus contracts are based on the goals of the companies or strategic business units (SBUs) and are broken down into a group or individual goals. Profit sharing is not very common in Danish companies, and the few companies which use it do so for groups where cooperation is seen as key to achieving a performance goal (e.g. Company D). Most of the 25 companies which do not award bonuses are represented by approximately a third of the responding companies in each of the three groups of ownership: the members of cooperative societies, families, and funds.

Table 8A. Ways of evaluating and compensating subordinates

Please indicate to what extent the following statements describe the way of evaluating and compensating subordinates' performance in your SBU (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
8Aa. We use predetermined criteria in evaluation and rewarding	95	1	7	6.11	1.54
8Ab. We evaluate performance on the basis of quantitative metrics	95	1	7	5.84	1.52
8Ac. We adjust the amount of bonus based on actual circumstances	95	1	7	3.44	2.17
8Ad. We determine performance measure weights as the evaluation takes place	95	1	7	1.61	1.54

Table 8B. Reward systems

Please indicate to what extent… (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
8Ba. Rewards are financial (bonuses, share-based rewards)	95	1	7	6.66	0.93
8Bb.Performance-pay contracts are customised for each subordinate	95	1	7	4.05	2.37
8Bc. Rewards are non-financial (e.g. recognition, promotion, training)	120	1	7	3.01	1.89
8Bd. Financial rewards are shared evenly between subordinates (e.g. profit-sharing)	95	1	7	2.07	1.91

5.9. Question 9 – Information flows, systems, and networks

The quality of shared information in the MCS package is very important. The purpose of the information flows, systems and networks in a company are to link all agencies together into one package (Ferreira and Otley, 2009). Feedback information is used for corrections, learning, and adapting, while feed-forward information is used for learning, generating new ideas, and constructing new strategies and plans. Well-run information flows, systems, and networks can give an advantage, which is essential to obtain high efficiency in the MCS package (Schermann et al., 2012; Otley, 1999).

At higher management levels, information is to a large extent shared via management information systems (M 5.6) as well as through informal discussions (M 5.2) (Table 9A). A substantial number of the companies appear to have 'free access to broad-scope information regarding the performance of business units', but not always to information about the company at large. For example, the CFO in Company A stated, 'At this [management] level there is free access with respect to our sales reports and results, which are freely available, but they [managers] do not have free access to all information regarding our product development'. This restriction of information sharing is often used to protect strategic company information or to avoid insider trading on stock markets. Hence, information which is needed to achieve higher employee performance is available. The senior managers stressed that the benefits of using information systems included: quick and easy accessibility; only one entry point for each item of data; the same information for all; the saving of time; and the relevance of data served in an effective way, e.g. by means of data mining. In addition to the formal management information systems, informal discussions among management groups and specialists provide forums where knowledge and information can be shared.

Table 9A. Access to relevant information

Please indicate to what extent subordinates… (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
9Aa. receive relevant information through management information systems	120	2	7	5.58	1.07
9Ab. receive relevant information through informal discussions	120	2	7	5.18	1.22
9Ac. have free access to broad-scope information regarding the performance of business units and whole company	120	1	7	4.78	1.73

5.10. Question 10 – Performance management systems use

The access to information and controls which the MCS package provides is crucial for organisational performance (Ferreira and Otley, 2009). A study based on data from more than 100 companies showed that 'the most innovative companies used their profit planning and control systems more intensively than did their less innovative counterparts' (Simons, 1995 p. ix). In order to ensure that all employees are aware of what the company's best interest is, the management needs to present clear MCS to guide and direct subordinates so that they strive for the goals set (Malmi and Brown, 2008; Malmi and Sandelin, 2010; Merchant and Van der Stede, 2012). By creating procedures, norms, rules, and forms, organisations can store and share knowledge from and between individuals and the organisation (March 1991). Such formalisation of knowledge transforms it into collective knowledge for the benefit of all employees in the organisation (March 1991).

The senior managers were asked to what extent their entire MCS packages help them to guide and direct subordinates (Table 10A). The respondents particularly used facts, analyses, goals, and information (10Aa, 10Ab, and 10Ac) to guide and direct subordinates (M 5.6–5.7). On the Likert scale, 112 of the 120 respondents weight their use of the MCS package 'to hold subordinates accountable for their performance' (10Ad) at 4 or above. However, when asked to what extent the MCS package was used to 'reward or punish subordinates based on rigorous measurement of business performance', only 96 respondents weight their use of the MCS package at 4 or above. The data also show that the respondents weight their use of MCS packages for both controlling and enabling (Simons, 1995; Mundy, 2010) at above average levels on the Likert scales. However, they used budgetary and performance measurement systems less to 'encourage subordinates to be creative' than to control them (Table 4C).

Table 10A. Uses of MCS packages

Please indicate to what extent you agree with the statement. The entire package of management control systems helps SBU senior management to: (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
10Aa. make subordinates base their decisions on facts and analysis, not politics	120	1	7	5.67	1.16
10Ab. set challenging/aggressive goals for subordinates	120	1	7	5.57	1.03
10Ac. give subordinates ready access to information that they need	120	2	7	5.57	1.18
10Ad. hold subordinates accountable for their performance	120	2	7	5.49	1.12
10Ae. give subordinates sufficient autonomy to do their jobs well	120	2	7	5.45	0.96
10Af. push decisions down to the lowest appropriate level	120	1	7	5.08	1.37
10Ag. reward or punish subordinates based on rigorous measurement of business performance	120	1	7	4.85	1.66
10Ah. issue creative challenges to subordinates rather than define narrow tasks	120	1	7	4.81	1.23

5.11. Question 11 – Performance management systems change

The need for changes to an MCS package may originate from different stakeholders, for example, authorities, customers, competitors, employees, the board of directors, and owners. A company can be forced from the outside to change its priorities or can choose to make changes of its own accord (Tessier and Otley, 2012). When the external environment in which a company operates changes, for example as it did in the financial crisis in 2008, the company often has to adapt to maintain its position in the market. The same goes for its MCS package, which has to keep up with the changes to ensure that the package provides the best support for the company so that it can reach its goals (Chenhall, 2006, Heinicke et al., 2016; Janke at al., 2014).

The responses (Table 11A) show that the companies have incorporated a degree of flexibility into their MCS packages which 'allows them to respond quickly to changes in their markets' (M 5.5). Changes to an MCS package forced by market changes or shifts in business priorities evolve more rapidly than any minor internal shifts required to 'challenge outmoded traditions/practices/sacred cows'. This is exemplified by the following CFO response: 'I would have answered differently if we hadn't been through 2008 [the financial crisis]. We are very quick to respond to the outside world. 2008 was not so bad. What we went through in Q4 2008 and 2009 has contributed to stress testing in reality; in fact, it is also theoretically interesting. It was damned healthy when you look back. Every idiot can sail downwind, but now that you had a little tailwind, a little headwind, and a little crosswind, you really came out to see how you and your organisation reacted and how the systems worked; it was a stress test on all of that. It is not surprising that there was a high turnover in management afterwards, and now the time for board members has arrived (11Aa and 11Ab)' (CFO, Company B).

Table 11A. MCS changes and adaptability

Please indicate to what extent you agree with the following statements. The SBU's entire package of management control systems... (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
11Aa is flexible enough to allow us to respond quickly to changes in our markets	120	2	7	5.53	1.06
11Ab. evolves rapidly in response to shifts in our business priorities	120	1	7	4.91	1.37
11Ac. encourages people to challenge outdated traditions/practices/sacred cows	120	1	7	4.51	1.52

The companies were also asked if their MCS packages had 'gone through minor, major, or no changes over the past three years' (Table 11B). Only 8 companies show no changes. Of the rest, 52 have had 'minor changes in their MCS packages over the past 3 years'. Some of these latter companies had very high degrees of flexibility in their MCS packages which enabled them to make small adjustments on an on-going basis. Others operated in more stable markets with products which were less affected by the financial crisis (e.g. the medical sector) and/or had products with very high levels of complexity and/or longer product life cycles which made it more difficult for customers to switch suppliers.

Half of the respondents have made major changes to their MCS packages. Of these, 42 have made changes to their 'reporting relationships and management teams'. The respondents explained that the financial crisis which started in late 2008 had caused instability in their external environment, due not only to falls in revenue but also to pressure from the financial markets, governments, competitors, and market newcomers which expanded their product portfolios to increase their revenues. This instability called for continuous attention from senior management and a willingness to act quickly in order to avoid unnecessary losses and take advantage of the opportunities created by the instability. The level of changes to the MCS indicates that senior managers are aware of the importance of continually optimising and customising their MCS to ensure that MCS always support their companies.

Table 11B. Changes in MCS over the past three years

Has the management control system in your SBU gone through minor, major or no changes over the past three years?	*No changes*	*Minor*	*Major*	*N*
Number of companies	8	52	60	120
If your SBU has had major changes, please specify in which area(s) of the management control system	*Not changed or minor changes*	*Change*	*N*	
11Ba Strategic planning	26	34	60	
11Bb Short-term planning	42	38	60	
11Bc Performance measurement	23	37	60	
11Bd Performance evaluation	34	26	60	
11Be Rewards and incentive systems	29	31	60	
11Bf Rules, procedures and policies	37	23	60	
11Bg Reporting relationships and management teams	18	42	60	
11Bh Cultural control (values, vision, personal goals)	41	19	60	

5.12. Question 12 – Strength and coherence

The last question in Ferreira and Otley's (2009) framework focused on the links, dependency, and influence between the MCS package components which combine all the MCS into one package. 'Like any other system, [an MCS] is greater than the sum of its parts and there is a need for alignment and coordination between the different components for the whole to deliver efficient and effective outcomes. Although the individual components of the [MCS] may be apparently well-designed, evidence suggests that when they do not fit well together (either in design or use) control failures can occur' (Ferreira and Otley, 2009 p. 275).

Of the respondents, 88% give a score of 5 or above to the statement, 'The entire package of MCS works coherently to support the overall objectives of this organisation' (Table 12A, M 5.6). Strength and coherence are also supported by the low score given to the question about the extent to which an MCS package 'causes a waste of resources on unproductive activities' (M 2.6). Yet, one CEO added, 'The drawback of having high transparency in our figures, it may be that you spend time looking at figures, just because it's so exciting, so it's kind of a sport, but you do not act on it; you cannot do anything about it every day, so you are really just wasting time staring at it, but beyond that I would not say that there is anything that inhibits us' (Company N). Additionally, 94 respondents give 1 or 2 (M 2.1) to the question about whether their MCS packages 'give employees conflicting objectives so they end up working at cross-purposes' (Table 12A). The responses are shown in Question 10, 'Performance management systems use', also confirm and support the fact that the companies have designed strong and coherent MCS packages; for example, by using the MCS packages to share with subordinates the facts, information, and goals which employees need to fulfil their jobs, and directly linking this issue to employee performance (Table 10A). Another example from Question 4 is the balance between the diagnostic and interactive use of an MCS package (Table 4C). Balancing the design and use of MCS contributes to a stronger and more coherent MCS package, which according to Simons (1995) leads to higher organisational performance.

Table 12A. Strength and coherence in the MCS packages

Please indicate to what extent you agree with the following statements. The SBU's entire package of management control systems... (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
12Aa. works coherently to support the overall objectives of this organisation	120	1	7	5.63	1.07
12Ab. causes us to waste resources on unproductive activities	120	1	6	2.56	1.20
12Ac. gives people conflicting objectives so they end up working at cross-purposes	120	1	6	2.08	1.06

5.13. Contextual factors

Contextual factors are not included in Ferreira and Otley's (2009) MCS framework. Nevertheless, findings from contingency studies, including variables such as environmental uncertainty, strategy, technology, organisational structure, and size, indicate that some MCS fit better in some contexts than others (Chenhall, 2003, 2006). Thus, when studying the design and use of MCS as a package, we must identify which contextual factors the respondents find important in their selection of MCS components because controls cannot be fully understood in isolation from the context in which they evolve (Otley and Berry, 1994).

In order to identify the degree of influence exerted by the companies' external environments on the design and use of MCS, respondents were asked to what extent different stakeholders interfere with their companies' business (Tables 13A and 13B). From Table 13A, it can be seen that competition is the factor which most strongly affects the companies. Even though the answers varied for different markets, it seems that globalisation has raised the degree of competition in almost all markets, 'because of the imitation and substitution of products' (Company A). Consequently, the response to the question 'how intense is the competition against your main products/services?' is weighted as high (M 5.7). When examining the number of changes and the degree of predictability of the changes in the companies' operating environments and in terms of competitiveness, most changes are caused by the companies' customers. However, the respondents weight the degree of predictability of the changes caused by customers at just above average (M 4.4). The number of changes in 'competitors' is weighted by respondents to be below average (M 3.3). This result is affected by company size, in that many companies only consider a few other large companies as their real competitors. Further, because they follow these companies closely, the changes are not that unpredictable (M 4.4). In areas such as suppliers and technology, where the companies have some influence, the respondents report fewer changes and higher degrees of predictability.

Table 13A. Complexity and hostility of the external environment

The following questions relate to the complexity and hostility of your external environment 13Aa (1: Not intense at all, 7: Very high intensity) 13Ab – 13Ac (0: N/A, 1: Very similar, 7: Very diverse)	***N***	***MIN***	***MAX***	***MEAN***	***SD***
13Aa. How intense is the competition against your main products/services?	120	2	7	5.72	1.26
13Ab. How diverse are the product/service requirements of your customers?	120	1	7	3.63	1.88
13Ac. How diverse are the strategies and tactics of your key competitors?	120	0	6	3.48	1.47

Table 13B. Competitive and operational changes

This question is about the competitive and operating environment of your SBU. Over the past three years: 1: Very few changes, 7: Very many changes 1: Very unpredictable, 7: Very predictable	***N***	***MIN***	***MAX***	***MEAN***	***SD***	***MEAN***	***SD***
				Number of changes		Predictability	
13Ba. *Customers* (e.g. levels of demand, customer requirements)	120	1	7	4.13	1.72	4.41	1.73
13Bb. *Economic* (e.g. interest and exchange rates)	120	1	7	3.96	1.93	3.48	1.77
13Bc. *Regulatory* (e.g. new initiatives for laws, regulations)	120	0	7	3.81	1.80	4.31	1.65
13Bd. *Competitors* (e.g. competitors entering, leaving, tactics/strategies)	120	1	7	3.33	1.59	4.43	1.54
13Be. *Technological* (e.g. R&D advances, process innovations)	120	0	7	3.00	1.69	4.77	1.72
13Bf. *Suppliers* (e.g. markets for key inputs, quality of resources)	120	1	7	2.97	1.41	5.12	1.43

5.14. Organizational culture

As is the case with other contextual factors, organisational culture is not included in Ferreira and Otley's (2009) framework. However, organisational culture is an omnipresent control which affects nearly all aspects of organisational interaction (Henri, 2006b). It is thus an important contingency factor when studying an MCS package from a holistic perspective. The term 'organisational culture' is a broad concept, covering 'shared beliefs, values, assumptions and significant meanings [which] are commonly associated with culture' (Henri, 2006b p. 79). Organisational culture includes elements such as material artefacts, patterns of norms for behaviour and activities, and fundamental assumptions which are not always directly known by employees.

One group of the survey questions focused on norms for human resource activities (Table 14A). 'Skills and technical competence' are the most important factors when new managers are recruited (M 5.5). However, 'psychological tests and values' are used to a significant extent when recruiting for managerial positions in order to ensure that new managers match an organisation's values and culture (M 5.2). Most of the companies even choose 'promotions made from within the organisation' if this is an option (M 5.1). In addition, the companies use social events, functions, training, and programmes to introduce, develop, and maintain acceptable behaviours, routines, norms, and commitment to the company at a medium to a moderate extent. As with the results for Question 7, 'performance evaluation', leadership-based performance regarding norms and values does not have the highest priority in companies (M 3.7).

Table 14A. MCS used for adopting norms and values

Please indicate to what extent… (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
14Aa. skills and technical competence are important when recruiting for managerial positions?	120	2	7	5.49	1.08
14Ab. psychological tests and values are important when recruiting for managerial positions?	120	1	7	5.19	1.56
14Ac. Are promotions made from within the organisation?	120	1	7	5.13	1.22
14Ad. social events and functions are used to develop and maintain a commitment to the SBU?	120	1	7	4.79	1.25
14Ae. training and development processes are used to reinforce SBU objectives, expectations and norms?	120	1	7	4.68	1.39
14Ag. subordinate rotation between various positions is seen as an important precondition for promotion?	120	1	7	3.88	1.52
14Ah. leadership-based performance is connected to significant rewards (e.g. promotions, equity-based rewards)?	120	1	7	3.73	1.70

The survey did not include a sufficient number of questions on 'organisational culture' to provide broad and in-depth knowledge of the respondents' organisational cultures; consequently, we are only able to consider the foregoing aspect of culture. However, the results for Question 1 of the framework show how much senior managers actually use values and purposes (e.g. value statements, credos, and statements of purpose) to establish a value base in their companies, and how important they find 'values and organizational culture to be in guiding and directing subordinates' behaviour' (M 5.7) (Table 15B). Additionally, at the interviews, the respondents confirmed the high impact of organisational culture and values; for example, 'We talk about a [Company D] spirit. Those of us who have been here for many years know what we're talking about in this regard. And new staff often refer to this at their first annual employee performance review (Table 15B, Question 15Bb)' (Company D). Another respondent said, 'Actually, we just made an entire [Company G] rollout of our values. We have come up with our own values, and all the staff in the group were obligated to participate in a value workshop, where two or three hours were spent discussing differences, dilemmas, etc.' (Company G). The results of the survey show that senior managers see organisational culture as part of their MCS packages.

5.15. Senior managements' ranking of the different elements in the MCS packages

Senior managers were asked to 'indicate how important different performance areas are to their SBU right now'. The results in Table 15A indicate that the companies weight financial results as very important (M 6.5) and that they support this by focusing on 'customer relations' (M 6.2), 'quality' (M 6), and 'operational performance' (M 5.8). The last four areas in Table 15A focus on the external environment: environmental performance, community, alliances, and lobbying. These four areas are seen as controls which are affected by, and more dependent on, external stakeholders and are not within the full control of senior managers; hence, they are not a part of the core MCS. However, the results in Table 15A show that the senior managers regard these MCS as part of their MCS packages, despite their lower influence on this group of MCS.

Table 15A. The importance of different MCS

Please indicate how important the following performance areas are to your SBU right now: (1: Not at all, 7: Very important)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
15Aa. Financial results (e.g. annual earnings, return on assets, cost reduction)	120	4	7	6.508	0.7333
15Ab. Customer relations (e.g. market share, customer satisfaction, customer retention)	120	2	7	6.200	0.8560
15Ac. Quality (e.g. defect rates, quality awards)	120	3	7	6.008	0.8840
15Ad. Operational performance (e.g. productivity, safety, cycle-time)	120	1	7	5.750	1.0146
15Ae. Employee relations (e.g. employee satisfaction, turnover, workforce capabilities)	120	1	7	5.525	1.1224
15Af. Innovation (new product/ service development success, process innovation, business concept innovation)	120	1	7	5.075	1.6201
15Ag. Supplier relations (e.g. on-time delivery, input into product/service design, supplier assistance)	120	1	7	4.942	1.5190
15Ah. Environmental performance (e.g. government citations, environmental compliance or certification)	120	1	7	4.600	1.8805
15Ai. Community (e.g. public image, community involvement)	120	1	7	4.483	1.6035
15Aj. Alliances (e.g. joint marketing or product design, joint ventures, open technology platforms)	120	1	7	3.533	1.8147
15Ak. Lobbying (e.g. local, national, EU authorities)	120	1	7	3.125	1.6631

In each of the questionnaire's sections, the respondents were asked how important they found the different MCS components to be in guiding and directing subordinate behaviour in the best interest of the company. The results show that the strongest emphasis is placed on 'short-term planning', 'values and organisational culture', and 'performance measurement and evaluation'. Contrary to this, the least emphasis was placed on 'rewards and compensation' (Table 15B). These findings indicate

that managers are aware of the influence they have on subordinates' behaviour not only through core financial controls but also through broader and less measurable controls such as organisational culture. When comparing the data collected in Denmark with survey data collected in Germany (Hanzlick and Brühl, 2013), German senior managers ranked some factors differently to Danish senior managers. While 'short-term planning' was also the most important factor in Germany, 'values and organisational culture' were ranked fourth, and 'strategic planning' was least important in guiding and directing subordinates. According to the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project, managers in both Germany and Denmark scored high in uncertainty avoidance, which implies that the senior managers in both countries have focused on short-term planning (House, 2004). Regarding the difference in the ranking of 'strategic planning', senior managers in Denmark also scored high in future orientation, which was not the case in Germany (House, 2004). Looking at the data collected in Norway, the rankings differed compared with the Danish and German data. Norwegian senior managers ranked 'values and organizational culture' as number one and 'organizational design' as number two; however, like the senior managers in Denmark, the Norwegian senior managers ranked 'rules and procedures' as number seven and 'rewards and compensation' as number eight (Johanson and Madsen, 2013).

Table 15B. Ranking of importance of the use of different MCS

How important is 'X' in guiding and directing subordinate behaviour (1: Not at all, 7: Very high extent)	*N*	*MIN*	*MAX*	*MEAN*	*SD*
15Ba. short-term planning	120	3	7	5.87	1.00
15Bb. values and organizational culture	120	2	7	5.72	1.15
15Bc. performance measurement and evaluation	120	2	7	5.63	1.18
15Bd. strategic planning	120	1	7	5.46	1.53
15Be. management processes	120	1	7	5.16	1.36
15Bf. organization design	120	2	7	5.08	1.22
15Bg. rules and procedures	120	1	7	4.92	1.48
15Bh. rewards and compensation	120	1	7	4.42	2.02

6. DISCUSSION

In order to give a picture of how senior management in large Danish companies use MCS to guide and control subordinates, a list of the key findings from the responses to Ferreira and Otley's (2009) questions is provided below. These findings highlight the most common characteristics in the design and use of MCS in large Danish companies today.

Key findings:

- Success is driven by thorough customer and industry-understanding (Question 2).
- Customer relations are the most important success factor (Question 2).
- Values, purpose, and direction are to a large extent codified in formal documents (Question 2).
- Strategic periods are normally three–five years (Question 4).
- Translation of strategy into short-term action plans (Question 4) and target setting (Question 6) are mostly top-down driven processes.
- Budgetary systems and performance measurement systems are closely connected and are used to the same extent (Question 4).
- Financial measures are used to a larger extent as performance measures than non-financial measures (Question 5).
- Performance evaluation's most important purpose is to provide feedback for learning and continuous improvement (Question 7).
- Non-financial rewards are not seen as very effective (Question 8).
- Relevant information is disseminated through formal management information systems (Question 9).
- Danish companies' MCS packages consist of a broad range of MCS. The MCS packages are designed to be strong and coherent, and with a flexibility which enables companies to react rapidly to changes (Question 10, Question 11, and Question 12).
- MCS which reflect profitability is weighted as the most important.
- The strongest emphasis is placed on short-term planning, followed by values and organisational culture.

Today, senior managers in large Danish companies find that customer and industry-understanding are the most important factors of success. Meeting customers' requirements and needs are more important than sale prices or the novelty of products. Growing globalisation and the subsequent financial crises have changed the markets' situations. In this context, large Danish companies have chosen a strategy where customers' needs are kept in focus in order to stay abreast of the volatility in their markets and the decrease in sales. This finding contrasts with a survey study of large companies in the Nordic countries (Sweden, Denmark, Norway, and Finland) conducted by Kald and Nilsson in 2000. Then, the results showed that performance measures which reflect cost-effectiveness were the most important. Moreover, Kald and Nilsson (2000, p. 117) found that 'measures, which reflect value for shareholders, [were] among those least interesting to monitor'. In comparison, our survey shows that MCS which reflect profitability are weighted as the most important in large Danish companies today.

In a further study by Nilsson and Kald in 2002, the authors found that the development of strategies and objectives involved both senior management and other employees. In particular, managers in large Danish companies used controls more for interactive than diagnostic purposes because they found the interactive use of management controls to be useful to identify the

need for strategic change. Our study shows that the formation of SBUs' strategic ends and means is developed by the senior management of the SBUs together with corporate management and that the translation of strategy into short-term action plans and target setting is mainly a top-down driven process performed by senior managers. Additionally, our results show that senior managers use MCS more for diagnostic than interactive purposes and that financial measures are used to a larger extent than non-financial measures.

In large Danish companies, the most important purpose of performance evaluation is to provide feedback for learning and continuous improvement. This finding also contradicts Kald and Nilsson's studies from 2000 and 2002. Kald and Nilsson found that large Nordic companies decentralised decision-making and that 'learning at [the] lower levels of an organisation is process-oriented and thus based on direct observation' (Kald and Nilsson, 2000 p. 115). Our study shows that managers use organisational culture and values to a large extent to guide and direct subordinates' behaviour. Values, purpose, and direction are very often codified in formal documents, and some companies even provide workshops on their values and polices for their employees. Some of the participants explicitly said that company values and polices have become embedded in the organisational culture and that the employees have adopted the values in their daily work.

The two additional questions on 'organisational culture' and 'contextual factors' gave two different results in terms of how they affect senior management's design and use of MCS. While organisational culture and values are seen as highly valuable MCS which senior management could form and use to guide and direct subordinates' behaviour, senior management regarded external contextual factors as mandatory variables given by the markets in which the organisations operate (Table 15B). The respondents did not find the external environment (environmental performance, community, alliances, and lobbying) as important as other MCS (Table 15A). The respondents indicated that the low degree of influence which they have on some of these variables meant that the variables had less importance. In addition, a number of resources which senior management spent on, for example, lobbying did not generate corresponding benefits. Management's low influence on these external factors has forced senior managers to ensure that their organisations adopt these factors. Further, senior managers have been obliged to design their MCS to accommodate these external factors in order to ensure effectiveness. As regards the internal part of the contextual factors over which senior managers have more control, for example, organisational structure, senior managers regard these controls as systems which they are able to design and use in the best interests of their companies.

In accord with the purposes found in the literature on MCS as a package, the senior managers' responses show that large Danish companies today use comprehensive MCS packages which include controls for enabling creativity as well as diagnostic controls for ensuring high effectiveness (Mundy, 2010; Simons, 1995). Even though financial results are weighted the highest, the survey data also show the strong focus which the respondents give to MCS which support customer relations and industry understanding in order to create competitive advantages (Tables 2A, 4A, and 15A). These results indicate that the respondents are very much aware of the dynamics which a balanced and customised MCS package can provide (Henri, 2006a; March 1991; Mundy, 2010; Widener, 2007). However, deeper discussions of how the respondents foster a dynamic relation between the controls and how each of the companies ensures that its own MCS package is comprehensive and tight enough to allow it to be 'reasonably confident that no major unpleasant surprises will occur' (Merchant and Van der Stede, 2012 p. 12) are not included in the survey data. These questions may be easier to research in case studies or perhaps in longitudinal field studies which observe the effectiveness of each of the elements within a company's control package.

Regarding the purpose of MCS as a package stated by Anthony, namely that 'resources are obtained and used effectively and efficiently in the accomplishment of the organisation's objectives' (1965, p. 17), the results show that senior management have given attention to quality and operations by setting standards and targets, and focusing on increases in the level of automation in operations. However, this issue has a lower priority than the use of MCS to target financial results and to enhance a company's relationship with its customers (e.g. Tables 2A and 15A). This finding is supported by prior studies which find that mature companies usually have an extensive amount of formal MCS already in place; consequently, management is less concerned about running 'out of control' (Sandino, 2007). Nevertheless, because of the financial crisis which began in 2008 and the resulting volatile markets, senior managers today use a top-down driven process when translating their strategies into short-term plans and when targets are set. However, with regard to working process arrangements in business units, more influence is given to subordinates. Senior managers regard these top-down driven processes and strict performance evaluations as results of market situations. In this regard, senior management takes responsibility for ensuring their companies' continued success and the avoidance of unnecessary losses.

Malmi and Brown stated that MCS packages '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' (2008, p. 290). The results of the survey presented here show that large Danish companies use comprehensive MCS packages, including practices, controls, and systems, which are introduced both directly and indirectly to employees, often in formal documents, all with the purpose of affecting employees' behaviour and activities in the companies' best interests. However, this study concentrates on the use of MCS and does not include a discussion of the coherence, interrelationship among, and use of the controls in each of the respondents' MCS packages. While this is the first empirical survey study of large companies

in Denmark which includes the use of a larger number of different MCS, the findings must be compared with prior empirical studies of the use of single, or a small number of, MCS. Some of the findings confirm prior research results; for example, the dominant use of results control at higher management levels (Merchant, 1982) and the negligible concern among senior management in mature companies about running 'out of control' in the area of internal processes (Sandino, 2007). However, other areas still need to be studied, such as the effectiveness of non-financial rewards on the Danish labour market, or how the interaction between budgetary and performance measurement systems works in large companies in Denmark.

Ferreira and Otley's (2009) framework is used as a fundamental structure for identifying, presenting, and describing this study's survey data and interviews. Using the framework's 12 questions enables the research to gather a coherent summary of the current situation in large Danish companies. However, in practice, the interaction between MCS goes forward and backwards in any order. In addition, the framework does not explain how the controls should be weighted or what context and variables each control requires in order to achieve higher performance. Neither does the framework explain how to rank or weight the links between the different MCS, although questions nine to twelve in Ferreira and Otley's (2009) framework deal with the systems, network, use, change, and coherence within an MCS package, which are all issues which have not been seen before in MCS frameworks (e.g. Malmi and Brown, 2008; Otley, 1999). This approach emphasises the need for investigating and interpreting the interrelationships within an MCS package. This need is supported by the survey answers to questions nine to twelve, which show that senior management in large Danish companies is very much aware of the strength of having an optimal fit between the different controls and contextual factors in their MCS packages. Additionally, the answers given by the participants on organisational culture show that Ferreira and Otley's (2009) framework may have benefitted by including organisational control as an active part.

Ferreira and Otley's (2009) framework ensures the inclusion of multiple MCS within companies. Moreover, the framework is usable for exploring and describing the results of survey data, but not for analysing survey data in order to obtain explanations for the effectiveness and efficiency of the use of an MCS package. However, because this survey used personal interviews, the stories behind the answers given by the respondents have provided insights into the reasoning and deeper explanations behind the statistically based survey data. Consequently, this study shows how an MCS package is conceptually constituted in large Danish companies; namely, 'what is included, what is left out, and why' (Malmi and Brown, 2008 p. 288). In order to gain a deeper understanding of the controls' mechanics, the interrelationship between all the variables within an MCS package, and the 'why', the use of Ferreira and Otley's (2009) framework in a case study may be an effective solution (O'Grady et al., 2016).

7. CONCLUSION, LIMITATIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

The types of MCS which companies should use are a central theme in MCS research. In spite of this, many researchers have chosen solely to study companies' use of a few selected MCS. This current study is one of the first to explore what controls are used in practice in large companies. The study is based on survey data which include information on a broad range of MCS. The research shows patterns in the ways that large companies use parts of their MCS and the most common ways in which senior managers in large Danish companies construct MCS packages. The responses to the questions of Ferreira and Otley's (2009) framework show that there is a great similarity in how senior managers in large Danish companies use MCS today. Our results demonstrate that in addition to the traditional, formal MCS, for example, budgets, formal managers today find informal controls such as value and purpose statements to be very important MCS for guiding and directing subordinates' behaviour. These statements are codified and shared through formal documents, which in effect turns them into more tangible MCS. Yet, this study has limitations because using a questionnaire survey supplemented by interviews does not provide information which is as sophisticated as the information which it is possible to uncover in case studies. As such, the broad and explorative approach used in our study provides useful insights and information which may underpin further in-depth studies into certain areas of MCS.

The study includes many tables, each containing several questions. However, because of the length of the study, direct comments are not provided for all of the questions, although we have chosen to retain all of the questions in the study to give a complete picture of the use of MCS in large Danish companies. In this regard, we hope that this complete picture indicates how important senior managers rate the influence which MCS have on guiding and directing subordinates to behave in companies' best interests.

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Appendix A. Respondents' background information

Position (title)	
CEO	22
CFO	93
Other senior management	4
	120
Highest degree	
High school	4
Bachelor	25
Master's	89
PhD	2
	120
Field of study	
Business/Management/Economics	108
Law	1
Engineering	4
Humanities	1
Natural sciences	2
Other	4
	120
Tenure (in years)	
MIN	0
MAX	36
MEAN	10
SD	9
Industry categories	
Manufacturing	56
Services	45
Wholesale and trade	19
	120
Most significant owner of the companies	
Members of cooperative society	12
Large institutional investors	28
Small individual investors	5
Venture capitalist(s)	15
Families	40
Government	1
Partners	2
Funds	14
Other	3
	120

Appendix B. Characteristics of the respondents and their companies quoted in the study

Quotes	***Industry category***	***Title***	***Employees < or > 1.000***
Company A	Manufacturing	CFO	> 1.000
Company B	Manufacturing	CFO	> 1.000
Company C	Service	CFO	> 1.000
Company D	Service	CFO	< 1.000
Company E	Manufacturing	CFO	> 1.000
Company F	Manufacturing	CFO	> 1.000
Company G	Manufacturing	CFO	> 1.000
Company H	Service	CFO	> 1.000
Company I	Service	CEO	> 1.000
Company J	Service	CFO	< 1.000
Company K	Trade	CFO	< 1.000
Company L	Manufacturing	COO	> 1.000
Company M	Manufacturing	CEO	> 1.000
Company N	Trade	CEO	> 1.000
Company O	Service	CFO	< 1.000